Annual Review of Clinical Psychology **(in press)**

Justice Policy Reform for High-Risk Juveniles: Using Science to Achieve Large-Scale Crime Reduction

Jennifer L. Skeem

Professor of Social Welfare and Public Policy

University of California, Berkeley

skeem@uci.edu

Elizabeth Scott

Harold R. Medina Professor of Law

Columbia Law School

escott@law.columbia.edu

Edward P. Mulvey

Professor of Psychiatry

University of Pittsburgh School of Medicine

mulveyep@upmc.edu

Keywords: adolescent development, juvenile justice, callous-unemotional, life-course persistent, serious offender

Contents

Abstract

After a distinctly punitive era, a period of remarkable reform in juvenile crime regulation has begun. Practical urgency has fueled interest in both crime reduction and research on the prediction and malleability of criminal behavior. In this rapidly changing context, high-risk youth – the small proportion of the population where crime is concentrated -- present a conundrum. Research indicates that these are *precisely* the individuals to intensively treat to maximize crime reduction, but there are both real and imagined barriers to doing so. Institutional placement or criminal court processing can exclude these youths from interventions that would better protect public safety. In this article, we synthesize relevant research to help resolve this challenge in a manner that is consistent with the law's core principles. In our view, adolescence offers unique opportunities for risk reduction that could (with modifications) be realized in the juvenile justice system in cooperation with other social institutions.

Introduction

The crime rate in the U.S. has dropped substantially since the mid-1990's and "moral panic" about young criminals has subsided (Scott, 2013a). Although the threat of crime is an enduring undercurrent, the climate of the past decade has been calmer and demands to "do something" about the crime problem have taken on a more rational form. There is growing support for considering alternatives to incarceration-based policies, so long as public safety is not sacrificed (Piquero & Steinberg, 2010). This creates a window of opportunity to reform justice policy in a direction that is more effective than the punitive approach of past decades. Because the crime problem is complex and potential solutions are politically sensitive, science should be used to inform policy changes.

Given that a core goal of any justice reform is to maximize public safety, one approach is to target the subpopulation and phase of life where crime is concentrated. Less than 10% of the population accounts for the majority of criminal behavior (Piquero, Farrington, & Blumstein, 2003). That is, a small group of "high rate" offenders is frequently (if not persistently) involved in crime. Moreover, across life phases, population base rates of crime are highest during adolescence (Hirshi & Gottfredson, 1983). If science can be applied to effect behavior change for high rate offenders during adolescence, a large number of crimes would be prevented.

In this article, we synthesize research relevant to justice policy for high rate adolescent offenders, or "high-risk youth." We define high-risk youths as those who are (or are becoming) repeat *and* serious offenders, given evidence that those who offend frequently, tend to commit a broad range of crimes that include violence (Capaldi & Patterson, 1996; Nieuwbeerta et al, 2011). We define "high risk" as an aggregate phenomenon because conduct problems and criminal behavior are multi-determined by individual and contextual factors (see Jaffee & Odgers, in press), and youths with multiple risk factors are at greatest risk of offending (Herrenkohl et al., 2000; Sampson & Laub,

2003). In our view, high-risk youth are defined by more (pronounced) risk factors than other offenders, more than a unique causal process. They differ from others more in degree than in kind.

The time is right to focus on high-risk youth, given extraordinary recent changes in justice policy. After a distinctly punitive period, policymakers have moderated their approach over the past decade, becoming more pragmatic and increasingly focused on the mechanisms of crime reduction. This shift has largely been driven by the limited effectiveness and high cost of incarceration: the "fiscal condition of most American jurisdictions is so dire that maintaining what is by international standards an absurdly bloated prison population is simply not a sustainable option" (Monahan & Skeem, in press).

Although the shift is driven by fiscal and practical urgency, its form is being shaped by research on the prediction and malleability of criminal behavior. First, structured risk assessment tools that have been shown to predict recidivism are becoming an essential component of sanctioning and corrections. These tools are being used to identify low risk offenders to release, high-risk offenders to incarcerate and/or treat, and risk factors to target in treatment to reduce risk (Monahan & Skeem, in press; Vincent et al., 2012). Second, stakeholders have become keenly interested in implementing "evidence-based," cost-effective treatment programs and policies that *demonstrably* improve public safety (Lee et al., 2012). Third, the US Supreme Court has cited research on how developmental immaturity influences adolescents' criminal and other risk-taking behavior in a series of landmark opinions that reject harsh criminal sentences for young offenders (Scott, 2013a).

In this rapidly changing context, high-risk youths present a conundrum. On the one hand, research indicates that these are *precisely* the individuals to treat intensively, to maximize crime reduction. Correctional treatment yields the largest reductions in criminal behavior when it is provided to the highest risk offenders (Andrews et al., 1990; Lipsey, 2009). Moreover, adolescence is a period of enormous developmental change that may offer a unique opportunity to intervene with

high-risk offenders. During this period, behavior and traits tend to be far from set in stone (Clark, 2007). This is why a separate juvenile justice system was created – to recognize immaturity with a rehabilitative model that rejected harsh criminal punishment (Steinberg, 2009).

On the other hand, there are real barriers to providing high-risk youth with intensive intervention. These youths are often assumed to be "the most hardened and least likely to respond to treatment" (Lipsey, Wilson, & Cothern, 2000: 6) -- and perhaps the best suited for adult criminal sanctions. Assumptions aside, high-risk offenders often commit serious crimes deemed worthy of serious punishment. Also, they are relatively likely to re-offend. For these reasons, they are often sentenced to maximum security juvenile institutions or adult prisons. But institutional placement or criminal (rather than juvenile) court processing may effectively exclude high-risk youth from intensive treatment that would more effectively protect public safety. An opportunity to exploit what may be a critical period for effective intervention would be missed, at best. At worst, exposure to criminogenic environments during this sensitive period of social-affective development could entrench patterns of criminal behavior. This is concerning, given that virtually all prisoners are released to the community, eventually (Hughes, Wilson, & Beck, 2001).

In this article, we attempt to make progress toward resolving this challenge by examining how research can inform justice policy for high-risk youth in ways that are consistent with the law's core principles. In our view, early adolescence may confer unique opportunities for risk reduction that could (with some modifications) be realized in the juvenile justice system in cooperation with other social institutions that serve children and families. We begin by describing conceptualizations of high-risk youth (Part I) and the challenges they raise for the justice system (Part II). Then, we distill research on major risk factors that often characterize high-risk youth (Part III); assessment approaches for identifying them (Part III); and treatment principles and programs that reduce

recidivism (Part IV). We conclude by explaining how policy for this group can be informed by science (Part V).

As this précis suggests, our focus is on high-risk youth, rather than relatively typical adolescent criminal behavior (see Steinberg, 2009; Piquero et al., 2013). Given space limitations, we focus on boys because the vast majority of high-risk youth are male (Broidy et al., 2003). We use the phrase "early adolescence" to refer to youth ages 10-13 (which typically marks hormonal changes at the onset of puberty), and the term "mid-late adolescence" to refer to youth ages 14-18 (Crone & Dahl, 2012). Finally, we use the term "criminal" to refer to behavior that is typically sanctioned by the legal system (e.g., violence, fire-setting, theft). We use the term "antisocial" to refer broadly to both criminal behavior and other behavior that violates social/moral norms but is not typically subject to criminal sanctions (e.g., some forms of lying, bullying).

I. Who Are High-Risk Youth? Conceptualizations & Significance

Prevailing Subtypes. Even among youths with frequent, versatile, and serious criminal behavior, risk factors and outcomes vary. An enormous body of research has sought to identify a homogeneous "subtype" of high-risk youth with distinctive causal processes that is most impaired, most likely to persist, and most in need of treatment (Moffitt et al., 2008). Subtyping efforts often focus on children and adolescents who meet diagnostic criteria for conduct disorder, which involves repeated antisocial behavior (aggression, destructive behavior, deceitfulness and/or rule violations). In this section, we highlight prevailing conceptualizations of high-risk subtypes -- those that have been embedded in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5, APA, 2013): Moffitt's (1993) life-course persistent offender (which emphasizes childhood onset as distinctive) and Frick et al.'s (in press) callous-unemotional youth (which emphasizes psychopathic traits).

"Life-course persistent" offenders. The DSM-5 differentiates between two subtypes of conduct disorder: childhood onset (prior to age 10) and adolescent onset (at age 10 or after). This

differentiation is meant to operationalize (but clearly does not fully capture) Moffitt's (1993) theoretical distinction between "life-course-persistent" (LCP) and "adolescence-limited" (AL) offenders. For LCP offenders, criminal behavior originates during childhood, is frequent and varied, includes violence, and persists into adulthood. For this small group of high-risk youth, offending theoretically reflects a disorder that arises out of neurocognitive deficits that interact with criminogenic familial and social environments. In contrast, criminal behavior emerges near puberty for AL offenders, is typically confined to the teenage years, and is viewed as a near-normative attempt to surmount adolescents' "child-like" status in adult society.

Longitudinal studies that track individuals' antisocial behavior across different life phases often identify an "adolescent-peaked pattern and a chronic offender pattern" (Piquero, 2008: 49) consistent with expectations for ALs and LCPs. Abundant evidence also indicates that those classified as LCPs have more pronounced risk factors (e.g., maltreatment, inconsistent discipline, genetic liability, executive function deficits, emotional dysregulation) and poorer adult outcomes (e.g., mental health, physical health, economic/occupational, and legal problems) than those classified as ALs (see Jaffee & Odgers, in press; Moffitt et al., 2008).

Nevertheless, several studies have identified a third, "childhood limited conduct disorder" subgroup with serious antisocial behavior that desists rapidly during the elementary school years (perhaps by age 11)– and efforts to distinguish this subgroup from LCPs based on early risk factors have had limited success (Moffitt et al., 2008; see also Nagin & Tremblay, 1999). Moreover, some studies have uncovered an "adolescent onset, chronic" subtype (see Piquero, 2008).

Taken together, this indicates that childhood onset and persistence into puberty are helpful indicators for high-risk youth. But it seems problematic to conceptualize high-risk youth as a distinct group of LCPs clearly demarcated by childhood onset.

Callous-unemotional youths. In an effort to improve identification of high-risk youth by further disaggregating conduct disorder, the specifier "With Limited Pro-social Emotions" was added to the DSM-5 criteria. This specifier is based on Frick et al.'s (in press) conceptualization of "callous-unemotional" youth, and includes the following affective traits of psychopathy: lack of remorse/guilt, callousness/lack of empathy, shallow or deficient affect, and lack of concern about performance (APA, 2013).

Little is known about this specifier *per se*. In fact, it is not clear that clinicians can even reliably identify these four traits in youth: In the DSM-V field trials, rates of inter-rater agreement on the specifier were highly variable by site, but "questionable" on average (see Table 5; Regier et al., 2013). Callous-unemotional specifier aside, substantial research has accumulated on the extension of various *measures* of psychopathy downward, from adults to youth. Typically, these measures assess both affective and interpersonal traits of psychopathy, and antisocial behavior. Briefly, this research indicates that psychopathic traits predict criminal behavior and are associated with low parental warmth, genetic liability, reduced sensitivity to punishment cues, and deficits in processing cues of fear, sadness, and distress (see Frick et al., in press; Lynam & Gudonis, 2005; Skeem et al., 2012). Nevertheless, there is limited evidence that psychopathic traits add unique predictive utility to early onset, severe conduct problems (Moffitt et al., 2008). The few available studies suggest that these traits add weak incremental utility in predicting criminal behavior (see Frick et al., 2013; Skeem et al., 2012). For this reason, relying heavily upon callous-unemotional traits to define high-risk youth is not ideal.

However, these traits will be found among some high-risk youth and should be recognized. LCP features and callous-unemotional traits may be regarded as separable dimensions that may co-occur in an individual. First, those with LCP features may -- or may not -- have pronounced callous-unemotional traits: Among youth with childhood onset (presumably LCPs), those with *normative*

levels of callous-unemotional traits tend to be more anxious, emotionally reactive, responsive to distress cues, intellectually impaired, and subject to harsh, inconsistent, parenting than those with more callous-unemotional traits (Frick et al., in press). Second, those with pronounced callous-unemotional traits may --or may not – have prototypic LCP features: Among psychopathic youth, a LCP-like "secondary" variant can be identified with high anxiety, sensitivity to distress cues, emotional dysregulation, and histories of maltreatment that defy classic conceptualizations of "primary" psychopathy (see Frick et al., in press; Skeem et al., 2012). Even this group-based research suggests that some high-risk youth will mostly have LCP features, some will mostly have callous-unemotional features, and some will have blends of the two.

Myths. Regardless of the label applied to youth predicted to be high rate offenders, there is a danger that policymakers will "make them candidates for specific and harsh punishment experiences" (Piquero, 2008: 52). This danger can be fueled by two myths.

