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# Disorders of Childhood and Adolescence

## Topic Overview | :

### CHILDHOOD AND ADOLESCENCE

#### CHILDHOOD ANXIETY DISORDERS

#### CHILDHOOD DEPRESSION

#### DISRUPTIVE BEHAVIOR DISORDERS

#### ATTENTION-DEFICIT/HYPERACTIVITY DISORDER

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Autism

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#### CROSSROADS: CLINICIANS DISCOVER CHILDHOOD AND ADOLESCENCE

Billy, a 7-year-old . . . child, was brought to a mental health clinic by his mother because “he is unhappy and always complaining about feeling sick.” . . . His mother describes Billy as a child who has never been very happy and never wanted to play with other children. From the time he started nursery school, he has complained about stomachaches, headaches, and various other physical problems. . . . Because of Billy’s frequent somatic complaints, it is hard to get him off to school in the morning. . . . When he does go to school, he often is unable to do the work, which makes him feel hopeless about his situation. . . .

Although Billy’s mother acknowledges that he has never been really happy, in the last 6 months, she feels, he has become much more depressed. He frequently lies around the house, saying that he is too tired to do anything. He has no interest or enjoyment in playing. His appetite has diminished. He has trouble falling asleep at night and often wakes up in the middle of the night or early in the morning. Three weeks ago, he talked, for the first time, about wanting to die. . . .

(Spitzer et al., 1994)

In the past year, Eddie [age 9] had been suspended twice for hyperactive and impulsive behavior. Most recently, he had climbed onto the overhead lights of the classroom and caused an uproar when he could not get himself down. . . . Even when he is seated, his rapid foot and hand movements are disruptive to the other children. Eddie has almost no friends and does not play games with his classmates due to his impulsivity and overly active behavior. After school, he likes to play with his dog or ride his bike alone.

Eddie’s mother reports that he has been excessively active since he was a toddler. At the age of three, Eddie would awaken at 4:30 a.m. each day and go downstairs without any supervision. Sometimes he would “demolish” the kitchen or living room. . . . For first and second grade, he attended a special behavioral program. For third grade, he was allowed to attend a regular education class, with pull-out services for help with his behavior.

(Spitzer et al., 1994)

Billy and Eddie are both displaying psychological disorders that disrupt their family ties, school performances, and social relationships. Billy, who may qualify for a diagnosis of major depressive disorder, struggles constantly with sadness, along with stomachaches and other physical ailments. Eddie, on the other hand, cannot concentrate and is overly active and impulsive—difficulties that add up to attention-deficit/hyperactivity disorder (ADHD).

Abnormal functioning can occur at any time in life. Some patterns of abnormality, however, are more likely to emerge during particular periods—during childhood, for example, or, at the other end of the spectrum, during old age. In this chapter we shall focus on disorders that have their onset during childhood or early adolescence—disorders such as Billy’s depression and Eddie’s ADHD. In the next chapter, we shall turn to problems that are more common among the elderly.

**>>BY THE NUMBERS****Teenage Concerns**

**59%** Percentage of today's teens who worry about being victims of violence<<

**58%** Teens who worry about getting sexually transmitted diseases<<

**54%** Teens who worry about being able to afford college<<

**43%** Teens who worry about finding good jobs in the future<<

(Begley, 2000)

## Childhood and Adolescence

People often think of childhood as a carefree and happy time—yet it can also be frightening and upsetting. In fact, children of all cultures typically experience at least some emotional and behavioral problems as they encounter new people and situations (Crisnen et al., 1999). Surveys reveal that *worry* is a common experience: close to half of all children in the United States have multiple fears, particularly concerning school, health, and personal safety (Ollendick, King, & Muris, 2002; Silverman et al., 1995). Bed-wetting, nightmares, temper tantrums, and restlessness are other problems experienced by many children.

Adolescence can also be a difficult period (Prinstein & LaGreca, 2002). Physical and sexual changes, social and academic pressures, personal doubts, and temptations cause many teenagers to feel anxious, confused, and depressed (Lerner, 2002; McNamara, 2000). Today's teens, although generally happy and optimistic and often spiritual, tend to feel less trusting, more sensitive, and more isolated from their families than adolescents of decades past (Begley, 2000).

Along with these common psychological difficulties, around one-fifth of all children and adolescents in North America also experience a diagnosable psychological disorder (Phares, 2003). Indeed, news reports of teenage suicides, school shootings, and other tragedies remind us daily of the extremes that psychological suffering and disturbances can reach in children and adolescents (see Table 14-1). Boys with psychological disorders outnumber girls, even though most of the

**Table 14-1**

### SCHOOL VIOLENCE: SOME FACTS AND FIGURES

- ❖ Urban (inner-city) school shootings have a longer history than shootings in rural and suburban schools.
- ❖ Urban school shootings have most commonly been rooted in such issues as poverty, the drug trade, and gang rivalries. They often resemble and may even extend from violence as it occurs in surrounding urban communities.
- ❖ Suburban and rural school shootings have most often resembled the “rampage” shootings that occur in workplaces or public places.
- ❖ From 1992 to 2003, there were 17 multiple-victim shootings in rural and suburban U.S. schools.
- ❖ Multiple-victim school shootings have also occurred in other countries in recent years, such as in Germany and Bosnia-Herzegovina.
- ❖ In most of the suburban and rural school shootings, the shooters have previously told other students of their intentions or offered strong hints.
- ❖ In most of the suburban and rural school shootings, the shooters have planned the attacks days or weeks in advance.
- ❖ Although research has not yielded a consistent psychological profile of a school shooter, many suburban and rural school shooters have experienced extreme depression or desperation, experienced growing disillusionment, had suicidal thoughts, felt persecuted or bullied, sought revenge for real or imagined grievances, or experienced significant life changes or stress.
- ❖ Twenty-eight percent of public high school teachers in the United States have been verbally abused, 15 percent threatened, and 3 percent attacked.
- ❖ Twenty percent of urban students report that threats involving a weapon or assault in school represent a major problem for them.

Sources: *Infoplease*, 2003; Bowman, 2002; Elliot et al., 2002; Potier, 2002; Dedman, 2000.



adult psychological disorders are more common among women. Some disorders of children—childhood anxiety disorders, childhood depression, and disruptive disorders—are similar to patterns found among adults. Other childhood disorders—elimination disorders, for example—usually disappear or change form by adulthood. There are also disorders that begin during childhood and then persist in stable form into adult life, such as mental retardation and autism, the former an extensive disturbance in intellect, the latter marked by a lack of responsiveness to the environment.

## Childhood Anxiety Disorders

As in adults, the anxiety disorders experienced by children and adolescents include specific phobias, social phobias, generalized anxiety disorder, and obsessive-compulsive disorder (Albano et al., 2003; Oest & Treffers, 2001). However, one form of anxiety in children, **separation anxiety disorder**, is different enough from the adult disorders to be listed as a separate category in DSM-IV. Children with this disorder feel extreme anxiety, often panic, whenever they are separated from home or a parent. Carrie, a 9-year-old girl, was referred to a local mental health center by her school counselor when she seemed to become extremely anxious at school for no apparent reason.

She initially reported feeling sick to her stomach and later became quite concerned over being unable to get her breath. She stated that she was too nervous to stay at school and that she wanted her mother to come get her and take her home. . . . The counselor indicated that a similar incident occurred the next day with Carrie ending up going home again. She had not returned to school since. . . .

At the time of the intake evaluation the mother indicated that she felt Carrie was just too nervous to go to school. She stated that she had encouraged her daughter to go to school on numerous occasions but that she seemed afraid to go and appeared to feel bad, so she had not forced her. . . . When asked if Carrie went places by herself, the mother stated that Carrie didn't like to do that and that the two of them typically did most everything together. The mother went on to note that Carrie really seemed to want to have her (the mother) around all the time and tended to become upset whenever the two of them were separated.

(Schwartz & Johnson, 1985, p. 188)

Children like Carrie have great trouble traveling away from their family, and they often refuse to visit friends' houses, go on errands, or attend camp or school.

**SEPARATION ANXIETY DISORDER** A childhood disorder marked by excessive anxiety, even panic, whenever the child is separated from home or a parent.

**Duck and cover** *Childhood anxieties can be caused by society's repeated warnings of possible catastrophes. These schoolchildren in Japan dive for cover during an earthquake drill.*



Many cannot even stay alone in a room and cling to their parent around the house. Some also have temper tantrums, cry, or plead to keep their parents from leaving them. The children may fear that they will get lost when separated from their parents or that parents will meet with an accident or illness (APA, 2000, 1994). It has been estimated that about 4 percent of children and young adolescents suffer from separation anxiety disorder, somewhat more girls than boys (Masi et al., 2001; APA, 2000). In many cases it is triggered by a stressful event such as the death of a parent or pet, moving to a new home, or a change of schools (Phares, 2003). The symptoms last at least four weeks, usually much longer, but they may rise and fall over the course of childhood and adolescence.

As in Carrie's case, a separation anxiety disorder sometimes takes the form of a **school phobia**, or **school refusal**, a common problem in which children fear going to school and often stay home for a long period (Heyne et al., 2002). Many cases of school phobia, however, have causes other than separation fears, such as social or academic concerns, depression, and fears of specific objects or persons at school.

Childhood anxiety disorders are generally explained in much the same way as the adult anxiety disorders (see Chapter 4), with biological, behavioral, and cognitive factors pointed to most often (Phares, 2003). However, the special features of childhood can also play an important role (Walkup & Ginsburg, 2002). For example, since children have had fewer experiences than adults, their world is often new and scary. They may be frightened by common events, such as the beginning of school, or by special upsets, such as moving to a new house or becoming seriously ill (Tweed et al., 1989). Special features of their world can also frighten children and set the stage for anxiety disorders. Today's children, for example, are repeatedly warned, both at home and at school, about the dangers of child abduction and of drugs. They are bombarded by violent images in television shows, movies, and news programs. Even fairy tales and nursery rhymes contain frightening images that upset many children.

Because they are highly dependent on their parents for support and guidance, children may also be greatly affected by parental inadequacies (Mufson et al., 2002). If, for example, parents typically react to events with high levels of anxiety or overprotect their child, the child may be more likely to develop anxiety problems (Barrett & Short, 2003; Barrett et al., 1996). Similarly, if parents repeatedly reject, disappoint, avoid, or abuse their children, the world comes to seem an unpleasant and anxious place for them.

Psychodynamic, behavioral, cognitive, family, and group therapies, separately or in combination, have been used to treat anxiety disorders in children and adolescents, often with success (Rapee, 2003; Albano & Kendall, 2002). Clinicians have

**SCHOOL PHOBIA** A pattern in which children fear going to school and often stay home. Also known as *school refusal*.

## A CLOSER LOOK

### Child Abuse

What I remember most about my mother was that she was always beating me. She'd beat me with her high-heeled shoes, with my father's belt, with a potato masher. When I was eight, she black and blued my legs so badly, I told her I'd go to the police. She said, "Go, they'll just put you into the darkest prison." So I stayed. When my breasts started growing at 13, she beat me across the chest until I fainted. Then she'd hug me and ask forgiveness. . . . Most kids have nightmares about being taken away from their parents. I would sit on our front porch crooning softly of going far, far away to find another mother. |

(TIME, SEPTEMBER 5, 1983, P. 20)

A problem that affects all too many children and has an enormous impact on their psychological development is *child abuse*, the nonaccidental use of excessive physical or psychological force by an adult on a child, often with the intention of hurting or destroying the child. At least 5 percent, and perhaps as many as 26 percent, of children in the United States are physically abused each year (Phares, 2003). Surveys suggest that one of every 10 children is the victim of severe violence, such as being kicked, bitten, hit, beaten, or threatened with a knife or a gun. In fact, some observers believe that physical abuse and neglect are the leading causes of death among young children.

Overall, girls and boys are physically abused at approximately the same rate. However, boys are at greatest risk when they are under the age of 12, while the risk for girls is highest when they are older than 12 (Azar et al., 1998). Although child abuse occurs in all socioeconomic groups, it is apparently more common among the poor (Phares, 2003; Gallup, 1995).

Abusers are usually the child's parents. Clinical investigators have learned that abusive parents often have poor impulse control and low self-esteem. Many have been abused themselves as children and have had poor role models

(Bowen, 2000). In some cases, they are experiencing the stress of marital conflict or family unemployment (Whipple et al., 1991).

