

stem from cognitive processes that are under their conscious control. When learning words, for example, younger children may need to be prompted or directed to group the words by category because they do not realize that such a technique aids recall. Likewise, they may not recognize their lack of comprehension when they read difficult or unfamiliar material and may need to be prompted to think about how well they are understanding what they read. By the primary grades, this awareness and monitoring of one's learning processes, called *metacognition*, begins to emerge (Schneider, 2002). We will return to the subject in Chapter 8, "Information Processing Theory."

### JOURNAL ENTRY

Assigning Short and Varied Tasks

3. *Because of continuing neurological development and limited experience with formal learning tasks, primary grade children do not learn as efficiently as older children do.* Therefore, you should assign primary grade children relatively short tasks and switch periodically from cognitively demanding activities to less demanding ones. Providing youngsters with periodic breaks, such as recess, increases their ability to attend to and perform well on subsequent classroom tasks. The nature of the recess activity does not seem to be important. It can be physical activity in a schoolyard or playing games in class (Pellegrini & Bjorklund, 1997).
4. *Talking aloud to oneself reaches a peak between the ages of six and seven and then rapidly declines.* Don't be surprised or concerned if you observe students talking to themselves, either when they are by themselves or when they are with classmates. This is a well-documented phenomenon that Vygotsky called private speech. Vygotsky described private speech as a transition between speaking with others and thinking to oneself. Private speech is first noticeable around age three and may constitute anywhere from 20 to 60 percent of a child's utterances between the ages of six and seven. By age eight, however, it all but disappears and is replaced by silent, or inner, speech (Berk, 1994; Bukatko & Daehler, 2004; Feigenbaum, 2002).

As its name implies, private speech is not intended to communicate a message to someone else, nor does it always take the form of complete sentences. One important purpose of private speech, which may consist of single words or phrases, is to help children clarify their thinking and solve difficult problems, such as those that arise in the course of doing math problems or reading unfamiliar material. For example, a child may count on her fingers out loud while working on a math problem and then say, "The answer's ten." Observations of first and second graders found that those who talked to themselves while doing math problems did better at math the following year than did students who exhibited little private speech. Another interesting finding is that students who exhibit the greatest use of self-guiding private speech are more likely to have authoritative mothers (Berk, 1994).

## ELEMENTARY SCHOOL (GRADES 4 AND 5; NINE AND TEN YEARS)

### Physical Characteristics: Elementary Grades

1. *Both boys and girls become leaner and stronger.* In general, there is a decrease in the growth of fatty tissue and an increase in bone and muscle development. In a year's time, the average child of this age will grow about 2 to 3 inches and gain about 5 to 7 pounds. As a result, the typical child will tend to have a lean and gangly look. Although the average nine-year-old boy is slightly taller and heavier than the average nine-year-old girl, this difference all but disappears a year later. And from age eleven until about fourteen and a half, girls are slightly heavier and taller than boys. Because secondary sex characteristics have not yet appeared, boys and girls can be mistaken for one another. This is particularly likely to happen when girls have close-cropped hair, boys have very long hair, and both genders wear gender-neutral clothing (Berk, 2006; Bukatko & Daehler, 2004; Hetherington & Parke, 1993).

**Table 3.3** Applying Theories of Development to the Elementary Grade Years

**Psychosocial development:** industry vs. inferiority. Keep students constructively busy, try to play down comparisons between best and worse learners.

**Cognitive development:** concrete operational. Except for the most intellectually advanced students, most will need to generalize from concrete experiences.

**Moral development:** morality of constraint; transition from preconventional to conventional. A shift to viewing rules as mutual agreements is occurring, but "official" rules are obeyed out of respect for authority or out of a desire to impress others.

**General factors to keep in mind:** Initial enthusiasm for learning may fade as the novelty wears off and as the process of perfecting skills becomes more difficult. Differences in knowledge and skills of fastest and slowest learners become more noticeable. "Automatic" respect for teachers tends to diminish. Peer group influences become strong.