High-risk youths inevitably become high-rate criminals. The first myth is that high-risk youths inevitably become (high-rate) adult offenders. Instead, there is evidence that members of the high-rate offending group –variously defined -- can and do change across life phases. For example, among youths with early-onset conduct disorder (LCPs?), only about half go on to meet adult criteria for antisocial personality disorder (see Moffitt et al., 2008). Similarly, among adolescents with the most pronounced psychopathic traits, only about one in five go on to become psychopathic adults (Lynam et al., 2007). In short, despite modest rank-order stability in psychopathic features and antisocial behavior from adolescence to adulthood, the majority of the group with extreme features during adolescence will not be found in the group with extreme features during adulthood (Frick et al., 2013; Skeem et al., 2012).

Setting prevailing subtypes aside, there is also evidence that a sizeable proportion of high-risk youths -- as defined above -- do not continue offending into their 20s (Mulvey et al., 2010;

Sampson & Laub, 2003). For example, based on the "Pathways to Desistance" study of 1,119 male serious offenders (*M* age=16), Mulvey et al. (2010) found that only a minority (9%) of the 260 highest rate offenders persisted offending at a high rate over the three-year follow-up period. Similar patterns of consistent drop-offs in offending also appeared when a seven-year follow-up period was examined (Piquero et al., 2013). This strongly challenges the assumption that high-risk youths inevitably become high rate adult offenders.

High-risk youths are a fundamentally different, homogeneous group. The second myth is that high-risk youths are fundamentally different from others. In the Pathways study, an array of risk factors "were modest in their ability to differentiate patterns of offending and even less useful in their ability to differentiate between persisting and desisting offenders who had high offending rates at baseline" (Mulvey et al., 2010: 471). Such findings are consistent with the premise that, "although risk factors may vary in degrees, the same underlying causal factors are thought to distinguish offenders from nonoffenders, early starters from late starters, persisters from desisters, and so on" (Sampson & Laub, 2003: 306). In other words, the difference between high-risk youths and other offenders is more quantitative than qualitative. Like others, high-risk youths' can and do change over time, as a function of exposure to various sources of influence (see "Contextual/developmental influences" below).

In prevailing subtype systems, shades of gray are apparent that support this dimensional perspective. For example, "adolescent-limited" offenders are not fully distinct from "life-course persistent" offenders, given evidence that they experience poorer adult outcomes than Moffitt theorized (with substance abuse and crimes that go largely undetected; see Jaffee & Odgers, in press; Piquero et al., 2013). Similarly, some "callous-unemotional" youths manifest anxiety, emotional dysregulation, and other features inconsistent with theories of psychopathy (see above).

Dimensional conceptualizations of high-risk youth enjoy some direct empirical support. The weight of evidence using taxonometric techniques suggests that psychopathy is a dimensional trait or configuration of traits rather than a discrete category (or taxon) that exists in nature (see Edens, Marcus & Vaughan, 2011; Skeem et al., 2012; for a dimensional perspective see Lynam & Gudonis, 2005). There is also evidence that LCP offending is not a taxon. Specifically, based on an application of taxonometric techniques to relevant National Longitudinal Survey of Youth–Child Data, Walters (2011) found that LCP and AL antisocial behavior lie along a continuum with one another -- in keeping with most results for externalizing disorders (Haslam, Holland, & Kuppens, 2012).

Dimensional Conceptualization. Although early age of onset and callous-unemotional traits are empirically supported factors that describe some high-risk youths, it seems reductionistic to typecast them as "Life Course Persistent" and/or "Psychopathic/Callous-Unemotional" offenders. These labels also risk becoming caricatures that perpetuate myths. Even if some high-risk youths (LCPs) do not naturally "mature out of crime" (Steinberg, 2009,:78) like most juvenile offenders (ALs), they are not immune to general developmental processes. Even if some high-risk youths ("psychopaths") are challenging to treat, it is not the case that they "are fundamentally different from other offenders and there is nothing 'wrong' with them . . . that therapy can 'fix'" (Harris & Rice, 2005: 56).

Our conceptualization of high risk youths encompasses, but is not limited to, adolescents with childhood onset conduct problems and/or callous-unemotional features. High-risk youth are a non-distinct group of adolescent offenders characterized by multiple risk factors that, in combination, make them relatively likely to engage in high rate, serious offending. Certainty of high-risk status increases as conduct problems persist into adolescence and strong risk factors (like disinhibition and socioemotional deficits; see Part III) aggregate.

This conceptualization is both consistent with empirical findings and policy relevant. In a variety of justice settings, "high risk" is operationalized with risk assessment tools that generate a cumulative risk score or judgment, based on multiple risk factors that predict most types of crimes.

Significance. High-risk youths attract a great deal of attention from parents, educators, treatment practitioners, and justice professionals. This is for good reason, given the consequences of their offending pattern and associated impairments. These youths account for a large proportion of violence and other criminal behavior (Capaldi & Patterson, 1996; Odgers et al., 2007; Nieuwbeerta et al., 2011). For example, in a study of two Philadelphia birth cohorts followed from ages 10 to 18, Tracey, Wolfgang & Figlio (1990) found that 6-8% of participants (or 18-23% of delinquents) accounted for 52-60% of detected crimes. High-risk youth are also at risk for poor educational and occupational adjustment (see Loeber & Farrington, 1999; Moffitt, 2006). They also pose a direct public health burden, often suffering from serious problems in the domains of mental health (e.g., anxiety, depression, suicidal ideation), substance abuse, and physical health (e.g., chronic respiratory illness) (Mulvey et al., 2010; Odgers et al., 2007; Schubert, Mulvey, & Glasheen, 2011).

High-risk youths' impairments exact a heavy toll on victims, youths and their families, and society. According to the estimates of Cohen & Piquero (2009), preventing one 14-year old high-risk youth from continuing criminal behavior would save approximately $2.7-4.8 million.

II. What Challenges Do High-Risk Youth Raise in Today's Justice System?

The justice system is society's institution for public protection and punishment of individuals who commit crimes. Although adjudication and disposition typically occurs in the juvenile justice system for youth charged with crimes before their 18th birthday, those who commit serious crimes or have a pattern of reoffending may be tried and punished in the adult criminal justice system (Scott & Steinberg, 2008). This Part begins by exploring a foundational question—what are the state's purposes when it intervenes in response to criminal conduct? It then provides an overview of the

two justice systems and offers some background to contemporary policy, which has shifted toward emphasis on risk reduction. We explore the implications of this trend for high-risk youth.

Punishment and Prevention. The justice system's response to crime is driven by two purposes- the punishment of culpable conduct and the prevention of future crime (Bonnie et. al., 2010). Although both goals are important, one or the other has been dominant in different periods. Punishment (or retribution) focuses backward on the criminal act itself (Hart, 1968). The aim is to hold the offender responsible for his crime by imposing a sentence that is proportionate in its duration and severity to the harm of the offense and the culpability of the offender (Morse, 1984). When an offender's culpability is reduced by individual traits or contextual circumstances, a *mitigation principle* applies and he should receive a more lenient sentence than a normative offender in typical circumstances convicted of the same crime. And if the crime is particularly heinous, an aggravation principle may be applied and a harsher sentence imposed.

The goal of prevention is forward looking--to protect public safety by reducing crime (Bonnie, et. al., 2010). This can be accomplished through incapacitation (i.e., depriving an offender of the ability to recidivate, usually via incarceration), through deterrence (i.e., discouraging [re]offending, usually by instilling fear, anxiety, or doubt), and/or through rehabilitation (i.e., reducing an offenders' likelihood of recidivating via treatment). The crime prevention goal is most effectively implemented through policies that reduce crime at the lowest social cost (Posner, 1985). But even if crime prevention is the primary goal, fairness principles require that sentences be limited in duration and severity to what the offender deserves. Thus, cutting off a pickpocket's hand might effectively reduce theft (at low social cost), but it would be excessive punishment for the harm caused. For this reason it is sometimes said that retribution is a "*limiting principle*" (Hart, 1968).

Research indicates that adolescents differ from adults across several domains relevant to criminal and other risk-taking behavior, including the capacity for self-regulation in emotionally-

charged contexts; sensitivity to peer pressure and immediate incentives; and capacity for future-oriented decision-making (National Research Council [NRC], 2012). Because these developmental factors are assumed to influence adolescents' criminal behavior and capacity for reform, the goals of retribution and crime prevention shape legal policies regulating youth crime in distinctive ways.

First, due to developmental immaturity, juveniles are presumed to be less culpable and to deserve less punishment for their crimes than adult offenders typically receive (Scott & Steinberg, 2008; Zimring, 2005). Thus in three recent opinions (Roper v. Simmons, 2005; Graham v. Florida, 2010; Miller v. Alabama, 2012), the Supreme Court pointed to the developmental immaturity of juveniles in holding certain harsh sentences imposed on young offenders (e.g., the death penalty, life imprisonment without parole) excessive and unconstitutional under the Eighth Amendment.

Second, the goal of crime prevention may particularly influence youth crime regulation. Lawmakers, like most of the public, may favor rehabilitation programs for juveniles more than for adults because they view juveniles as more malleable and open to reform (Piquero et al., 2010). This view seems to extend to high-risk youth. Piquero and Steinberg (2010) found that the public was willing to pay nearly 20% more annually in taxes for effective risk reduction programs for serious juvenile offenders than to pay for longer periods of incarceration. In its Eight Amendment opinions, the Supreme Court endorsed expressed optimism about the potential for reform of juvenile offenders, even those who commit terrible murders, and rejected the suggestion that they are irredeemable criminals (Scott, 2013b). In *Miller v. Alabama* (2012: 2465), Justice Kagan repeated the Court's admonition in earlier opinions that "incorrigibility is inconsistent with youth."

Juvenile and Criminal Systems. High-risk youths are relatively likely to experience contact with both the juvenile and criminal justice systems. The juvenile system was founded on a rehabilitative model that rejected any retributive purpose and operated quite differently from the criminal justice system. Although juvenile justice proceedings and dispositions have become more

like those in the adult system over the 20th century, the underlying premise that juveniles are different from adults has not been abandoned (NRC, 2012). Indeed, this idea has seen a resurgence in the early 21st century (Scott, 2013a).

How do the juvenile and adult justice systems differ? Today, delinquency proceedings are relatively formal; juvenile defendants have the right to be represented by attorneys and enjoy many of the procedural protections accorded to criminal defendants. But, consistent with the rehabilitative model, juvenile court judges have broad discretion to order dispositions based on the needs of the offender that may not be proportionate to the harm of the offense. Moreover, juvenile dispositions typically are indeterminate (NRC, 2012). In contrast, the duration of criminal sentences generally are based on the seriousness of the offense and defined by the sentencing judge.

What are the implications of these differences for youth tried as adults? Compared to non-transferred youths, youths transferred to the adult system might receive more lenient sanctions for minor crimes, but tend to serve longer sentences for felonies (Barnoski, 2003; Griffin et al., 2011). Transferred youths' probably receive fewer services than those retained in the juvenile system, given that policymakers in most states devote proportionately more resources to educational, therapeutic, and other services in the juvenile- than adult- correctional system (Scott & Steinberg, 2008).

Recent Reforms. In response to alarm about (violent) juvenile crime, politicians pushed to enact tough laws in the 1990's that eroded the boundary between the juvenile and adult systems and facilitated the criminal prosecution and punishment of juveniles (Scott & Steinberg, 2008). Serious juvenile offenders were labeled "superpredators" (DiIullio, 1995) and the idea that they differed from adults in any way important to justice policy was ignored or rejected.

Modern laws reflect the legacy of these efforts to subject more youths to adult criminal punishment. Under traditional law, transfer was limited to older youths charged with the most serious felonies and the transfer decision generally was made case by case by a juvenile court judge,

considering a broad range of factors that included the youth's maturity and amenability to treatment. Modern transfer laws are complex, but generally have expanded the category of youth eligible for adult prosecution by lowering the age of criminal court jurisdiction, increasing the range of transferrable offenses, and functionally narrowing the decision criteria to focus chiefly on offense severity and the youth's criminal history (Griffin et al., 2001; NRC, 2012). In fact, almost all states have enacted "legislative waiver" laws that automatically exclude juveniles charged with particular offenses from juvenile court jurisdiction.

But the early 21st century represents another period of reform of juvenile crime regulation, and a shift toward more moderate sanctioning policies has begun to take place (Scott, 2013a). Some states have abolished or limited legislative waiver laws. Others have raised the age of criminal court jurisdiction. The most remarkable shift, however, involves the reallocation of juvenile justice resources from institutions to community-based programs (NRC, 2012). Pragmatically, this is because lawmakers recognize that incarceration-based policies create a major burden on state budgets, and research suggests that incarcerating young offenders for long periods does little to reduce re-offending, whereas some community-based interventions substantially reduce recidivism (see Lee et al., 2012; Lipsey, 2009; NRC, 2012). Beyond pragmatic concerns, the Supreme Court in its influential opinions emphasized the *unfairness* of imposing adult punishment on juvenile offenders, supporting its conclusion that immaturity influences criminal conduct with reference to research on adolescent brain development and behavior (Miller v. Alabama, 2012; Scott, 2013b). The Court also recognized that during adolescence it is difficult, if not impossible, to separate "incorrigible" criminals from those who have the potential to reform.