Studies suggest that the victims of child abuse may suffer both immediate and long-term psychological effects. Research has revealed, for example, that abused children have more performance and behavior problems in school. Long-term negative effects include lack of social acceptance, more medical and psychological disorders, more abuse of alcohol and other substances, more arrests during adolescence and adulthood, a greater risk of becoming criminally violent, a higher unemployment rate, and a higher suicide rate (Safren et al., 2002; Molnar et al., 2001; Widom, 2001, 1991, 1989). Finally, as many as one-third of abuse victims grow up to be abusive, neglectful, or inadequate parents themselves (Heyman & Slep, 2002; Clarke et al., 1999).

Two forms of child abuse have received special attention of late: psychological and sexual abuse. *Psychological abuse* may include severe rejection, excessive discipline, scapegoating and ridicule, isolation, and refusal to provide help for a child with psychological problems. *Child sexual abuse*, the use of a child for gratification of adult sexual desires, may occur outside of or within the home (Bal et al., 2004). In 25 percent of cases, the child is younger than 7 (Wurtele & Schmitt, 1992). Surveys suggest that at least 13 percent of women were forced into sexual contact with an adult male during their childhood, many of them with their father or stepfather (Hill, 2003; Phares, 2003). At least 4 percent of men were also sexually abused during childhood (Romano & DeLuca, 2001). Child sexual abuse appears to be equally common across all socioeconomic classes, races, and ethnic groups (Azar et al., 1998).

A variety of therapies have been used in cases of child abuse, including groups



Honoré Daumier, *Fatherly Discipline*, 1851. The Art Institute of Chicago, Arthur Heun Fund, 1952.

#### Honoré Daumier's *Fatherly Discipline*

sponsored by Parents Anonymous, which help parents to develop insight into their behavior, provide training on alternatives to abuse, and teach parenting skills (Azar & Siegal, 1990; Wolfe et al., 1988). Still other treatments help parents deal more effectively with the stresses that often trigger the abuse, such as unemployment, marital conflict, and feelings of depression.

Research suggests that the psychological needs of the child victims should be addressed as early as possible (Gray et al., 2000; Roesler & McKenzie, 1994). Clinicians and educators have launched *early detection programs* that aim to (1) educate all children about child abuse; (2) teach them skills for avoiding or escaping from abusive situations; (3) encourage children to tell another adult if they are abused; and (4) assure them that abuse is never their own fault (Godenzi & DePuy, 2001; Finkelhor et al., 1995). These programs seem to increase the likelihood that children will report abuse, reduce their tendency to blame themselves for it, and increase their feelings of control (Goodman-Brown et al., 2003; MacIntyre & Carr, 1999).

Will &amp; Deni McIntyre/Science Source/Photo Researchers



**Constructive play** Therapists may use play therapy to assess the functioning of children, to help them express their feelings and thoughts, and to help them better understand themselves and others.

**How could you?** Childhood anxiety or depression may be the result of developmental upsets, such as the increasingly common experience of having to share a parent's affection with a new stepparent. The face of this boy after his mother's remarriage says it all.

April Saul, *The Philadelphia Inquirer*

also used drug therapy in some cases, but this approach has only recently begun to receive much research attention (Walkup et al., 2002). Because children typically have difficulty recognizing and understanding their feelings and motives, many therapists, particularly psychodynamic therapists, use **play therapy** as part of treatment (Russ, 2004; Hall et al., 2002). In this approach, the children play with toys, draw, and make up stories, and in so doing reveal the conflicts in their lives and their related feelings. The therapists then introduce more play and fantasy to help the children address their conflicts and change their emotions and behavior.

## Childhood Depression

Children, like adults, may develop depression, as did Billy, the boy we observed at the beginning of this chapter. Bobby has similar symptoms:

In observing Bobby in the playroom it was obvious that his activity level was well below that expected for a child of 10. He showed a lack of interest in the toys that were available to him, and the interviewer was unable to get him interested in any play activity for more than a few minutes. In questioning him about home and school, Bobby indicated that he didn't like school because he didn't have any friends, and he wasn't good at playing games like baseball and soccer like the other kids were, stating "I'm not really very good at anything." . . . When asked what he would wish for if he could have any three wishes granted he indicated, "I would wish that I was the type of boy my mother and father want, I would wish that I could have friends, and I would wish that I wouldn't feel sad so much."

In speaking with the parents, the mother reported that she and her husband had become increasingly concerned about their son during the past year. She indicated that he always seemed to look sad and cried a lot for no apparent reason and that he appeared to have lost interest in most of the things that he used to enjoy doing. The mother confirmed Bobby's statements that he had no friends, indicating that he had become more and more of a loner during the past 6 to 9 months. She stated that his schoolwork had also suffered in that he is unable to concentrate on school assignments and seems to have "just lost interest." The mother notes, however, that her greatest concern is that he has recently spoken more and more frequently about "killing himself," saying that the parents would be better off if he wasn't around.

(Schwartz & Johnson, 1985, p. 214)

Between 2 and 4 percent of children under 17 years of age experience major depressive disorder; the rate for teenagers alone is about 7 percent (Phares, 2003; Kazdin, 1994). The symptoms in young sufferers are likely to include physical discomfort (for example, stomachaches or headaches), irritability, and social withdrawal (APA, 2000, 1994). There appears to be no difference in the rates of depression in boys and girls before the age of 11, but by the age of 16, girls are twice as likely as boys to be depressed (Hankin & Abramson, 2001, 1999).

Explanations of childhood depression are similar to those of adult depression. Theorists have pointed, for example, to factors such as loss, learned helplessness, negative cognitions, and low serotonin or norepinephrine activity (Garber & Horowitz, 2002; Lewinsohn & Essau, 2002). Also, like adult depression, many cases of childhood depression seem to be triggered by a negative life event, major change, rejection, or ongoing abuse.

Like depression among adults, childhood depression often is helped by cognitive therapy or interpersonal approaches such as social skills training (Weersing & Brent, 2003; Weisz et al., 2003).

In addition, family therapy can be effective. Antidepressant medications have not proved consistently useful in cases involving children, but they do seem to help some depressed adolescents.

## Disruptive Behavior Disorders

Children often break rules or misbehave. If they consistently display extreme hostility and defiance, however, they may qualify for a diagnosis of **oppositional defiant disorder** or conduct disorder. Those with oppositional defiant disorder argue repeatedly with adults, lose their temper, and feel great anger and resentment. They often ignore adult rules and requests, try to annoy other people, and blame others for their own mistakes and problems. Between 2 and 16 percent of children display this pattern (APA, 2000). The disorder is more common in boys than in girls before puberty but equal in the two sexes after puberty.

Children with **conduct disorder**, a more severe problem, repeatedly violate the basic rights of others. They are often aggressive and may in fact be physically cruel to people or animals, deliberately destroy other people's property, skip school, or run away from home (see Table 14-2). Many steal from, threaten, or harm their victims, committing such crimes as shoplifting, forgery, breaking into buildings or cars, mugging, and armed robbery. As they get older, their acts of physical violence may include rape or, in rare cases, homicide (APA, 2000, 1994).

Conduct disorder usually begins between 7 and 15 years of age (APA, 2000). Between 1 and 10 percent of children display this pattern, more boys than girls. Children with a mild conduct disorder may improve over time, but severe cases frequently continue into adulthood and may develop into antisocial personality disorder or other psychological problems (Phares, 2003; Myers et al., 1998).

Cases of conduct disorder have been linked to genetic and biological factors, drug abuse, poverty, traumatic events, and exposure to violent peers or community

**PLAY THERAPY** An approach to treating childhood disorders that helps children express their conflicts and feelings indirectly by drawing, playing with toys, and making up stories.

**OPPOSITIONAL DEFIANT DISORDER** A childhood disorder in which children argue repeatedly with adults, lose their temper, and swear, feeling intense anger and resentment.

**CONDUCT DISORDER** A childhood disorder in which the child repeatedly violates the basic rights of others, displaying aggression and sometimes destroying others' property, stealing, or running away from home.

**Table 14-2 DSM-IV Checklist**

### CONDUCT DISORDER

1. A repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated, with at least three of the following present in the past twelve months (and at least one in the past six months):
  - a. Frequent bullying or threatening of others.
  - b. Frequent provoking of physical fights.
  - c. Using dangerous weapons.
  - d. Physical cruelty to people.
  - e. Physical cruelty to animals.
  - f. Stealing while confronting a victim.
  - g. Forcing someone into sexual activity.
  - h. Fire-setting.
  - i. Deliberately destroying others' property.
  - j. Breaking into a house, building, or car.
  - k. Frequent manipulation of others.
  - l. Stealing items of nontrivial value without confronting a victim.
  - m. Frequent staying out beyond curfews, beginning before the age of 13.
  - n. Running away from home overnight at least twice.
  - o. Frequent truancy from school, beginning before the age of 13.
2. Significant impairment.

Based on APA, 2000, 1994.



violence (Webster-Stratton & Reid, 2003). However, they have most often been tied to troubled parent-child relationships, inadequate parenting, family conflict, marital conflict, and family hostility (Phares, 2003; Biederman et al., 2001). Children whose parents reject them, leave them, coerce them, or fail to provide

## THE CURRENT SCENE

### Bullying: A Growing Crisis?

Does bullying qualify as a national crisis? Even to pose the question sounds a bit silly, conjuring up images of the schoolyard thug from the *Calvin and Hobbes* comic strip or Bart's nemesis on *The Simpsons*. But many sober voices say that bullying is no laughing matter and warn that if society continues to overlook this problem, it will place its citizens, particularly its children, at considerable risk (Rigby, 2002).

Recently the Secret Service released a report examining the dozens of school shootings that have taken place across the United States since 1997. It found that bullying was a factor in two-thirds of them (Crisp, 2001). In some cases, the shooters had been bullies; much more often, they had been the *victims* of bullying. A survey released by the Kaiser Family Foundation and Nickelodeon asked a national sample of children aged 8 to 15 what issues in school concerned them most, and all age groups pointed to teasing and bullying as "big problems" that ranked higher than racism, AIDS, and peer pressure to try sex or alcohol (Cukan, 2001). Reports such as these have elevated bullying from a narrow concern that is best dealt with by students themselves (or perhaps by the teachers and parents of those directly involved) to a widespread problem that requires the attention of school-level programs and statewide policies.

For instance, in the wake of shooting disasters such as that at Columbine High School in Littleton, Colorado (where 2 students murdered 12 of their peers and a teacher and injured dozens of others before committing suicide), many schools have put "zero tolerance" programs in place. These rules require immediate suspension of pupils who bring any weapon into the school—or indeed any object at all that could be used in a

threatening way. A growing number of schools, too, have started programs—with names like "Taking the Bully by the Horns"—that teach children how to deal level-headedly with their tormenters and when to ask a teacher for help (Rahey & Craig, 2002).

While acknowledging the important role of bullying in the recent wave of school shootings, some experts worry that the public, school officials, and policymakers are focusing on this issue so intensely that more subtle and perhaps more significant factors are being ignored by clinicians and researchers. Why has the public centered so much attention on bullying as it tries to sort out school shootings and other unthinkable acts by schoolchildren? Perhaps, some experts argue, because bullying offers a quick explanation and a ready focus for intervention and change. After all, teachers and administrators have been observing and dealing with bullies since the first little red schoolhouse appeared on the prairie. As Charles Ewing, a law

professor, psychologist, and expert on homicides by children, puts it, "It's not rocket science to figure out who these unhappy kids are" (Cukan, 2001).

At the same time, the commonplace nature of bullying that makes it seem so familiar and treatable might actually make it a difficult problem to address. One study has found that a full 30 percent of American students are involved in moderate or frequent bullying—11 percent have been victims, 13 percent have been bullies, and 6 percent have been both (Tanner, 2001). Other studies have reported even higher rates (Haynie et al., 2001). How easy can it be for clinicians to identify which children will turn dangerously violent if indeed one-third of all children have experienced bullying? How can we rid ourselves of a problem as widespread as this? As one commentator said, "Short of raising kids in isolation chambers . . . bullying behaviors can never be eliminated entirely from the sustained hazing ritual known as growing up" (Angier, 2001).