2. *Obesity can become a problem for some children of this age group.* Because nine- and ten-year-olds have more control over their eating habits than younger children do, there is a greater tendency for them to overeat, particularly junk food. When this eating pattern is coupled with a relatively low level of physical activity (mainly because of television watching, computer use, and playing video games) and a genetic predisposition toward obesity, children become mildly to severely overweight. In the last half of the 1970s, 6.5 percent of children from six to eleven years of age were judged to be overweight. By 2002, the percentage had more than doubled to 15.8 percent. Not only do overweight children put themselves at risk for cardiovascular problems and Type II diabetes later in life, but they also become targets for ridicule and ostracism in the present from peers (Eberstadt, 2003; Kelly & Moag-Stahlberg, 2002; National Center for Health Statistics, 2005; Sweeting & West, 2001).

Boys slightly better at sports-related motor skills; girls better at flexibility, balance, rhythmic motor skills

3. *Although small in magnitude, gender differences in motor skill performance are apparent.* Boys tend to outperform girls on tasks that involve kicking, throwing, catching, running, broad jumping, and batting. Girls surpass boys on tasks that require muscular flexibility, balance, and rhythmic movements. These differences may be due in part to gender-role stereotyping. That is, because of socialization differences, girls are more likely to play hopscotch and jump rope, whereas boys are more likely to play baseball and basketball.

One benefit of attaining mastery over large and small muscles is a relatively orderly classroom. Fourth and fifth graders can sit quietly for extended periods and concentrate on whatever intellectual task is at hand (Berk, 2006; Hetherington & Parke, 1993). Another benefit is that children enjoy arts and crafts and musical activities.

4. *This is a period of relative calm and predictability in physical development.* Growth in height and weight tends to be consistent and moderate, hormonal imbalances are absent, disease occurs less frequently than at any other period, and bodily coordination is relatively stable (Berk, 2006; Hetherington & Parke, 1993).

**JOURNAL ENTRY**

Minimizing Gender Differences in Motor Skill Performance

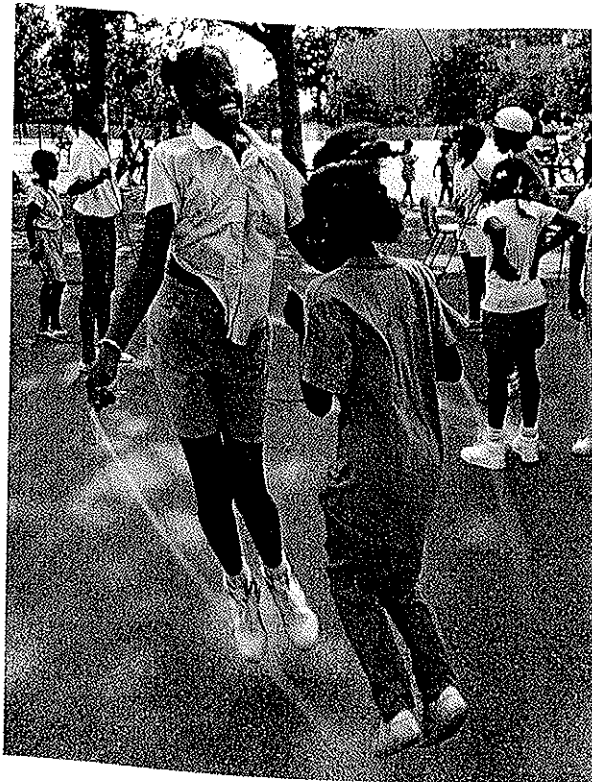
**Social Characteristics: Elementary Grades**

1. *The peer group becomes powerful and begins to replace adults as the major source of behavior standards and recognition of achievement.* During the early school years, parents and teachers set standards of conduct, and most children try to live up to them. But by grades 4 and 5, children are more interested in getting along with one another without adult supervision. Consequently, children come to realize that the rules for behavior within the peer group are not quite the same as the rules for behavior within the family or the classroom. Because children of this age are increasingly concerned with being accepted by their peer group and do not have enough self-assurance to oppose group norms, there is a noticeable increase, by both boys and girls, in gossip about others (Ross & Spielmacher, 2005).

