Disruptive behavior is often brought to the attention of the clinician because such behavior is distressing to others and often does not conform to social norms that rule appropriate social interactions. Even when identified and treated early, disruptive behavior disorders are often associated with, but not always predictive of, more serious disruptive behavior and psychiatric diagnoses in later phases of development (C. G. Baum, 1989; Robins, 1966). The three classifications of disruptive behavior disorders that are included in this chapter are oppositional defiant disorder, conduct disorder, and attention deficit hyperactivity disorder. Definitions of these disorders are provided along with some information about differential diagnoses, as these conditions frequently coexist (Shaffer, 1989). Information on the prevalence of these disorders, causes and correlates, and assessment and intervention strategies is also provided. There are probably more office visits with mental health professionals for disruptive behavior disorders than for any other condition. For example, in our clinical practices, approximately 55% of all office appointments are for disruptive behavior disorders.
cent rebellion. In a detailed comparison of children with ODD and conduct disorder, Schachar and Wachtel (1990) found that most of the children in the study who were diagnosed with conduct disorder also met diagnostic criteria for ODD. Thus, they concluded that ODD, rather than being a variant of normality or being a distinct disorder, is more accurately viewed as a variant of conduct disorder, perhaps at the milder end of the spectrum.

CONDUCT DISORDER

Conduct disorder (CD) describes a persistent pattern of behavior that is not socially acceptable and may violate the rights of others. The behaviors that are characteristic of CD are more serious than oppositional behavior. In young children, CD may include disobedience, defiance, bullying, or aggressive attacks on other children and cruelty toward animals. If the disorder begins later in childhood, established patterns of behavior may include repeated lying; stealing; truancy; aggression toward others, including parents and teachers; destruction of property; staying out late or running away; substance abuse; and precocious sexual behavior. The diagnosis of CD should be made only if antisocial behavior is persistent, repetitive, and associated with functional impairment (Cantwell, 1989a). The DSM-IV criteria for CD are found in Exhibit 1.2.

Current clinical uses of this diagnosis are usually based on the repetitive, aggressive patterns of violating others' rights and violating social norms or rules. Many children have conduct-problem behaviors. A smaller number will have a time-limited clinical problem at some point in their lives that can be diagnosed but that is not persistent. An even smaller number of children will have a distinct CD that has persisted over time (Cantwell, 1989a). CD can have onset in childhood or adolescence, and it can occur in a mild, moderate, or severe form (Vitiello & Jensen, 1995). The lack of specific subtyping or exclusion criteria may result in CD being an overinclusive disorder, often associated with other diagnoses such as attention deficit hyperactivity disorder, substance use disorders, psychotic disorders, and mood disorders.

The various DSM-IV diagnostic criteria do not carry equal weight and significance. In fact, only 3% of adolescents self-reported having engaged in a robbery or a car theft, compared with 37% who reported having initiated a physical fight and 82% having skipped school (Vitiello & Jensen, 1995). In general, the DSM-IV criteria have good positive but poor negative predictive value; that is, the presence of a criterion strongly predicts CD in that child, but its absence does not exclude it. That attests to the heterogeneity of the disorder and to the existence of subtypes. Thus, on the basis of the symptoms' severity, CD is also divided into mild, moderate, and severe types. The severity of the aggressive behavior has an important clinical and
(Anastopoulos, Barkley, & Shelton, 1996). The clinical features of ADHD are difficulty paying attention to tasks such as academic work, poor impulse control (e.g., calling out in class, not waiting turn), and motor restlessness. These behaviors are often most disruptive at school, given the requirement that the child pay attention and limit motor activity for extended periods of time. The DSM–IV provides diagnostic criteria to differentiate between three subtypes of ADHD, which are listed in Exhibit 1.3.

**EXHIBIT 1.3**

**DSM–IV Criteria for Attention Deficit Hyperactivity Disorder, 314.01, 314.00**

**Attention Deficit Hyperactivity Disorder**

A. Either (1) or (2):
   1. six (or more) of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

   **Inattention**
   a. often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
   b. often has difficulty sustaining attention in tasks or play activities
   c. often does not seem to listen when spoken to directly
   d. often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
   e. often has difficulty organizing tasks and activities
   f. often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
   g. often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
   h. is often easily distracted by extraneous stimuli
   i. is often forgetful in daily activities

   2. six (or more) of the following symptoms of hyperactivity–impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

   **Hyperactivity**
   a. often fidgets with hands or feet or squirms in seat
   b. often leaves seat in classroom or in other situations in which remaining seated is expected
   c. often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
   d. often has difficulty playing or engaging in leisure activities quietly
   e. is often “on the go” or often acts as if “driven by a motor”
   f. often talks excessively

   **Impulsivity**
   g. often blurts out answers before questions have been completed
   h. often has difficulty awaiting turn
   i. often interrupts or intrudes on others (e.g., butts into conversations or games)