SW Productions/Photodisc



Photo by BWP Media via Getty Images

**Unthinkable** A surveillance camera shows the 1993 abduction of 2-year-old James Bulger from a shopping mall in England. The child holds the hand of one of his abductors—two 10-year-old boys who were later convicted of his torture and murder. The legal case stirred the emotions of people around the world and clarified that some children are indeed capable of extreme antisocial behavior.

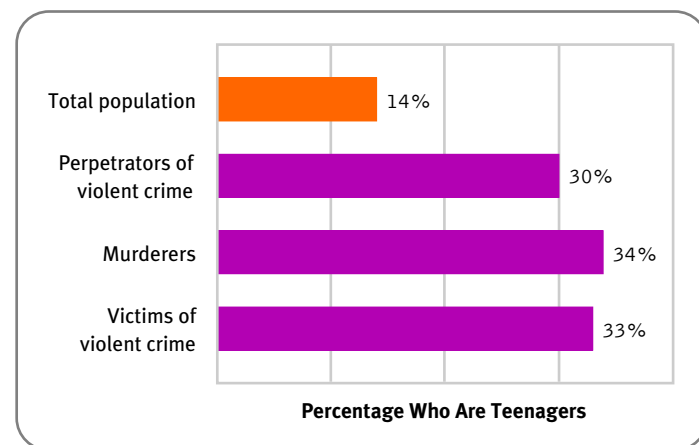
consistent discipline and supervision are apparently more likely to develop a conduct disorder. Similarly, children seem more prone to this disorder when their parents are antisocial, display excessive anger, or have substance-related, mood, or schizophrenic disorders (Wozniak et al., 2001; Kendall, 2000).

Because disruptive behavior patterns become more locked in with age, treatments for conduct disorder are generally most effective with children younger than 13 (Roach & Gross, 2002; Burnette & Murray, 1996). Given the importance of family factors in this disorder, therapists often use family interventions. In the most successful of these approaches, (1) parents are taught more effective ways to deal with their children (for example, they are taught to be consistent about rewarding appropriate behaviors), and (2) parents and children meet together in behavior-oriented family therapy (Kazdin, 2003, 2002; Frick & McCoy, 2001).

Sociocultural approaches such as residential treatment in the community, programs at school, and group therapy have also helped some children improve (Chamberlain & Smith, 2003; Henggeler & Lee, 2003). Individual approaches are sometimes effective as well, particularly those that teach the child how to cope with anger (Kazdin, 2002). And recently drug therapy has been tried to help control aggressive outbursts in these children (Gerardin et al., 2002). Institutionalization in so-called *juvenile training centers* has not met with much success (Tate et al., 1995). In fact, such institutions frequently serve to strengthen delinquent behavior rather than resocialize young offenders (see Figure 14-1).

It may be that the greatest hope for reducing the problem of conduct disorder lies in *prevention* programs that begin in early childhood (Webster-Stratton & Reid, 2003; LeMarquand et al., 2001). These programs try to change unfavorable social conditions before a conduct disorder is able to develop. The programs may offer training opportunities for young people, recreational facilities, and health care, and may try to ease the stresses of poverty and improve parents' child-rearing skills. All approaches work best when they educate and involve the family.

**FIGURE 14-1 Teenage crime** Although teenagers make up only 14 percent of the total population, they commit around 30 percent of all violent crimes and 34 percent of all murders. They are also the victims of 33 percent of all violent crimes. (Adapted from Levesque, 2002; Benson, 1996; FBI Uniform Crime Reports, 1996; National Crime Victimization Survey, 1996, 1993.)



**ATTENTION-DEFICIT/HYPERACTIVITY DISORDER (ADHD)** A disorder marked by inability to focus attention or overactive and impulsive behavior, or both.

## Attention-Deficit/Hyperactivity Disorder

Children who display **attention-deficit/hyperactivity disorder (ADHD)** have great difficulty attending to tasks or behave overactively and impulsively, or both (see Table 14-3). The disorder often appears before the child starts school, as with Eddie, one of the boys we met at the beginning of this chapter (Phillips et al., 2002). Steven is another child whose symptoms began very early in life:

Steven's mother cannot remember a time when her son was not into something or in trouble. As a baby he was incredibly active, so active in fact that he nearly rocked his crib apart. All the bolts and screws became loose and had to be tightened periodically. Steven was also always into forbidden places, going through the medicine cabinet or under the kitchen sink. He once swallowed some washing detergent and had to be taken to the emergency room. As a matter of fact, Steven had many more accidents and was more clumsy than his older brother and younger sister. . . . He always seemed to be moving fast. His mother recalls that Steven progressed from the crawling stage to a running stage with very little walking in between.

Trouble really started to develop for Steven when he entered kindergarten. Since his entry into school, his life has been miserable and so has the teacher's. Steven does not seem capable of attending to assigned tasks and following instructions. He would rather be talking to a neighbor or wandering around the room without the teacher's permission. When he is seated and the teacher is keeping an eye on him to make sure that he works, Steven's body still seems to be in motion. He is either tapping his pencil, fidgeting, or staring out the window and daydreaming. Steven hates kindergarten and has few long-term friends; indeed, school rules and demands appear to be impossible challenges for him. The effects of this mismatch are now showing in Steven's schoolwork and attitude. He has fallen behind academically and has real difficulty mastering new concepts; he no longer follows directions from the teacher and has started to talk back.

(Gelfand, Jenson, & Drew, 1982, p. 256)

**Behavioral intervention** Educational and treatment programs for children with ADHD use behavioral principles that clearly spell out target behaviors and program rewards and systematically reinforce appropriate behaviors by the children.



Jose Abel/Aurora

The symptoms of ADHD often feed into one another. Children who have trouble focusing attention may keep turning from task to task until they end up trying to run in several directions at once. Similarly, constantly moving children may find it hard to attend to tasks or show good judgment. Often one of these symptoms stands out much more than the other. About half of the children with

ADHD also have learning or communication problems, many perform poorly in school, a number have difficulty interacting with other children, and about 80 percent misbehave, often quite seriously (Silver, 2004; Waldman et al., 2001). It is also common for the children to have mood or anxiety problems (Busch et al., 2002; Rowland et al., 2002).

Around 5 percent of schoolchildren display ADHD, as many as 90 percent of them boys. The disorder usually persists throughout childhood (Pennington, 2002). Many children show a marked lessening of symptoms as they move into mid-adolescence, but at least half continue to have problems (Silver, 2004; Barkley, 2002, 1998). Around one-third of affected children have ADHD as adults, although the symptoms of restlessness and overactivity are not usually as clear in adulthood (Goldstein & Ellison, 2002; Faraone, 2000).

**Table 14-3 DSM-IV Checklist****ATTENTION-DEFICIT/HYPERACTIVITY DISORDER**

1. Either of the following groups:
  - A. At least six of the following symptoms of *inattention*, persisting for at least six months to a degree that is maladaptive and inconsistent with development level:
    - a. Frequent failure to give close attention to details, or making careless mistakes.
    - b. Frequent difficulty in sustaining attention.
    - c. Frequent failure to listen when spoken to directly.
    - d. Frequent failure to follow through on instructions and failure to finish work.
    - e. Difficulty organizing tasks and activities.
    - f. Avoidance of, dislike of, and reluctance to engage in tasks that require sustained mental effort.
    - g. Frequent loss of items necessary for tasks or activities.
    - h. Easy distraction by irrelevant stimuli.
    - i. Forgetfulness in daily activities.
  - B. At least six of the following symptoms of *hyperactivity-impulsivity*, persisting for at least six months to a degree that is maladaptive and inconsistent with developmental level:
    - a. Fidgeting with hands or feet, or squirming in seat.
    - b. Frequent wandering from seat in classroom or similar situation.
    - c. Frequent running about or climbing excessively in situations in which it is inappropriate.
    - d. Frequent difficulty playing or engaging in leisure activities quietly.
    - e. Frequent “on the go” activity or acting as if “driven by a motor.”
    - f. Frequent excessive talking.
    - g. Frequent blurting out of answers before questions have been completed.
    - h. Frequent difficulty awaiting turn.
    - i. Frequent interrupting of or intruding on others.
2. The presence of some symptoms before the age of 7.
3. Impairment from the symptoms in at least two settings.
4. Significant impairment.

Based on APA, 2000, 1994.

Those whose parents have had ADHD are more likely than others to develop it, and the disorder is also displayed by around one-fourth of the close relatives of people with the disorder (APA, 2000, 1994; Whalen & Henker, 1998).

Today’s clinicians generally consider ADHD to have several interacting causes, including biological causes (abnormalities in certain regions of the brain have been implicated most often), high levels of stress, and family dysfunction (Barkley, 2002, 1998; Kirley et al., 2002). Each of these causes has received some research support. Sociocultural theorists further point out that ADHD symptoms and a diagnosis of ADHD may themselves create interpersonal problems and produce additional symptoms in the child. That is, children who are hyperactive tend to be viewed negatively by their peers and by their parents, and they often view themselves negatively as well (Busch et al., 2002; McCormick, 2000). Two other explanations have received wide press coverage: one is that ADHD is caused by sugar or food additives, and the other is that it results from environmental toxins such as lead. However, neither of these beliefs has been supported by research (Phares, 2003; Whalen & Henker, 1998).

**»» IN THEIR WORDS**

“It is an illusion that youth is happy, an illusion of those who have lost it.”◀◀

W. Somerset Maugham,  
*Of Human Bondage*, 1915

“Children nowadays are tyrants. They contradict their parents, gobble their food, and tyrannize their teachers.”◀◀

Socrates, 425 B.C.

## A CLOSER LOOK

### Ritalin: Chemical Straightjacket or Miracle Drug?

When Tom was born, he acted like a “crack baby,” his mother, Ann, says. “He responded violently to even the slightest touch, and he never slept.” Shortly after Tom turned two, the local day care center asked Ann to withdraw him. They deemed his behavior “just too aberrant,” she remembers. Tom’s doctors ran a battery of tests to screen for brain damage, but they found no physical explanation for his lack of self-control. In fact, his IQ was high—even though he performed poorly in school. Eventually, Tom was diagnosed with attention-deficit/hyperactivity disorder (ADHD). . . . The psychiatrist told Ann that in terms of severity, Tom was 15 on a scale of one to 10. As therapy, this doctor prescribed methylphenidate, a drug better known by its brand name, Ritalin. |

(LEUTWYLER, 1996, P. 13)

Like Tom, millions of children and adults with ADHD are treated with *methylphenidate*, or *Ritalin*, a stimulant drug that has actually been available for decades. As researchers have confirmed Ritalin’s quieting effect on individuals with ADHD and its ability to help them focus and solve complex tasks, use of the drug has increased

enormously—according to some estimates, as much as a fivefold increase since 1990 alone (DEA, 2000; Robison et al., 1999) (see accompanying figure). This increase in use also extends to preschoolers (Zito et al., 2000). As many as 12 percent of all American boys may take Ritalin for ADHD, and the number of girls taking it is growing. Around 8.5 tons of Ritalin are produced each year, and 90 percent of it is used in the United States (DEA, 2000; Diller, 1999). In recent years, certain other stimulant drugs have also been found to be helpful in cases of ADHD, and their use has increased correspondingly.

Many clinicians and parents, however, have questioned the need for and safety of Ritalin. During the late 1980s, several lawsuits were filed against physicians, schools, and even the American Psychiatric Association, claiming misuse of Ritalin (Safer, 1994). Most of the suits were dismissed, yet the media blitz they produced has affected public perceptions (Safer & Kragner, 1992). At the same time, Ritalin has become a popular recreational drug among teenagers; some snort it to get high, and a number become dependent on it. This develop-

ment has further raised public concerns about the drug.

Extensive investigations conducted during the 1990s indicate that ADHD may in fact be overdiagnosed in the United States and that many children who receive Ritalin have been inaccurately diagnosed (DEA, 2000; UNINCB, 1996). ADHD can be reliably diagnosed only after a battery of observations, interviews, psychological tests, and physical exams (Silver, 2004; Buttross, 2000). Yet studies have found that fewer than half of children who receive this diagnosis from pediatricians or family physicians undergo psychological or educational testing to support the conclusion (Hoagwood et al., 2000; Leutwyler, 1996).

