

# 33 - 31.12e Conduct Disorder

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randomized trials. *Int Clin Psychopharmacol*. 2005;20:275. Lochman JE, Powell NP, Boxmeyer CL, Jimenez-Camargo L. Cognitive-behavioral therapy for externalizing disorders in children and adolescents. *Child Adolesc Psychiatric Clin N Am*. 2011;20:305-318. Patel NC, Crismon ML, Hoagwood K, Jensen PS. Unanswered questions regarding atypical antipsychotic use in aggressive children and adolescents. *J Child Adolesc Psychopharmacol*. 2005;15:270. Pelletier J, Collett B, Gimpel G, Crowley S. Assessment of disruptive behaviors in preschoolers: Psychometric Properties of the Disruptive Behavior Disorders Rating Scale and School Situations Questionnaire. *J Psychoeduc Assess*. 2006;24:3-18. Reyes M, Buitelaar J, Toren P, Augustyns I, Eerdekens M. A randomized, double-blind, placebo-controlled study of risperidone maintenance treatment in children and adolescents with disruptive behavior disorders. *Am J Psychiatry*. 2006;163:402-410. Rutter M. Research review: child psychiatric diagnosis and classification: Concepts, finding, challenges and potential. *J Child Psychol and Psychiatry*. 2011;52:647-660. Sasayam D, Hayashida A, Yamasue H, Yuzuru H, Kaneko T, Kasai K, Washizuka S, Amano N. Neuroanatomical correlates of attention-deficit-hyperactivity disorder accounting for comorbid oppositional defiant disorder and conduct disorder. *Psychiatry Clin Neurosci*. 2010;64:394-402. Santesso DL, Reker DL, Schmidt LA, Segalowitz SJ. Frontal electroencephalogram activation asymmetry, emotional intelligence, and externalizing behaviors in 10-year-old children. *Child Psychiatr Hum Dev* 2006;36:311-328. Van Huylle CA, Waldman ID, D'Onofrio BM, Rodgers JL, Rthouz PJ, Lahey BB. Developmental structure of genetic influences on antisocial behavior across childhood and adolescence. *J Abnorm Psychol*. 2009;118:711-734. Webster-Stratton C, Reid JM. The Incredible Years parents, teachers and children training series. In: Weisz JR, Kadin AE, eds. Evidence-based psychotherapies for children and adolescents. 2nd ed. New York: Guildford; 2010:194-210. Zuddas A, Zanni R, Usala T. Second generation antipsychotics (SGAs) for non-psychotic disorders in children and adolescents: A review of the randomized controlled studies. *Eur Neuropsychopharmacol*. 2011;21:600-620.

31.12e Conduct Disorder Aggressive patterns of behavior are among the most frequent reasons for children and adolescents to be referred for psychiatric intervention. Although demonstration of impulsive behaviors is developmentally normative in children, many youth who continue to display excessive patterns of aggression in middle childhood generally require intervention. Children who develop enduring patterns of aggressive behaviors that begin in early childhood and violate the basic rights of peers and family members, however, may be destined for an entrenched pattern of conduct disordered behaviors over time. Controversy remains as to whether a set of "voluntary"

behaviors can constitute a valid psychiatric disorder, or may be better accounted for as maladaptive responses to adverse events, harsh or punitive parenting, or a threatening environment. Longitudinal studies have demonstrated that, for some youth, early patterns of disruptive behavior may become a lifelong pervasive repertoire culminating in adult antisocial personality disorder. The etiology of enduring patterns of aggressive behavior is widely accepted as a convergence of multiple contributing factors, including biological, temperamental, learned, and psychological conditions. Risk factors for the development of aggressive behavior in youth include childhood maltreatment such as