(continued)
it is always important to distinguish ODD from normal oppositional behavior. Normal oppositional behavior should not cause substantial and persistent dysfunction, whereas ODD results in significant functional impairment. To illustrate, Vitiello and Jensen (1995) reported that in a community sample of children and adolescents, the prevalence of ODD-type symptoms was as high as 20% on the basis of criteria of the DSM–III (American Psychiatric Association, 1987). Once the additional criterion of functional impairment was applied, however, the rate dropped to approximately 10%. To facilitate the differential diagnosis of ODD, CD, and ADHD, Table 1.1 presents the DSM–IV diagnostic criteria for each of the disruptive behavior disorders. This format is offered as a means of structuring the diagnostic interview with the child and parents to include comprehensive and systematic questioning about the child’s presenting symptoms.

<table>
<thead>
<tr>
<th>Diagnostic Criteria for Disruptive Behavior Disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADHD 314.01 (Hyper-Impulsive Type)</td>
</tr>
<tr>
<td>□ Fidgets, squirms</td>
</tr>
<tr>
<td>□ Leaves seat</td>
</tr>
<tr>
<td>□ Runs and climbs</td>
</tr>
<tr>
<td>□ Difficulty with leisure</td>
</tr>
<tr>
<td>□ Always on the go</td>
</tr>
<tr>
<td>□ Talks excessively</td>
</tr>
<tr>
<td>□ Blurs out answers</td>
</tr>
<tr>
<td>□ Difficulty waiting turn</td>
</tr>
<tr>
<td>□ Often interrupts</td>
</tr>
</tbody>
</table>

_of 9 (6+ = dx) of 9 (6+ = dx) of 8 (4+ = dx) of 15 (3+ = dx)_

Wasserman et al. (1999) conducted a prospective cohort study of over 22,000 consecutive children ages 4–15 seen for acute, chronic, and health supervision visits. They reported that clinicians did not appear to overdiagnose attention and hyperactivity problems, although boys were more likely than girls to be identified as having attention and hyperactivity problems.

**COMORBID DISORDERS**

Disruptive behavior disorders often occur in the presence of other mental health problems, such as anxiety disorders, obsessive–compulsive disorder, major depressive disorder, and communication disorders. Although a diagnosis of CD supersedes a diagnosis of ODD, as many as 90% of children with CD of early onset also meet criteria for ODD (Vitiello & Jensen, 1995). CD, with peak of onset at age 9, is quite often preceded by ODD, which peaks earlier, at about age 6.5. Most cases of ODD, however, do not result in CD (Vitiello & Jensen, 1995).

Children with CD are at risk for comorbid mood disorders such as anxiety and depression (Kazdin, 1996). According to Vitiello and Jensen (1995), the association of CD with mood disorders, especially major depressive disorder and dysthymic disorder, tends to be higher than expected by chance, reaching 50% in some studies. In adolescents, CD can be a major precursor of depressive disorders. Adolescents with depression can display antisocial behaviors, but it is often not clear whether they meet the full criteria for CD. The association between CD and anxiety disorders is less consistent. Children with CD are also more likely to show academic deficiencies, as reflected in achievement level, grades, retention, early termination from school, and deficiencies in specific skill areas such as reading (Kazdin, 1996).

Children with ADHD present unique challenges in terms of both assessment and intervention. This challenge is due, in large part, to the fact that the majority of children with ADHD (both the hyperactive/impulsive type and the combined type) have comorbid ODD or CD. Children with ADHD of predominantly inattentive type, in contrast, are more likely to have comorbid anxiety problems. Lalonde, Turgay, and Hudson (1998) showed that, of the three subtypes of ADHD, children with the inattentive type showed lower rates of comorbid ODD than those with the combined type or the hyperactive/impulsive type. Youths diagnosed with the hyperactive/impulsive type showed much higher rates of CD than those with either the inattentive type or the combined type.

In general, diagnoses involving CD, ODD, or ADHD often coexist. In studies of community and clinic samples, a large percentage of youths with CD or ADHD (45–70%) also meet criteria for the other disorder (Kazdin, 1996). Among clinic-referred youths who meet criteria for CD, 84–96% also meet concurrent diagnostic criteria for ODD. Biederman et al. (1996)
dlers are related to eating, sleeping, and toileting problems, whereas their concerns about discipline peak at about age 3 (e.g., Jenkins, Bax, & Hart, 1980). In general, parents' and teachers' reports of problems with discipline and peer relationships tend to increase from about age 2-3 (Crowther, Bond, & Rolf, 1981). Between ages 3 and 5, tantrums, overactivity, attention problems, and fighting with peers seem to decrease in nonclinical samples (Coleman, Wolkind, & Ashley, 1977; Crowther et al., 1981). Overall, cross-sectional studies suggest that problems around management, self-control, and aggression decrease in meaningful and predictable ways with development (Campbell, 1995).