Many jurisdictions are now using risk assessment tools to inform legal and clinical decision-making about youth (Vincent et al., 2012). This technology does not identify "incorrigible" criminals, but can improve practitioners' ability to identify high-risk youth who need intensive

services, may require secure placement, and have variable risk factors to target in treatment. These tools could assist in reducing crime at a lower cost than past policies- and result in outcomes that are fairer to young offenders.

High Risk Youth- The Challenges. The implications of modern policy reforms for the justice system's treatment of high-risk youth are complex. Given emphases on risk assessment and evidence-based intervention, it seems likely that many youths who previously would have been sent to institutions will receive treatment in their communities. But high-risk youths may be assessed as too dangerous for community dispositions, both because they pose a relatively high threat of re-offending and because decision makers may be disinclined to attribute their criminal behavior to immaturity and expect they will desist. Practitioners may have internalized the view that most youths involved in criminal activity are adolescence-limited -- but a small group belongs to a very different category of young criminals (LCPs, psychopaths, etc.). On this basis, they may assume that evidence-based, developmentally informed programs are simply "not meant for" high-risk youth (a view we challenge in Part IV).

The forces shaping modern justice policy pose two challenges for effectively responding to high-risk youth. First, the revival of mitigation as a guiding principle in dealing with juveniles may deter courts from ordering intensive interventions with early adolescent (ages 10-13) offenders because of their reduced culpability (Scott & Steinberg, 2008). Even in the 1990s, courts tended to order probation for pre-teens involved in crime, and then to impose tough sentences only when their criminal activity persisted (Gibbs et al., 1994). Moreover, adoption of a "graduated sanctions" approach (Howell, 1995) – which emphasizes community-based sanctions as the first step to be taken with a juvenile offender – seems to argue against intensive intervention with very young offenders. Although this limited response is understandable and attractive for a large number of adolescent offenders at the initial point of contact with the juvenile justice system, it may undermine

the success of crime reduction efforts with high-risk youth. Assuming that youthful offenders are homogeneous at each stage of juvenile justice contact has a cost. Early adolescence may be *precisely* the window for responding intensively to criminal behavior by high-risk youth, providing an opportunity to influence socioemotional development more effectively than later efforts would realize (see Part IV).

Second, when juvenile and criminal courts intervene later—from mid-late adolescence--the intervention is likely to be based on the high risk youth's history of persistent and serious offending. At that point, the intervention may involve transfer to the adult system or an extended period of incarceration. This may not be unjust; the mid-late adolescent is more culpable than the early adolescent (although likely not as culpable as an adult) and serious offenses generally warrant punishment. But this response may be driven by implicit views that high-risk youths are untreatable -- and will often effectively exclude them from programs that can reduce recidivism and that tend to be community-based. Moreover, placement of adolescents in adult criminogenic environments during a period of intense socioemotional development could entrench patterns of criminal behavior.

The dilemma is that risk reduction for high-risk youth is essential to preventing crime and protecting public safety. In the Parts that follow, we review research on major risk factors associated with recidivism and the principles and programs that have been shown to reduce risk. We then explore how interventions can be structured that a) comply with fairness principles in dealing with early adolescents and b) accommodate public safety concerns in dealing with older high-risk youths.

III. What Major Risk Factors and Characteristics Help Define High-Risk Youth? Configural Building Blocks for Identification and Treatment

Rationale. In Part I, we offered a dimensional conceptualization of high-risk youth. In our view, it is more useful to focus on understanding major dimensions of risk rather than offender

types. Focusing on dimensions of individual difference that underpin criminal behavior may foster greater understanding and more effective intervention than treating complex "disorders" like conduct disorder and psychopathy as if they are homogeneous and distinct categories (Patrick, Durbin, & Moser, 2012). Dimensions can be used as configural building blocks to describe different variants of high-risk youth -- each will apply more- or less- to an individual..

For high-risk youth, relevant dimensions are major risk factors, or variables that have been shown to statistically correlate with criminal behavior and precede criminal behavior in time. All types of risk factors are relevant to *identifying* high-risk youths, but only causal risk factors are relevant to treating them. A causal risk factor is one that can be changed through intervention and, when changed through intervention, can be shown to reduce risk (Kraemer, 2003). Some risk factors are fixed (e.g., childhood onset; childhood maltreatment) or variable (e.g., pubertal status) markers that cannot be deliberately changed.

Risk factors are numerous and varied (see Cottle, Lee & Heilbrun, 2001; Hawkins et al., 2000; Lipsey & Derzon, 1998): There is no parsimonious, consensus-based list. In this section, we highlight policy-relevant dimensions of high-risk youth and their contexts that have emerged in applied (i.e., risk assessment) and more theoretical (i.e., clinical/criminal) literatures.

Forensic Research: Risk Factors and Tools Used to Identify High-Risk Youth. Because an industry has grown up around "risk-needs" assessment and states increasingly are developing their own "risk assessments," many tools for youth are now available. However, few are empirically-based and have independent research support. Two such measures are the 44-item, eight-scale Youth Level of Service/Case Management Inventory (YLS/CMI; for youths ages 12-17; Hoge & Andrews, 2003) and the 24-item, three-risk-scale Structured Assessment of Violence Risk in Youth (SAVRY; for youths ages 12-18; Borum, Bartel, & Forth, 2006). Table 1 provides a description of the scales and items on these measures. As shown there, these tools reference largely

overlapping historical (e.g., early onset conduct problems; childhood maltreatment), individual (e.g., problematic traits and attitudes) and contextual (e.g., peer delinquency, inadequate parental supervision) risk factors.

Although many tools for youth are downward extensions of adult measures, they tend to place greater emphasis on contextual risk factors than their adult counterparts. For example, the YLS/CMI was derived from an adult measure that assesses "the Big Four" risk factors for crime (i.e., criminal history, antisocial traits, antisocial attitudes, antisocial associates), along with four other risk factors (i.e., substance abuse, employment/education, leisure/recreation, and family/marital problems; Hoge & Andrews, 2003). The YLS/CMI is basically comprised of developmentally-adapted versions of these eight adult risk factors, but (like the SAVRY) specifically references aspects of peer relations, family circumstances, and other social/contextual factors relevant to youth crime.

Still, virtually all risk assessment tools for youth reference antisocial and psychopathic traits (see Table 1). Moreover, one of the leading tools in use– the 20 item, four-scale Youth Version of the Psychopathy Checklist (PCL:YV; for youths ages 12-18; Forth, Kosson, & Hare, 2003) – was originally designed to measure psychopathy, not assess risk. Briefly, the PCL:YV assesses interpersonal and affective features that are relatively specific to psychopathy (e.g., grandiosity, callousness, shallow emotions) and general indices of social deviance that are not (e.g., impulsivity, stimulation seeking, poor anger controls, criminal behavior). The PCL:YV is strongly associated with --and tends to predict recidivism as strongly as -- purpose-built risk assessment tools (e.g., Edens, Campbell, & Weir, 2007; Hilterman, Nicholls, & van Nieuwenhuizen, in press).

There have been many empirical "horse races" between risk assessment tools, given heated debate about which type of tool predicts best. It is becoming increasingly clear that there is no clear winner. For example, in a meta-analysis of 44 samples, Olver, Stockdale, & Wormith (2009) found

that the YLS/CMI (r_w= .32, .26), SAVRY (r_w=.32, .30), and PCL:YV (r_w= .28, .25) were all moderately efficacious in predicting general and violent recidivism, respectively. Similarly, in a rigorous meta-analysis of 28 adult samples, Yang, Wong, and Coid (2010) found that the predictive efficiencies of nine validated risk assessment instruments were essentially "interchangeable," with moderate estimates falling within a narrow band (*r* = .26 to .34). Despite varied items and formats, these tools may be similarly efficacious partly because they tap "common factors," or shared dimensions of risk like criminal history, antisocial traits and attitudes, and substance abuse (Monahan & Skeem, 2013).

Risk assessment tools are best validated for short-term offending, given that most studies follow youths for two years or less. For example, in the Olver et al. (2009) meta-analysis, only 11% of the studies followed youths for five or more years, and these yielded mixed effect sizes. Tools tend to predict short-term better than long-term offending. Based on a sample of 116 youths (mean age = 16) followed for about 7 years, Stockdale, Olver, & Wong (2010; Olver, Stockdale & Wong, 2012) found that the YLS/CMI and PCL:YV were both strongly predictive of general recidivism prior to age 18 (r= .47 & .50), but weakly-moderately predictive during adulthood (r=.29 & .21).

Clinical/Developmental Research: Broad Risk Dimensions as Guides for Understanding. Research has shed light on broad dimensions of individual difference that may underpin and maintain criminal behavior. Advancing understanding of these dimensions -- and how they are influenced by contextual factors– may help explain processes that lead to adolescents' recidivism. Explaining these processes, in turn, may lead to innovative treatments that efficiently reduce risk. To illustrate, we note three (of several) possible dimensions: disinhibition, (socio)emotional deficits, and developmental immaturity. In Part IV, we explain how understanding processes that underpin these dimensions can advance risk reduction efforts for high-risk youth.

Disinhibition. Disinhibition is a tendency toward impulse control problems that involves a lack of planfulness, insistence on immediate gratification, and impaired ability to regulate emotions and urges (Patrick et al., 2012b). Disinhibition also encompasses negative emotionality (e.g., tendencies toward anxiety, depression, anger; high stress reactivity), and is associated with angry aggression, substance abuse, self-harm, and antisocial behavior (for reviews, see Patrick et al., 2012a; Skeem et al., 2011). Weak inhibitory control is thought to be associated with impairment in neural circuits that regulate emotion and guide decision-making and action (i.e., systems that include the orbitomedial prefrontal cortex and anterior cingulate; Patrick et al., 2012a). Concepts akin to disinhibition include regulatory dyscontrol (Fowles & Dindo, 2009), poor executive control (Mattys et al., 2012; Jaffee & Odgers, in press), and "hot" conduct problems (Dadds & Rhodes, 2008).

(Socio)emotional deficits. High-risk youth also vary in the extent to which they manifest callous-unemotional features or fearlessness (see Patrick et al., 2012b). Although we group them together here because they tend to be correlated, callous-unemotional features and fearlessness are separable dimensions that differ in their applicability to a high-risk youth (e.g., some highly callous-unemotional youths are also highly anxious and/or fearful; see Part II).

Callous-unemotional features involve deficient empathy, guilt, caring, and poverty in emotional expression (Frick et al., 2013; see also "meanness" in Patrick et al., 2012b; and "cold conduct disorder" in Dadds & Rhodes, 2008). Although one model implicates impairment in the amygdala and connected regions of the ventromedial frontal cortex (see Blair, 2010), it is unclear whether callous-unemotional features are associated with a specific pattern of neural circuitry (see Frick et al., 2013; Patrick et al., 2012b; Skeem et al., 2011). Fearlessness is a more specific emotional deficit that involves insensitivity to cues of threat or punishment (Lykken, 1995) that may be associated with reduced sensitivity in the brain's defensive motivational system (again implicating the amygdala and associated structures; Patrick et al., 2012a).

Contextual/developmental influences. Although disinhibition and socio-emotional deficits are framed as youth characteristics and happen to have biological correlates, they should not be regarded as fundamentally "genetic" or inalterable: "deficits in the ability to inhibit behavior, to recognize fear, [and/or] to respond to punishment may be potentiated in criminogenic environments characterized by suboptimal caregiving, high levels of threat, and abundant opportunities for antisocial behavior" (Jaffee & Odgers, in press; see also Skeem et al., 2011).

Moreover, even for high-risk youth (who tend to have dense individual risk factors), contextual factors (e.g., family, school, community problems) often increase the risk of recidivism and help explain the process by which it occurs. For example, peer groups are key sources of influence during adolescence, and weak ties to conventional peers, ties to delinquent peers and gang membership are strong risk factors for offending (Hawkins et al., 1998). Similarly, adolescents are more highly driven toward risk-taking when in the presence of peers than alone (see Steinberg, 2009). The little evidence available suggests that high-risk youth – even those with callous-unemotional features – are not necessarily immune to such influences. That is, youths with pronounced callous-unemotional features are likely to be integrated into delinquent peer groups (Kimonis, Frick, & Barry, 2004), commit crimes in groups (Goldweber et al., 2011), obtain low scores on measures of resistance to peer influence (Thornton, 2012), and engage in antisocial behavior that is significantly predicted by peer delinquency (if modestly less so than those with low-moderate callous-unemotional features; Kerr, Van Zalk, & Stattin, 2012).

Like lower-risk youth, high-risk youth appear influenced by developmental processes. Like high-risk youth, lower-risk youth manifest some level of disinhibition and other risk-relevant traits that are near-normative during adolescence (Steinberg, 2009). This illustrates the value of distinguishing between "risk status" and "risk state," in conceptualizing high-risk youths.

*[SIDEBAR] **Risk Status vs. Risk State.*** *Risk status* is inter-individual variability in risk, whereas *risk state* is intra-individual variability in risk (Skeem & Mulvey, 2002). Compared to other youth, high-risk youth have greater risk status, i.e., greater disinhibition and other risk factors for criminal behavior. But even within high risk youth, the likelihood of criminal behavior ebbs and flows over time. Compared to themselves during adulthood, high-risk youth have greater risk state during adolescence.