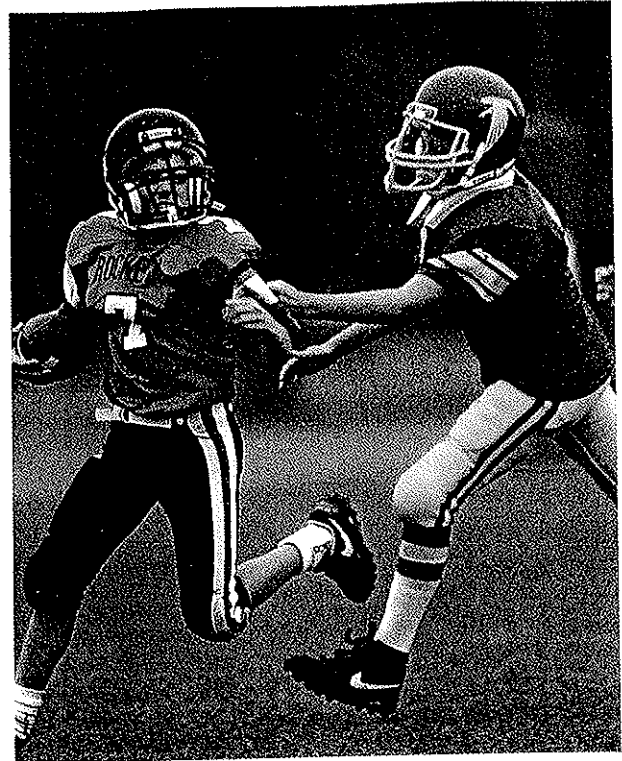
Peer group norms for behavior begin to replace adult norms

**JOURNAL ENTRY**

Moderating the Power of Peer Group Norms



*Elementary grade boys tend to be better than girls on motor skill tasks that involve large muscle movement, whereas elementary grade girls tend to perform better than boys on motor skill tasks that involve muscular flexibility, balance, and rhythmic movements.*



2. *Friendships become more selective and gender based.* Elementary grade children become even more discriminating than primary grade children in the selection of friends and playmates. Most children choose a best friend, usually of the same gender. These relationships, based usually on common ideas, outlooks, and impressions of the world, may last through adolescence. Although children of this age will rarely refuse to interact with members of the opposite sex when directed to do so by parents and teachers, they will avoid the opposite sex when left to their own devices (Ross & Spielmacher, 2005).

### **Emotional Characteristics: Elementary Grades**

1. *During this period, children develop a more global, integrated, and complex self-image.* Researchers who study self-perceptions (e.g., Harter, 1990, 1999; Marsh & Hattie, 1996) distinguish among the concepts of self-description, self-esteem, and self-concept:
  - A **self-description** is simply the way in which people describe themselves to others. Self-descriptive statements are largely, but not entirely, free of evaluative judgments. Examples of self-descriptions are "I am eleven years old," "I am tall for my age," and "I am an outgoing person."
  - **Self-esteem** (or self-worth, as it is sometimes called) refers to the overall or global evaluation people make of themselves. It is indicated by such statements as "I believe that I am a worthwhile person" and "I am pretty happy with myself."
  - **Self-concept** refers to the evaluative judgments people make of themselves in specific domains, such as academic performance, social interactions, athletic performance, and physical appearance. It is indicated by such statements as "I have a good head for math," "I have a hard time making friends," and "My big nose makes me look ugly."

Taken together, self-descriptions, self-esteem, and self-concept constitute a person's **self-image** or **self-portrait**. By middle childhood each of these aspects of

Self-image becomes more generalized and stable; is based primarily on comparisons with peers

#### JOURNAL ENTRY

Ways to Improve Students' Self-Image

### pause & reflect

The primary and elementary years correspond to Erikson's stage of industry versus inferiority. The implication is that educators should encourage a sense of industry and competence in each student. On a scale of 1 to 10, how well do you think schools accomplish this goal? What major factors account for your rating?

Delinquents have few friends, are easily distracted, are not interested in schoolwork, lack basic skills

self-image is present; children can make an accurate self-description, construct a global evaluation of themselves, and specify their positive and negative attributes in specific domains.

There are several important facts to keep in mind about the formulation of a child's self-image. First, in the elementary grades it is more generalized or integrated than is the case for primary grade children because it is based on information gained over time, tasks, and settings. A child may think of herself as socially adept not just because she is popular at school but because she has always been well liked and gets along well with adults, as well as peers, in a variety of situations. It is this generalized quality that helps make self-portraits relatively stable.

Second, comparison with others is the fundamental basis of a self-image during the elementary grades. This orientation is due in part to the fact that children are not as egocentric as they were a few years earlier and are developing the capability to think in terms of multiple categories. It is also due to the fact that competition and individualism are highly prized values in many Western cultures. Consequently, children will naturally compare themselves with one another ("I'm taller than my friend") as well as with broad-based norms ("I'm tall for my age") in an effort to determine who they are. This social comparison process can have detrimental effects on a student's academic self-image when most of his classmates are more able learners (Marsh & Craven, 2002).