Disruptive behavior disorders generally begin in the early to middle grade school years and will have developed by early adolescence. The onset of each disorder is, however, variable within this age range. Early onset conduct problems (i.e., high rates of oppositional defiant, aggressive, and noncompliant behaviors in the preschool years) are fairly stable and predict not only problems in school but also serious health and behavioral problems in adolescence, such as drug abuse, depression, juvenile delinquency, and school dropout (Webster-Stratton, 1998). One of the first major studies to address the longitudinal aspects of children with behavior problems was Richman et al. (1982a). They studied a representative sample of 3-year-olds in an inner London borough who were identified as "hard to manage." They reported that behavior problems persisted in 63% of the group at age 4 and 62% at age 8, according to maternal reports. Teacher ratings also indicated more persistent problems at age 8 among the children rated as problematic in preschool. Furthermore, problems were more likely to persist in boys than in girls; 73% of problem boys were still reported to be having difficulties at age 8 in contrast to 48% of girls (Campbell, 1995).

The Cambridge Study in Delinquent Development (Farrington, 1991) provided a longitudinal study of 411 male participants who displayed high rates of antisocial behavior at age 8. There was evidence of continuing aggressive behavior from ages 8 to 32. Children who were rated as aggressive by their teachers at ages 8 to 10 were significantly more likely to be rated as aggressive on the basis of self-reports at age 32 and to have been convicted of a violent crime before age 32 (Oxford & Bennett, 1994). Thus, although some acting-out behaviors in toddlers and preschoolers may be attributed to either a developmental "stage" or to the fact that a child is "all boy," many of the more aberrant behaviors have been demonstrated to persist, in the absence of any intervention, into the school years and adolescence.

Family Functioning

Research suggests that certain family characteristics put children at particular risk for developing conduct problems, namely, low income, low education, teenage pregnancy, isolation, high levels of stress, and high levels
1985). For example, results from a parent rating scale of child behavior can be compared with interview data, direct observations, and teacher rating scale scores. The American Academy of Child and Adolescent Psychiatry (1997a) provides practice guidelines for ADHD that also support multimethod assessment. They recommend including parent and child interviews, standardized rating scales from parents and teachers, school performance information from current and past teachers, and a physical examination of the child. It is also important to consider using more traditional standardized intelligence, achievement, and personality tests to identify other possibly relevant problems and to help formulate a diagnosis. The American Academy of Pediatrics, in their published Clinical Practice Guidelines for ADHD (2000), also recommend multimethod assessment, with multiple informants. They state that assessment of the child with ADHD should include assessment for coexisting conditions, such as ODD, CD, mood disorders, anxiety, and learning disabilities. However, they did not recommend other diagnostic tests such as blood lead levels, thyroid hormone levels, brain imaging studies and EEGs, or continuous performance tests.

Such multimethod assessment can incorporate the advantages of empirically based assessment and the DSM-IV diagnostic criteria (Achenbach & McConaughy, 1996). Empirically based assessment has the advantage that the various clinical syndromes actually reflect patterns of co-occurring problems that are reported for particular samples of children. The parent and teacher rating scales that are discussed below do not require the rater to choose between the presence or absence of each symptom. Rather, the rater is instructed to quantify the degree to which a child exhibits each symptom using terms such as “absent,” “mild or infrequent,” and “severe or frequent.” The sets of co-occurring problems are then viewed as “syndromes” in the sense that they occur together. Achenbach and McConaughy made the case that the disruptive behavior disorders of ODD, CD, and ADHD from the DSM-IV manual were quite similar to the empirically based syndromes.

Several useful assessment tools for diagnosing disruptive behavior disorders and other childhood problems are described below.

Interviewing

Interviews may be conducted with the parent or child alone, possibly followed by an interview of the family together. La Greca (1983) suggested taking a thorough family history, which may include the following:

- questions about disruptive behavior problems in both biological families
- descriptive information from both the parent and the child about situations in which the current behavioral problems are manifested

DIAGNOSIS AND MANAGEMENT OF DISRUPTIVE BEHAVIOR DISORDERS

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TABLE 1.2
Behavior Rating Scales: Ages and Forms

<table>
<thead>
<tr>
<th>Scale</th>
<th>Ages in Years (Norms)</th>
<th>Teacher Form</th>
<th>Parent Form</th>
<th>Youth Form</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>(Computer form)</td>
<td>(Computer form)</td>
<td>(Computer form)</td>
</tr>
<tr>
<td>Conners</td>
<td>2-3</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>4-16</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>CBCL</td>
<td>2-3</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>4-16</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>12-16</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>BASC</td>
<td>2-3</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>4-16</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>12-18</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: Conners = Conners Parent Rating Scale; CBCL = Child Behavior Checklist; BASC = Behavior Assessment System for Children.

forms of these rating scales. On each of these rating forms, the parents, teachers, and child (older than age 11) are asked to rate the extent to which the child is experiencing a number of different problems such as “can't sit still,” “mean to other children,” and “argues with adults.”