There is evidence that high-risk youth are both distinguishable from others in risk status, and subject to similar developmental processes that affect risk state. For example, sensation seeking -- the tendency to seek novel, intense, and exciting feelings and experiences– is pronounced among high-risk youth and --within individuals--reaches peak levels during mid-adolescence (Steinberg, 2009). In a longitudinal study of 7,675 adolescents, Harden, Quinn, and Tucker-Drob (2012) found that (a) youths with high initial levels of sensation-seeking manifested fewer increases in sensation seeking during adolescence than those with lower initial levels, but (b) within each youth, increases in sensation-seeking significantly predicted increases in antisocial behavior. Similarly, in a synthesis of over 80 studies, Piquero (2008: 39) observed that high risk youths' trajectory of criminal behavior is *less* peaked at adolescence other groups, but "offending appears to decline as early adulthood approaches for all groups."

Synthesis. In our view, high-risk youths can be relatively reliably identified by early adolescence. Those who have clear conduct problems and have persisted past the elementary school years (around age 11; Odgers et al., 2007) are not childhood limited. Although there is no "magic bullet" for identifying youths who will persist well into adulthood, there is ample evidence that adolescents who obtain high scores on validated risk assessment tools are moderately more likely to recidivate within a year or two than those with lower scores.

Although the specific dimensions of risk that define high-risk youth vary, there are patterns: Risk factors typically come in bundles (e.g., youths with poor parental supervision tend to live in neighborhoods beset by violence, drugs, and crime; Sampson & Laub, 2003), and strong risk factors are often correlated. Broad dimensions of risk have emerged in clinical and developmental research (e.g., disinhibition, socioemotional deficits, peer delinquency) that overlap with major factors included in well-validated risk assessment tools (e.g., antisocial personality, attitudes, associates). These dimensions can be used as configural building blocks to describe an individual high-risk youth. Some of these dimensions are relevant targets for risk reduction.

IV: Reducing High Risk Youths' Risk of Recidivism

High Risk, Not Hopeless. A number of controlled studies indicate that *adult* high-risk offenders respond to appropriate, intensive treatment with reduced violence and other criminal behavior: "criminal offending can be treated effectively by focusing on challenging cases, directly targeting strong risk factors for crime, and requiring therapists to skillfully persist with uncooperative and frustrating clients" (Skeem et al., 2011). As shown below, these conclusions seem to apply with even greater force to high-risk *youth*.

Despite evidence that risk can be reduced, therapeutic pessimism about treating high-risk youths may abound because the *process* of treating them is difficult (see Frick et al., 2013). Characteristics that contribute to youths' offending (e.g., hostility, noncompliance, negative attitudes, disruptive behavior, learning problems) – and therefore need to change -- can also make them difficult clients. Interventions have to be intensive and progress can be slow (Skeem et al., 2011).

But high-risk youths tend to give up when they find treatment hard, and clinicians tend not to "skillfully persist." In a meta-analysis of 114 studies of offender treatment attrition, Olver, Stockdale, & Wormith (2011) found that "the clients who stand to benefit most from treatment (i.e., high-risk, high-needs) are the least likely to complete it" (p. 6). In treating high-risk youth, one avenue toward

failure is insufficient service provision. This may be a function of "treatment-resistant clients," "client-resistant services," or both. From a public safety perspective, however, it seems wise to avoid equating difficult to treat with untreatable.

Branded Packages *and* Generic Principles. There is a notorious chasm between science and practice, in treating offenders: although many programs have been shown to be *efficacious* in controlled settings, few have been shown to be *effective* in real world, large scale justice settings. Two approaches have emerged for translating evidence on treatment that reduces recidivism into practice for juvenile offenders (Lipsey et al., 2010). These approaches are relevant to high risk youth both in content (i.e., what works) and form (i.e., how to advance policy).

First, the brand name or "packaged program" model involves (a) selecting a program from an approved list that a trutsted source has deemed evidence-based, using transparent performance criteria (e.g., "Blueprints for Violence Prevention," Elliott & Mihalic, 2004), and then (b) implementing the program with a high degree of fidelity to the model, typically using quality assurance packages created by program developers. A prototype of this model is Multisystemic Therapy (MST; Henggeler et al., 1998), which was developed by a single investigative team, shown to be efficacious in a number of studies, and is now managed by MST Services, Inc.

Second, the generic, design-your-own, or "treatment principles" model involves applying meta-analytically-derived factors that have been shown to maximize recidivism reduction across a broad range of programs. One principle that has emerged from this model is the "risk principle" (Andrews et al., 1990; Lipsey, 2009): meta-analyses of controlled studies robustly indicate that programs yield the largest reductions in recidivism when they target intensive services at high-risk offenders. Tools have been developed to concretize such principles, which allows practitioners to assess how well a local program "measures up" and address any shortfalls. For example, the Standardized Program Evaluation Protocol (SPEP; Lipsey et al., 2010) can be used to assess how well a program is

implementing four principles, including the risk principle (where 5-20 points are awarded, based on the proportion of youths in the program with "the target risk score or higher").

The branded packages and generic principles approaches are not mutually exclusive – in fact, they can and do inform one another (e.g., values for brand-name programs are included in the SPEP, alongside generic ones). Nevertheless, there is debate about which approach is best. According to recent utility calculations, both approaches (e.g., MST and generic family therapy) produce highly favorable expected values – if (and only if) a tool like SPEP is available to facilitate effective implementation of generic principles (Welsh, Rocque & Greenwood, 2013; see also NRC, 2012). Next, we highlight programs from both models that are relevant to high-risk youth.

Branded Packages. Three branded packages listed in the *Blueprints* have been shown by multiple research teams to reduce antisocial behavior among conduct disordered and/or delinquent adolescents over at least a one-year follow-up period (Henggeler & Sheidow, 2012) and to be cost-effective (Lee et al., 2012): MST (Henggeler et al., 1998), Functional Family Therapy (FFT, Alexander & Sexton, 2002), and Multidimensional Treatment Foster Care (MTFC, Chamberlain, 2003). As a group, these are intensive, multi-component, complex treatment programs that are provided in the community, are family-based, and target a broad range of risk factors (individual, peer, family).

MST and MTFC were explicitly designed for high-risk youth. MTFC is meant to provide a community-based, foster care alternative to state facilities, especially for high-risk youths who have not responded to other forms of intensive services. MST is also meant to reduce the need for out of home placement of offenders. In controlled trials with multi-year follow-up periods, both MST and MTFC have specifically been shown to reduce recidivism with high-risk youth (e.g., Schaeffer & Borduin, 2005; Eddy, Whaley, & Chamberlain, 2004). In a meta-analysis, Curtis, Ronan and Borsuin

(2004) found no significant difference in the effect of MST on outcomes for "violent and chronic juvenile offenders" (*d*= .44) versus lower-risk youth (*d*= .38).

These programs seem particularly relevant to high-risk youths with pronounced disinhibition, given that they improve a range of externalizing symptoms (e.g., substance abuse, emotional problems; see Henggler & Sheidow, 2012). There is also preliminary evidence that such programs reduce recidivism among those with socioemotional deficits (for MST, see Butler et al., 2011). For example, in an uncontrolled study of 134 youths (M age = 15), White et al. (2012) found that those with callous-unemotional features had a decreased likelihood of violent charges one year after FFT treatment. These findings are consistent with controlled studies indicating that intensive, appropriate, but not necessarily *specialized* treatment reduces criminal behavior for offenders with psychopathic traits (see Frick et al., 2013; Skeem et al., 2011).

At the same time, some evidence suggests that risk reduction is improved when socioemotional deficits are specifically addressed. In a study of 196 clinic-referred children and adolescents (*M* age=11) randomly assigned to either a typical family-based intervention or an emotion-recognition intervention that included parent-child exercises on accurately perceiving/interpreting emotions, Dadds et al. (2012) found that youths with callous-unemotional traits showed significantly greater improvement in their conduct problems over a six-month follow-up period in the emotion-recognition condition.

Generic Principles. We highlight two leading models that distill generic principles of effective correctional treatment: Lipsey et al.'s (2010) model, which is relatively broad, atheoretical, and focused on juveniles, and the "Risk-Need-Responsivity" model (RNR; Andrews et al., 1990; Andrews, 2011), which is more specific, theoretically-driven, and applicable to adults and juveniles.

Although Lipsey and his colleagues have completed a number of relevant meta-analyses, his most broadly focused study (Lipsey, 2009) promises to be most influential. In this study, he meta-

analyzed 548 controlled studies of programs for adolescent offenders that were published before 2002. After controlling for methodological variation across studies, Lipsey (2009) found that four over-arching program characteristics were associated with the greatest reduction in recidivism. First, the type of program had a large effect. The types of programs with the largest effect on recidivism were skill-building programs that were cognitive-behavioral or behavioral, and counseling programs that were group- and mentor-based. Within a given program type, however, brand name and generic models tended to perform equally well (e.g., FFT and generic family counseling), provided that both were implemented with similar fidelity. It does not take a brand name program to reduce recidivism, but rather a program that is "well-made" (with a theory of change, specific targets, staff monitoring tools, etc.) and well-implemented. Second, the amount of service provided and the quality of program implementation were crucial – programs with short duration, high attrition rates, poorly trained personnel, etc. were relatively ineffective. Third, effective programs were driven by behavior change philosophies that were more oriented toward *care* (facilitating the development of skills and relationships via counseling, etc.) than *control* (intensifying surveillance, deterrence, and discipline via boot camps, intensive supervision, etc). In fact, punitive, sanction-focused strategies tended to increase recidivism rates. Fourth, programs applied to the highest risk youths were most effective. Remarkably, "there was no indication that there were juveniles whose risk level was so high that they did not respond to effective interventions" (Lipsey et al., 2010: 23).

Lipsey et al. (2010) created the SPEP to operationalize these principles so that local policy-makers could score their program(s) to identify areas in need of improvement. Specifically, he translated from his 2009 meta-analysis into weighted scores on four factors associated with program effectiveness: program type (e.g., community cognitive-behavioral; MST), treatment dosage, treatment quality rating, and youth risk level. Although the SPEP is still under development, preliminary results are promising. For example, based on a study of 57 programs in Arizona,

Redpath and Brander (2010) found that a program's total SPEP score moderately predicted youths' likelihood of reoffending over twelve months (r= -.35).

The second major principles-based approach -- the "Risk-Need-Responsivity" (RNR; Andrews et al., 1990) model -- is also associated with a tool that permits evaluators to determine how well a given program adheres to principles of effective intervention: the Correctional Program Assessment Inventory (CPAI; Gendreau & Andrews, 1996) The CPAI has been applied to juvenile correctional programs (Pealer & Latessa, 2004), but published validation data focus on adults. Based on a study of 38 adult residential programs, Lowenkamp, Latessa, and Smith (2006) found that a program's CPAI score moderately predicted offenders' new arrests (r=.35) and return to prison (r=.42). Programs with greater fidelity to principles measured by CPAI were more effective.

What are the basic elements of the RNR model? Briefly, in meta-analyses of both juvenile and adult data, Andrews et al. (e.g., 1990; Dowden & Andrews,1999) have found that programs maximize recidivism reduction when they (a) target high-risk offenders (the risk principle); (b) focus on changing empirically established risk factors for recidivism (the need principle); and (c) deliver intervention in a way that maximizes offender engagement in the treatment process, e.g., use cognitive-behavioral and other skill-building approaches, enhance treatment motivation (the responsivity principle).

These principles (and others; see Andrews, 2011) largely overlap with Lipsey et al.'s (2010) model, with one crucial exception: Lipsey's omits the need principle. In fact, Lipsey (2009) neither coded for, nor tested, the need principle and acknowledged, "it may well be that programs derive their effectiveness by targeting criminogenic needs with change strategies that are responsive under the Andrews et al. definition" (Lipsey, 2009: 144). In the two states that have piloted Lipsey et al.'s (2010) model, program managers observed that programs would be more effective if they were matched to offenders' needs.

The need principle provides practical guidance for risk reduction with high-risk youth, particularly given the recent resurgence of risk assessment. Simply put, a program's effectiveness is strongly associated with the number of variable risk factors for recidivism that it targets (e.g., antisocial attitudes, anger and disinhibition, poor parental monitoring), compared to variables that do not predict recidivism (disturbances that impinge on functioning, like anxiety, vague emotional problems, poor self esteem; Andrews et al., 1990; Dowden & Andrews, 1999).

Risk assessment tools like the YLS/CMI and SAVRY explicitly include variable risk factors that can serve as treatment targets (see "individual" and "social/contextual" rows of Table 1). Although these tools are the best the field presently has to offer as guides for targeted treatment, there is little direct evidence that changing these factors will reduce recidivism (see Monahan & Skeem, in press, for analysis of confusing distinctions between "risk-needs" assessment, "static-dynamic" risk factors and "criminogenic-noncriminogenic" needs). Put simply, it is not clear that these risk factors are *causal*. The most compelling form of evidence that a risk factor was causal would be a randomized controlled trial in which a targeted intervention was shown to be effective in changing a variable risk factor(s), and the resulting changes were shown to reduce the likelihood of post-treatment recidivism (Kraemer, 2003). Even in the adult literature, it is "nearly impossible" to locate such tests – even for relatively well-validated variable risk factors like substance abuse and criminal attitudes (Monahan & Skeem, in press).

