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Empirically Based Strategies for Preventing Juvenile Delinquency



Dustin Pardini, PhD

KEYWORDS

• Juvenile delinquency • Prevention • Intervention • Crime

KEY POINTS

- Multiple causal factors have been implicated in the early emergence and persistence of serious conduct problems and delinquency in youth.
- In general, existing therapeutic interventions for youth showing antisocial behaviors tend to produce small to medium effects that are maintained over several years.
- Treatments that use cognitive-behavioral techniques (eg, parent management training, behavioral contracting, contingency management), and multimodal interventions seem to be most effective, particularly when administered to youth at highest risk for future delinquency.
- Peer group interventions are more effective with young children, and can produce iatrogenic effects when administered to adolescents who reinforce each other's antisocial behavior.
- Moving forward, there is a need to further develop comprehensive strategies to promote the widespread adoption of evidence-based practices designed to reduce juvenile delinquency within local communities and the juvenile justice system.

INTRODUCTION

Juvenile crime is a serious public health problem that exacts a significant financial and emotional toll on society.^{1,2} Serious violence is particularly costly, with estimates suggesting that injuries and death caused by firearm violence costs the United States more than \$70 billion annually.² Adolescents who engage in significant delinquent behavior are also at high risk for experiencing multiple deleterious outcomes in adulthood, including mental and physical health problems, unemployment, and relationship difficulties.³ These factors have led policy makers and international health agencies to call for increased efforts to involve youth in interventions designed to prevent the

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initiation and persistence of criminal behavior. This article discusses the existing research on the developmental course, cause, and prevention of delinquent behavior among children and adolescents.

DEVELOPMENTAL COURSE OF DELINQUENT BEHAVIOR

Population-based studies conducted across multiple countries and historical contexts have found that the prevalence and rate of criminal offending among youth tend to escalate during the teenage years then rapidly decrease across the 20s to early 30s.^{4,5} However, there remains considerable heterogeneity in the developmental course of delinquent behavior within the population in terms of the onset, rate, and duration of offending. Over the past several decades, investigators have proposed various developmental models designed to delineate subgroups of youth who show distinct patterns of offending over time. One of the most enduring subtyping schemes is Moffitt's⁶ developmental taxonomy model, which is founded on a large body of longitudinal research showing that there is a small portion of approximately 5% to 10% of youth who show severe conduct problems in childhood and who are at increased risk for showing criminal behavior into adulthood.⁶ The criminal behavior of these childhood-onset cases (also referred to as life-course persistent offenders) is thought to be driven by a combination of early psychosocial adversity, a dysfunctional child-rearing environment, and subtle neurologic impairments. This pathway is in contrast with a larger group of youth who begin engaging in delinquent behaviors during adolescence. This group is thought to consist predominantly of oppositional adolescents who are poorly monitored and subsequently begin affiliating with deviant peers. Adolescent-onset offenders are posited to largely leave their antisocial ways behind during the transition into adulthood as they adopt prosocial roles (eg, stable job), spend less time with deviant peers, and engage in more mature decision making.

Over the past decade, a growing number of longitudinal studies have indicated that the developmental taxonomy model requires further revision.⁷ For example, studies using latent trajectory group analysis have found that approximately 50% to 70% of youth who show severe conduct problems during childhood refrain from engaging in significant criminal offending during adolescence and young adulthood.^{7,8} There is also substantial evidence that adolescent-onset offending is not as transient as was initially thought. Longitudinal studies have delineated a group of youth who show a rapid increase in offending during adolescence and continue engaging in criminal behavior well into adulthood.⁷

BEHAVIORAL PRECURSORS OF SEVERE DELINQUENT BEHAVIOR

Longitudinal studies have consistently found that early forms of problem behavior in childhood often precede the development of severe delinquent behavior during adolescence. Loeber⁹ proposed a heuristic model based on longitudinal research describing a developmental progression of 3 overlapping, but distinct, subtypes of antisocial behavior (authority defiance, covert conduct problems, overt conduct problems). According to this model, intense, affectively laden conflicts with authority figures (eg, arguing, defiance, oppositional conflict) before school entry often proceed or co-occur with the development of more severe overt and covert conduct problems. Behaviors in the overt pathway tend to progress from minor acts of verbal and physical aggression (eg, threatening, bullying, hitting, teasing others) in childhood to acts of serious violence during adolescence (eg, murder, robbery, attacking with a weapon), whereas behaviors in the covert pathway progress from lying and minor theft (eg, shoplifting) beginning in childhood to more serious acts of theft (eg, burglary, auto

theft) during adolescence. As outlined in detail later, developmentally appropriate and empirically validated intervention programs have been designed to target youth showing the range of problem behaviors that make up these pathways.