- **Conners Rating Scale.** The CRS was originally constructed to assess hyperactivity from the perspective of the child’s parents and teacher. The CRS consists of 48 items, rated on a 4-point scale, and has been shown to discriminate hyperactive from normal children (Conners, 1969). Separate scales are available for children from ages 2 to 17 (Goyette et al., 1978). The manual version of the CRS takes a fair amount of time to score; however, the Quick Scoring Form that uses NCR (no carbon required) paper is much quicker to score.

- **Child Behavior Checklist.** The CBCL was developed so that the answers from the parent, teacher, and youth forms are sorted into scores on subscales, including social withdrawal, attention problems, and aggression, normed according to the child's age and sex (Achenbach, 1991). The 118-item scale, rated on a 3-point scale, has norms for children from ages 2 to 17. Separate norms are provided for boys and girls at each of four age levels, and Achenbach has provided evidence that the CBCL can discriminate effectively between clinic-referred and normal children (Achenbach, 1991). The manual scoring versions of the CBCL require a good deal of time to score; the computerized scoring form is much faster. Also, the printout from the com-
(MFT; Kagan, 1966) and one version of the Continuous Performance Task (CPT; Gordon, 1983). They reported that scores on the MFT and the CPT were found to share little variance with parent and teacher reports on several behavior rating scales used to evaluate ADHD. Furthermore, they reported that clinic test scores, either alone or in combination, resulted in classification decisions that frequently disagreed with a diagnosis of ADHD based on parent interviews and behavior rating scales completed by parents and teachers. In fact, Baren and Swanson (1996) made the point that none of the three available continuous performance tasks (Conners' Continuous Performance Test, Conners, 1995; Gordon Diagnostic System, Gordon, 1983; and Tests of Variables of Attention, Forbes, 1998) are really useful either for screening or for clinical diagnosis of ADHD. There are simply too many times when the results from a CPT conflict with the other screening and diagnostic tools that are available in the form of parent and teacher rating scales.

Barkley and Grodzinsky (1994) compared the performance of four groups of children, ages 6-12, with the different subtypes of ADHD on a variety of tests designed to measure frontal lobe functions, including the following tests:

- Gordon Continuous Performance Test (Gordon, 1983)
- Controlled Word Association Test (Benton & Hamsher, 1978)
- Hand Movements Scale (Kaufman & Kaufman, 1983)
- Porteus Mazes (Porteus, 1965)
- Rey-Osterrieth Complex Figure (Lezak, 1983)
- Stroop Color-Word Association Test (Stroop, 1935)
- Trail Making Test (Reitan & Wolfson, 1985)
- Wisconsin Card Sorting Test (Heaton, 1981)
- Grooved Pegboard Test (Reitan & Wolfson, 1985).

Barkley and Grodzinsky (1994) concluded that these neuropsychological tests, with the exception of the CPT, were not particularly helpful for clinical diagnostic purposes with ADHD children at this time. "Abnormal scores on the CPT may be predictive of ADD, though not of which subtype, while normal scores are not indicative of an absence of ADD and should go uninterpreted" (p. 121).

The data published by Barkley and Grodzinsky (1994) were not especially encouraging regarding the inclusion of neuropsychological tests of presumed frontal lobe functions in children as part of a clinical diagnostic battery for the diagnosis of ADHD. Most tests did not perform much above base-rate levels of positive predictive power for the hyperactive/impulsive subtype of ADHD and rarely exceeded that which could be achieved with a coin toss. They cautioned that because a "normal score" on these same tests was not especially helpful at ruling out ADHD, the score should probably be disregarded for purposes of clinical diagnostic interpretation.
Long, Forehand, Wierson, and Morgan (1994) reported on the long-term follow-up of 26 late adolescents and young adults who had participated in parent training with their mothers when they were young, ranging in age from 2 to 7. At the follow-up, which was approximately 14 years posttreatment, the individuals who had been treated earlier were compared with a matched community sample on various measures of delinquency, emotional adjustment, academic progress, and relationship with their parents. No differences were noted between the two groups, leading Long et al. to conclude that noncompliant children who participated during their early years in parent training functioned as well as nonclinical individuals. Thus, it appears that effective early intervention for children with noncompliant or more severe behavior problems may be beneficial for remediating behavior problems in children and that, in the absence of any intervention, behavior problems will probably continue.

Parent training. Teaching parents improved behavior management techniques is a mainstay of behavior therapy for oppositional children (Patterson, 1982). In his early studies, Patterson used what by today’s standards would be called “treatment manuals,” such as Families (Patterson, 1971) and Living With Children (Patterson & Gullion, 1968). Parents were instructed to read parts of these manuals as their homework, and therapists used the manuals as a blueprint for conducting the interventions. Patterson and his colleagues were able to empirically validate their parent training and social learning interventions as effective methods of decreasing deviant behavior in males (Fleischman, 1981; Patterson, 1974). More recently, Kazdin (1995) commented about the effectiveness of parent training, stating that perhaps no other technique has been as carefully documented and empirically supported as parent management training in treating the conduct problems of children.