Third, in the elementary grades the self is described for the first time in terms of emotions (pride, shame, worry, anger, happiness) and how well they can be controlled. Fourth, a child's sense of self is influenced by the information and attitudes that are communicated by such significant others as parents, teachers, and friends and by how competent the child feels in areas in which success is important. The implications of this fact will be discussed in many of the remaining chapters of the text.

Because major developmental changes usually do not occur during the elementary grades, a child's self-image will remain fairly stable for a few years if there are no major changes in the child's home or social environment. But as you will see later in this chapter, the developmental changes that typically occur during the middle school and high school grades often produce dramatic changes in the sense of self (Alasker & Olweus, 2002).

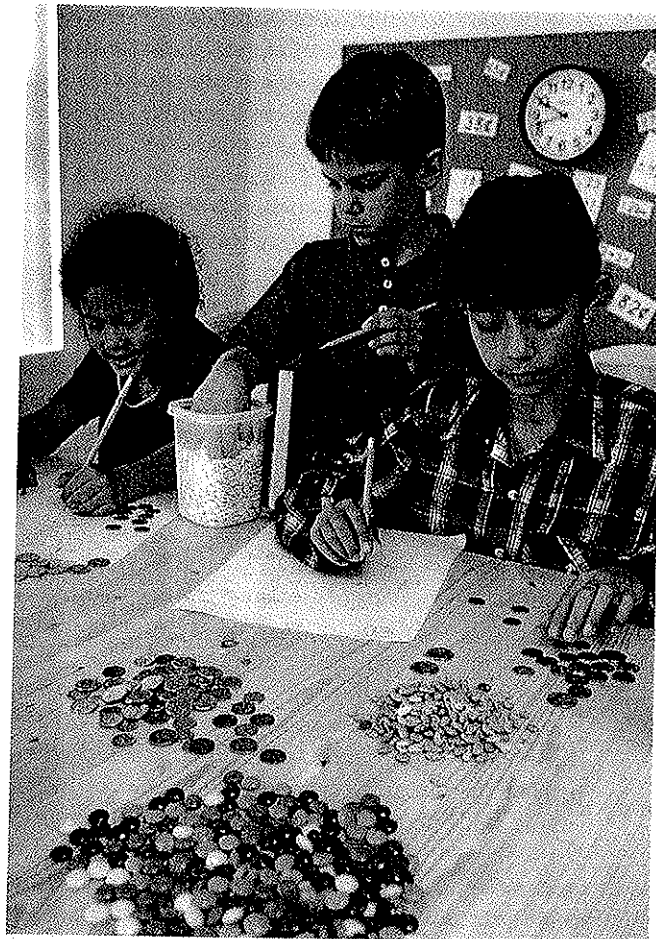
2. *Disruptive family relationships, social rejection, and school failure may lead to delinquent behavior.* Gerald Patterson, Barbara DeBaryshe, and Elizabeth Ramsey (1989) marshal a wide array of evidence to support their belief that delinquent behavior is the result of a causal chain of events that originates with dysfunctional parent-child relationships. In their view, poor parent-child relationships lead to behavior problems, which lead to peer rejection and academic failure, which lead to identification with a deviant peer group, which results in delinquent behavior. Parents of such children administer harsh and inconsistent punishment, provide little positive reinforcement, and do little monitoring and supervising of each child's activities.

Because these children have not learned to follow adult rules and regulations but have learned how to satisfy their needs through coercive behavior, they are rejected by their peers, are easily distracted when doing schoolwork, show little interest in the subjects they study, and do not master many of the basic academic skills necessary for subsequent achievement. Attempts at short-circuiting this chain of events stand a greater chance of success if they begin early and are multifaceted. In addition to counseling and parent training, mastery of basic academic skills is important.