CAUSES OF JUVENILE DELINQUENCY

Contemporary developmental models of youth delinquency founded on longitudinal research have served as the foundation for the development targeted by intervention programs, such as the Biopsychosocial Model,¹⁰ Developmental Taxonomy Model,⁶ the Contextual Social-Cognitive Model,¹¹ and the Seattle Social Development Model.¹² Each of these models posits that early childhood dispositional characteristics coupled with an accumulating array of adverse sociocontextual risk factors serve to perpetuate early emerging and persistent delinquency. However, there are a myriad of different factors that have been linked to the development in delinquent behavior in longitudinal and cross-sectional studies.^{6,13–15} **Box 1** provides some examples of these factors, which span multiple life domains.

What remains unclear is the extent to which various risk factors represent key causal mechanisms in the development of delinquent behavior, as opposed to spurious correlates. In addition, it has become increasingly evident that there are multiple causal pathways underlying the behavioral manifestations of antisocial behavior in youth, and these pathways involve complex mediating and moderating mechanisms. On a rudimentary level, longitudinal evidence suggests that, as youth begin accumulating a diverse array of risk factors across development, they become increasingly likely to engage in persistent antisocial behavior.^{16–18} For example, children born with significant emotional and behavioral regulation problems who are exposed to disadvantaged and maladaptive sociocontextual environments (eg, poor neighborhoods, harsh parenting) are at particularly high risk for developing severe conduct problems in early childhood.¹⁹ These children tend to enter school with poor social and academic skills, leading to aggressive conflicts with both peers and teachers.²⁰ Over time, they may increasingly experience academic failure and become rejected by mainstream peers, which can result in an increased affiliation with deviant youth who reinforce antisocial behaviors and beliefs.¹⁰ As adolescents, these youth may then become further attached to a life of crime by developing substance use problems and coming into contact with the juvenile justice system.

MULTITIERED APPROACHES TO DELINQUENCY PREVENTION

Using etiologic models as a guide, several delinquency prevention programs have been developed to target a diverse array of risk factors thought to perpetuate antisocial behavior at different stages of development. These programs can be classified into 4 tiers based on the characteristics of the targeted youth and overarching goal of the intervention.

- Primary prevention: Programs designed to reduce the overall prevalence of risk factors for delinquency within the general population.
- Selective prevention: Interventions that target children exposed to early sociocontextual risk factors associated with delinquency (eg, poverty, teenage pregnancy).
- Indicated prevention: Programs that target youth showing predelinquent conduct problems to prevent them from engaging in serious crime.
- Therapeutic interventions: Treatments that target youth showing delinquent behavior to promote desistance from criminal offending.

Box 1 Examples of risk factors commonly implicated in the development of severe and persistent delinquent behavior	
<u>Sociodemographic factors</u> Family poverty Teenage mother Single parent	<u>Family factors</u> Family history of crime High family conflict Parental mental health problems Intimate partner violence
<u>Dispositional factors</u> Dysregulated anger Fearlessness/sensation seeking Lack of empathy/guilt Hyperactive/impulsive	<u>Neighborhood factors</u> Neighborhood poverty/crime <u>Social-cognitive factors</u> Poor social problem-solving skills Positive expectations for aggression Values favoring delinquency Hostile attributional bias
<u>Peer factors</u> Affiliation with antisocial peers Peer rejection/victimization	<u>Psychophysiological factors</u> Low resting heart rate Poor aversive conditioning <u>Neurocognitive factors</u> Low intelligence Poor executive control Poor response reversal learning Affective processing deficits
<u>School factors</u> Low school motivation/bonding Academic failure	<u>Neurobiological factors</u> Low limbic reactivity to distress cues
<u>Parenting factors</u> Low positive reinforcement Low supervision/monitoring High parent-child conflict Abuse and neglect Lack of clearly defined rules Inconsistent discipline Low parental warmth/involvement	

Because of space considerations, the remainder of this article reviews research on effective indicated prevention programs and therapeutic interventions targeting youth at highest risk for engaging in severe and persistent criminal behavior.