Recent evidence of the effectiveness of parent training has been provided by Forehand and colleagues (e.g., Long et al., 1994). The parent training intervention consisted of 8 to 10 clinic sessions in which a parent was initially taught to pay attention to and reward appropriate behavior and to ignore minor inappropriate behavior. The parents were then taught how to issue commands and to use reinforcement for compliance and time-out for noncompliance. Didactic instruction, modeling, role play, interaction with the child in the clinic, and structured times to practice skills in the home were used as teaching procedures. At follow-up, the children who were treated, when compared with a nonclinic community control group, were not different in functioning across multiple areas, including delinquency, emotional adjustment, academic performance, and relationship with parents.

More recently, Forehand and Long (1996) published a similar stepwise set of recommendations for teaching parents how to change the manner in which they were interacting with their noncompliant children. The major elements included the following:
EXHIBIT 1.4

Time-In

By their very dependent nature, newborns and young infants require a lot of physical contact from their parents. As they get older and their demand characteristics change, parents usually touch their children much less. By the time children are four years old, they are usually toilet trained, can get dressed and undressed themselves, can feed themselves, and can bathe themselves. Thus, if parents don’t conscientiously put forth an effort to maintain a great deal of physical contact with their child, he or she will be touched much less than at earlier ages. There are several things that parents can do to help offset these natural changes.

1. Physical proximity. During the boring or distracting activities, place your child close to you where it is easy to reach him. At dinner, in the car, in a restaurant, when you have company, or when you are in a shopping mall, keep your child near you so that physical contact requires little, if any, additional effort on your part.

2. Physical contact. Frequent and brief (one or two seconds) nonverbal physical contact will do more to teach your child that you love him than anything else that you can do. Discipline yourself to touch your child at least 50 times each day for one or two seconds—touch him anytime that he is not doing something wrong or something that you disapprove of.

3. Verbal reprimands. Children don’t have the verbal skills that adults do. Adults often send messages that are misunderstood by children, who may interpret verbal reprimands, nagging, and pleading as signs that their parents do not like them. Always keep in mind the old expression, “If you don’t have anything nice to say, don’t say anything at all.”

4. Nonverbal contact. Try to make most of your physical contact with children nonverbal. With young children, physical contact usually has a calming effect, whereas verbal praise, questioning, or general comments may only interrupt what your child was doing.

5. Independent play. Children need to have time to themselves—time when they can play, put things into their mouths, or stare into space. Generally, children don’t do nearly as well when their parents carry them around much of the time and constantly try to entertain them. Keep in mind that although your baby may fuss when frustrated, he or she will never learn to deal with frustration if you are always there to help him or her out. Give children enough freedom to explore the environment on their own, and they will learn skills that they can use the rest of their lives.

Remember:
Children need lots of brief, nonverbal physical contact. If you don’t have anything nice to say, don’t say anything at all.


The token economy was originally developed to add flexibility to the use of tangible rewards with children and adolescents. For example, when a child has completed a required task, whether a homework assignment, a chore, or a social interaction, he or she is presented with a token that can be exchanged later for any of a wide variety of rewards. Tokens can also be used to reward children for practicing skills that they are working to acquire. If a child is working to learn anger management skills by using procedures
mediately on completion of the required task. The use of a token, which can take the form of a chip or an earned point on a point card, serves to bridge the time delay between the time that the child completes the activity and the time that the child is able to “consume” or use the reward.

Child populations served by token economies have ranged from children with mental retardation to children who are gifted, as well as to those with a wide variety of behavioral and medical problems. Kazdin (1977, 1982) provided an excellent review of early and extensive therapeutic applications of token economies. Two of the largest projects to use token economies have been the work with juvenile delinquents using the Achievement Place Teaching Family Model (M. M. Wolf, Kirigan, Fiss, Blase, & Braukmann, 1995) and the Follow Through Head Start Program (Bushell, 1978). The present discussion is limited to the use of a token economy as it is implemented by parents in the home or clinicians in the office as part of an intervention to improve the behavior of the child. For that reason, token economies that have been implemented in institutional settings, including schools, are only referenced as they relate to children’s behavior in the home. Information on how token economies can be used to address behavior problems related to medical issues can be found in the chapter on adherence issues (see chapter 8).

Token economies have been successfully implemented to decrease common childhood behavior problems at home (e.g., Christophersen, Arnold, Hill, & Quilitch, 1972) and in public (e.g., Barnard, Christophersen, & Wolf, 1977). A treatment manual for the Home Chip System for children ages 3–7, based on Christophersen, Barnard, and Barnard (1981), is included in Appendix A. This manual provides detailed instructions on the implementation of a token economy by parents in the natural home. Barkley (1981) included a copy of this manual in his book on ADHD. Other examples of token systems and their uses can be found by Barkley and Benton (1998), Barkley, Guervremont, Anastopoulos, and Fletcher, (1992), and Kazdin, Siegel, and Bass (1992), who included the use of token reinforcement as a method of improving the child’s cooperation during therapy sessions.