On the positive side, Ritalin is apparently very helpful to children and adults who do suffer from ADHD (Pennington, 2002). Parent training and behavioral programs are also effective in many cases, but not in all. Furthermore, the behavioral programs are often more likely to be effective in combination with Ritalin (Pelham et al., 2000, 1998; Klassen et al., 1999). When children with ADHD are taken off the drug, many fare badly (Safer & Krager, 1992).

There is heated disagreement about the most effective treatment for ADHD (Phares, 2003; Hoagwood et al., 2000). The most common approach has been the use of stimulant drugs, such as **methylphenidate (Ritalin)**. These drugs have a quieting effect on most children with ADHD and sometimes increase their ability to solve problems, perform academically, and control aggression (Barkley, 2002, 1998; Brown & LaRosa, 2002). However, some clinicians worry about the possible long-term effects of the drugs. Behavioral therapy is also applied widely. Here parents and teachers learn how to reward attentiveness or self-control in their children or students. Such operant conditioning treatments have often been helpful, especially when combined with drug therapy (Barkley, 2002, 1998).

### >>IN THEIR WORDS

“The boy will come to nothing.” <<

Jakob Freud, 1864, referring to his 8-year-old son Sigmund, after he had urinated in his parents’ bedroom

### Elimination Disorders

Children with elimination disorders repeatedly urinate or pass feces in their clothes, in bed, or on the floor. They already have reached an age at which they are expected to control these bodily functions, and their symptoms are not caused by physical illness.

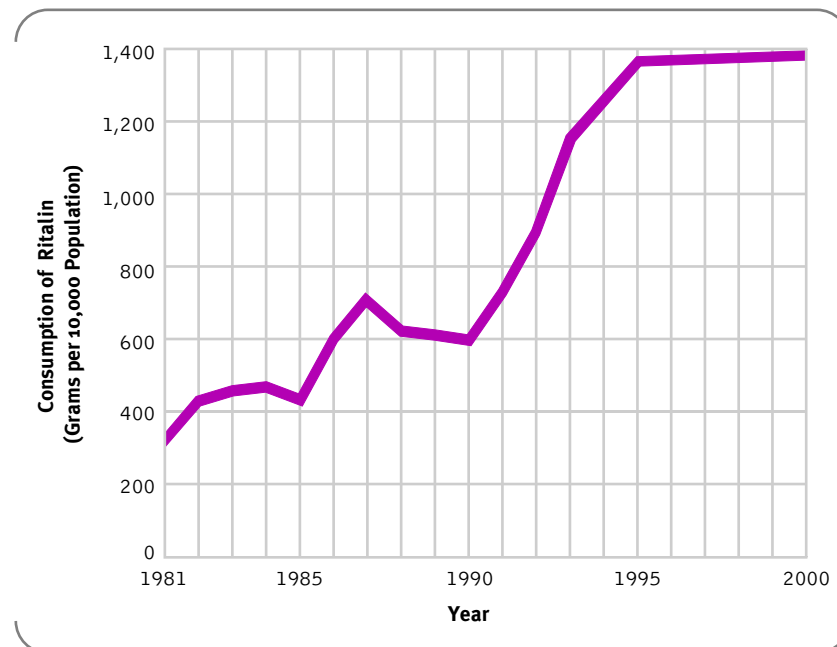
Studies to date suggest that Ritalin is safe for most people with ADHD (Pennington, 2002). Its undesired effects are usually no worse than insomnia, stomachaches, headaches, or loss of appetite. In a small number of cases, however, it may cause facial tics or psychotic symptoms (Cherland & Fitzpatrick, 1999). And Ritalin can affect the growth of some children, thus requiring “drug holidays” during the summer to prevent this effect.

Although Ritalin does not typically appear to have long-term effects (Vinson, 1994), more studies are needed to clarify this (Bennett et al., 1999). Similarly, research is needed on the long-term effects of the other stimulant drugs that are increasingly being applied in cases of ADHD.

The question, then, is what to do about a drug that is helpful for many people but almost certainly overused and even abused in some cases. The solution recommended by growing numbers of clinicians is better control of its use. Clearly, researchers must continue to study this and related drugs, and pediatricians and others who work with children must be better trained in the

assessment of ADHD, must be required to conduct broader testing before diagnosing ADHD, and must stay aware of helpful treatments other than Ritalin.

Only under these circumstances will drugs such as Ritalin fulfill their potential as a truly useful treatment for a serious problem.



**The rise of Ritalin** The use of Ritalin has been increasing since the early 1980s, when researchers discovered that it helped people with ADHD. Sales more than doubled during the 1990s alone. (Adapted from Drug Enforcement Administration, 2000, 1996.)

**ENURESIS** **Enuresis** is repeated involuntary (or in some cases intentional) bed-wetting or wetting of one’s clothes. It typically occurs at night during sleep but may also occur during the day. Children must be at least 5 years of age to receive this diagnosis (see Table 14-4 on the next page). The problem may be brought on by a stressful event, such as hospitalization or entrance into school. The prevalence of enuresis decreases with age. As many as 10 percent of children who are 5 years old suffer from this disorder, compared to 3 to 5 percent of 10-year-olds and 1 percent of 15-year-olds (APA, 2000). Those with enuresis typically have a close relative (parent, sibling) who has had or will have the same disorder (APA, 2000).

Research has not favored one explanation for enuresis over the others. Psychodynamic theorists explain it as a symptom of broader anxiety and underlying conflicts (Olmos de Paz, 1990). Family theorists point to disturbed family interactions (Fletcher, 2000). Behaviorists often view it as the result of improper toilet training. And biological theorists suspect that the physical structure of the urinary system develops more slowly in certain children (Mikkelsen, 2001; Erickson, 1992).

Most cases of enuresis correct themselves even without treatment. However, therapy, particularly behavioral therapy, can speed up the process (Spiegler &

**METHYLPHENIDATE** A stimulant drug, known better by the trade name Ritalin, commonly used to treat ADHD.

**ENURESIS** A childhood disorder marked by repeated bed-wetting or wetting of one’s clothes.

**Table 14-4 DSM-IV Checklist****ENURESIS**

1. Repeated voiding of urine into bed or clothes.
2. Behavior occurring twice a week for at least three consecutive months, or producing significant distress or impairment.
3. A chronological age of at least 5 (or equivalent developmental level).

**ENCOPRESIS**

1. Repeated passage of feces into inappropriate places (e.g., clothing or floor).
2. Behavior occurring at least once a month for at least three months.
3. A chronological age of at least 4 (or equivalent developmental level).

Based on APA, 2000, 1994.

Guevremont, 2003; Murphy & Carr, 2000). In a widely used classical conditioning approach, the *bell-and-battery technique*, a bell and a battery are wired to a pad consisting of two metallic foil sheets, and the entire apparatus is placed under the child at bedtime (Houts, 2003; Mowrer & Mowrer, 1938). A single drop of urine sets off the bell, awakening the child as soon as he or she starts to wet. Thus the bell (unconditioned stimulus) paired with the sensation of a full bladder (conditioned stimulus) produces the response of waking. Eventually, a full bladder alone awakens the child.

**ENCOPRESIS** **Encopresis**, repeatedly defecating into one's clothing, is less common than enuresis and less well researched. This problem seldom occurs at night during sleep (Levine, 1975). It is usually involuntary, starts after the age of 4, and affects about 1 percent of 5-year-olds (see Table 14-5 on page 434). The disorder is more common in boys than in girls (APA, 2000).

Encopresis causes social problems, shame, and embarrassment (Cox et al., 2002). Children who suffer from it will usually try to hide their condition and to avoid situations, such as camp or school, in which they might embarrass themselves (APA, 2000, 1994; Ross, 1981). Cases may stem from stress, constipation, or improper toilet training. The most common and successful treatments are behavioral and medical approaches or combinations of the two (McGrath et al., 2000; Murphy & Carr, 2000). Family therapy has also been helpful (Wells & Hinkle, 1990).

**SUMMING UP****Disorders of Childhood and Adolescence**

Emotional and behavioral problems are common in childhood and adolescence, but in addition, one-fifth of all children and adolescents in the United States experience a diagnosable psychological disorder. For example, many children experience an anxiety disorder (such as separation anxiety disorder) or depression.

Children with disruptive behavior disorders exceed the normal breaking of rules and act very aggressively. In one such disorder, oppositional defiant disorder, they argue repeatedly with adults, lose their temper, and feel intense anger and resentment. In conduct disorder, a more severe pattern, they repeatedly violate the basic rights of others, are often violent and cruel, and may deliberately destroy property, steal, and run away.

Children who display attention-deficit/hyperactivity disorder (ADHD) attend poorly to tasks or behave overactively and impulsively, or both. Ritalin and other stimulant drugs and behavioral programs are often effective treatments. Children with an elimination disorder—enuresis or encopresis—repeatedly urinate or pass feces in inappropriate places. The behavioral bell-and-battery technique is an effective treatment for enuresis.

**ENCOPRESIS** A childhood disorder characterized by repeated defecating in inappropriate places, such as one's clothing.

**AUTISTIC DISORDER** A long-term disorder marked by extreme unresponsiveness to others, poor communication skills, and highly repetitive and rigid behavior. Also known as *autism*.

**Long-Term Disorders That Begin in Childhood**

Most childhood disorders change or subside as the person ages. Two of the disorders that emerge during childhood, however, are likely to continue in stable form throughout a person's life: *autism* and *mental retardation*. Although it was not always so, clinicians have developed a range of interventions that can make a major difference in the lives of people with these problems.

## Autism

A child named Mark presents a typical picture of autism:

In retrospect [Susan, Mark's mother] can recall some things that appeared odd to her. For example, she remembers that . . . Mark never seemed to anticipate being picked up when she approached. In addition, despite Mark's attachment to a pacifier (he would complain if it were mislaid), he showed little interest in toys. In fact, Mark seemed to lack interest in anything. He rarely pointed to things and seemed oblivious to sounds. . . . Mark spent much of his time repetitively tapping on tables, seeming to be lost in his own world.

After his second birthday, Mark's behavior began to trouble his parents. . . . Mark, they said, would "look through" people or past them, but rarely at them. He could say a few words but didn't seem to understand speech. In fact, he did not even respond to his own name. Mark's time was occupied examining familiar objects, which he would hold in front of his eyes while he twisted and turned them. Particularly troublesome were Mark's odd movements—he would jump, flap his arms, twist his hands and fingers, and perform all sorts of facial grimaces, particularly when he was excited—and what Robert [Mark's father] described as Mark's rigidity. Mark would line things up in rows and scream if they were disturbed. He insisted on keeping objects in their place and would become upset whenever Susan attempted to rearrange the living room furniture. . . .

Slowly, beginning at age five, Mark began to improve. . . .

(Wing, 1976)

### >>IN THEIR WORDS

"No two people with autism are the same. Its precise form of expression is different in every case."<<

Oliver Sacks, 2000

Mark was displaying **autistic disorder**, also called **autism**, a pattern first identified by the American psychiatrist Leo Kanner in 1943. Individuals with this disorder are extremely unresponsive to others, uncommunicative, repetitive, and rigid. Their symptoms appear early in life, before 3 years of age. Autism affects only 5 of every 10,000 children (Phares, 2003; APA, 2000). Approximately 80 percent of them are boys. As many as 90 percent of individuals with autism remain severely disabled into adulthood and are unable to lead independent lives (APA, 2000; Werry, 1996). Moreover, even the highest-functioning adults with autism typically have problems in social interactions and communication and have limited interests and activities.

Several other disorders are similar to autism but differ to some degree in symptoms or time of onset (Kabot et al., 2003). Properly speaking, these different disorders are categorized as *pervasive developmental disorders*, but most clinicians refer to them in general as "autism," and this chapter will do the same.

**WHAT ARE THE FEATURES OF AUTISM?** The individual's *lack of responsiveness*, including extreme aloofness and lack of interest in other people, has long been considered the central feature of autism. Like Mark, children with this disorder typically do not reach for their parents during infancy. Instead they may arch their backs when they are held and appear not to recognize or care about those around them.