GENERAL CHARACTERISTICS OF EFFECTIVE PROGRAMS

On average, existing indicated prevention and therapeutic intervention programs have been found to produce small to medium effects on conduct problems and delinquent behavior.^{21–23} The effectiveness of these programs does not seem to systematically vary as a function of the participants’ age, gender, and race/ethnicity.^{21–23} However, there is tremendous heterogeneity in the effectiveness of various programs. Recent meta-analytical studies have provided some insights into the characteristics of the most effective interventions.^{21–23}

- Interventions that have well-defined protocols and include regular fidelity checks to ensure services are being delivered in an appropriate manner tend to be more effective.
- Interventions focused on therapeutic approaches (eg, mentoring programs, parent management training, contingency management) are more effective than those that use external control techniques (eg, boot camps, intensive supervision).
- Treatments that use cognitive-behavioral strategies (eg, parent management training, behavioral contracting, contingency management) and multimodal interventions seem to produce larger behavioral improvements.
- Therapeutic interventions implemented with highly delinquent youth tend to produce larger effects than indicated prevention programs with youth showing less severe behavior problems.

- Peer group interventions tend to be more effective in younger children, and can produce iatrogenic effects in older youth if they are allowed to reinforce each other's antisocial behavior.

COMMON COMPONENTS OF EVIDENCE-BASED PROGRAMS

The most widely adopted and rigorously evaluated programs designed to prevent or reduce delinquent behavior have been developed and evaluated within academic settings. **Table 1** presents some name-brand manualized programs that regularly appear on vetted lists of empirically supported interventions for antisocial and delinquent youth.^{24,25} Some core elements found in 1 or more of these programs are reviewed later.

Parent Management Training

Parenting management training uses cognitive-behavioral treatment strategies to disrupt preexisting coercive cycles of parent-child conflict that reinforce noncompliance and equip parents with effective behavioral management techniques based on principles of operant conditioning. These programs typically focus on increasing parents' use of positive reinforcement, warmth/involvement, effective discipline, and proactive monitoring, while reducing their use of harsh and abusive discipline. A combination of didactic instruction, modeling, and in-session role plays are typically used to teach specific techniques. Parents are then given weekly practice assignments to facilitate the application of newly learned skills to real-life situations. Some programs provide in-vivo coaching during parent-child interactions to ensure that caretakers are appropriately implementing specific skills.

Behavioral Contracting

This is a positive-reinforcement intervention that is widely used to modify maladaptive behavior. Parents (and sometimes teachers) are trained to develop a clearly outlined plan for systematically tracking youth behavior (eg, home-school behavior report cards). Privileges and other rewards are then earned by youth as they complete scheduled activities and fulfill behavioral goals. Caretakers and youth often work together to formulate the specific contingencies outlined in the behavioral contract. Token economies and level systems are commonly used to index behavioral progress.

Socioemotional and Problem-Solving Skills Training

These cognitive-behavioral interventions are typically implemented with preschool and elementary school children in small group settings. Sessions are used to teach skills involving objectively evaluating peaceful conflict resolution, anger management, impulse control, goal-setting, social problem solving, friendship building, coping with teasing and peer pressure, and emotional perspective taking. These skills are practiced, refined, and reinforced in sessions using a diverse array of strategies, including hypothetical vignettes, role plays, and skits. Children are often assigned tasks to be completed between sessions in which they apply newly learned skills to real-life interpersonal situations of increasing complexity. In addition, youth are often asked to identify weekly behavioral goals that are monitored by parents and teachers. These goals are reviewed at each session, and rewards are often given for accomplishing set goals.

Table 1
Examples of empirically supported programs designed to prevent the development of severe and persistent delinquent behavior