Treatment in Confinement? High-risk youths are likely to be confined. Compared to community-based programs, those in juvenile institutions tend to be more oriented toward harsh punishment, and this orientation has no effect --or an *adverse* effect -- on recidivism (Lipsey, 2009). This punishment orientation is more pronounced in adult- than juvenile correctional institutions, and most evidence suggests that transfer of youth to the criminal justice system is counterproductive to the goal of public safety (Redding, 2008).

What can be done to bring evidence-based practice to custodial settings? The best-validated branded packages (e.g., MST, MFT) tend to be community-based. In fact, they are often framed as *alternatives* to incarceration. When high-risk youths cannot be safely maintained in the community, branded packages that can be delivered in institutions are one option (e.g., Aggression Replacement Therapy [ART],Goldstein et al. 1986).

Generic programs and principles are also applicable to high-risk youth in custodial settings. For example, in a carefully controlled study of 141 youths (*M* age =17) with pronounced histories of violence and psychopathic features, Caldwell et al. (2006) found that those who participated in an intensive treatment program were 2.7 times less likely to recidivate violently during a two year period after release, compared with those who participated in treatment as usual (TAU). Compared to TAU, the intensive treatment program involved more services (e.g., 45 programming weeks) and a different philosophy. Specifically, there was less emphasis on sanctions and more emphasis on social skill acquisition, developing conventional social bonds to displace antisocial associations and activities, and eroding antagonistic relationships with authority figures to overcome defiant attitudes. ART (see above) was also applied. The intensive program yielded a benefit-cost ratio of more than 7 to 1 over the TAU group (Caldwell, Vitacco, & van Rybroek, 2006).

This study illustrates that effective principles of correctional intervention can be applied in custodial settings -- even if they usually aren't. After controlling for youths' characteristics and treatment types, Lipsey (2009: 23) found that the supervision setting did not moderate the effect of treatment on recidivism: Good programs "can be effective within institutional environments where there is more potential for adverse effects."

At the same time, the potential for adverse effects must be taken seriously. Conditions of confinement vary across settings, but tend to be poor. This is particularly true in locked institutions, where harsh sanctions like solitary confinement, poor youth-staff relations, criminal peer or gang

influence, and fears of attack are prevalent (Sedlak & McPherson, 2010). A reliable and valid measure of these conditions is available, and has been shown to independently predict high-risk youths' criminal behavior (Mulvey et al., 2010; Schubert et al., 2011). This measure can be used to inform improvements in conditions that could undermine even the best of interventions.

Prioritizing High-Risk Youth, While Closing the Chasm. It is relatively clear what needs to be done to 'fight crime and save money' (Lee et al., 2012), and implementation technology has been developed to help. For example, in a community setting with relatively flush resources, MST is one of several options for high-risk youth. In a community or custodial setting with limited resources, the SPEP or CPAI can be used to assess existing programs and systematically improve them in incremental efforts to exemplify principles of effective correctional practice.

Although rapid advances are being made, there is still a large chasm between science and practice. For example, risk assessment is becoming standard practice (despite implementation problems; Skeem et al., 2013), but the results of those assessments rarely are used to inform risk reduction efforts. First, youths' variable risk factors are only sometimes addressed with relevant treatment– even for such basic risk factors as substance abuse. Mulvey, Schubert, and Chassin (2010) found that only 44% of serious juvenile offenders with substance abuse disorders received any substance abuse treatment *over a three-year follow-up period* after adjudication (compared to 11% without such disorders). Second, a rarely realized justification for assessing risk is to identify high-risk youths who need intensive, appropriate services. Even in a rehabilitation-oriented state, almost half (43%) of 57 juvenile programs failed to focus service provision on youths classified as high-risk (Redpath & Brander, 2010). Given that the risk principle scale of the SPEP most strongly predicted youths' recidivism (r=-.47; Redpath & Brander, 2010), many programs are poorly aimed.

More broadly, it is becoming clear that juvenile justice programs routinely fall short in providing an adequate amount of any kind of service, to anyone (Lipsey et al., 2010). In the current drive toward addressing these problems, high-risk youth are a priority population.

Future Directions: Understanding Mechanisms and Timing. Given how rarely they are applied, expanding the number of branded packages for high-risk youth seems unlikely to reduce crime on a large scale (NAS, 2012). Instead, more may be gained by pursuing two other strategies. First, because the dominant service delivery model (i.e., in-person therapy) has inherent limitations in its reach, novel modes of service delivery (e.g., computerized treatment) that can reach more high-risk youths should be explored (see Kazdin, 2011).

Second, principles about *how* and *when* to intervene as a response to criminal conduct to activate specific *mechanisms* of change should be further articulated. Current models have defined general principles of how to intervene (e.g., with structured, well-implemented, high dosage treatment that targets risk factors)--and with whom (high-risk youth). But little is known about what specific mechanisms of change to target and when to intervene to maximize impact. A variety of theoretically-driven research designs could go far in identifying robust treatment mediators (e.g., which risk factors, when altered, maximize risk reduction?) and moderators (e.g., does this vary as a function of pubertal status, socioemotional deficits, etc.?) (see Kazdin, 2007).

As understanding of mechanisms, timing, and service delivery alternatives increases, relevant principles can be embedded in tools for practice. Even small changes in practice (i.e., when to intervene) could yield large reductions in risk. In this section, we illustrate the promise of this approach, using the dimensions outlined in Part III (disinhibition, socioemotional deficits, and developmental immaturity) as a guide.

Mechanisms. Experiments are needed to identify which risk factors, when deliberately changed, directly reduce recidivism (see above). These demonstrations are crucial for streamlining

treatment efforts, given evidence that theorized targets are not necessarily the means by which risk reduction is achieved (e.g., Kroner & Yessine, in press). Moreover, research is needed to identify efficient change strategies for individual differences in disinhibtion, socioemotional deficits, and other traits that – when used configurally - describe high-risk youth.

With respect to disinhibition, traditional cognitive-behavioral treatments (CBT) for offenders include elements that are designed to instill deliberate social problem-solving skills (i.e., improve behavioral restraint), improve anger management (i.e., increase emotional regulation), and improve perspective taking (i.e., reduce reactive aggression; see Matthys et al., 2012). Theoretically, as high-risk youths present with greater disinhibition (particularly with tendencies toward aggression), emphasis on these elements should increase.

But there is room for innovation, based on understanding of processes by which disinhibition maintains reactive aggression and other impulsive criminal behavior. For example, there is evidence that *automatic* cognitive-emotional processing predicts disinhibited individuals' self-regulatory behavior (e.g., aggression in response to provocation) more strongly than *reflective* processing (Hofman et al., 2008). Thus, interventions that shift biases in implicit cognition and/or "hot" automatic processing could add value to traditional techniques meant to increase explicit, deliberate processing and executive control (e.g., "stop and think" elements of CBT; Matthys et al., 2012). New interventions could retrain relevant biases in attention (Patrick et al., 2012), automatic action tendencies (e.g., Wiers et al., 2011), and emotion recognition.

In proof of this principle, Penton-Voak et al. (2013) conducted an experiment with 46 youths (M age= 13) with histories of frequent aggressive behavior (100%) and criminal records (70%) who were referred to a program for youth at high-risk for crime. The goal was to modify youths' automatic tendency to interpret ambiguous emotional expressions as angry, and thereby reduce reactive aggression. In a series of four sessions, youths were shown composite images of happy,

angry, or emotionally ambiguous facial expressions and asked to classify them as happy or angry. After establishing youths' baseline balance point for perceiving ambiguous faces as angry, the authors used feedback ("correct/incorrect") to train half of youths away from their balance point by telling them that some ambiguous faces they had previously labeled as angry were in fact happy. Compared to control youths, those assigned to the treatment condition manifested both a greater positive shift in emotion recognition bias during the experiment, and less verbal and physical aggression (self- and staff- rated) during a two-week follow-up period.

Although socioemotional deficits also seem relevant targets for risk reduction efforts, few treatment programs explicitly focus on changing them. Some elements of traditional CBT are theoretically relevant, i.e., those designed to increase perspective-taking (i.e., increase empathy and guilt), and to effect behavior change through reliance upon rewards rather than punishment (given punishment insensitivity; see Matthys et al., 2012). Treatment innovation efforts may follow hints from recent neuroscience-informed research. Dadds et al. (2006) demonstrated that fear recognition deficits were reversed for children with callous-unemotional traits when they were told, "pay attention to the eyes." This suggests that recognition of others' distress can be remedied with a simple behavioral manipulation. Similarly, Han et al. (2012) found that individuals with high callous-unemotional traits demonstrated less amygdala and medial prefrontal cortex activity than those with lower traits when the eyes were covered in facial pictures of fear, but not when they were isolated: attention may be a malleable "empathy arousal mechanism" that could increase prosocial behavior.

These studies both provide a glimpse of how adding novel models of service delivery like computerized treatment could expand the reach of treatment to high-risk adolescents and illustrate the promise of leveraging basic research to understand mechanisms of change. As Kazdin (2011: 693) noted: there are evidence-based treatment packages, "but there is little in the way of evidence-based explanations of treatment effects. There are opportunities like never before to provide these

explanations and then to draw on them to improve treatment and the models through which they are delivered."

Timing. Is there a developmental window of maximum opportunity for behavior change, for high-risk youth? Although there is an assumption that "the earliest possible intervention is best," it rests upon the notion that children with severe conduct problems are a qualitatively distinct group that will continue offending into adulthood. As noted in Part II, many children with severe conduct problems will desist by the end of the elementary school years (Odgers et al., 2007).

For those who persist, when can the greatest gains be made? Surprisingly few studies have examined whether (early) adolescence is an opportunity for maximum behavior change among offenders, and these have done so with little precision. For example, in his meta-analysis of studies of youths between the ages of 12 and 21, Lipsey (2009) found that the average age of juveniles did not significantly moderate the effect of treatment on recidivism. Age, however, is a poor marker of developmental maturity. Moreover, treatment programs vary in the extent to which they target social-affective processes that are often impaired among high-risk youths, and have been shown to be uniquely responsive to learning during adolescence.

Future research should directly test whether intervening during (early) adolescence maximizes behavior change for high-risk youth. As summarized by Crone and Dahl (2012), recent neurobehavioral research indicates that the onset of puberty marks the beginning of dramatic changes in reward processing, processing of emotional stimuli, and social-cognitive reasoning. Biologic changes during this period sensitize youths to their social world and create tendencies to explore and engage. Although these tendencies confer vulnerability to risk-taking behavior (including crime), they also appear to offer adaptive advantages, including greater capacity for social and affective learning than adults. This includes learning about trust, empathy, and patterns of automatic behavior in response to specific emotional and social cues. Thus, for high-risk youth,

adolescence could provide a natural inflection point for promoting prosocial motivation and goals (rather than deepening already-antisocial ones). If so, policy could be shaped toward intervening during this period to yield large scale effects on crime reduction.

V. Applying Science to Inform Justice Policy

Challenges and Opportunities. Providing high-risk youths with intensive treatment seems to yield substantial gains in public safety and health. But there is evidence that this is rarely achieved. How can the justice system incorporate effective risk reduction approaches without undermining its core purposes of fair punishment and crime prevention- through approaches that account for political realities? Part II described tensions in criminal law that may impede meaningful intervention with these youths, across different developmental phases.

First, effective intervention with early adolescent high-risk youths (particularly those with childhood onset) is crucial. The challenge is that these offenders, because of developmental immaturity, are generally less culpable and deserve less punishment than older teens. This may translate into interventions that are less intensive and shorter in duration than older adolescents receive, and that are ineffective in reducing risk.

The case of Robert "Yummy" Sandifer is illustrative. Yummy's picture appeared on the cover of *TIME* magazine, where Gibbs, Grace and Hull (1994) described his "short, violent life" as a "haunting tale." Yummy had a history of family dysfunction, learning problems, and antisocial conduct before he began to develop a criminal record at age nine. Over the next three years, he committed numerous crimes, but because of his age received only probation. At age 12, Yummy killed a 14 year old girl and then was killed himself by gang members, having never received intensive treatment at a time when it may have been particularly effective. As extreme and "unsympathetic" as Yummy's case was, it illustrates the often insufficient response of the justice system to early adolescent offenders.

Second, older high-risk youths are more culpable and pose a more salient threat to public safety; some may be considered psychopathic or "untreatable." This may result in incarceration or adult punishment that functionally excludes them from appropriate risk-reduction efforts. The challenge is to protect public safety while assuring that principles of effective treatment are applied in a correctional setting (whether custodial- or community-based) that maximizes the likelihood that they will make a healthy developmental transition to non-criminal adulthood.