Although Kazdin (1977) reported that a number of problems had been encountered when using token economies in institutional settings, many of these are avoided when using the tokens in the natural home. For example, Kazdin mentioned that the token economy procedures used in a therapeutic treatment setting did not necessarily generalize to the child’s natural home. When the token economy is originally implemented in the natural home, however, problems with generalization have not been reported.

Structural Family Therapy

One comprehensive comparison of behavior management training, problem-solving and communication training, and structural family therapy

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tested in 17 outpatients ranging in age from 5 to 15 years with severe, treatment-resistant, aggressive behavior (Kemph, DeVane, Levin, Jarecke, & Miller, 1993). Fifteen of the 17 patients showed a significant decrease in aggressive behavior during treatment with clonidine. Although these results are promising, data were collected for only about 2 weeks, and Kemph et al. did not report the use of a control condition (placebo, alternative treatment, or wait list). Clonidine alone or in combination with methylphenidate has also been studied for reducing the aggressive symptoms of CD and ODD (Connor, Barkley, & Davis, 2000). Connor et al. reported significant improvements in all three groups (methylphenidate alone, clonidine alone, and both methylphenidate and clonidine), with only a few measures showing differences between the three treatments. This study also showed similar improvements for children with ADHD, which is often comorbid with CD. In fact, both methylphenidate (Ritalin) and d-amphetamine (Dexedrine) have proved effective in decreasing aggression and other disruptive behaviors in children with comorbid CD and ADHD (Vitiello & Jensen, 1995), but virtually all of the studies were with older children.

Vitiello and Jensen (1995) stated that lithium carbonate has proven antiaggressive properties in children with explosive aggression that are as good as haloperidol but with fewer side effects, but they cautioned that it has not been studied in nonhospitalized patients. Information on Eskalith (lithium carbonate) in the Physician's Desk Reference (1999) does not recommend use in children younger than 12 because of the lack of any controlled studies. Although there is widespread use of clonidine for the aggressive and impulsive components of CD, there have been few studies investigating this drug.

Risperidone has been shown to be superior to a placebo in the treatment of the aggressive behavior of CD patients ages 5–15. Unfortunately, the brevity of the study (10 weeks), combined with the high dropout rate (40%) and problems with side effects, dramatically reduces the applicability of these results (Findling et al., 2000).

Similar to the medical treatment of ODD, Cantwell (1989a) stated that although pharmacological interventions have not been sufficiently demonstrated to be effective with CD, they have been effective for the ADHD component in children who have both CD and ADHD. (Pharmacotherapy for ADHD is discussed in the following section on ADHD.)

The lack of outcome studies with children with CD must be contrasted with the recent reports on the tremendous increase in the use of psychotropic medications with children (Zito et al., 2000). The increase in the use of such medications in the absence of proof of their effectiveness has been viewed by the medical community with alarm (see Coyle, 2000). In fact, Coyle stated,

It appears that behaviorally disturbed children are now increasingly subjected to quick and inexpensive pharmacological fixes as opposed to informed, multimodal therapy associated with optimal outcomes. These
EXHIBIT 1.6
Problem-Solving Skills-Training Steps

1. What am I supposed to do?
   This step requires that the child identify and define the problem.

2. I have to look at all my possibilities.
   This step asks the child to delineate or specify alternative solutions to one problem.

3. I had better concentrate and focus in.
   This step instructs the child to concentrate and evaluate the solutions that he or she has generated.

4. I need to make a choice.
   During this step, the child chooses the answer that he or she thinks is correct.

5. I did a good job, or Oh, I made a mistake.
   This step entails checking to verify the solution: whether it was the best among those available, whether the problem-solving process was followed correctly, or whether a mistake or less-than-desirable solution was selected (in which case the process should begin anew).

Note: These steps are used by the child to develop an approach toward responding to interpersonal situations. The steps, as presented here, provide the initial set of statements. Over the course of treatment, use of the steps change in separate ways, for example, Steps 2 and 3 merge to form a separate question ("What could I do and what would happen?"), which is then answered as the child generates multiple ways of responding and the likely consequences of each. Also, the steps move from overt (aloud) to covert (silent, internal) statements.

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- use shaping to teach new behaviors
- use negotiating and behavioral contracting
- use time-out to discourage inappropriate behavior
- reduce or eliminate the use of verbal reprimands.

In a large prospective study with random assignment to treatment groups, Kazdin et al. (1992) compared the effectiveness of PMT with PSST. Each group improved over the course of treatment, with further improvements at 1-year follow-up on parental measures of overall child dysfunction, prosocial competence, and aggressive, antisocial, and delinquent behavior. The best results were obtained in the combined group, with the PMT training alone showing the fewest changes.