Program	Target Population	Intervention Strategy
Parent-child interaction therapy ²⁶	Children aged 2–6 y showing severe oppositional/defiant behaviors	Parent-Child Interaction Therapy is a parent-focused intervention that is implemented in the context of naturalistic play settings between the parent and child in which a therapist provides guidance behind a one-way mirror through the use of a hidden ear device worn by the parent. This technique provides the parent with the unique opportunity to practice and master skills in vivo rather than passively learning through didactic interactions with the therapist. Sessions focus on strengthening the parent-child relationship through child-directed play, reinforcing positive behaviors, and decreasing maladaptive behaviors through the use of consistently implemented behavioral management techniques
The Incredible Years Program ²⁷	Children aged 4–7 y diagnosed with ODD or CD	The core intervention includes both a parent and child component. The child component consists of groups of 6 or 7 children who attend weekly 2-h sessions for approximately 17 wk. Videotaped vignettes and life-sized puppets are used to promote emotional empathy, perspective-taking skills, conflict resolution skills, anger regulation, and friendship building. The parent training intervention consists of approximately 22 sessions that use videotapes to model appropriate ways to deal with problematic parent-child interactions. Sessions address topics such as promoting effective play techniques, limit setting, handling misbehavior, and the communication of emotions
Problem-solving skills training with parent management training ²⁸	Children aged 10–13 y diagnosed with ODD or CD	This program mainly comprises 12 weekly sessions (30–50 min each) designed to teach and reinforce strategies for effectively dealing with interpersonal conflicts. As part of these sessions, children are taught to objectively evaluate problem situations, develop prosocial goals, and generate alternative solutions to meet their goals. Children initially practice these skills using hypothetical conflict situations that may arise in the settings in which they are having the most problems. Children are then assigned supersolver tasks in which they apply these strategies to real-life situations. The parent management training portion of the intervention involves a core set of 12 weekly sessions (45–60 min each) designed to teach parents to use behavioral principles to modify problematic child behavior. Topics covered in sessions include the appropriate use of parenting techniques such as positive reinforcement, time out, verbal reprimands, negotiation, and behavioral contracting. Therapists also help parents identify explicit school goals, which are monitored using a home-school behavioral report card system, and children are rewarded for achieving specific behavioral milestones

MST (Multisystemic Therapy) ²⁹	Delinquent adolescents aged 11–17 y	MST emphasizes the interaction between adolescents and the multiple environmental systems that influence their behavior (eg, peers, family, school, community). MST is delivered in the family's natural environment and can include a combination of different treatment approaches (eg, parent management training, family therapy, school consultation) tailored to the needs of the family. Treatment strategies are developed in collaboration with family members after identifying factors that help maintain the adolescents' deviant behavior. Methods for overcoming barriers to positive behavior change are also discussed in session. Clinicians are guided by a set of 9 MST principles, which include concepts like focusing on strengths and encouraging responsible behavior
Multidimensional treatment foster care ³⁰	Delinquent adolescents aged 12–17 y	Multidimensional treatment foster care was designed as an alternative to traditional group care for delinquent adolescents (aged 12–17 y) removed from their homes. This multicomponent intervention places youth with a community-based foster family, where contingencies governing the youth's behavior are modified through consultation with a comprehensive treatment team. Each foster family is assigned a program supervisor, foster parent consultant, behavior support specialist, family therapist, parent daily report caller, and consulting psychiatrist to assist with program implementation. Adolescents earn privileges through a level system by following a daily program of scheduled activities and fulfilling behavioral expectations. Program staff provide around-the-clock support for crisis management, assist in creating a school-based support plan, and provide individualized skills coaching as necessary. The adolescents' future guardians assist in treatment planning, engage in family therapy, and begin applying newly learned parenting skills during home visits
FFT (Functional Family Therapy) ³¹	Delinquent adolescents aged 11–17 y	FFT is an intervention for delinquent adolescents (aged 11–17 y) and their families that combines principles of family systems theory with cognitive-behavioral approaches. FFT consists of 3 intervention phases: (1) engagement/motivation, (2) behavior change, and (3) generalization. During the engagement/motivation phase, the therapist begins establishing a strong therapeutic alliance with the family, addresses maladaptive family beliefs to increase expectations for change, and reduces negativity and blaming within the family system. The behavior change phase involves implementing an individualized treatment plan to improve family functioning, which may include building relational skills, enhancing positive parenting, and reducing maladaptive familial interactions. In addition, the generalization phase is designed to improve the family's ability to competently influence the systems in which it is embedded (eg, school, community, justice system) in order to maintain positive behavioral change. Families in FFT typically attend 12 treatment sessions over the course of 3–4 mo

Abbreviations: CD, conduct disorder; ODD, oppositional defiant disorder.

Data from Refs.^{26–31}

Family Therapy

Interventions involving family therapy are most often used with adolescents showing serious delinquent behavior. These programs typically bring together family members to identify maladaptive behaviors, beliefs, and interaction styles that serve to perpetuate youth antisocial behavior. Individualized treatment plans are developed to improve family functioning, which may include building relational skills, enhancing positive parenting, and reducing maladaptive familial interactions. These programs often help families learn how to effectively leverage systems and resources in the community in order to promote and maintain reductions in youth antisocial behavior.