*Language and communication problems* take various forms in autism. Approximately half of all sufferers fail to speak or develop language skills (Dawson & Castelloe, 1992). Those who do talk may show peculiarities in their speech. One of the most common speech problems is *echolalia*, the exact echoing of phrases spoken by others. The individuals repeat the words with the same inflection, but with no sign of understanding. Some even repeat a

**Autistic acts** *This autistic child is comforted by standing on her chair and watching television close up, and she often repeats this behavior. People with autism often interact with objects and people in unusual ways that seem to fascinate, stimulate, comfort, or reassure them.*



Vicki Cronis, Norfolk, Virginia



**Table 14-5****Comparison of Childhood Disorders**

DISORDER	USUAL AGE OF IDENTIFICATION	PREVALENCE AMONG ALL CHILDREN	GENDER WITH GREATER PREVALENCE	ELEVATED FAMILY HISTORY	RECOVERY BY ADULTHOOD
Separation anxiety disorder	Before 12 years	4%	Females	Yes	Often
Conduct disorder	7–15 years	1–10%	Males	Yes	Often
ADHD	Before 12 years	5%	Males	Yes	Often
Enuresis	5–8 years	5%	Males	Yes	Usually
Encopresis	After 4 years	1%	Males	Unclear	Usually
Learning disorders	6–9 years	5%	Males	Yes	Often
Autism	0–3 years	0.05%	Males	Yes	Sometimes
Mental retardation	Before 10 years	1%	Males	Unclear	Sometimes

sentence days after they have heard it (delayed echolalia). People with autism may also display other speech oddities, such as *pronominal reversal*, or confusion of pronouns—the use of “you” instead of “I.” When Mark was hungry, he would say, “Do you want dinner?” In addition, individuals may have problems naming objects, using abstract language, employing a proper tone when speaking, speaking spontaneously, or understanding speech.

Autism is also marked by *limited imaginative play* and *very repetitive and rigid behavior*. Affected children may be unable to play in a varied, spontaneous way or to include others in their play. Typically they become very upset at minor changes of objects, persons, or routine, and resist any efforts to change their repetitive behaviors. Mark, for example, lined things up and screamed if they were disturbed. Similarly, children with autism may react with tantrums if a parent wears an unfamiliar pair of glasses, a chair is moved to a different part of the room, or a word in a song is changed. Kanner (1943) labeled such reactions a *perseveration of sameness*. Furthermore, many sufferers become strongly attached to particular objects—plastic lids, rubber bands, buttons, water. They may collect these objects, carry them, or play with them constantly. Some are fascinated by movement and may watch spinning objects, such as fans, for hours.

The *motor movements* of people with this disorder may also be unusual. Mark would jump, flap his arms, twist his hands and fingers, and make faces. These acts are called *self-stimulatory behaviors*. Some individuals perform *self-injurious behaviors*, such as repeatedly lunging into or banging their head against a wall, pulling their hair, or biting themselves.

These symptoms suggest a very disturbed and contradictory pattern of reactions to stimuli (Wing, 1976; Wing & Wing, 1971). Sometimes the individuals seem *overstimulated* by sights and sounds and to be trying to block them out, while at other times they seem *understimulated* and to be performing self-stimulatory actions. They may fail to react to loud noises, for example, yet turn around when they hear soda being poured. Similarly, they may fail to recognize that they have reached the edge of a dangerous high place, yet immediately spot a small object that is out of position in their room.

**>> IN THEIR WORDS**

“97X Bam. The Future of Rock and Roll . . .  
97X Bam. The Future of Rock and Roll . . .  
97X Bam. The Future of Rock and Roll . . .  
97X Bam. The Future of Rock and Roll . . .”<<

Raymond Babbit, in *Rain Man*, 1988  
(echolalic response to a radio advertisement)

**WHAT CAUSES AUTISM?** A variety of explanations have been offered for autism. This is one disorder for which sociocultural explanations have probably been overemphasized and initially led investigators in the wrong direction. More recent

work in the psychological and biological spheres has persuaded clinical theorists that cognitive limitations and brain abnormalities are the primary causes of autism.

**SOCIOCULTURAL CAUSES** At first, theorists thought that family dysfunction and social stress were the primary causes of autism. When he first identified autism, for example, Leo Kanner (1954, 1943) argued that *particular personality characteristics of the parents* created an unfavorable climate for development and contributed to the child's disorder. He saw these parents as very intelligent yet cold—"refrigerator parents." These claims had enormous influence on the public and on the self-image of the parents themselves, but research has totally failed to support a picture of rigid, cold, rejecting, or disturbed parents (Roazen, 1992).

Similarly, some other clinicians have proposed that a high degree of *social and environmental stress* is a key factor in autism. Once again, however, research has not supported this notion. Investigators who have compared children with autism to children without the disorder have found no differences in the rate of parental death, divorce, separation, financial problems, or environmental stimulation (Cox et al., 1975).

**PSYCHOLOGICAL CAUSES** According to some theorists, people with autism have a central perceptual or cognitive disturbance that makes normal communication and interactions impossible. One influential explanation holds that individuals with this disorder fail to develop a **theory of mind**—an awareness that other people base their behaviors on their own beliefs, intentions, and other mental states, not on information that they have no way of knowing (Frith, 2000; Happé, 1997, 1995; Leslie, 1997).

By 3 to 5 years of age, most children can take the perspective of another person into account and use it to anticipate what the person will do. In a way, they learn to read others' minds. Let us say, for example, that we watch Jessica place a marble in a container and then we observe Frank move the marble to a nearby room while Jessica is taking a nap. We know that later Jessica will search first in the container for the marble, because she is not aware that Frank moved it. We know that because we take Jessica's perspective into account. A normal child would also anticipate Jessica's search correctly. A person with autism would not. He or she would expect Jessica to look in the nearby room, because that is where the marble actually is. Jessica's own mental processes would be unimportant to the person.

Studies show that people with autism do have this kind of "mindblindness," although they are not necessarily the only kinds of individuals with this limitation (Dahlgren et al., 2003; Wellman et al., 2001). They thus have great difficulty taking part in make-believe play, using language in ways that include the perspectives of others, developing relationships, or participating in interactions. Why do people with autism have this and other cognitive limitations? Some theorists believe that they suffered early biological problems that prevented proper cognitive development.

**BIOLOGICAL CAUSES** For years researchers have tried to determine what biological abnormalities might cause theory-of-mind deficits and the other symptoms of autism. They have not yet developed a clear biological explanation, but they have uncovered some promising leads (Volkmar, 2001; Rodier, 2000). First, examinations of the relatives of people with autism keep suggesting a *genetic factor* in this disorder. The prevalence of autism among their siblings, for example, is as high as 8 per 100 (Piven et al., 1997), a rate up to 200 times higher than the general population's. Moreover, identical twins of people with autism display the highest risk of all (Treffert, 1999). In addition, chromosomal abnormalities have been discovered in around 10 percent of people with the disorder (Sudhalter et al., 1990).

**THEORY OF MIND** Awareness that other people base their behaviors on their own beliefs, intentions, and other mental states, not on information they have no way of knowing.



Randy Olson, from *Power to Heal*

**Animal connection** Children with autism are often unresponsive to other people. Yet many of them interact warmly with animals. Regular sessions of stroking and touching this dolphin have helped this young teenager overcome his autistic fear of touch and behave more spontaneously.

## A CLOSER LOOK

### A Special Kind of Talent

Most people are familiar with the savant syndrome, thanks to Dustin Hoffman's portrayal of a man with autism in the movie *Rain Man* (right). The savant skills that Hoffman portrayed—counting 246 toothpicks in the instant after they fall to the floor, memorizing the phone book through the G's, and doing numerical calculations at lightning speed—were based on the astounding talents of certain real-life people who are otherwise limited by autism or mental retardation.

A *savant* (French for “learned” or “clever”) is a person with a major mental disorder or intellectual handicap who has some spectacular ability, some area of exceptional brilliance. Often these abilities are remarkable only in light of the handicap, but sometimes they are

remarkable by any standard (Henley, 2003; Yewchuk, 1999).

A common savant skill is calendar calculating, the ability to calculate what day of the week a date will fall on, such as New Year's Day in 2050 (Heavey, 2003). A common musical skill such individuals may possess is the ability to play a piece of classical music flawlessly from memory after hearing it only once. Other individuals can paint exact replicas of scenes they saw years ago (Hou et al., 2000).

Some theorists believe that savant skills do indeed represent special forms of cognitive functioning;

others propose that the skills are merely a positive side to certain cognitive deficits (Scheuffgen et al., 2000; Miller, 1999). Special memorization skills, for example, may be made possible by the very narrow and intense focus often found in cases of autism.



PhotoFest

Some studies have also linked autism to *prenatal difficulties* or *birth complications* (Rodier, 2000; Simon, 2000). The chances of developing the disorder are higher when the mother had *rubella* (German measles) during pregnancy, was exposed to toxic chemicals before or during pregnancy, or had complications during labor or delivery. In 1998 one team of investigators proposed that a *postnatal event*—the vaccine for measles, mumps, and rubella—might produce autism in some children, alarming many parents of toddlers. However, subsequent research has failed to find a link between the vaccine and the disorder (Taylor et al., 1999).

Finally, researchers have identified specific *biological abnormalities* that may contribute to autism. Some recent studies have pointed to the **cerebellum**, for example (Pierce & Courchesne, 2002, 2001; Carper & Courchesne, 2000). Brain scans and autopsies reveal abnormal development in this brain area occurring early in the life of people with autism. Scientists have long known that the cerebellum coordinates movement in the body, but they now suspect that it also helps control a person's ability to shift attention rapidly. It may be that people whose cerebellum develops abnormally will have great difficulty adjusting their level of attention, following verbal and facial cues, and making sense of social information, all key features of autism.

Many researchers believe that autism may in fact have multiple biological causes (Mueller & Courchesne, 2000). Perhaps all relevant biological factors (genetic, prenatal, birth, and postnatal) eventually lead to a common problem in the brain—a “final common pathway,” such as neurotransmitter abnormalities, that produces the cognitive problems and other features of the disorder.

### >> IN THEIR WORDS

“Autism is . . . genetically lethal [for researchers]. That means people who have it don't usually have children. If it is not passed on, the genetics are difficult to study.”<<

Marvin Schwalb, molecular geneticist, 1999

**HOW IS AUTISM TREATED?** Treatment can help people with autism adapt better to their environment, although no treatment yet known totally reverses the autistic pattern. Treatments of particular help are *behavioral therapy*, *communication training*, *parent training*, and *community integration*. In addition, psychotropic

drugs and certain vitamins have sometimes helped when combined with other approaches (Volkmar, 2001; Tsai, 1999).

**BEHAVIORAL THERAPY** Behavioral approaches have been used in cases of autism for more than 30 years to teach new, appropriate behaviors, including speech, social skills, classroom skills, and self-help skills, while reducing negative, dysfunctional ones. Most often, the therapists use modeling and operant conditioning. In modeling, they demonstrate a desired behavior and guide people with the disorder to imitate it. In operant conditioning, they reinforce such behaviors, first by shaping them—breaking them down so they can be learned step by step—and then rewarding each step clearly and consistently (Lovaas, 2003, 1987; Erba, 2000). With careful planning and application, these procedures often produce new, more functional behaviors.

A long-term study compared the progress of two groups of children with autism (McEachin et al., 1993; Lovaas, 1987). Nineteen received intensive behavioral treatments, and 19 served as a control group. The treatment began when the children were 3 years old and continued until they were 7. By the age of 7, the behavioral group was doing better in school and scoring higher on intelligence tests than the control group. Many were able to go to school in regular classrooms. The gains continued into the subjects' teenage years. In light of such findings, many clinicians now consider early behavioral programs to be the preferred treatment for autism (Harris, 2000, 1995).

Therapies for people with autism, particularly the behavioral therapies, are ideally applied in school while they are young. The children attend special classes, often at special schools, where education and therapy can be combined. Specially trained teachers help the children improve their skills, behaviors, and interactions with the world. Higher-functioning persons with this disorder may spend at least part of their school day in normal classrooms, developing social and academic skills in the company of nonautistic students (Smith et al., 2002).

**COMMUNICATION TRAINING** Even when given intensive behavioral treatment, half of the people with autism remain speechless. As a result, many therapists also teach other forms of communication, including *sign language* and *simultaneous communication*, a method combining sign language and speech. They may also turn to **augmentative communication systems**, such as “communication boards” or computers that use pictures, symbols, or written words to represent objects or needs. A child may point to a picture of a fork to give the message “I am hungry,” for example, or point to a radio for “I want music.”