physical or sexual abuse, neglect, emotional abuse, and overly harsh and punitive parenting. Chronic exposure to violence in the media including television, video games, and music videos has been shown to promote lower levels of empathy in children, which may add a risk factor for the development of aggressive behavior. Conduct disorder is an enduring set of behaviors in a child or adolescent that evolves over time, usually characterized by aggression and violation of the rights of others. Youth with conduct disorder often demonstrate behaviors in the following four categories: physical aggression or threats of harm to people, destruction of their own property or that of others, theft or acts of deceit, and frequent violation of ageappropriate rules. Conduct disorder is associated with many other psychiatric disorders including ADHD, depression, and learning disorders. It is also associated with certain psychosocial factors, including childhood maltreatment, harsh or punitive parenting, family discord, lack of appropriate parental supervision, lack of social competence, and low socioeconomic level. The American Psychiatric Association's DSM-5 criteria require three persistent specific behaviors of 15 conduct disorder symptoms listed, over the past 12 months, with at least one of them present in the past 6 months (Table 31.12e-1). Conduct disorder symptoms include bullying, threatening, or intimidating others, and staying out at night despite parental prohibition. DSM-5 also specifies that when truancy from school is a symptom, it begins before 13 years of age. The disorder may be diagnosed in a person older than 18 years only if the criteria for antisocial personality disorder are not met. DSM-5 includes specifiers denoting the severity of the disorder, including "mild" in which there are few conduct problems in excess of those needed to make the diagnosis and behaviors cause only minor harm to others. In "moderate" cases, symptoms exceed the minimum; however, there is less confrontation that may cause harm to individuals than in "severe" cases. According to DSM-5, the "severe" level shows many conduct problems in excess of the minimal diagnostic criteria or conduct problems that cause considerable harm to others. DSM-5 has also added the following specifier: "With limited prosocial emotions." To qualify for this specifier, the individual must show a persistent interpersonal and emotional pattern that can be characterized by at least two of the following: (1) Lack of remorse or guilt, (2) callous lack of empathy, (3) unconcerned about performance, (4) shallow or deficient affect. Individuals with conduct disorder who qualify for this specifier are more likely to have childhood-onset type and meet the criteria for a "severe" disorder. Children with conduct disorder engage in severe repeated acts of aggression that can cause physical harm to themselves and others and frequently violate the rights of others. Children with conduct disorder usually have behaviors characterized by aggression to persons or animals, destruction of property, deceitfulness or theft, and multiple violations of rules, such as truancy from school. These behavior patterns cause distinct difficulties in school life as well as in peer relationships. Conduct disorder has been divided into three subtypes, based on the age of onset of the disorder. Childhood-onset subtype, in which at least one symptom has emerged repeatedly before age 10 years; Adolescent-onset type, in which no characteristic persistent symptoms were seen until after age 10 years; and

Unspecified onset, in which age of onset is unknown. Although some young children show persistent patterns of behavior consistent with violating the rights of others or destroying property, the diagnosis of conduct disorder in children appears to increase with age. Epidemiological surveys indicate that geographic locations representing a broad range of different cultures are not associated with significant variability in prevalence rates of either oppositional defiant disorder or conduct disorder. A longitudinal study of population density and antisocial behaviors in youth found no relationship in children 4 to 13 years of age between conduct problems and density of living area. However, higher rates of conduct problems were self-reported by youth 10 years to 17 years who lived in higher-density communities. Table 31.12e-1 DSM-5 Diagnostic Criteria for Conduct Disorder

**EPIDEMIOLOGY** Estimated prevalence rates of conduct disorder in the United States range from 6 to 16 percent for males, and from 2 to 9 percent for females. Ratio of conduct disorder in males compared to females ranges from 4:1 to as much as 12:1. Conduct disorder occurs