Case Management Services

Some intensive programs provide case management services designed to help families obtain an array of services based on an individualized treatment plan. This assistance can involve coordinating the activities of members of a larger treatment team (eg, consulting psychiatrist, behavioral specialist), providing crisis intervention services, advocating on behalf of families as they navigate various systems of care, and working with families to develop an aftercare plan.

PHARMACOTHERAPY

The extent to which psychotropic medications may help to reduce serious conduct problems and delinquent behavior remains unclear. Randomized placebo studies investigating the effectiveness of specific medications tend to be small and none have extended follow-ups. However, some accumulating evidence suggests that methylphenidate may help reduce aggression in youth with comorbid attention-deficit/hyperactivity disorder (ADHD) and severe conduct problems,³² with decreased appetite and insomnia being the most commonly reported side effects. Similar effects have been reported in randomized trials involving the antipsychotic risperidone, although side effects such as lethargy, headaches, and weight gain are a concern.³³ A more recent randomized controlled trial found that risperidone may be an effective adjunctive therapy for aggressive youth with ADHD and oppositional defiant disorder/conduct disorder who continue to show behavioral impairments after receiving parent management training and stimulant treatment.³⁴ Based on this research, it is recommended that psychosocial interventions be considered the first line of treatment of youth who show severe conduct problems, with stimulant medications being used when comorbid ADHD is present, and risperidone being considered as a potential adjunct for youth showing treatment-resistant aggression and conduct problems.

PROMOTING THE WIDESPREAD ADOPTION OF EVIDENCE-BASED PRACTICES

Over the past decade, there have been considerable efforts to disseminate several name-brand delinquency prevention programs across the country. Companies have been formed to provide certification training and supporting program materials. This effort has resulted in several independent studies examining the effectiveness of various programs in real-world settings. Many of these investigations have found small or nonsignificant treatment effects on conduct problems when comparing name-brand programs with usual care, which seems to be in part caused by reduced adherence to treatment protocols.³⁵ Moreover, it is increasingly recognized that the adoption and maintenance of evidence-based programs requires active support and engagement by policy makers and shareholders in the community and juvenile justice system. Taken together, this emphasizes the importance of building the

support and infrastructure needed to incorporate evidence-based practices designed to reduce juvenile delinquency in real-world settings. Two recently developed initiatives designed to accomplish this task are outlined later.

Communities That Care

The overarching goal of the Communities that Care (CTC) initiative is to (1) improve collaborative action across community stakeholders; (2) promote community-wide values and beliefs that are intolerant of youth delinquency; and (3) increase the adoption of sustainable evidence-based programs that reduce known risk factors associated with delinquency and related problem behavior.³⁶ As part of the program, school-wide surveys are administered to assess the overall level of specific risk factors associated with delinquent behavior present among youth living in the community. Community stakeholders are then trained to select and implement specific programs that have been shown to reduce the predominant risk factors among youth living in the community. Evidence from a large randomized controlled trial suggests that the CTC program is a cost-effective strategy for preventing the onset of delinquency and substance use among adolescents.³⁷ However, this initial trial focused primarily on the adoption of universal prevention programs, and it may prove difficult for community stakeholders to implement a greater array of interventions that are specifically designed for youth showing serious conduct problems and delinquent behavior.

Standardized Program Evaluation Protocol

Over the past several years, juvenile justice agencies have increasingly attempted to increase the adoption of evidence-based practices using the Standardized Program Evaluation Protocol (SPEP) rating scale.³⁸ This instrument assesses the extent to which existing programs are using practices that have been associated with reduced recidivism in meta-analytical research. The benefit of this approach is that it places name-brand and generic local programs on a common metric for comparison, and provides agencies with clear information about how existing programs can be improved to increase their adherence to evidence-based practices. A recent evaluation of the SPEP system conducted in 5 Arizona counties found preliminary evidence supporting the utility of the measure for indexing program effectiveness.³⁹ More rigorous examinations of the SPEP system over the coming years will be critical in determining its ultimate value in helping to enhance the adoption of evidence-based practices and reduce juvenile delinquency.