Finally, one of the largest prospective studies on the treatment of children with CD was published by Kazdin and Wassell (2000). They analyzed the outcomes of 250 children (ages 2–14) whose families were treated using cognitive PSST, PMT, or both. Their main findings were as follows:

- Child, parent, and family functioning improved over the course of treatment.
these measures consistently favored the CT condition over the PT condition. One-year follow-up assessments indicated that all the significant changes noted immediately after treatment had been maintained over time. Moreover, the children's conduct problems at home had significantly lessened over time. Webster-Stratton (1990) did report 3-year follow-up data on children with CD treated individually and those treated individually and in groups. Her results showed that, although mothers and fathers from all three treatment groups (individual videotapes, group videotapes, and group discussion without videotapes) continued to report fewer total child behavior problems at the 3-year follow-up in comparison with baseline, only the parents treated in groups using videotapes showed stable improvements. The publication of Webster-Stratton's *The Parents and Children Series* (n.d.) represents one of the most systematic attempts to produce and distribute "treatment manuals" for use with children with CD.

*Parenting groups for the prevention of conduct problems.* In their review of outcome studies for treatment of CD, Offord and Bennett (1994) stated that, because of the heavy burden of suffering CD, there is a compelling argument in favor of an increased emphasis on primary prevention efforts. Webster-Stratton has conducted pioneering work in the area of the "prevention" of conduct problems in children who are at high risk for developing them. For example, Webster-Stratton (1998) conducted research on preventing conduct problems with Head Start mothers and their 4-year-old children. The major intervention component involved teaching positive discipline strategies, effective parenting skills, and ways of strengthening their child's social skills using videotapes. Intervention children showed significantly more improvement than the children in the control group as measured by changes in their conduct problems, compliance, and affect. One year later, most of the improvements had been maintained. Webster-Stratton should be commended for attempting prevention research in natural settings with children at high-risk for development of conduct problems. The appeal of such prevention programs is that they are implemented at a time when the problems are still relatively mild and the intervention is relatively inexpensive. Ultimately, Head Start programs across the United States could be used to disseminate information on parenting to mothers from high-risk groups.

**Attention Deficit Hyperactivity Disorder**

A wide variety of treatments have been used for ADHD, including but not limited to various psychotropic medications, psychosocial treatment, dietary management, herbal and homeopathic treatments, biofeedback, meditation, and perceptual stimulation. Of these treatment strategies, medications and psychosocial interventions have been the major focus of research. Studies on the efficacy of medication and psychosocial treatments...
tions for children in this age group. Coyle further stated that the lack of clinical research on the long-term consequences of pharmacological treatment of behavior problems in young children was a strong basis of concern for these prescribing practices.

There is one comprehensive study of the efficacy of the use of medication with children with ADHD published by the MTA Cooperative Group (1999). A total of 579 children were randomly assigned to 14 months of medication management, intensive behavioral treatment, both medication and behavioral treatment, and standard community care. Although there were a number of shortcomings to the study (not the least of which was that in the community sample virtually all received medication similar to the children in the medication-alone group), this is the largest scale and longest study to date. The main conclusions of the study were that medication management was superior to behavioral treatment and that the combined (medication plus behavioral treatment) was no better than medication alone, although the combination group may have provided modest advantage for non-ADHD symptoms and for positive functioning outcomes. In fact, parent satisfaction scores for combined treatment and behavioral treatment alone were significantly superior to medication management alone. This suggests that the parent placed a high value on the services received in the behavioral treatment.

The MTA Cooperative Group (1999), the largest and best-designed study published to date, clearly supported the efficacy of the use of stimulant medication with children diagnosed with ADHD. At the time of this writing, the treatment of choice for children and adolescents with ADHD, without any comorbid conditions such as ODD and CD, is stimulant medication. Because there are virtually no outcome studies on the efficacy of medications for the most common comorbid conditions, behavioral interventions remain the treatment of choice for these children. In response to concerns about medicating young children, the White House, upon the recommendation of the American Medical Association, has directed the Food and Drug Administration and the National Institutes of Health to implement a nationwide study on the use of Ritalin in children younger than age 6 (Pear, 2000).

Medication side effects. Barkley and his colleagues (Ahmann et al., 1993; Barkley, McMurray, Edelbrock, & Robbins, 1990) used a questionnaire as an assessment device to estimate the extent and severity of negative side effects that children with ADHD experienced when stimulant medication (Ritalin) was prescribed. The use of the questionnaire, which has been referred to as the Barkley Side Effects Questionnaire (BSEQ), both before any medication was prescribed and at weekly intervals after the medication was prescribed, revealed that the most significant side effects were decreased appetite, insomnia, stomachaches, and headaches. The remaining nine items (prone to crying, tics, drowsiness, talking less, disinterest in other
EXHIBIT 1.7
Barkley Side Effects Questionnaire

CHECKLIST OF SYMPTOMS SOME CHILDREN EXPERIENCE

NAME: ___________________________ DATE: ___________________________

PERSON FILLING OUT FORM:

INSTRUCTIONS: Please rate each behavior from 0 (absent) to 9 (serious). Circle only one number beside each item. A zero means that you have not seen the behavior in this child during the past week, and a 9 means that you have noticed it and believe it to be either very serious or to occur very frequently.