with greater frequency in the children of parents with antisocial personality disorder and alcohol dependence than in the general population. The prevalence of conduct disorder and antisocial behavior is associated with socioeconomic factors, as well as parental psychopathology. **ETIOLOGY** A meta-analysis of longitudinal studies indicates that the most important risk factors that predict conduct disorder include impulsivity, physical or sexual abuse or neglect, poor parental supervision and harsh and punitive parental discipline, low intelligence quotient (IQ), and poor school achievement. **Parental Factors** Harsh, punitive parenting characterized by severe physical and verbal aggression is associated with the development of children's maladaptive aggressive behaviors. Chaotic home conditions are associated with conduct disorder and delinquency. Divorce itself is not necessarily a risk factor, but the persistence of hostility, resentment, and bitterness between divorced parents may be the more important contributor to maladaptive behavior. Parental psychopathology, child abuse, and negligence often contribute to conduct disorder. Sociopathy, alcohol dependence, and substance abuse in the parents are associated with conduct disorder in their children. Parents may be so negligent that a child's care is shared by relatives or assumed by foster parents. Many such parents were scarred by their own upbringing and tend to be abusive, negligent, or engrossed in getting their own personal needs met. Studies indicate that parents of children with conduct disorder have high rates of serious psychopathology, including psychotic disorders. Data shows that children who exhibit a pattern of aggressive behavior have frequently been exposed to physically or emotionally harsh parenting. **Genetic Factors** A study of more than 6,000 male, female, and opposite sex twins found that genetic and environmental factors accounted for proportionally the same amount of variance in males and females. Genetic, and/or shared environmental factors exert different effects on males and females in childhood conduct disorder, but by adulthood, the genderspecific influences on antisocial behavior are no longer apparent. The sex-specific effects on antisocial behavior in youth along with the replicated finding of a potential role for the X-linked monoamine oxidase A gene in the etiology of antisocial behavior leads to the need for further genetic investigation of conduct disorder on the X chromosome and for analyses of these behaviors to be done separately by gender. **Sociocultural Factors** Youth residing in geographic areas with greater population density report increased

rates of aggression and delinquency. Unemployed parents, lack of a supportive social network, and lack of positive participation in community activities seem to predict conduct disorder. Associated findings that may influence the development of conduct disorder in urban areas are increased exposure to and prevalence of substance use. A survey of alcohol use and mental health in adolescents found that weekly alcohol use among adolescents is associated with increased delinquent and aggressive behavior. Significant interactions between frequent alcohol use and age indicated that those adolescents with weekly alcohol use at younger ages were most likely to exhibit aggressive behaviors and mood disorders. Although drug and alcohol use does not cause conduct disorder, it increases the risks associated with it. Drug intoxication itself can also aggravate the symptoms. Thus, all factors that increase the likelihood of regular substance use may, in fact, promote and expand the disorder.

**Psychological Factors** Poor emotion regulation among youth is associated with higher rates of aggression and conduct disorder. Emotion regulation is associated with social competence and can be observed even in children of preschool age. Those children with greater degrees of emotion dysregulation exhibit higher levels of aggression. Poor modeling of impulse control and the chronic lack of having their own needs met leads to a less welldeveloped sense of empathy.

**Neurobiological Factors** Neuroimaging studies utilizing MRI have used voxel-based morphometry methods to compare structural brain differences between children with conduct disorder compared to normal controls. Studies have reported that children with conduct disorder had decreased gray matter in limbic brain structures, and in the bilateral anterior insula and left amygdala compared to healthy controls. A study investigated structural brain differences in children comorbid for oppositional defiant disorder or conduct disorder and ADHD compared to those with ADHD alone, and normal controls. Findings included decreased gray matter in ADHD and ADHD comorbid for oppositional defiant disorder or conduct disorder compared to controls in regions including bilateral temporal and occipital cortices, and the left amygdala. Neurotransmitter studies in children with conduct disorder, suggest low level of plasma dopamine  $\beta$ -hydroxylase, an enzyme that converts dopamine to norepinephrine, leading to a hypothesis of decreased noradrenergic functioning in conduct disorder. Other studies of conduct-disordered juvenile offenders have found high plasma serotonin levels in blood. Evidence indicates that blood serotonin levels correlate inversely with levels of 5-HIAA in the cerebrospinal fluid (CSF) and that low 5-HIAA levels in CSF correlate with aggression and violence.

**Neurologic Factors**

An electroencephalography (EEG) study investigating resting frontal brain electrical activity, emotional intelligence, aggression, and rule breaking in 10-year-old children found that aggressive children had significantly greater relative right frontal brain activity at rest compared with nonaggressive children. Frontal resting brain electrical activity has been hypothesized to reflect the ability to regulate emotion. Boys tended to show lower emotional intelligence than girls and greater aggressive behavior than girls. No relationship, however, was found between emotional intelligence and pattern of frontal EEG activation.