**PARENT TRAINING** Today's treatment programs involve parents in a variety of ways. Behavioral programs, for example, often train parents so that they can apply behavioral techniques at home (Erba, 2000; Love et al., 1990). Instruction manuals for parents and home visits by teachers and other professionals are often included in such programs. In addition, individual therapy and support groups are becoming more available to help parents deal with their own emotions and needs. A number of parent associations and lobbies also offer support and practical help.

**COMMUNITY INTEGRATION** Many of today's school-based and home-based programs for autism teach self-help, self-management, and living, social, and work skills as early as possible, to help the children function better in their communities (Koegel et al., 1992). In addition, greater numbers of carefully run *group homes* and *sheltered workshops* are now available for teenagers and young adults with autism (Van Bourgondien & Schopler, 1990). These and related programs help the individuals become a part of their community; they also reduce the concerns of aging parents whose children will always need supervision (Pfeiffer & Nelson, 1992).



The Eden Institute Foundation, Inc.

**Learning to speak** Behaviorists have had success teaching many children with autism to speak. The therapist systematically models how to position the mouth and how to make appropriate sounds, and then rewards the child's accurate imitations.

**CEREBELLUM** An area of the brain that coordinates movement in the body and perhaps helps control a person's ability to shift attention rapidly.

**AUGMENTATIVE COMMUNICATION SYSTEM** A method for enhancing the communication skills of individuals with autism, mental retardation, or cerebral palsy by teaching them to point to pictures, symbols, letters, or words on a communication board or computer.

**MENTAL RETARDATION** A disorder marked by intellectual functioning and adaptive behavior that are well below average. Also known as *developmental disability*.

**INTELLIGENCE QUOTIENT (IQ)** A score derived from intelligence tests that theoretically represents a person's overall intellectual capacity.

## Mental Retardation

Ed Murphy, aged 26, can tell us what it's like to be diagnosed as retarded:

What is retardation? It's hard to say. I guess it's having problems thinking. Some people think that you can tell if a person is retarded by looking at them. If you think that way you don't give people the benefit of the doubt. You judge a person by how they look or how they talk or what the tests show, but you can never really tell what is inside the person.

(Bogdan & Taylor, 1976, p. 51)

For much of his life Ed was labeled mentally retarded and was educated and cared for in special institutions. During his adult years, clinicians discovered that Ed's intellectual ability was in fact higher than had been assumed. In the meantime, however, he had lived the childhood and adolescence of a person labeled retarded, and his statement reveals the kinds of difficulties often faced by people with this disorder.

The term "mental retardation" has been applied to a varied population, including children in institutional wards who rock back and forth, young people who work in special job programs, and men and women who raise and support their families by working at undemanding jobs. In recent years, the term *developmental disability* has replaced the label "mental retardation" in many clinical settings (Phares, 2003). Approximately one of every 100 persons receives this diagnosis (APA, 2000). Around three-fifths of them are male and the vast majority are considered *mildly* retarded.

According to DSM-IV, people should receive a diagnosis of **mental retardation** when they display general *intellectual functioning* that is well below average, in combination with poor *adaptive behavior* (APA, 2000, 1994). That is, in addition to having a low IQ (a score of 70 or below), a person with mental retardation has great difficulty in areas such as communication, home living, self-direction, work, or safety. The symptoms must also appear before the age of 18 (see Table 14-6). Although these DSM-IV criteria may seem straightforward, they are in fact hard to apply.

**Table 14-6 DSM-IV Checklist**

### MENTAL RETARDATION

1. Significantly subaverage intellectual functioning: an IQ of approximately 70 or below on an individually administered IQ test.
2. Concurrent deficits or impairments in present adaptive functioning in at least two of the following areas:
  - a. Communication.
  - b. Self-care.
  - c. Home living.
  - d. Social/interpersonal skills.
  - e. Use of community resources.
  - f. Self-direction.
  - g. Functional academic skills.
  - h. Work.
  - i. Leisure.
  - j. Health.
  - k. Safety.
3. Onset before the age of 18.

Based on APA, 2000, 1994.

**ASSESSING INTELLIGENCE** Educators and clinicians administer intelligence tests to measure intellectual functioning (see Chapter 3). These tests consist of a variety of questions and tasks that rely on different aspects of intelligence, such as knowledge, reasoning, and judgment. An individual's overall test score, or **intelligence quotient (IQ)**, is thought to indicate general intellectual ability.

Many theorists have questioned whether IQ tests are indeed valid. Do they actually measure what they are supposed to measure? The correlation between IQ and school performance is rather high—around .50—indicating that many children with lower IQs do, as one might expect, perform poorly in school, while many of those with higher IQs perform better (Sternberg et al., 2001). At the same time, the correlation also suggests that the relationship is far from perfect. That is, a particular child's school performance is often higher or lower than his or her IQ might predict. Correlations between IQ and job performance or social effectiveness, other areas that might be expected to reflect intellectual ability, are even lower (Neisser et al., 1996).

Intelligence tests also appear to be socioculturally biased, as we observed in Chapter 3 (Gopaul-McNicol & Armour-Thomas, 2002; Neisser et al., 1996). Children reared in households at the middle and upper socioeconomic levels tend to have an advantage on the tests because they are regularly exposed to the kinds of language and

## A CLOSER LOOK

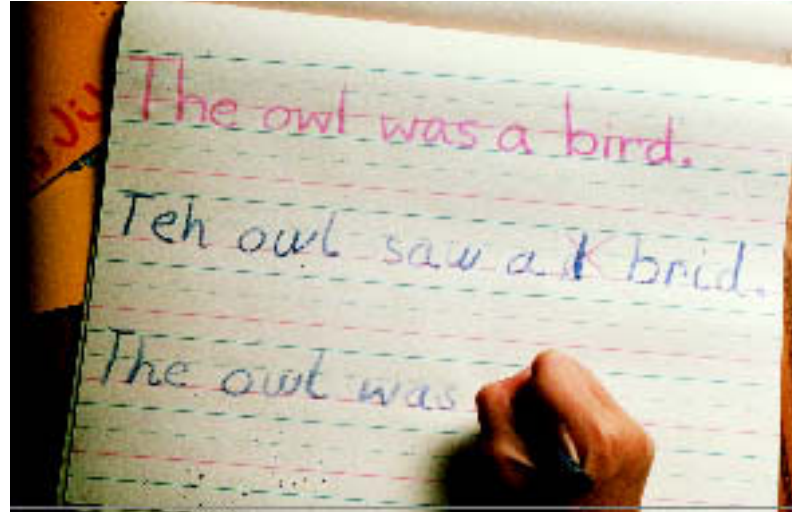
### Reading and 'Riting and 'Rithmetic

Over 20 percent of children, boys more often than girls, develop slowly and function poorly compared to their peers in an area such as learning, communication, or coordination (APA, 2000). The children do not suffer from mental retardation, and in fact they are often very bright, yet their problems may interfere with school performance, daily living, and in some cases social interactions (Geisthardt & Munsch, 1996). According to DSM-IV, these children may be suffering from a learning disorder, a communication disorder, or a developmental coordination disorder.

The skill in arithmetic, written expression, or reading of children with *learning disorders* is well below their intellectual capacity (APA, 2000, 1994). For example, children with *reading disorder*, also known as *dyslexia*, have great difficulty recognizing words and comprehending as they read. They typically read slowly and haltingly and may omit, distort, or substitute words as they go.

Children with *communication disorders* have severe difficulty pronouncing words, speaking fluently, or comprehending or expressing language. Those with *expressive language disorder*, for example, may struggle at learning new words, limit their speech to short simple sentences, or show a general lag in language development.

Finally, children with *developmental coordination disorder* perform coordinated motor activities at a level well below that of others their age (APA, 2000, 1994). Younger children with this disorder are clumsy and are slow to master



**Dyslexic impairment** A student with dyslexia has trouble copying words. His mistakes reflect the difficulties he experiences when reading.

skills such as tying shoelaces, buttoning shirts, and zipping pants. Older children with the disorder may have great difficulty assembling puzzles, building models, playing ball, and printing or writing.

Studies have linked these various developmental disorders to genetic defects, birth injuries, lead poisoning, inappropriate diet, sensory or perceptual dysfunction, and poor teaching (Grigorenko, 2001; Lovett, 2000). Research on each of these factors has been limited, however, and the precise causes of the disorders remain unclear.

Some of the disorders respond to special treatment approaches (Pless & Carlsson, 2000; Merzenich et al., 1996). Reading therapy, for example, is very helpful in mild cases of reading disorder. Furthermore, learning, communication,

and developmental coordination disorders often disappear before adulthood, even without any treatment (APA, 2000).

The inclusion of learning, communication, and coordination problems in the DSM is controversial. Many clinicians view them as strictly educational or social problems, best addressed at school or at home. The framers of DSM-IV reasoned, however, that the additional problems created by these disorders and the frequent links to other psychological problems justify their clinical classifications (Mishna, 1996). Of special concern are studies that have found an increased risk of depression in adolescents with certain of these problems, particularly the learning disorders (Huntington & Bender, 1993).

thinking that the tests measure. The tests rarely measure the “street sense” needed for survival by people who live in poor, crime-ridden areas—a kind of know-how that certainly requires intellectual skills. Similarly, members of cultural minorities and people for whom English is a second language often appear to be at a disadvantage in taking these tests.

If IQ tests do not always measure intelligence accurately and objectively, then the diagnosis of mental retardation also may be biased (Wilson, 1992). That is, some people may receive the diagnosis partly because of cultural differences, discomfort with the testing situation, or the bias of a tester.

**MILD RETARDATION** A level of mental retardation (IQ between 50 and 70) at which people can benefit from education and can support themselves as adults.

**MODERATE RETARDATION** A level of mental retardation (IQ between 35 and 49) at which people can learn to care for themselves and can benefit from vocational training.

**SEVERE RETARDATION** A level of mental retardation (IQ between 20 and 34) at which individuals require careful supervision and can learn to perform basic work in structured and sheltered settings.

**PROFOUND RETARDATION** A level of mental retardation (IQ below 20) at which individuals need a very structured environment with close supervision.

**ASSESSING ADAPTIVE FUNCTIONING** Diagnosticians cannot rely solely on a cut-off IQ score of 70 to determine whether a person suffers from mental retardation. Some people with a low IQ are quite capable of managing their lives and functioning independently, while others are not. The cases of Brian and Jeffrey show the range of adaptive abilities.

**Brian** comes from a lower-income family. He always has functioned adequately at home and in his community. He dresses and feeds himself and even takes care of himself each day until his mother returns home from work. He also plays well with his friends. At school, however, Brian refuses to participate or do his homework. He seems ineffective, at times lost, in the classroom. Referred to a school psychologist by his teacher, he received an IQ score of 60.

**Jeffrey** comes from an upper-middle-class home. He was always slow to develop, and sat up, stood, and talked late. During his infancy and toddler years, he was put in a special stimulation program and given special help and attention at home. Still Jeffrey has trouble dressing himself today and cannot be left alone in the backyard lest he hurt himself or wander off into the street. Schoolwork is very difficult for him. The teacher must work slowly and provide individual instruction for him. Tested at age 6, Jeffrey received an IQ score of 60.

Brian seems well adapted to his environment outside of school. However, Jeffrey's limitations are widespread. In addition to his low IQ score, Jeffrey has difficulty meeting challenges at home and elsewhere. Thus a diagnosis of mental retardation may be more appropriate for Jeffrey than for Brian.

Several scales have been developed to assess adaptive behavior (Leland, 1991; Britton & Eaves, 1986). Here again, however, some people function better in their lives than the scales predict, while others fall short. Thus to properly diagnose mental retardation, clinicians should observe the functioning of each individual in his or her everyday environment, taking both the person's background and the community's standards into account. Even then, such judgments can be subjective, and clinicians are not always familiar with the standards of a particular culture or community.

E. Lee White/Newsweek



**Getting a head start** Studies suggest that IQ scores and school performances of children from poor neighborhoods can be improved by enriching their daily environments at a young age through programs such as Head Start, thus revealing the powerful effect of the environment on IQ scores and intellectual performance.

#### WHAT ARE THE CHARACTERISTICS OF MENTAL RETARDATION?

The most consistent sign of mental retardation is that the person learns very slowly (Hodapp & Dykens, 2003; Kail, 1992). Other areas of difficulty are attention, short-term memory, planning, and language. Those who are institutionalized with mental retardation are particularly likely to have these limitations. It may be that the unstimulating environment and minimal interactions with staff in many institutions contribute to such difficulties.