SUMMARY

There are now several well-defined and empirically supported interventions that are effective at reducing severe conduct problems and delinquent behavior in youth. However, these programs tend to produce modest behavioral gains, and many youth continue to show significant antisocial behavior at the end of treatment. If interventions can be better tailored to the unique characteristics of children based on the developmental mechanisms underlying their conduct problems, more pronounced and sustained treatment effects are likely to be achieved. Efforts are currently underway to modify existing treatments to target the unique causal factors underlying the behavior problems of subgroups of antisocial youth.⁴⁰ These ongoing innovations coupled with recent efforts to integrate multitiered evidence-based practices into real-world settings hold great promise for reducing the prevalence of severe and persistent delinquent behavior among youth.

REFERENCES

1. Welsh BC, Loeber R, Stevens BR, et al. Costs of juvenile crime in urban areas: a longitudinal perspective. *Youth Violence Juv Justice* 2008;6(1):3–27.
2. Corso PS, Mercy JA, Simon TR, et al. Medical costs and productivity losses due to interpersonal and self-directed violence in the United States. *Am J Prev Med* 2007;32(6):474–82.
3. Costello EJ, Maughan B. Annual research review: optimal outcomes of child and adolescent mental illness. *J Child Psychol Psychiatry* 2015;56(3):324–41.
4. Loeber R, Farrington DP, Stouthamer-Loeber M, et al. Violence and serious theft: development and prediction from childhood to adulthood. New York: Routledge; 2008.
5. Farrington DP. Age and crime. In: Tonry M, Morris N, editors. *Crime and justice: an annual review of research*, vol. 7. Chicago: University of Chicago Press; 1986. p. 189–250.
6. Moffitt TE. Life-course persistent versus adolescence-limited antisocial behavior. In: Cicchetti D, Cohen DJ, editors. *Developmental psychopathology*. 2nd edition. New York: Wiley; 2006. p. 570–98.
7. Fairchild G, van Goozen SH, Calder AJ, et al. Research review: evaluating and reformulating the developmental taxonomic theory of antisocial behaviour. *J Child Psychol Psychiatry* 2013;54(9):924–40.
8. Odgers CL, Moffitt TE, Broadbent JM, et al. Female and male antisocial trajectories: from childhood origins to adult outcomes. *Dev Psychopathol* 2008;20(2): 673–716.
9. Loeber R. Natural histories of conduct problems, delinquency, and associated substance use: evidence for developmental progressions. *Adv Clin Child Psychol* 1988;11:73–124.
10. Dodge KA, Pettit GS. A biopsychosocial model of the development of chronic conduct problems in adolescence. *Dev Psychol* 2003;39(2):349–71.
11. Lochman JE, Wells KC. Contextual social-cognitive mediators and child outcome: a test of the theoretical model in the coping power program. *Dev Psychopathol* 2002;14(4):945–67.
12. Catalano RF, Hawkins JD. The social development model: a theory of antisocial behavior. In: Hawkins JD, editor. *Delinquency and crime: current theories*. New York: Cambridge University Press; 1996. p. 149–97.
13. Loeber R, Pardini D. Neurobiology and the development of violence: common assumptions and controversies. In: Hodgins S, Viding E, Plodowski A, editors. *The neurobiological basis of violence: science and rehabilitation*. Oxford (United Kingdom): Oxford University Press; 2009. p. 1–22.
14. Assink M, van der Put CE, Hoeve M, et al. Risk factors for persistent delinquent behavior among juveniles: a meta-analytic review. *Clin Psychol Rev* 2015;42:47–61.
15. Farrington DP. Prospective longitudinal research on the development of offending. *Aust New Zeal J Criminol* 2015;48(3):314–35.
16. Atzaba-Poria N, Pike A, Deater-Deckard K. Do risk factors for problem behaviour act in a cumulative manner? An examination of ethnic minority and majority children through an ecological perspective. *J Child Psychol Psychiatry* 2004;45(4):707–18.
17. Loeber R, Pardini D, Homish DL, et al. The prediction of violence and homicide in young men. *J Consult Clin Psychol* 2005;73(6):1074–88.
18. Stouthamer-Loeber M, Loeber R, Wei E, et al. Risk and promotive effects in the explanation of persistent serious delinquency in boys. *J Consult Clin Psychol* 2002;70(1):111–23.