Resolving these tensions to reduce recidivism for high-risk youth is essential to effective crime prevention. For several reasons, now is an opportune time for relevant policy reform. Lawmakers recognize the importance of developmental research to fair and effective justice policy (Scott 2013b). Further, crime prevention has become a preeminent goal, and policy-makers have embraced evidence-based programs as a means of achieving it (NRC, 2012). This concluding Part examines how the justices system's handling of high risk youths can be guided by the research described above, and begins by returning to the core purposes of retribution and crime prevention in a framework informed by the risk analysis in Part III.

Culpability and Crime Prevention Considerations._First, deserved punishment is a function of the harm of the offense and the culpability of the offender (see Part II). Under the criminal law, the risk factors and individual difference dimensions outlined above typically do not mitigate culpability in the adult offender (perhaps with the exception of severe childhood abuse). For example, antisocial personality disorder is explicitly excluded in most states as a ground for raising an insanity defense and psychopathic traits generally do not reduce blameworthiness (Bonnie et al, 2010; Skeem et al., 2012).

Similar dimensions of individual difference – i.e., disinhibtion and socioemotional deficits – often apply to high-risk youth. The distinction is that high-risk youths are still developing. Their risk – like that of other youths – is exacerbated during adolescence by features of developmental

immaturity -- which *are* deemed mitigating. These include sensation seeking, poor impulse control, present orientation and susceptibility to peer influence. Moreover, high-risk youths tend to have less individual control over their risk state than adult offenders: adolescents, for example, are not free to leave criminogenic social contexts created by their family, neighborhood or school.

Second, crime prevention goals should also be examined in light of research on high risk youth. These goals turn upon dangerousness and treatability. With respect to dangerousness, high-risk youths are (by definition) at greater risk for (re)offending than other youths. But they do not have unique qualities that categorically distinguish them from more typical offenders (see Part I). Moreover, long-term predictions about re-offending tend to be error-prone, especially when made during adolescence (see Part III).

With respect to treatability, there is ample evidence that high-risk youths can change with appropriate, intensive treatment that adequately engages them (see Part IV). In fact, the prominence of some individual risk factors (e.g., disinhibition) during adolescence can be expected to diminish over time, and these factors as well as contextual risk factors (e.g., poor parental monitoring) can be deliberately changed during adolescence (see Part IV). Because no level of risk signifies "untreatable" (Lipsey et al., 2010), appropriate interventions are warranted with high risk youths unless and until they demonstrate a history of failure to respond to such treatment.

Toward Science-Based Crime Policy for High-Risk Youth. In this section, we articulate guidelines for legal policies that will serve the purposes of (a) reducing crime and protecting public safety, and (b) dealing fairly with high-risk youth. We focus first on policies that should inform regulation of high-risk youth during early adolescence, and then at those that apply to their older counterparts.

Early-Adolescents. For the challenging group of very young offenders like Yummy Sandifer, a combination of justice system programs and intensive services available to youths *not* in

the justice system offers the best hope of reducing their risk of re-offending without imposing excessive sanctions that may offend principles of fairness (Scott & Steinberg, 2008). The state has broad authority to intervene in families to promote child welfare, particularly when parents are unable to fulfill their responsibilities (Davis et al, 2009). On this basis, a range of educational, mental health, and family support services (including foster care placement, if needed) can be provided to high-risk youth during early adolescence -- *in addition to* correctional services specifically aimed at re-offending. Individualized plans of comprehensive services can be structured to maximize coordination among multiple systems dealing with the youth. This comprehensive approach is likely to be expensive, but more cost-effective than later interventions, given its potential for crime reduction. Because it is not largely correctional in nature, it is also consistent with mitigation principles.

Mid-Late Adolescents. The challenge posed by older high-risk youth is to devise policies that maximize their access to effective risk reduction programs without sacrificing public safety. Structural justice system guidelines for jurisdictional age and transfer are an important foundation for advancing these goals.

First, with respect to jurisdictional age, most youths should be adjudicated in juvenile court until age 18 and subject to juvenile dispositions. In part, this accommodates the mitigation principle; mid-late adolescents may be more culpable than younger juveniles, but they are presumptively less mature and blameworthy than adults. But just as importantly, the juvenile system is far more likely than the adult system to offer intensive risk reduction programs and a range of educational and other services that respond to the developmental needs of adolescents (Bishop & Frazier, 2000). Contextual risk factors (e.g., peers, families) contribute to adolescent offending, and a key element of effective risk reduction for adolescents is a social context that promotes healthy development. The juvenile system is far more likely to provide this context.

But older juveniles who commit serious crimes may deserve sentences that cannot be completed by age 18, and effective risk reduction may require services and monitoring that extend into early adulthood. By extending the dispositional jurisdiction of the juvenile system until age 23 or 25, high-risk youths can receive intensive treatment in the system that is more likely to respond to their needs (OJJDP, 2011). Public safety concerns may also be alleviated if these youths can be subject to longer juvenile dispositions. As explained in Part IV, effective treatment *can* be provided in custodial settings.

Second, when should a juvenile be transferred to the adult system? A scientifically-based regime would limit transfer to older juveniles charged with serious violent crimes who have a history of serious offending…and a clearly proven failure to respond to appropriate, intensive risk reduction programs. This decision should not be made automatically or by prosecutors; it should be made by a judge in an individualized hearing to determine whether the youth's maturity and response to past interventions makes adult incarceration appropriate, should he be convicted. Detailed inquiry may often reveal that older high-risk youths have not received appropriate, intensive treatment; these youths should not be transferred based solely on their age and criminal record.

The presumption favoring juvenile system processing and disposition of high- risk youths is grounded as much in the potential harm to youth development of adult prison as it is in the possible benefits of the juvenile system. In combination, the large size, typically adversarial relationship between inmates and staff, and lack of therapeutic and educational services or age-appropriate job training make prisons toxic developmental settings, arguably more harmful for juveniles than adults (e.g., Bishop & Frazier, 2000; Scott & Steinberg, 2008; Mulvey & Schubert, 2011). Teenagers in prisons are often either victims or protégées of older prisoners—and neither is likely to reduce reoffending. At a minimum, high-risk youths who are punished as adults should be separated from other prisoners and provided with intensive services.

Guidelines for Intervention. Having outlined relevant principles of juvenile crime regulation, we turn now to five specific guidelines for correctional interventions for high-risk youth, building upon the analysis of treatment evidence in Part IV.

First, interventions should be structured to respond to the developmental needs of adolescents. Adolescence is a critical developmental stage in which individuals acquire skills and capacities necessary for fulfilling conventional adult roles of intimate partner and employee (Steinberg, Chung & Little, 2004). In this process, social context can facilitate or undermine healthy development (Bronfenbrenner & Morris, 1998). Correctional programs constitute the social context for youths in the justice system and should be designed to provide, to the extent possible, the elements that are important for healthy development-- authoritative parent figures, structured and limited contact with antisocial peers and opportunities for interaction with pro-social peers; and educational and extracurricular programs that prepare youths for adult employment and social roles (Steinberg, Chung and Little, 2004; Scott and Steinberg, 2008).

Second, programs should target risk factors for recidivism in individual youths. Risk assessment tools are becoming commonplace, but need to be *used* to (a) prioritize high-risk youth for intensive services, and (b) identify which services are appropriate, i.e., those that target specific risk factors for crime for a given high-risk youth. As explained in Part IV, "risk" and "need" principles of effective correctional treatment are more theory than reality.

Third, correctional interventions should be in the community, except a) when the juvenile poses a threat to public safety that cannot be managed outside of a secure facility, or b) residential placement is necessary to either protect the youth's mental health or welfare or provide intensive services that are impossible to deliver in the community. Although public safety concerns may deter judges or justice system officials from placing high-risk youths in community programs, programs like MST and MTFC are designed as alternatives to incarceration for high-risk youths and have been shown to reduce recidivism (see Part IV). It is

considerably less challenging in community-based than facility-based programs to involve parents in treatment; to provide youths with opportunities to interact with pro-social peers in educational, athletic and extracurricular settings; and to equip youth with tools to deal with criminogenic influences in their community (see NRC, 2012). Even in cases where parental supervision is inadequate, innovative strategies to provide tight community supervision may still be possible. For a small proportion of youth, intensive institutional programming might be needed to address specific issues (e.g., reactive attachment problems), but these interventions are still most effective when coordinated with subsequent community-based treatment.

Fourth, developmentally responsive risk reduction programs should be an integral part of facility-based dispositions. Many high risk youths will be sent to secure residential facilities because they are judged too great a threat to public safety to remain in the community. But residential placement need not be in large facilities where little effort is made to reduce risk. As noted in Part IV, even secure facilities can be designed to reduce reoffending. A residential model developed in Missouri provides a useful prototype for placement (Heuber, 2013). Facilities are small in size, located close to youths' communities to facilitate parental involvement, and run by staff with expertise in adolescent development. Interaction with antisocial peers is highly structured and supervised, and youths are provided with mental health, educational, and occupational services. This model holds promise for reducing recidivism while protecting public safety.

Fifth, evidence-based programming should continue during reentry into the community. The benefits of programs in facilities are often lost when offenders return to their communities, when many offenders resume their previous patterns of criminal involvement. Thus, for high-risk youths sent to facilities, intensive intervention *both* during incarceration and reentry are critical. Support services that facilitate reintegration into the community, while providing offenders with tools to avoid criminogenic influences are essential to their successful transition to non-criminal lives.

The most important guideline is to systematically *evaluate* risk reduction efforts with high-risk youth. Implementation tools are available to help bridge the chasm between science and practice. The risk reduction potential of evidence-based programs and principles cannot be realized at the local level without on-going evaluation for fidelity and effectiveness. This general guideline applies with particular force to programs that treat high-risk youths. This is a challenging population to treat where stakes are high, progress may be unclear, and ultimate crime reduction can be great.

VI. Conclusion

In this article, we have outlined ongoing research that can guide effective justice policy for high-risk youth. Overall, our review indicates that there is hope for intervention with these adolescents – that appropriate treatment can promote both positive life changes and public safety. These outcomes can be achieved if we focus on malleable aspects of psychological functioning related to continued criminal involvement and do so in a disciplined, and developmentally informed, way. Two major premises underpin this basic conclusion.

First, there is a need to consider developmental processes, even when thinking about high-risk youth. These adolescents are not so different from other adolescent offenders, or other adolescents for that matter, to warrant the presumption that they need to be identified and subjected to quarantine because we have no methods for promoting their prosocial development or keeping their dangerous behavior in check. We assert that the difference between high-risk youth and other adolescent offenders is largely a difference of degree, not kind. As a result, intervening early, intensively, and in a way that shores up the youth's abilities to confront his next set of developmental challenges makes more sense than thinking in terms of how to treat a hypothesized underlying, pervasive characterological deficit. A more multifaceted and developmental approach requires broad intervention in multiple realms of the young offender's life, whether pursued in the community or an institutional setting.

Second, the law needs to accommodate this perspective of high-risk young offenders as one that can promote both youth welfare and public safety. Dealing effectively with these individuals is one of the most important goals of the justice system. But these youths represent more than a serious threat to the social order that must be contained. They also present opportunities for focused treatment that can reduce their risk of reoffending through early intervention, extended juvenile court jurisdiction, and the allocation of resources to programs tailored to address their wide ranging needs. Current jurisdictional boundaries and the limited vision of what community and institutional services can provide-- and how these services can be integrated –have historically been barriers to this approach. But, as we have suggested, in recent years, lawmakers have become more receptive to programs with crime reduction potential, particularly in the juvenile system. What is needed is recognition that this pragmatic approach can be effective with high-risk offenders as well as with other youths.

In the end, this chapter proposes that policies and practices about high-risk youth need to be "rethought" in light of research on adolescent development and services for juvenile offenders. This is an opportunity to take innovative steps that could help these adolescents and protect the community. The challenge is formidable, but also "doable" and well worth the effort.

References

Achenbach, T. M., & Edelbrock, C. S., 1978. The classification of child psychopathology: A review and analysis of empirical efforts. *Psychological Bulletin, 85(6),* 1275-1301.

American Psychiatric Association, 2013. *Diagnostic and Statistical Manual of Mental Disorders (Fifth ed.).* Arlington, VA: American Psychiatric Publishing

Andrews, D. A., 2011. The Risk-Need-Responsivity (RNR) model of correctional assessment and treatment. In J. A. Dvoskin, J. L. Skeem, R. W. Novaco, & K. L. Douglas (Eds.), *Applying social science to reduce violent offending* (pp. 127–156). New York, NY: Oxford.

Andrews, D.A., Zinger, I., Hoge, R. D., Bonta, J., Gendreau, P. and Cullen, F. T., 1990. Does correctional treatment work? A clinically relevant and psychologically informed meta-analysis. *Criminology, 28*, pp. 369–404.

Barker, E., and Maughan, B., 2009. Differentiating early-onset persistent versus childhood-limited conduct problem youth. *American Journal of Psychiatry, 166(8),* pp. 900-908.

Barnoski, R, 2003. *Changes in Washington State's Jurisdiction of Juvenile Offenders: Examining the Impact*. Olympia: Washington State Institute for Public Policy.