DSM-IV describes four levels of mental retardation: mild (IQ 50–70), moderate (IQ 35–49), severe (IQ 20–34), and profound (IQ below 20). In contrast, the American Association of Mental Retardation (1992) prefers to distinguish different kinds of mental retardation according to the level of support the person needs—intermittent, limited, extensive, or pervasive.

**MILD RETARDATION** Some 85 percent of all people with mental retardation fall into the category of **mild retardation** (IQ 50–70) (APA, 2000). They are sometimes called “educably retarded” because they can benefit from schooling and can support themselves as adults. Still, they typically need assistance when they are under stress. Their jobs tend to be unskilled or semiskilled. Mild mental retardation is not usually recognized until a child enters school and is assessed there. Interestingly, the intellectual performance of individuals in this category often

seems to improve with age; some even seem to leave the label behind when they leave school, and they go on to function well in the community.

Research has linked mild mental retardation mainly to sociocultural and psychological causes, particularly poor and unstimulating environments, inadequate parent-child interactions, and insufficient learning experiences during a child's early years (Ratter & O'Connor, 2004; Stromme & Magnus, 2000). These relationships have been observed in studies comparing deprived and enriched environments (see Figure 14-2). In fact, some community programs have sent workers into the homes of young children with low IQ scores to help enrich the environment there, and their interventions have often improved the children's functioning. When continued, programs of this kind also help improve the individual's later performance in school and adulthood (Campbell et al., 2002; Ramey et al., 2002).

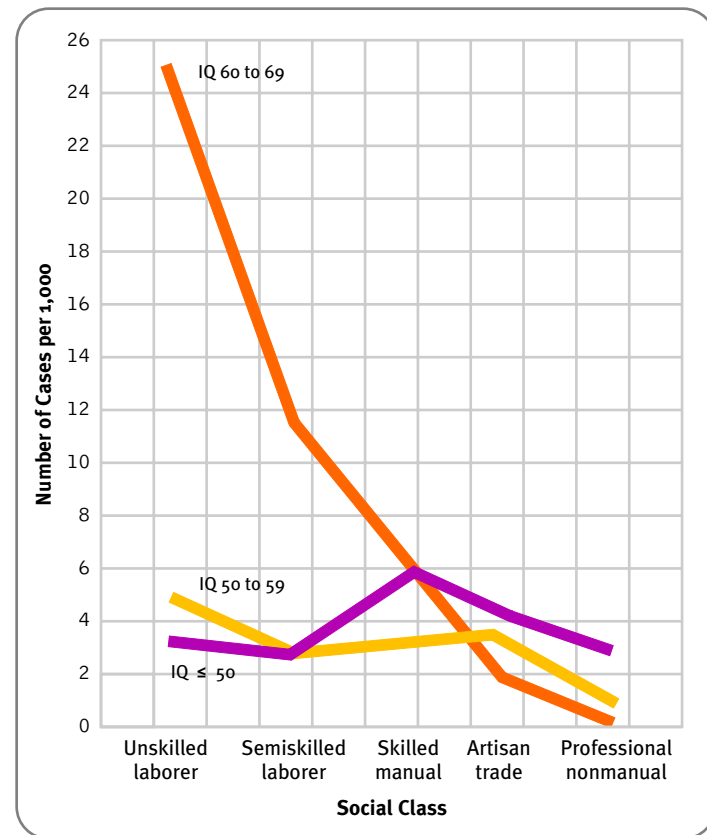
Although these factors seem to be the leading causes of mild mental retardation, at least some biological factors also may be operating. Studies suggest, for example, that a mother's moderate drinking, drug use, or malnutrition during pregnancy may lower her child's intellectual potential (Neisser et al., 1996; Stein et al., 1972). Similarly, malnourishment during a child's early years may hurt his or her intellectual development, although this effect can usually be reversed at least partly if a child's diet is improved before too much time goes by (Neisser et al., 1996).

**MODERATE, SEVERE, AND PROFOUND RETARDATION** Approximately 10 percent of persons with mental retardation function at a level of **moderate retardation** (IQ 35-49). They can learn to care for themselves and can benefit from vocational training, and many can work in unskilled or semiskilled jobs, usually under supervision. Most persons with moderate retardation also function well in the community if they have supervision (APA, 2000, 1994).

Approximately 4 percent of people with mental retardation display **severe retardation** (IQ 20-34). They usually require careful supervision, profit somewhat from vocational training, and can perform only basic work tasks in structured and sheltered settings. Their understanding of communication is usually better than their speech. Most are able to function well in the community if they live in group homes, in community nursing homes, or with their families (APA, 2000, 1994).

Around 1 percent of all people with mental retardation fall into the category of **profound retardation** (IQ below 20). With training they may learn or improve basic skills such as walking, some talking, and feeding themselves. They need a very structured environment, with close supervision and considerable help, including a one-to-one relationship with a caregiver, in order to develop to the fullest (APA, 2000, 1994). Severe and profound levels of mental retardation often appear as part of larger syndromes that include severe physical handicaps. In many cases these physical problems are even more limiting than an individual's low intellectual functioning.

**WHAT ARE THE CAUSES OF MODERATE, SEVERE, AND PROFOUND MENTAL RETARDATION?** The primary causes of moderate, severe, and profound retardation are biological, although people who function at these levels are also greatly affected by their family and social environment (Hodapp & Dykens, 2003; Bruce et al., 1996). Sometimes genetic factors are at the root of these biological problems, in the form of chromosomal or metabolic disorders. In fact, researchers have identified 1,000 genetic causes of mental retardation, although few of them have undergone much study (Dykens & Hodapp, 2001; Azar, 1995). Other



**FIGURE 14-2** Mental retardation and socioeconomic class The prevalence of mild mental retardation is much higher in the lower socioeconomic classes than in the upper classes. In contrast, the forms of mental retardation that result in greater impairment are evenly distributed. (Adapted from Popper, 1988; Birch et al., 1970.)



Brian Davies/The Appeal Democrat



**Reaching higher** *Until the 1970s, clinicians were pessimistic about the potential of people with Down syndrome. Today these people are viewed as individuals who can learn and accomplish many things in their lives. Derek Finstad, a 16-year-old with this disorder, celebrates with his football teammates after the team's 56-0 season-opening victory.*

**DOWN SYNDROME** A form of mental retardation caused by an abnormality in the 21st chromosome.

**FETAL ALCOHOL SYNDROME** A group of problems in a child, including lower intellectual functioning, low birth weight, and irregularities in the hands and face, that result from excessive alcohol intake by the mother during pregnancy.

**STATE SCHOOL** A state-supported institution for people with mental retardation.

**NORMALIZATION** The principle that institutions and community residences should expose people with mental retardation to living conditions and opportunities similar to those found in the rest of society.

biological causes of these kinds of mental retardation come from unfavorable conditions that occur before, during, or after birth.

**CHROMOSOMAL CAUSES** The most common of the chromosomal disorders leading to mental retardation is **Down syndrome**, named after Langdon Down, the British physician who first identified it. Fewer than 1 of every 1,000 live births result in Down syndrome, but this rate increases greatly when the mother's age is over 35. Many older expectant mothers are now encouraged to undergo *amniocentesis* (testing of the amniotic fluid that surrounds the fetus) during the fourth month of pregnancy to identify Down syndrome and other chromosomal abnormalities.

Individuals with Down syndrome may have a small head, flat face, slanted eyes, high cheekbones, and, in some cases, protruding tongue. The latter may affect their ability to pronounce words clearly. They are often very affectionate with family members but in general display the same range of personality characteristics as people in the general population (Carr, 1994).

Several types of chromosomal abnormalities may cause Down syndrome, but the most common type (94 percent of cases) is *trisomy 21*, in which the individual has three twenty-first chromosomes instead of two (Pueschel & Thuline, 1991). Most people with Down syndrome range in IQ from 35 to 55. The individuals appear to age early, and many even show signs of dementia as they approach 40 (Lawlor et al., 2001; Zigman et al., 1995). Studies suggest that Down syndrome and early dementia often occur together because the genes that produce them are located close to each other on chromosome 21 (Selkoe, 1991).

*Fragile X syndrome* is the second most common chromosomal cause of mental retardation. Children born with a fragile X chromosome (that is, an X chromosome with a genetic abnormality that leaves it prone to breakage and loss) generally have mild to moderate degrees of intellectual dysfunctioning, language impairment, and, in some cases, behavioral problems (Eliez & Feinstein, 2001).

**METABOLIC CAUSES** In metabolic disorders, the body's breakdown or production of chemicals is disturbed. The metabolic disorders that affect intelligence and development are typically caused by the pairing of two defective *recessive genes*, one from each parent. Although one such recessive gene would have no influence if it were paired with a normal gene, its pairing with another defective gene leads to major problems for the child.

The most common metabolic disorder to cause mental retardation is *phenylketonuria (PKU)*, which strikes 1 of every 17,000 children. Babies with PKU appear normal at birth but cannot break down the amino acid *phenylalanine*. The chemical builds up and is converted into substances that poison the system, causing severe retardation and several other symptoms. Today infants can be screened for PKU, and if started on a special diet before 3 months of age, they may develop normal intelligence.

Children with *Tay-Sachs disease*, another metabolic disorder resulting from a pairing of recessive genes, progressively lose their mental functioning, vision, and motor ability over the course of two to four years, and eventually die. One of every 30 persons of Eastern European Jewish ancestry carries the recessive gene responsible for this disorder, so that one of every 900 Jewish couples is at risk for having a child with Tay-Sachs disease.

**PRENATAL AND BIRTH-RELATED CAUSES** As a fetus develops, major physical problems in the pregnant mother can threaten the child's prospects for a normal life (Neisser et al., 1996). When a pregnant woman has too little iodine in her diet,

for example, her child may develop *cretinism*, marked by an abnormal thyroid gland, slow development, mental retardation, and a dwarflike appearance. The disorder is rare today because the salt in most diets now contains extra iodine. Also, any infant born with this disorder may quickly be given thyroid extract to bring about a normal development.

Other prenatal problems may also cause mental retardation. As we observed in Chapter 10, children whose mothers drink too much alcohol during pregnancy may be born with **fetal alcohol syndrome**, a group of very serious problems that includes lower intellectual functioning. In fact, a generally safe level of alcohol consumption during pregnancy has not been established by research. In addition, certain maternal infections during pregnancy—*rubella* (German measles) and *syphilis*, for example—may cause childhood problems that include mental retardation.

Birth complications can also lead to mental retardation. A prolonged period without oxygen (*anoxia*) during or after delivery can cause brain damage and retardation in a baby (Erickson, 1992). Similarly, although premature birth does not necessarily lead to long-term problems for children, researchers have found that a birth weight of less than 3.5 pounds may sometimes result in retardation (Neisser et al., 1996).

**CHILDHOOD PROBLEMS** After birth, particularly up to age 6, certain injuries and accidents can affect intellectual functioning and in some cases lead to mental retardation. Poisonings, serious head injuries caused by accident or abuse, excessive exposure to X rays, and excessive use of certain drugs pose special dangers. For example, a serious case of *lead poisoning*, from eating lead-based paints or inhaling high levels of automobile fumes, can cause retardation in children. Mercury, radiation, nitrite, and pesticide poisoning may do the same. In addition, certain infections, such as *meningitis* and *encephalitis*, can lead to mental retardation if they are not diagnosed and treated in time (Baroff & Olley, 1999; Berney, 1993).

**INTERVENTIONS FOR PEOPLE WITH MENTAL RETARDATION** The quality of life attained by people with mental retardation depends largely on sociocultural factors: where they live and with whom, how they are educated, and the growth opportunities available at home and in the community. Thus intervention programs for these individuals try to provide comfortable and stimulating residences, social and economic opportunities, and a proper education. Once these needs are met, psychological or biological treatments are also of help in some cases.

**WHAT IS THE PROPER RESIDENCE?** Until recent decades, parents of children with mental retardation would send them to live in public institutions—**state schools**—as early as possible. These overcrowded institutions provided basic care, but residents were neglected, often abused, and isolated from society.