19. Moffitt TE, Caspi A. Childhood predictors differentiate life-course persistent and adolescence-limited antisocial pathways among males and females. *Dev Psychopathol* 2001;13(2):355–75.
20. Dodge KA, Greenberg MT, Malone PS. Testing an idealized dynamic cascade model of the development of serious violence in adolescence. *Child Dev* 2008;79(6):1907–27.
21. Sawyer AM, Borduin CM, Dopp AR. Long-term effects of prevention and treatment on youth antisocial behavior: a meta-analysis. *Clin Psychol Rev* 2015;42:130–44.
22. Lipsey MW. The primary factors that characterize effective interventions with juvenile offenders: a meta-analytic overview. *Vict Offender* 2009;4(2):124–47.
23. Vries SL, Hoeve M, Assink M, et al. Practitioner review: effective ingredients of prevention programs for youth at risk of persistent juvenile delinquency—recommendations for clinical practice. *J Child Psychol Psychiatry* 2015;56(2):108–21.
24. Eyberg SM, Nelson MM, Boggs SR. Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *J Clin Child Adolesc Psychol* 2008;37(1):215–37.
25. Office of the Surgeon General. Youth violence: a report of the surgeon general. Rockville (MD): Office of the Surgeon General; 2001. Available at: <http://www.ncbi.nlm.nih.gov/books/NBK44294/>. Accessed December 30, 2015.
26. Eyberg SM, Boggs SR, Algina J. Parent-child interaction therapy: a psychosocial model for the treatment of young children with conduct problem behavior and their families. *Psychopharmacol Bull* 1995;31(1):83–91.
27. Webster-Stratton C, Reid MJ, Hammond M. Treating children with early-onset conduct problems: intervention outcomes for parent, child, and teacher training. *J Clin Child Adolesc Psychol* 2004;33(1):105–24.
28. Kazdin AE. Problem-solving skills training and parent management training for oppositional defiant disorder and conduct disorder. Evidence-based psychotherapies for children and adolescents. 2nd edition. New York: Guilford Press; 2010. p. 211–26.
29. Henggeler SW. Efficacy studies to large-scale transport: the development and validation of multisystemic therapy programs. *Annu Rev Clin Psychol* 2011;7:351–81.
30. Chamberlain P. The Oregon Multidimensional Treatment Foster Care Model: features, outcomes, and progress in dissemination. *Cogn Behav Pract* 2003;10:303–12.
31. Sexton TL. Functional family therapy in clinical practice: an evidence-based treatment model for working with troubled adolescents. New York: Routledge; 2010.
32. Pappadopulos E, Woolston S, Chait A, et al. Pharmacotherapy of aggression in children and adolescents: efficacy and effect size. *J Can Acad Child Adolesc Psychiatry* 2006;15:27–39.
33. Loy JH, Merry SN, Hetrick SE, et al. Atypical antipsychotics for disruptive behaviour disorders in children and youths. *Cochrane Database Syst Rev* 2012;(9):CD008559.
34. Aman MG, Bukstein OG, Gadow KD, et al. What does risperidone add to parent training and stimulant for severe aggression in child attention-deficit/hyperactivity disorder? *J Am Acad Child Adolesc Psychiatry* 2014;53(1):47–60.e41.
35. Pardini DA, Pasalich DS, Kimonis ER, et al. Conduct disorder. Gabbard's treatments of psychiatric disorders. 5th edition. Arlington (VA): American Psychiatric Publishing; 2014. p. 739–46.
36. Hawkins JD, Catalano RF, Arthur MW. Promoting science-based prevention in communities. *Addict Behav* 2002;27(6):951–76.

37. [Kuklinski MR, Fagan AA, Hawkins JD, et al. Benefit-cost analysis of a randomized evaluation of Communities that Care: monetizing intervention effects on the initiation of delinquency and substance use through grade 12. J Exp Criminol 2015; 11:1–28.](#)
38. [Lipsey MW, Howell JC. A broader view of evidence-based programs reveals more options for state juvenile justice systems. Criminol Publ Pol 2012;11\(3\): 515–23.](#)
39. [Lipsey MW. The Arizona Standardized Program Evaluation Protocol \(SPEP\) for assessing the effectiveness of programs for juvenile probationers. Nashville \(TN\): Vanderbilt University Center for Evaluation Research and Methodology; 2008.](#)
40. [Hawes DJ, Price MJ, Dadds MR. Callous-unemotional traits and the treatment of conduct problems in childhood and adolescence: a comprehensive review. Clin Child Fam Psychol Rev 2014;17:248–67.](#)