Bishop, D.M., and Frazier, E., 2000. Consequences of transfer. In J. Fagan and E Zimmerman (Eds.), *The Changing Borders of Juvenile Justice*. Chicago, IL: University of Chicago Press, pp. 227-276.

Blair, R. J, 2010. Neuroimaging of psychopathy and antisocial behavior: A targeted review. *Current psychiatry reports, 12(1),* pp. 76-82.

Bonnie, R., Coughlin, A., Jeffries, J. and Low, P. 2010. *Criminal Law.* New York, NY: Foundation Press.

Borum, R., Bartel, P., & Forth, A., 2006. *SAVRY: Structured Assessment of Violence Risk in Youth: Professional Manual.* Lutz, FL: Psychological Assessment Resources.

Broidy, L. M., Nagin, D. S., Tremblay, R. E., Bates, J. E., Brame, B., Dodge, K. A., Fergusson, D., Horwood, J., Loeber, R., Laird, R., Lynam, D., Moffitt, T., Pettit, G., & Vitaro, F., 2003. Developmental trajectories of childhood disruptive behaviors and adolescent delinquency: A six-site, cross-national study. *Developmental psychology, 39(2*), pp. 222-245.

Bronfenbrenner, U., and Morris, P. (1998). The ecology of developmental processes. In W. Damon (Ed.), *Handbook of Child Psychology, 5th ed*. New York: John Wiley & Sons, pp. 993-1028.

Butler, S., Baruch, G., Hickey, N., and Fonagy, P., 2011). A randomized controlled trial of Multisystemic Therapy and a statutory therapeutic intervention for young offenders. *Journal of the American Academy of Child & Adolescent Psychiatry, 50,* pp. 1220–1235.

Caldwell, M., Skeem, J., Salekin, R., & Van Rybroek, G., 2006. Treatment response of adolescent offenders with psychopathy features A 2-Year follow-up. *Criminal Justice and Behavior, 33(5),* 571-596.

Caldwell, M. F., Vitacco, M., & Van Rybroek, G. J., 2006. Are violent delinquents worth treating? A cost–benefit analysis. *Journal of Research in Crime and Delinquency, 43(2),* pp. 148-168.

Capaldi, D. M., and Patterson, G. R., 1996. Can violent offenders be distinguished from frequent offenders: Prediction from childhood to adolescence. *Journal of Research in Crime and Delinquency, 33(2),* pp. 206-231.

Chamberlain, P., 2003. *Treating Chronic Juvenile Offenders: Advances Made Through the Oregon Multidimensional Treatment Foster Care Model*. Washington, DC: American Psychological Association.

Clark, L. A., 2007. Assessment and diagnosis of personality disorder: Perennial issues and an emerging reconceptualization. *Annual Review of Psychology, 58*, pp. 227-257.

Cohen, M. A., & Piquero, A. R., 2009. New evidence on the monetary value of saving a high risk youth. *Journal of Quantitative Criminology, 25(1),* pp. 25-49.

Cottle, C. C., Lee, R. J., & Heilbrun, K., 2001. The prediction of criminal recidivism in juveniles a meta-analysis. *Criminal justice and behavior, 28(3),* pp. 367-394.

Crone, E. A., and Dahl, R. E., 2012. Understanding adolescence as a period of social–affective engagement and goal flexibility. *Nature Reviews Neuroscience, 13(9),* 636-650.

Curtis, N. M., Ronan, K. R., & Borduin, C. M., 2004. Multisystemic treatment: a meta-analysis of outcome studies. *Journal of family psychology, 18(3),* pp. 411-419.

Dadds, M. R., Cauchi, A. J., Wimalaweera, S., Hawes, D. J., and Brennan, J., 2012. Outcomes, moderators, and mediators of empathic-emotion recognition training for complex conduct problems in childhood. *Psychiatry Research, 199*, 201–207.

Dadds, M. R., Perry, Y., Hawes, D. J., Merz, S., Riddell, A. C., Haines, D. J, Solak, E., and Abeygunawardane, A. I., 2006. Attention to the eyes and fear-recognition deficits in child psychopathy. *The British Journal of Psychiatry, 189(3),* 280-281.

Dadds, M. R., and Rhodes, T., 2008. Aggression in young children with concurrent callous–unemotional traits: Can the neurosciences inform progress and innovation in treatment approaches?. *Philosophical Transactions of the Royal Society B: Biological Sciences, 363(1503*), pp. 2567-2576.

Davis, S., Scott, E., Wadlington, W. and Whitebread, C., 2009. *Children in the Legal System (4th ed.)*. New York, NY: Foundation Press.

DiIulio, J.J., Jr., 1995, November 27. The coming of the super-predators. *The Weekly Standard,*

1(11), p. 23.

Dowden, C., and Andrews, D. A., 1999, May) What works in young offender treatment: A meta-analysis. *Forum on Corrections Research, 11,* pp. 21-24.

Eddy, J. M., Whaley, R. B., & Chamberlain, P., 2004. The prevention of violent behavior by chronic and serious male juvenile offenders A 2-Year follow-up of a randomized clinical trial. *Journal of Emotional and Behavioral Disorders, 12(1),* 2-8.

Edens, J. F., Campbell, J. S., and Weir, J. M., 2007 Youth psychopathy and criminal recidivism. *Law and human behavior, 31(1),* pp. 53-75.

Edens, J. F., Marcus, D. K., & Vaughn, M. G., 2011. Exploring the taxometric status of psychopathy among youthful offenders: Is there a juvenile psychopath taxon?. *Law and human behavior, 35(1)*, pp. 13-24.

Elliott, D. S., and Mihalic, S., 2004. Issues in disseminating and replicating effective prevention programs. *Prevention Science, 5(1),* pp. 47-53.

Forth, A. E., Kosson, D. S., & Hare, R. D., 2003. Hare psychopathy checklist: Youth version (PCL: YV). Towanda, NY: Multi-Heath Systems.

Fowles, D. C., & Dindo, L. (2009). Temperament and psychopathy A Dual-Pathway Model. *Current Directions in Psychological Science, 18(3),* 179-183.

Frick, P. J., Ray, J. V., Thornton, L. C., & Kahn, R. E., in press. Can callous-unemotional traits enhance the understanding, diagnosis, and treatment of serious conduct problems in children and adolescents? A comprehensive review. *Psychological Bulletin.*

Gibbs, N., 1994, September 19. Murder in miniature. *Time.* 54.

Gendreau, P., & Andrews, D. A., 1996. *Correctional Program Assessment Inventory* (CPAI) (6th ed.). New Brunswick, Canada: University of New Brunswick.

Goldstein, A. P., Glick, B., Reiner, S., Zimmerman, D., Coultry, T. M., & Gold, D., 1986. Aggression Replacement Training: A comprehensive intervention for the acting-out delinquent. *Journal of Correctional Education, 37(3),* pp. 120-126.

Goldweber, A., Dmitrieva, J., Cauffman, E., Piquero, A. R., and Steinberg, L., 2011. The development of criminal style in adolescence and young adulthood: Separating the lemmings from the loners. *Journal of youth and adolescence, 40(3*), 332-346.

Gibbs, N., Grace, J., & Hull, J. 1994, September 19. Murder in miniature. *Time.* 54.

Graham v. Florida, 2010. *Supreme Court Reporter*. (130) 2011-2048.

Griffin, P., Addie, S., Adams, B., and Firestone, K., 2011. *Trying Juveniles as Adults: An Analysis of State Transfer Laws and Reporting.* Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Han, T., Alders, G. L., Greening, S. G., Neufeld, R. W., and Mitchell, D. G., 2012. Do fearful eyes activate empathy-related brain regions in individuals with callous traits?. *Social Cognitive and Affective Neuroscience, 7(8),* pp. 958-968.

Harden, K. P., Quinn, P. D., and Tucker-Drob, E. M., 2012. Genetically influenced change in sensation seeking drives the rise of delinquent behavior during adolescence. *Developmental science, 15(1*), pp. 150-163.

Harris, G., and Rice, M., 2005. Treatment of psychopathy. In C. Patrick (ed.) *Handbook of Psychopathy*. New York: Guilford, pp. 555-572.

Hart, H.L., 1968. *Punishment and Responsibility.* Oxford, U.K.: Clarendon Press.

Harden, K. P., Quinn, P. D., & Tucker-Drob, E. M., 2012. Genetically influenced change in sensation seeking drives the rise of delinquent behavior during adolescence. *Developmental science, 15(1),* pp. 150-163.

Haslam, N., Holland, E., & Kuppens, P. , 2012. Categories versus dimensions in personality and psychopathology: A quantitative review of taxometric research. *Psychological medicine, 42(5*), pp. 903-920.

Hawkins, J., Herrenkoh., T., Farrington, D., Brewer, D., Catalano, R., Harachi, T., & Cothern, L., 2000. *Predictors of Youth Violence*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Henggeler, S. W., Schoenwald, S. K., Borduin, C. M., Rowland, M. D., and Cunningham, P. B., 1998. *Multisystemic Treatment of Antisocial Behavior in Children and Adolescents*. New York: Guilford Press.

Henggeler, S. W., & Sheidow, A. J., 2012. Empirically supported family-based treatments for conduct disorder and delinquency in adolescents. *Journal of Marital and Family Therapy, 38(1)*, pp. 30-58.

Herrenkohl, T. I., Maguin, E., Hill, K. G., Hawkins, J. D., Abbott, R. D., and Catalano, R. F., 2000. Developmental risk factors for youth violence. *Journal of Adolescent Health, 26(3),* pp. 176-186.

Hilterman, E. L., Nicholls, T. L., and van Nieuwenhuizen, C., in press. Predictive Validity of Risk Assessments in Juvenile Offenders: Comparing the SAVRY, PCL: YV, and YLS/CMI With Unstructured Clinical Assessments. *Assessment*.

Hirschi, T. and Gottfredson, M.R., 1983 Age and the explanation of crime. *American Journal of Sociology, 89*: pp. 552–584.

Hofmann, W., Gschwendner, T., Friese, M., Wiers, R. W., & Schmitt, M., 2008. Working memory capacity and self-regulatory behavior: toward an individual differences perspective on behavior determination by automatic versus controlled processes. *Journal of Personality and Social Psychology, 95(4),* 962-977.

Hoge, R. D., and Andrews, D. A., 2011. *Youth Level of Service/case Management Inventory 2.0 (YLS/CMI 2.0): User's Manual*. Towanda, NY: Multi-Health Systems.

Howell, J. C. (Ed.), 1995. *Guide for implementing the comprehensive strategy for serious, violent, and chronic offenders*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Heubner, B.M., 2013. The Missouri model: A critical state of knowledge. In R.J. Bonnie, R.L. Johnson, B.M. Chemers, and J.A. Schuck (Eds.), *Reforming Juvenile Justice: A Developmental Approach*. Washington, DC: The National Academies Press, Appendix A.

Hughes, T., Wilson, D., & Beck, A. (2001). Trends in state parole, 1990–2000. Washington: Bureau of Justice Statistics.

Jaffee, S. and Odgers, CL., in press. Conduct disorder across the lifecourse. In K. Koenen, S. Rudenstine, S. Galea, & E. Susser (eds), *Life Course Epidemiology of Mental Disorders*. Oxford: Oxford University Press.

Kazdin, A. E., 2007. Mediators and mechanisms of change in psychotherapy research. *Annual Review of Clinical Psychology, 3*, pp. 1-27.

Kazdin, A. E., 2011. Evidence-based treatment research: Advances, limitations, and next steps. *American Psychologist, 66(8),* 685-698.

Kerr, M., Van Zalk, M., & Stattin, H., 2012. Psychopathic traits moderate peer influence on adolescent delinquency. *Journal of Child Psychology and Psychiatry, 53(8),* pp. 826-835.

Kimonis, E.R., Frick, P.J., and Barry, C.T. , 2004. Callous- unemotional traits and delinquent peer affiliation. *Journal of Consulting and Clinical Psychology, 72*, pp 956–966.

Kroner, D. G., & Yessine, A. K., in press. Changing risk factors that impact recidivism: In search of mechanisms of change. *Law & Human Behavior*.

Lee, S., Aos, S., Drake, E., Pennucci, A., Miller, M., and Anderson, L., 2012. *Return on Investment: Evidence-Based Options to Improve Statewide Outcomes*. Olympia: Washington State Institute for Public Policy.

Lipsey, M. W., 2009. The primary factors that characterize effective interventions with juvenile offenders: A meta-analytic overview. *Victims and offenders, 4(2*), pp. 124-147.

Lipsey, M.W., and Derzon, J.H., 1998. Predictors of violent or serious delinquency in adolescence and early adulthood: A synthesis of longitudinal research. In R. Loeber and D. Farrington (Eds), *Serious & violent juvenile offenders: Risk factors and successful interventions*. Thousand Oaks: Sage, pp. 86-105.

Lipsey, M. W., Howell, J. C., & Kelly, M. R., 2010. *Improving the effectiveness of juvenile justice programs*. Washington, DC: Center for Juvenile Justice Reform.