During the 1960s and 1970s, the public became more aware of these sorry conditions, and, as part of the broader *deinstitutionalization* movement (see Chapter 12), demanded that many people with mental retardation be released from the state schools (Beyer, 1991). In many cases, the releases occurred without adequate preparation or supervision. Like deinstitutionalized people suffering from schizophrenia, the individuals were virtually dumped into the community. Often they failed to adjust and had to be institutionalized once again.

Since that time, reforms have led to the creation of small institutions and other community residences (group homes, halfway houses, local branches of larger institutions, and independent residences) that teach self-sufficiency, devote more staff time to patient care, and offer educational and medical services. Many of these settings follow the principles of **normalization** first started in Denmark



Jeff Albertson/Stock Boston

**Environmental danger** Children such as this toddler who scrape and eat lead-based paint chips may experience lead poisoning, which can cause mental retardation.

#### »» IN THEIR WORDS

“The IQ test was invented to predict academic performance, nothing else. If we wanted something that would predict life success, we’d have to invent another test completely.”◀◀

Robert Zajonc, psychologist, 1984



David Greiner/Gamma Liaison

**Artistic development** Clinicians have come to recognize that people with mental retardation can benefit from instruction in the arts as well as academic and vocational training. Individuals enrolled in this creative arts course at the center of the Association for Retarded Persons develop greater self-confidence and better communication skills along with improved artistic ability.

**WHICH EDUCATIONAL PROGRAMS WORK BEST?** Because early intervention seems to offer such great promise, educational programs for individuals with mental retardation may begin during the earliest years. The appropriate education depends on the individual's degree of retardation (Patton et al., 2000). Educators hotly debate whether *special classes* or *mainstreaming* is most effective once the children enter school (Hodapp & Dykens, 2003; Freeman & Alkin, 2000). In **special education**, children with mental retardation are grouped together in a separate, specially designed educational program. **Mainstreaming**, in contrast, places them in regular classes with nonretarded students. Neither approach seems consistently superior (Gottlieb et al., 1991; Gottlieb, 1981). It may well be that mainstreaming is better for some areas of learning and for some children, special classes for others.

Many teachers use operant conditioning principles to improve the self-help, communication, social, and academic skills of individuals with mental retardation (Erickson, 1992). They break learning tasks down into small steps, giving positive rewards as each step is accomplished. In addition, many institutions, schools, and private homes have set up *token economy programs*—the operant conditioning programs that have also been used to treat institutionalized patients suffering from schizophrenia (Spiegler & Guevremont, 2003).

**WHEN IS THERAPY NEEDED?** Like anyone else, people with mental retardation sometimes experience emotional and behavioral problems. At least 10 percent of them have a diagnosable psychological disorder other than mental retardation (McBrien, 2003; Stromme & Diseth, 2000). Furthermore, some suffer from low self-esteem, interpersonal problems, and difficulties adjusting to community life. These problems are helped to some degree by either individual or group therapy (Rush & Frances, 2000). In addition, large numbers of people with retardation are given psychotropic medications (Matson et al., 2000). Many clinicians suggest, however, that too often the medications are used simply for the purpose of making the individuals easier to manage.

**HOW CAN OPPORTUNITIES FOR PERSONAL, SOCIAL, AND OCCUPATIONAL GROWTH BE INCREASED?** People need to feel effective and competent in order to move forward in life. Those with mental retardation are most likely to achieve these feelings if their communities allow them to grow and to make many of their own choices (Wehmeyer, 1992). Denmark and Sweden, where the normalization movement began, are again leaders in this area, developing youth clubs that encourage those with mental retardation to take risks and function independently (Perske, 1972).

Socializing, sex, and marriage are difficult issues for people with mental retardation and their families, but with proper training and practice, the individuals

**SPECIAL EDUCATION** An approach to educating children with mental retardation in which they are grouped together and given a separate, specially designed education.

**MAINSTREAMING** The placement of children with mental retardation in regular school classes.

**SHELTERED WORKSHOP** A protected and supervised workplace that offers job opportunities and training at a pace and level tailored to people with various psychological disabilities.

can usually learn to use contraceptives and carry out responsible family planning (Lumley & Scotti, 2001; Dowdney & Skuse, 1993). The National Association for Retarded Citizens offers guidance in these matters, and some clinicians have developed *dating skills programs* (Valenti-Hein et al., 1994).

Some states restrict marriage for people with mental retardation (Levesque, 1996). These laws are rarely enforced, however, and in fact between one-quarter and half of all people with mild mental retardation eventually marry (Grinspoon et al., 1986). Contrary to popular myths, the marriages can be very successful. Moreover, although some individuals may be incapable of raising children, many are quite able to do so, either on their own or with special help and community services (Levesque, 1996; Bakken et al., 1993).

Finally, adults with mental retardation—whatever the severity—need the personal and financial rewards that come with holding a job (Kiernan, 2000; AAMR, 1992). Many work in **sheltered workshops**, protected and supervised workplaces that train them at a pace and level tailored to their abilities. After training in the workshops, many with mild or moderate retardation move on to hold regular jobs (Moore et al., 2000).

Although training programs for people with mental retardation have improved greatly in quality over the past 35 years, there are too few of them. Consequently, most of these individuals fail to receive a complete range of educational and occupational training services. Additional programs are required so that more people with mental retardation may achieve their full potential, as workers and as human beings.



**Normal needs** *The social and sexual needs of people with mental retardation are normal, and many, such as this engaged couple, demonstrate considerable ability to express intimacy.*

## SUMMING UP

### Long-Term Disorders That Begin in Childhood

Autism and mental retardation are problems that emerge early and typically continue throughout a person's life. People with autism are very unresponsive to others, have poor communication skills, and behave in a very rigid and repetitive manner. They display perseveration of sameness, strong attachments to objects, self-stimulatory behaviors, and self-injurious behaviors. The leading explanations of this disorder point to cognitive deficits, such as failure to develop a theory of mind, and biological abnormalities, such as abnormal development of the cerebellum. Although no treatment totally reverses the autistic pattern, significant help is available in the form of behavioral treatments, communication training, treatment and training for parents, and community integration.

People with mental retardation are well below average in intelligence and adaptive ability. Mild retardation, by far the most common level of mental retardation, has been linked mainly to environmental factors such as understimulation, inadequate parent-child interactions, and insufficient early learning experiences. Moderate, severe, and profound mental retardation are caused primarily by biological factors, although individuals who function at these levels are also enormously affected by their family and social environment. The leading biological causes are chromosomal abnormalities, metabolic disorders, prenatal problems, birth complications, and childhood injuries or diseases.

Today intervention programs for people with mental retardation emphasize the importance of a comfortable and stimulating residence, either the family home or a small institution or group home that follows the principles of normalization. Other important interventions include proper education, therapy for psychological problems, and programs offering training in socializing, sex, marriage, parenting, and occupational skills.

### >>BY THE NUMBERS

#### Residential Shift

**200,000** Number of people with mental retardation who lived in large state institutions in 1967<<

**60,000** People with mental retardation currently living in state institutions<<

(Lakin et al., 1999, 1996)

Terry Gilliam/AP Photo



**Undesirable effects?** A 4-year-old flexes his muscles in front of the Red Ranger during a Power Rangers Rocket Tour. Some child theorists worry that the fantasy heroes or heroines to which children are regularly exposed in cartoons, toys, video games, or movies may predispose them to aggressive behavior, overactivity, or other problematic patterns. Others argue that superhero play is actually a healthy activity.

## CROSSROADS:

### Clinicians Discover Childhood and Adolescence

Early in the twentieth century, mental health professionals virtually ignored children (Phares, 2003). At best, they viewed them as small adults and treated their psychological disorders as they would adult problems (Peterson & Roberts, 1991). Today the problems and special needs of young people have caught the attention of researchers and clinicians. Although all of the leading models have been used to help explain and treat these problems, the sociocultural perspective—especially the family perspective—is considered to play a special role.

Because children and adolescents have limited control over their lives, they are greatly affected by the attitudes and reactions of family members. Clinicians must therefore deal with those attitudes and reactions as they try to address the problems of the young. Treatments for conduct disorder, ADHD, mental retardation, and other problems of childhood and adolescence typically fall short unless clinicians educate and work with the family as well.

At the same time, clinicians who work with children and adolescents have learned that a narrow focus on any one model can lead to problems. For years autism was explained solely by family factors, an explanation that misled theorists and therapists alike, and added to the pain of parents already devastated by their child's disorder. Similarly, in the past, the sociocultural model often led professionals wrongly to accept anxiety among young children and depression among teenagers as inevitable, given the many new experiences faced by the former and the latter group's preoccupation with peer approval.

The increased clinical focus on the young has also been accompanied by increased attention to their human and legal rights. More and more, clinicians have called on government agencies to protect the rights and safety of this often powerless group. In doing so, they hope to fuel the fight against child abuse and neglect, sexual abuse, malnourishment, and fetal alcohol syndrome.

As the problems and, at times, mistreatment of young people receive greater attention, the special needs of these individuals are becoming more visible. Thus the study and treatment of psychological disorders among children and adolescents are likely to continue at a rapid pace. Now that clinicians and public officials have “discovered” this population, they are not likely to underestimate their needs and importance again.

## CRITICAL THOUGHTS

1. Although boys with psychological disorders outnumber girls, adult women with such disorders outnumber adult men. How might this age-related shift in prevalence rates reflect the special pressures felt by women in Western society? What other explanations might there be for the shift? *pp. 419–432*
2. What psychological effects might bullying have on its victims? Why do many individuals seem able to overcome the trauma of being bullied, while others do not? *p. 426*
3. Clinicians sometimes use punishment to help eliminate the self-injurious behaviors of children with autism. The children may be squirted in the face with water, pinched, or, in extreme cases, shocked whenever they act to hurt themselves. Who should make the decision about whether to use punishments in given cases? *p. 437*
4. In past times, a child with a learning, communication, or coordination disorder might simply be called a “weak” reader, “clumsy,” or the like. What are the advantages and disadvantages to the child of affixing clinical names to the patterns? Should these patterns be listed in DSM-IV as psychological disorders? *p. 439*
5. What might be the merits and flaws of special classes versus mainstreaming for people with mental retardation? *p. 444*

**KEY TERMS**

separation anxiety disorder p. 421  
 school phobia p. 422  
 play therapy p. 424  
 oppositional defiant disorder p. 425  
 conduct disorder p. 425  
 attention-deficit/hyperactivity disorder (ADHD) p. 428  
 methylphenidate (Ritalin) p. 430  
 enuresis p. 431  
 encopresis p. 432  
 autistic disorder p. 433  
 self-stimulatory behavior p. 434

self-injurious behavior p. 434  
 theory of mind p. 435  
 cerebellum p. 436  
 augmentative communication system p. 437  
 group home p. 437  
 mental retardation p. 438  
 intelligence quotient (IQ) p. 438  
 mild retardation p. 440  
 moderate retardation p. 441  
 severe retardation p. 441  
 profound retardation p. 441  
 Down syndrome p. 442

fragile X syndrome p. 442  
 recessive genes p. 442  
 phenylketonuria (PKU) p. 442  
 fetal alcohol syndrome p. 443  
 lead poisoning p. 443  
 state school p. 443  
 deinstitutionalization p. 443  
 normalization p. 443  
 special education p. 444  
 mainstreaming p. 444  
 token economy program p. 444  
 sheltered workshop p. 445

**QUICK QUIZ**

1. How do anxiety disorders and depression in childhood compare with adult versions of these disorders? What are separation anxiety disorder and school phobia? pp. 421–425
2. What are the prevalence rates and gender ratios for the various childhood disorders? pp. 434, 421–445
3. Describe oppositional defiant disorder and conduct disorders. What factors help cause conduct disorders, and how are these disorders treated? pp. 425–427
4. What are the symptoms of attention-deficit/hyperactivity disorder? What are the current treatments for it, and how effective are they? pp. 428–431
5. What are enuresis and encopresis? How are these disorders treated? pp. 430–432
6. What are the symptoms and possible causes of autism? pp. 432–436
7. What are the overall goals of treatment for autism, and which interventions have been most helpful for individuals with this disorder? pp. 436–437
8. Describe the different levels of mental retardation. pp. 440–441
9. What are the causes of mild mental retardation? What are the causes of moderate, severe, and profound mental retardation? pp. 440–443
10. What kinds of residences, educational programs, treatments, and community programs are helpful to persons with mental retardation? pp. 443–445


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