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Absent</th>
<th>Serious</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insomnia/trouble sleeping</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Drowsiness</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Nightmares</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Stares a lot or daydreams</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Bedwetting</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Talks less with others</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Uninterested in others</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Decreased appetite</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Irritable</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Hair loss</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Stomachaches</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Headaches</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Nervous movements</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Muscle cramping</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Seizures</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Sad/unhappy</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Prone to crying</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Anxious</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Bites fingernails</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Euphoric/unusually happy</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Dizziness</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Tics</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Diarrhea</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Constipation</td>
<td>0 1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

toms, peer interactions, parent–child relations, and reading achievement. These results have not been previously reported in long-term studies. Perhaps as interesting as the outcome on the behavioral measures was the fact that parents reported significantly higher satisfaction ratings with the combined (medication plus behavioral treatment) and behavioral treatment groups.

**Cognitive–Behavioral Therapy**

Kendall and Braswell (1985) provided a treatment manual for implementation of their self-control program for impulsive children. Each of the 12 sessions involves the therapist teaching the child to use the self-instructional procedures by means of modeling while working on a variety of impersonal and interpersonal problem-solving tasks. The program includes the use of a token economy during the therapy sessions. Although the children are required to buy one prize at the end of each therapy session, they may choose to bank some of their tokens to purchase a more expensive prize after a future session.

Kendall and Braswell's (1985) 12 sessions include how to teach children to:

- use self-statements
- follow directions
- use verbal self-instructions, first to solve arithmetic problems and later to address social and interpersonal tasks
- identify the emotions involved in social interactions
- physically act out what they would do in specific social situations
- handle actual social situations.

Kendall and Braswell (1985) also included a therapy checklist (see Exhibit 1.9) as a reminder of the process and activities that were supposed to be covered within each session and across sessions.

**Barriers to Effective Interventions**

The most commonly encountered problem in dealing with disruptive behaviors is maintaining parental adherence to the treatment recommendations for their child. As Patterson (1982) pointed out, some parents get into a coercive cycle—their coercive behavior produces coercive behavior on the child's part, which in turn leads to further coercive behavior on the parents' part. Breaking this cycle is sometimes difficult. Also, when dealing with disruptive behaviors, whether the oppositional component is dealt with directly (e.g., with discipline) or less directly (e.g., with ignoring), there is sometimes an escalation in the child's oppositional behavior prior to a decrease (Drabman & Jarvie, 1977). This initial increase is sometimes
sions on maintaining treatment gains. Although the MTA Cooperative Group (1999) study included some provisions for addressing long-term gains in the behavioral treatment group, the study design did not allow for an analysis of any single component of the treatment. Thus, at this point in time, the issue of maintenance of long-term treatment gains has not been adequately addressed in the literature.

CONCLUSION

The combination of the high incidence as well as the intrusiveness of disruptive behavior disorders makes them particularly troublesome for parents. When parents are unable to manage these behaviors at home, or when the child begins to demonstrate significant struggles with school and social relationships, assistance from mental health providers is often sought.

The assessment of disruptive behavior disorders is aimed at estimating the extent to which a given child or adolescent exhibits these behaviors as well as the degree of impairment in the child’s academic or social functioning. The use of multiple informants, including both the parents and the teachers, is preferred. Parent and teacher rating scales are used extensively in the diagnosis of disruptive behavior problems, primarily because they are readily available, inexpensive, and well accepted in the mental health community. Although clinic-based diagnostic tests, such as continuous performance tasks, have a tremendous appeal in that they can be readily administered with little monitoring by office personnel, the information that is gleaned from them is, at least at the present time, of little value in formulating a diagnosis. Although our assessment tools for diagnosing disruptive behavior disorder can be quite convincing, it is important to bear in mind that such a diagnosis can have a significant impact on the child and family, and thus must be made cautiously. In many clinical settings, a child diagnosed as having ADHD may almost immediately be considered for a trial on stimulant medication.

With the exception of ADHD, pharmacological therapies are of limited effectiveness for children’s disruptive behavior disorders. With ODD and CD, the literature on pharmacological therapies is characterized by weak experimental designs, the lack of random assignment, and little, if any, long-term data.

There has been much discussion in the literature about the large number and young ages of children diagnosed with ADHD. Although several authors have provided convincing evidence that ADHD is not being over-diagnosed in children and adolescents, there is cause for concern for children ages 5 and younger. Zito et al. (2000) reported increases in prescriptions for very young children, from 220% for antidepressants to up to 2,800% for clonidine. Neither of these increases is actually supported by the literature.