Elementary grade students  
reason logically but concretely

### Cognitive Characteristics: Elementary Grades

1. *The elementary grade child can think logically, although such thinking is constrained and inconsistent.* In terms of Piaget's stages, upper elementary grade children are concrete operational stage thinkers. Most will have attained enough mastery of logical schemes that they can understand and solve tasks that involve such processes as class inclusion (understanding the superordinate-subordinate relationships that make up hierarchies), seriation, conservation, and symbolic representation (reading maps, for example), provided that the content of the task refers to real, tangible ideas that the child has either experienced or can imagine. But general and abstract ideas often escape the elementary age child. For example, sarcasm, metaphor, and allegory are usually lost on concrete stage thinkers.
2. *On tasks that call for simple memory skills, elementary grade children often perform about as well as adolescents or adults. But on tasks that require more complex memory skills, their performance is more limited.* When tasks call for recognizing previously learned information, such as vocabulary words or facts about a person or event, or for rehearsing several items for immediate use, elementary grade children can perform about as well as older students. Relatively simple memory processes, such as recognition or rote repetition, approach their maximum levels by this point in cognitive development. But the same is not true for tasks that require such advanced memory processes as elaboration and organization. When asked to sort a set of pictures into categories, for example, elementary grade children create fewer and more idiosyncratic categories (which are generally less



*Although elementary grade children understand the logical basis for tasks such as classification, seriation, and conservation, they can solve such tasks only if they are based on concrete objects and ideas.*

effective for later recall of the items in the category) than do older children or adults (Kail, 2007). Also bear in mind that elementary grade children need constant practice on a variety of tasks before they use such memory processes consistently and efficiently (Schneider, 2002).

## MIDDLE SCHOOL (GRADES 6, 7, AND 8; ELEVEN, TWELVE, AND THIRTEEN YEARS)

In this section, we use the term *adolescent* for the first time. Although it may strike you as odd to think of eleven- and twelve-year-olds as adolescents, developmental psychologists typically apply this term to individuals as young as ten years of age. The reason they do is that the onset of puberty is taken as the primary characteristic that defines the passage from middle childhood to adolescence (Balk, 1995; Steinberg, 2005). Although a variety of terms are used to denote the initial period of change that marks the adolescent years (ages ten to fourteen), we use two of the more popular: *early adolescent* and *emerging adolescent*.

### Physical Characteristics: Middle School

Girls' growth spurt occurs earlier, and so they look older than boys of same age

1. *Physical growth tends to be both rapid and uneven.* During the middle school years, the average child will grow 2 to 4 inches per year and gain 8 to 10 pounds per year. But some parts of the body, particularly the hands and feet, grow faster than others. Consequently, middle school children tend to look gangly and clumsy. Because girls mature more rapidly than boys, their **growth spurt** begins at about age ten and a half, reaches a peak at about age twelve, and is generally complete by age fourteen. The growth spurt for boys begins on average at about age twelve and a half, peaks at about age fourteen, and is generally complete by age sixteen. The result of this timing difference in the growth spurt is that many middle school girls look considerably older than boys of the same age. After the growth spurt, however, the muscles in the average boy's body are larger, as are the heart and lungs (Steinberg, 2005).

After reviewing research on early and later maturation, Laurence Steinberg (2005) concludes that differences in physical maturation are likely to produce specific differences in later behavior (see Table 3.5). Because of their more adult-like appearance, **early-maturing boys** are likely to be more popular with peers, have more positive self-concepts, and have more friends among older peers. But

#### JOURNAL ENTRY

Helping Students Adjust to the Growth Spurt

Early-maturing boys likely to draw favorable responses

**Table 3.4** Applying Theories of Development to the Middle School Years

**Psychosocial development:** transition from industry vs. inferiority to identity vs. role confusion. Growing independence leads to initial thoughts about identity. There is greater concern about appearance and gender roles than about occupational choice.

**Cognitive development:** beginning of formal operational thought for some. There is increasing ability to engage in mental manipulations and test hypotheses.

**Moral development:** transition to morality of cooperation, conventional level. There is increasing willingness to think of rules as flexible mutual agreements; yet "official" rules are still likely to be obeyed out of respect for authority or out of a desire to impress others.

**General factors to keep in mind:** A growth spurt and puberty influence many aspects of behavior. An abrupt switch occurs (for sixth graders) from being the oldest, biggest, most sophisticated students in elementary school to being the youngest, smallest, least knowledgeable students in middle school. Acceptance by peers is extremely important. Students who do poor schoolwork begin to feel bitter, resentful, and restless. Awareness grows of a need to make personal value decisions regarding dress, premarital sex, and code of ethics.