**Child Abuse and Maltreatment** Evidence shows that children chronically exposed to violence, physical or sexual abuse, and neglect, particularly at a young age, are at high risk for demonstrating aggression. A study of female caregivers exposed to intimate partner violence revealed a strong association with offspring aggression and mood disturbance. Severely abused children and adolescents tend to be hypervigilant; in some cases, they misperceive benign situations as directly threatening and respond defensively with violence. Not all expressed aggressive behavior in adolescents is synonymous with conduct disorder; however, youth with a repetitive pattern of hypervigilance and violent responses are likely to violate the rights of others.

**Comorbid Factors** ADHD and conduct disorder are often found to coexist, with

ADHD often predating the development of conduct disorder, and not infrequently substance abuse. Central nervous system injury, dysfunction, or damage predispose a child to impulsivity and behavioral disturbances, which sometimes evolve into conduct disorder. **DIAGNOSIS AND CLINICAL FEATURES** Conduct disorder does not develop overnight, instead, many symptoms evolve over time until a consistent pattern develops that involves violating the rights of others. Very young children are unlikely to meet the criteria for the disorder, because they are not developmentally able to exhibit the symptoms typical of older children with conduct disorder. A 3-year-old does not break into someone's home, steal with confrontation, force someone into sexual activity, or deliberately use a weapon that can cause serious harm. School-age children, however, can become bullies, initiate physical fights, destroy property, or set fires. The DSM-5 diagnostic criteria for conduct disorder are given in Table 31.12e-1. The average age of onset of conduct disorder is younger in boys than in girls. Boys most commonly meet the diagnostic criteria by 10 to 12 years of age, whereas girls often reach 14 to 16 years of age before the criteria are met. Children who meet the criteria for conduct disorder express their overt aggressive behavior in various forms. Aggressive antisocial behavior can take the form of bullying,

physical aggression, and cruel behavior toward peers. Children may be hostile, verbally abusive, impudent, defiant, and negativistic toward adults. Persistent lying, frequent truancy, and vandalism are common. In severe cases, destructiveness, stealing, and physical violence often occur. Some adolescents with conduct disorder make little attempt to conceal their antisocial behavior. Sexual behavior and regular use of tobacco, liquor, or illicit psychoactive substances begin unusually early for such children and adolescents. Suicidal thoughts, gestures, and acts are frequent in children and adolescents with conduct disorder who are in conflict with peers, family members, or the law and are unable to problem solve their difficulties. Some children with aggressive behavioral patterns have impaired social attachments, as evinced by their difficulties with peer relationships. Some may befriend a much older or younger person or have superficial relationships with other antisocial youngsters. Many children with conduct problems have poor self-esteem, although they may project an image of toughness. They may lack the skills to communicate in socially acceptable ways and appear to have little regard for the feelings, wishes, and welfare of others. Children and adolescents with conduct disorders often feel guilt or remorse for some of their behaviors, but try to blame others to stay out of trouble. Many children and adolescents with conduct disorder suffer from the deprivation of having few of their dependency needs met and may have had either overly harsh parenting or a lack of appropriate supervision. The deficient socialization of many children and adolescents with conduct disorder can be expressed in physical violation of others and, for some, in sexual violation of others. Severe punishments for behavior in children with conduct disorder almost invariably increases their maladaptive expression of rage and frustration rather than ameliorating the problem. In evaluation interviews, children with aggressive conduct disorders are typically uncooperative, hostile, and provocative. Some have a superficial charm and compliance until they are urged to talk about their problem behaviors. Then, they often deny any problems. If the interviewer persists, the child may attempt to justify misbehavior or become suspicious and angry about the source of the examiner's information and perhaps bolt from the room. Most often, the child becomes angry with the examiner and expresses resentment of the examination with open belligerence or sullen withdrawal. Their hostility is not limited to adult authority figures, but is expressed with equal venom toward their age-mates and younger children. In fact, they often bully those who are smaller and weaker. By boasting, lying, and expressing little interest in a listener's responses, such children reveal their lack of trust in adults to understand

their position. Evaluation of the family situation often reveals severe marital disharmony, which initially may center on disagreements about management of the child. Because of a tendency toward family instability, parent surrogates are often in the picture. Children with conduct disorder are more likely to be unplanned or unwanted babies. The parents of children with conduct disorder, especially the father, have higher rates of antisocial personality disorder or alcohol dependence. Aggressive children and their family show a stereotyped pattern of impulsive and unpredictable verbal and physical hostility. A child's aggressive behavior rarely seems directed toward any definable goal and offers