Lipsey, M.S., Wilson, D.B., & Cothern, L. 2000. Effective intervention for serious juvenile offenders. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Lowenkamp, C. T., Latessa, E. J., & Smith, P., 2006. Does correctional program quality really matter? The impact of adhering to the principles of effective intervention. *Criminology & Public Policy, 5(3),* pp. 575-594.

Lykken, D. T. (1995). *The Antisocial Personalities*. New Jersey: Lawrence Erlbaum.

Lynam, D. R., Caspi, A., Moffitt, T. E., Loeber, R., and Stouthamer-Loeber, M., 2007. Longitudinal evidence that psychopathy scores in early adolescence predict adult psychopathy. *Journal of abnormal psychology, 116(1),* 155.

Lynam, D. R., & Gudonis, L., 2005. The development of psychopathy. *Annual Review of Clinical Psychology, 1,* 381-407.

Kraemer, H. C., 2003. Current concepts of risk in psychiatric disorders. *Current Opinion in Psychiatry, 16(4)*, pp. 421-430.

Matthys, W., Vanderschuren, L. J., Schutter, D. J., & Lochman, J. E., 2012. Impaired neurocognitive functions affect social learning processes in oppositional defiant disorder and conduct disorder: implications for interventions. *Clinical Child and Family Psychology Review, 15(3)*, pp. 234-246.

Miller v. Alabama, 2012. *Supreme Court Reporter* (132), 2255-2290.

Moffitt, T. E., 1993. Adolescence-limited and life-course-persistent antisocial behavior: a developmental taxonomy. *Psychological review, 100(4),* 674-701.

Moffitt, T., Arseneault, L., Jaffee, S., Kim-Cohen, J., Koenen, K., Odgers, C.L., Slutske, W., & Viding, E., 2008. Research Review: DSM-V conduct disorder: research needs for an evidence base. *Journal of Child Psychology and Psychiatry 49,* pp. 3-33.

Monahan, J., and Skeem, J., in press. Risk redux: The resurgence of risk assessment in criminal sentencing. *Federal Sentencing Reporter*.

Morse, S.J., 1984. Justice, mercy and craziness. *Stanford Law Review*. *36*, pp. 1485-1560.

Mulvey, E.P., and Schubert, C., 2011. Youth in prison and beyond. In B.C Feld and D.M. Bishop (Eds.), *Oxford Handbook on Juvenile Crime and Juvenile Justice* (pp. 843-867). New York: Oxford, pp. 843-867.

Mulvey, E.P., Schubert, C.A., and Chassin, L., 2010. *Substance Use and Offending in Serious Adolescent Offenders*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Mulvey, E. P., Steinberg, L., Piquero, A. R., Besana, M., Fagan, J., Schubert, C., & Cauffman, E., 2010. Trajectories of desistance and continuity in antisocial behavior following court

adjudication among serious adolescent offenders. *Development and Psychopathology, 22(2*), pp. 453-475.

Nagin, D., and Tremblay, R. E., 1999. Trajectories of boys' physical aggression, opposition, and hyperactivity on the path to physically violent and nonviolent juvenile delinquency. *Child development, 70(5)*, pp. 1181-1196.

National Research Council, 2012. *Reforming Juvenile Justice: A Developmental Approach. Strengthening the National Institute of Justice*. Washington, DC: The National Academies Press.

Nieuwbeerta, P., Blokland, A. A., Piquero, A. R., and Sweeten, G., 2011. A life-course analysis of offense specialization across age: Introducing a new method for studying individual specialization over the life course. *Crime & Delinquency, 57(1),* pp. 3-28.

Odgers, C. L., Caspi, A., Broadbent, J. M., Dickson, N., Hancox, R. J., Harrington, H., Poulton, R., Sears, M., Thomson, WM., and Moffitt, T. E., 2007. Prediction of differential adult health burden by conduct problem subtypes in males. *Archives of General Psychiatry, 64(4),* pp. 476-484.

Office of Juvenile Justice and Delinquency Prevention. (2011). Upper Age of Original Juvenile Court Jurisdiction, 2009. Available: http://www.ojjdp.gov/ojstatbb/structure_process/qa04101.asp Last accessed September 8, 2013.

Olver, M. E., Stockdale, K. C., and Wormith, J. S., 2009. Risk assessment with young offenders A meta-analysis of three assessment measures. *Criminal Justice and Behavior, 36(4),* pp. 329-353.

Olver, M. E., Stockdale, K. C., & Wormith, J. S., 2011. A meta-analysis of predictors of offender treatment attrition and its relationship to recidivism. *Journal of Consulting and Clinical Psychology, 79(1),* pp. 6-21.

Olver, M. E., Stockdale, K. C., and Wong, S. C., 2012. Short and long-term prediction of recidivism using the youth level of service/case management inventory in a sample of serious young offenders. *Law and human behavior, 36(4),* 331-344.

Patrick, C. J., Durbin, C. E., & Moser, J. S., 2012a. Reconceptualizing antisocial deviance in neurobehavioral terms. *Development and psychopathology, 24(3),* 1047-1071.

Patrick, C., Drislane, L. E., & Strickland, C., 2012b. Conceptualizing psychopathy in triarchic terms: Implications for treatment. *International Journal of Forensic Mental Health, 11(4)*,pp. 253-266.

Pealer, J. A., and Latessa, E. J., 2004. Applying the principles of effective intervention to juvenile correctional programs. *Corrections Today, 66*, pp. 26-29.

Penton-Voak, I. S., Thomas, J., Gage, S. H., McMurran, M., McDonald, S., and Munafò, M. R., 2013. Increasing recognition of happiness in ambiguous facial expressions reduces anger and aggressive behavior. *Psychological Science, 24(5),* pp. 688-697.

Posner, R., 1985. An Economic Theory of the Criminal Law . *Columbia Law Review, 85,* 1193-

Poulton, R., Sears, M. Thomson, M. & Moffitt, T, 2007. Prediction of differential adult health burden by conduct problem subtypes in males. *Archives of General Psychiatry, 64(4),* 476-484.

Piquero, A. R., 2008. Taking stock of developmental trajectories of criminal activity over the life course. In A. Liberman (ed.), *The long view of crime: A synthesis of longitudinal research.* Springer New York, pp. 23-78.

Piquero, A. R., Farrington, D. P., & Blumstein, A., 2003. The criminal career paradigm. *Crime and justice,* pp. 359-506.

Piquero, A.R., Cullen, ET., Unnever, J.D., Piquero, N.L., and Gordon, J.A., 2010. Never too late: Public optimism about juvenile rehabilitation. *Punishment and Society-International Journal of Penology,* 12(2), pp. 187-207.

Piquero, A. R., Diamond, B., Jennings, W. G., & Reingle, J. M., 2013. Adolescence-limited offending. In C.L. Gibson & M.D. Krohn (eds), *Handbook of Life-Course Criminology*. New York: Springer, pp. 129-142.

Piquero, A., Monahan, K., Glasheen, C., Schubert, and Mulvey, E.P., 2013. Does time matter? Comparing trajectory concordance and covariate association using time-based and age-based assessment. *Crime and Delinquency, 59(5),* pp. 738-763.

Redding, R. (2008*). Juvenile Transfer Laws: An Effective Deterrent to Delinquency?* Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Redpath, D.P. and Brander, J.K. 2010. The Arizona Standardized Program Evaluation Protocol (SPEP) for Assessing the Effectiveness of Programs for Juvenile Probationers:SPEP Rating and Relative Recidivism Reduction. [online] Available at: http://cjjr.georgetown.edu/pdfs/ebp/pres_AZspep2010.pdf Accessed September 8, 2013.

Regier, D. A., Narrow, W. E., Clarke, D. E., Kraemer, H. C., Kuramoto, S. J., Kuhl, E. A., and Kupfer, D. J., 2013. DSM-5 Field Trials in the United States and Canada, Part II: Test-retest reliability of selected categorical diagnoses. *American Journal of Psychiatry, 170(1),* pp. 59-70.

Roper v. Simmons, Supreme Court Reporter (125) 1183-1220.

Sampson, R. J., and Laub, J. H., 2003. Life-Course Desisters? Trajectories Of Crime Among Delinquent Boys Followed To Age 70*. *Criminology, 41(3),* pp. 555-592.

Schaeffer, C. M., & Borduin, C. M., 2005. Long-term follow-up to a randomized clinical trial of Multisystemic Therapy with serious and violent juvenile offenders. *Journal of Consulting and Clinical Psychology, 73(3*), pp. 445-453.

Schubert, C. A., Mulvey, E. P., Loughran, T. A., and Losoya, S. H., 2012. Perceptions of institutional experience and community outcomes for serious adolescent offenders. *Criminal Justice and Behavior, 39(1),* 71-93.

Scott, E.S., 2013a. Miller v. Alabama and the (past and) future of juvenile crime policy. *Minnesota Journal of Law and Inequality,* 31, pp. 535-558.

Scott, E.S., 2013b. Children are different: Constitutional values and justice policy. *Ohio State Journal of Criminal Law.*

Scott, E.S., and Steinberg, L., 2008. *Rethinking Juvenile Justice*. Cambridge, MA: Harvard University Press.

Schubert, C. A., Mulvey, E. P., and Glasheen, C., 2011. Influence of mental health and substance use problems and criminogenic risk on outcomes in serious juvenile offenders. *Journal of the American Academy of Child & Adolescent Psychiatry, 50(9),* pp. 925-937.

Sedlak, A., and McPherson, K. S. (2010). *Conditions of Confinement: Findings From the Survey of Youth in Residential Placement*. Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Sexton, T. L., & Alexander, J. F., 2000. *Functional Family Therapy.* New Jersey: John Wiley & Sons.

Skeem, J., and Mulvey, E., 2002. Monitoring the violence potential of mentally disordered offenders being treated in the community. In A. Buchanan (ed.), *Care of the Mentally Disordered Offender in the Community*. New York: Oxford, pp. 111-142.

Skeem, J. L., Polaschek, D. L., Patrick, C. J., and Lilienfeld, S. O., 2011. Psychopathic personality bridging the gap between scientific evidence and public policy. *Psychological Science in the Public Interest, 12(3),* pp. 95-162.

Steinberg, L., 2009. Adolescent development and juvenile justice. Annual Review of Clinical Psychology, 5, pp. 459-485.

Steinberg, L.D., Chung, H.L., and Little, M., 2004. Reentry of young offenders from the justice system: A developmental perspective. *Youth Violence and Juvenile Justice, 2(1),* pp. 21-38.

Stockdale, K. C., Olver, M. E., & Wong, S. C., 2010. The Psychopathy Checklist: Youth Version and adolescent and adult recidivism: considerations with respect to gender, ethnicity, and age. *Psychological assessment, 22(4),* 768-781.

Thornton, L., 2012. *Adolescents with callous-unemotional traits and their roles in group crime*. Ph.D. University of New Orleans. Available at: http://scholarworks.uno.edu/cgi/viewcontent.cgi?article=2570&context=td

Vincent, G. M., Guy, L. S., and Grisso, T., 2012. *Risk Assessment in Juvenile Justice: A Guidebook for Implementation.* Chicago, IL: John D. & Catherine T. MacArthur Foundation.

Walters, G. D., 2011. The latent structure of life-course-persistent antisocial behavior: Is Moffitt's developmental taxonomy a true taxonomy?. *Journal of Consulting and Clinical Psychology, 79(1)*, pp. 96-105.

Welsh, B. C., Rocque, M., & Greenwood, P. W., 2013. Translating research into evidence-based practice in juvenile justice: brand-name programs, meta-analysis, and key issues. *Journal of Experimental Criminology*, 1-19.

Wiers, R. W., Eberl, C., Rinck, M., Becker, E. S., & Lindenmeyer, J., 2011. Retraining automatic action tendencies changes alcoholic patients' approach bias for alcohol and improves treatment outcome. *Psychological Science, 22(4),* 490-497.

Table 1: Illustrative Risk Factor Domains from Applied Research: YLS/CMI and SAVRY

SAVRY Risk Scale*	SAVRY Item Examples	Related YLS/CMI Scale
Historical	early, frequent offending, supervision-intervention failures; parent criminality; childhood maltreatment; poor school achievement	Prior and Current Offenses (frequent offending, failure to comply)
Individual	impulsivity, anger, low empathy/remorse; negative attitudes, noncompliance; substance abuse; low school interest	Personality/Behavior (impulsive, aggressive, inattentive, inadequate guilt)
		Attitudes/Orientation (rationalizes criminal behavior; defies authority; callous/poor empathy)
		Substance Abuse (abuse of alcohol/drugs)
		Education (disruptive at school, low achievement, problems with peers)
		Leisure/Recreation (limited organized activities, could make better use of time)
Social/Contextual	peer delinquency, peer rejection; poor parental management, lack of personal/social support, community disorganization	Peer Relations (more criminal than prosocial friends)
		Family (inadequate parental supervision, discipline, consistency; poor relations with parents)

* The SAVRY also includes a "Protective" scale comprised largely of the inverse of risk factors listed in the table (i.e., prosocial activities, peers, and attitudes; bond with prosocial adult; school commitment)