little pleasure, success, or even sustained advantages with peers or authority figures. In other cases, conduct disorder includes repeated truancy, vandalism, and serious physical aggression or assault against others by a gang, such as mugging, gang fighting, and beating. Children who become part of a gang usually have the skills for ageappropriate friendships. They are likely to show concern for the welfare of their friends or their own gang members and are unlikely to blame them or inform on them. In most cases, gang members have a history of adequate or even excessive conformity during early childhood that ended when the youngster became a member of the delinquent peer group, usually in preadolescence or during adolescence. Also present in the history is some evidence of early problems, such as marginal or poor school performance, mild behavior problems, anxiety, and depressive symptoms. Some family social or psychological pathology is usually evident. Patterns of paternal discipline are rarely ideal and can vary from harshness and excessive strictness to inconsistency or relative absence of supervision and control. The mother has often protected the child from the consequences of early mild misbehavior, but does not seem to encourage delinquency actively. Delinquency, also called juvenile delinquency, is most often associated with conduct disorder but can also result from other psychological or neurological disorders. Violent Video Games and Violent Behavior Longitudinal studies corroborate the contribution of media violence including video gaming in middle-school children with the expression of aggression in those adolescents. A review of the literature of the effect of violent video games on children and adolescents revealed that violent video game playing is related to aggressive affect, physiologic arousal, and aggressive behaviors. It stands to reason that the degree of exposure to violent games and the more restriction of activity would be related to a greater preoccupation with violent themes. PATHOLOGY AND LABORATORY EXAMINATION No specific laboratory test or neurological pathology helps make the diagnosis of conduct disorder. Some evidence indicates that amounts of certain neurotransmitters, such as serotonin in the CNS, are low in some persons with a history of violent or aggressive behavior toward others or themselves. Whether this association is related to the cause, or is the effect, of violence or is unrelated to the violence is not clear. DIFFERENTIAL DIAGNOSIS Disturbances of conduct, including impulsivity and aggression, may occur in many childhood psychiatric disorders, ranging from ADHD, to oppositional defiant disorder, to disruptive mood dysregulation disorder mood disorder, to major depression, to bipolar disorder, specific learning disorders, and psychotic disorders. Therefore, clinicians must obtain a comprehensive history of the chronology of the symptoms to determine whether the conduct disturbance is a transient or an enduring pattern. Isolated acts of aggressive behavior do not justify a diagnosis of conduct disorder; an entrenched pattern must be present. The relationship of conduct disorder to oppositional defiant disorder is still under debate. Historically, oppositional defiant disorder has been conceptualized as a mild precursor of conduct disorder, without the violation of rights, likely to be diagnosed in younger children who may be at

risk for conduct disorder. Children who progress from oppositional defiant disorder to conduct disorder over time, maintain their oppositional characteristics, and some evidence indicates that the two disorders are independent. Currently, in the DSM-5, oppositional defiant disorder and conduct disorder are considered distinct, and they may be diagnosed comorbidly. Many children with oppositional defiant disorder do not develop conduct disorder, and conduct disorder emerging in adolescence is not necessarily preceded by oppositional defiant disorder. The main distinguishing clinical feature between these two disorders is that in conduct disorder, the basic rights of others are violated, whereas in oppositional defiant disorder, hostility and negativism fall short of seriously violating the rights of others. Mood disorders are often present in children who exhibit irritability and aggressive behavior. Both major depressive disorder and bipolar disorders must be ruled out, but the full syndrome of conduct disorder can occur and be diagnosed during the onset of a mood disorder. Substantial comorbidity exists of conduct disorder and depressive disorders. A recent report concludes that the high correlation between the two disorders arises from shared risk factors for both disorders rather than a causal relation. Thus, a series of factors, including family conflict, negative life events, early history of conduct disturbance, level of parental involvement, and affiliation with delinquent peers, contribute to the development of affective disorders and conduct disorder. This is not the case with oppositional defiant disorder, which cannot be diagnosed if it occurs exclusively during a mood disorder. ADHD and learning disorders are commonly associated with conduct disorder. Usually, the symptoms of these disorders predate the diagnosis of conduct disorder. Substance abuse disorders are also more common in adolescents with conduct disorder than in the general population. Evidence indicates an association between fighting behaviors as a child and substance use as an adolescent. Once a pattern of drug use is formed, this pattern may interfere with the development of positive mediators, such as social skills and problem-solving, which could enhance remission of the conduct disorder. Thus, once substance abuse develops, it may promote continuation of the conduct disorder. Obsessive-compulsive disorder also frequently seems to coexist with disruptive behavior disorders. All the disorders described here should be noted when they co-occur. Children with ADHD often exhibit impulsive and aggressive behaviors that may not meet the full criteria for conduct disorder. Damien, age 12 years, was referred for psychiatric evaluation after being picked up by police for truancy, and running away from home. Damien explained that he just wanted to get out of his house and go see his friends. He doesn't like to be at home

because his mother tries to tell him what to do. Damien's mother says that he left and stayed out overnight multiple times in the past year, but that he usually returns the next morning. She complains that he is constantly in trouble. He has shoplifted on several occasions that she knows of, the first time at age 8 years. She suspects that he also steals from neighbors or school. The police have been involved on many occasions including truancy, staying out all night, stealing from a neighborhood store, and smoking marijuana. Damien has a quick temper, and his mother knows he was involved in several fights over the past year in the neighborhood. Damien is particularly cruel to his younger brother, constantly taunting and teasing him. Damien's mother stated that he lies constantly, sometimes for no apparent reason. When he was 6 years of age, he was fascinated with fire and set several small fires at home, fortunately with no serious injury or damage. Damien's mother was tearful when she disclosed that Damien is just like his no-good father and that she wished she never had him. Damien initially refused to answer questions, and turned away scowling, but gradually began to talk. Damien presented a tough image with an indifferent attitude toward the interviewer. Damien denied any abuse at home, saying that he ran off because he was

bored. However, upon further questioning, Damien admitted that his mother's previous boyfriend who was in the home when Damien was between 6 and 8 years of age used to hit him with a belt when he got out of line. Damien justified his own behaviors as just having fun. He explained the fights as being provoked by the others and denied the use of any weapons, although he bragged about breaking the nose of another youth. Damien's school records indicate that an Individualized Educational Plan (IEP) was required when he was in the 2nd grade, and he was evaluated for symptoms of ADHD when he was in 1st grade. Methylphenidate (Ritalin) was prescribed; however, the family did not continue with treatment, and he is currently on no medication. Damien is currently in 6th grade special education classes, having failed and repeated 5th grade. Damien's grades are failing, and he may have to repeat 6th grade. Damien admits to truancy on several occasions this year in addition to his problems with completing schoolwork. His previous evaluation indicates that child protective services evaluated the family for possible neglect when he was 5 years of age after he and his brother were found barefoot on the street late one evening without his mother in sight. Apparently, Damien's family was referred for counseling and never attended. Both of Damien's parents have a history of drug and alcohol abuse. Damien's birth was unplanned, and his mother used drugs during pregnancy. His parents separated soon after his birth, and his mother returned to live with her parents briefly. Damien and his mother moved to live with her boyfriend when Damien was 1 year of age after she became pregnant with his younger sister. Damien's mother's relationship ended within a year, and only Damien, his mother, and his sister live in their apartment. Damien's mother has worked several different jobs, and Damien wonders if she has a drinking problem.

**COURSE AND PROGNOSIS** The course and prognosis for children with conduct disorder is most guarded in those who have symptoms at a young age, exhibit the greatest number of symptoms, and the most severe, and express them most frequently. This finding is true partly because those with severe conduct disorder seem to be most vulnerable to comorbid disorders later in life, such as mood disorders and substance use disorders. A longitudinal study found that, although assaultive behavior in childhood and parental criminality predict a high risk for incarceration later in life, the diagnosis of conduct disorder per se was not correlated with imprisonment. The best prognosis is predicted for mild conduct disorder in the absence of coexisting psychopathology and the presence of normal intellectual functioning.

**TREATMENT** Psychosocial Interventions Early sustained preventive interventions can significantly alter the course and prognosis of aggressive behavior when it is administered starting at kindergarten age. A screening program used with kindergarteners predicted lifetime disruptive behavior disorder by age 18 years, with the highest risk group demonstrating an 82 percent chance of a disruptive behavior diagnosis without intervention. A prevention program, the Fast Track Preventive Intervention, randomized 891 kindergarteners to either a 10-year prevention program or a control condition. The 10-year intervention included parent behavior management, child social cognitive skills, reading, home visiting, mentoring, and classroom curricula. The children in the Fast Track Intervention were substantially prevented from the development of conduct disorder during the 10-year period and for 2 years thereafter. A meta-analysis of controlled trials of CBT programs indicates that CBT can result in significant reductions in conduct-disordered symptoms in children and adolescents. CBT treatment interventions that are proven to be efficacious include the following. Kazdin's Problem-Solving Skills Training (PSST) in which a 12-week sequential program helps children develop problem-solving solutions when faced with conflictual situations. Assignments called "supersolvers" provide vignette situations in which children can practice these techniques. A companion program,

Parent Management Training (PMT) can be added to the intervention, but PSST can be effective even without the parent component. Another CBT-based intervention, the Incredible Years (IY), targeting young children from 3 to 8 years, is administered over 22 weeks and delivers sessions to the child and has a parent training component and a teacher training. Another CBT-based intervention is the Anger Coping Program, an 18-session intervention for school-aged children in the grades 4 to 6 focused on a child's increased development of emotion recognition and regulation, and managing anger. Anger coping strategies include distraction, self-talk, perspective taking, goal setting, and problem solving.

Overall, treatment programs have been more successful in decreasing overt symptoms of conduct, such as aggression, than the covert symptoms, such as lying or stealing. Treatment strategies for young children that focus on increasing social behavior and social competence are believed to reduce aggressive behavior. A study of 548 third graders administered a school-based intervention instead of a regular health curriculum in several public schools in North Carolina, called Making Choices: Social Problem Solving Skills for Children (MC) program along with supplemental teacher and parent components. Compared with third graders receiving the routine health curriculum, children exposed to the MC program were rated lower on the posttest social and overt aggression, and higher on social competence. In addition, they scored higher on an information-processing skills posttest. These findings support the notion that schoolbased prevention programs have the potential to strengthen social and emotional skills and diminish aggressive behavior among normal populations of school-age children. School settings can also use behavioral techniques to promote socially acceptable behavior toward peers and to discourage covert antisocial incidents.

**Psychopharmacologic Interventions** Efficacy of psychopharmacologic interventions includes several placebo-controlled studies of risperidone for aggression in youth associated with disruptive behavior disorders, and/or mental retardation. In addition, risperidone has been found to be superior to placebo in reducing aggressive behavior in a large 6-month placebo substitution study. One randomized double-blind placebo-controlled trial with quetiapine also showed efficacy for aggressive behavior. Early studies of antipsychotics, most notably haloperidol (Haldol), reported decreased aggressive and assaultive behaviors in children with a variety of psychiatric disorders. Atypical antipsychotics risperidone (Risperdal), olanzapine (Zyprexa), quetiapine (Seroquel), ziprasidone (Geodon), and aripiprazole (Abilify) have generally replaced the older antipsychotics in clinical practice due to their comparable efficacy and improved side effect profiles. Side effects of second-generation antipsychotics include sedation, increased prolactin levels, (with risperidone use) and extrapyramidal symptoms, including akathisia. In general, however, the atypical antipsychotics appear to be well tolerated. A study of divalproex in youth with conduct disorder showed that those who responded most robustly exhibited aggression characterized by agitation, dysphoria, and distress. Although early trials suggested that carbamazepine (Tegretol) was useful to control aggression, a doubleblind, placebo-controlled study did not show superiority of carbamazepine over placebo in decreasing aggression. A pilot study found that clonidine (Catapres) may decrease aggression. The SSRIs, including fluoxetine (Prozac), sertraline (Zoloft), paroxetine (Paxil), and citalopram (Celexa), are used clinically to target symptoms of impulsivity, irritability, and mood lability, which frequently accompany conduct disorder. Conduct disorder often coexists with ADHD, learning disorders, and, over time, mood disorders and substance-related disorders; thus, the treatment of concurrent disorders must also be addressed.

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