ffec... fo... recall of th... items in th... ...older children or ...d... ...Also ...mind ...lementary grade children need con... ...p... on ...of tas... ...they use such memory processes con...ntly 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

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

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

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.

Table 3.5   The Impact of Early and Late Maturation

Maturational Stage	Characteristics as Adolescents	Characteristics as Adults
Early-maturing boys	Self-confident, high in self-esteem, likely to be chosen as leaders (but leadership tendencies more likely in low-SES boys than in middle-class boys), more likely to socialize with older peers and engage in substance abuse, delinquent behavior	Self-confident, responsible, cooperative, sociable. But also more rigid, moralistic, humorless, and conforming
Late-maturing boys	Energetic, bouncy, given to attention-getting behavior, poor body image, lower self-esteem, lower aspirations for educational achievement, not popular	Impulsive and assertive. But also insightful, perceptive, creatively playful, able to cope with new situations
Early-maturing girls	Not popular or likely to be leaders, more likely to date older boys, lower self-esteem, lacking in poise (but middle-class girls more confident than those from low-SES groups), more likely to date, smoke, and drink earlier, greater likelihood of eating disorders and depression	Self-possessed, self-directed, able to cope, emotionally stable, wide range of interests
Late-maturing girls	Confident, outgoing, assured, popular, likely to be chosen as leaders	Likely to experience difficulty adapting to stress, less agreeable, more likely to exhibit fluctuating moods

SOURCES: Hetherington & Parke (1993); Livson & Peskin (1980); Steinberg (2005); Weichold, Silbereisen, & Schmitt-Rodermund (2003).

friendships with older adolescents put early-maturing boys at greater risk for delinquency, drug and alcohol abuse, truancy, and increased sexual activity. As adults, early maturers were more likely to be responsible, cooperative, self-controlled, conforming, and conventional. **Late-maturing boys,** by contrast, are likely to have relatively lower self-esteem and stronger feelings of inadequacy. But later in adolescence, they show higher levels of intellectual curiosity, exploratory behavior, and social initiative. As adults, late-maturing boys are more impulsive, assertive, insightful, and inventive.

> Late-maturing boys may feel inadequate

Because **early-maturing girls** are taller and heavier than their peers and don't have a thin and "leggy" fashion model look, they are likely to have lower self-esteem and are more likely to suffer from depression, anxiety, eating disorders, and panic attacks. They are more likely to be popular with boys, particularly older boys, and experience more pressure to date and become sexually active than their more normally developing peers. **Late-maturing girls,** whose growth spurt is less abrupt and whose size and appearance more closely reflect the feminine stereotype mentioned, share many of the characteristics (positive self-concept, popularity) of the early-maturing boy. Late-maturing girls are more likely to be seen by peers as attractive, sociable, and expressive.

> Early-maturing girls may suffer low self-esteem

> Late-maturing girls likely to be popular and carefree

If late-maturing boys in your classes appear driven to seek attention or inclined to brood about their immaturity, you might try to give them extra opportunities to gain status and self-confidence by succeeding in schoolwork or other nonathletic activities. If you notice that early-maturing girls seem insecure, you might try to bolster their self-esteem by giving them extra attention and by recognizing their achievements.

JOURNAL ENTRY
Helping Early and Late Maturers Cope

2. *Pubertal development is evident in practically all girls and in many boys.* From ages eleven through thirteen, most girls develop sparse pubic and underarm hair and exhibit breast enlargement. In boys, the testes and scrotum begin to grow, and lightly pigmented pubic hair appears (McDevitt & Ormrod, 2004).

3. *Concern and curiosity about sex are almost universal, especially among girls.* The average age of puberty for girls in the United States is eleven years (Steinberg, 2005); the range is from eight to eighteen years. For boys, the average age of puberty is fourteen years; the range is from ten to eighteen years. Because sexual

> Average age of puberty: girls, eleven; boys, fourteen

maturation involves drastic biological and psychological adjustments, children are concerned and curious. It seems obvious that accurate, unemotional answers to questions about sex are desirable. However, for your own protection, you should find out about the sex education policy at your school. Many school districts have formal programs approved by community representatives and led by designated educators. Informal spur-of-the-moment class discussions may create more problems than they solve.

Social Characteristics: Middle School

1. *The development of interpersonal reasoning leads to greater understanding of the feelings of others.* Robert L. Selman (1980) has studied the development of **interpersonal reasoning** in children. Interpersonal reasoning is the ability to understand the relationship between motives and behavior among a group of people. The results of Selman's research are summarized in Table 3.6. The stages outlined there reveal that during the elementary school years, children gradually grasp the fact that a person's overt actions or words do not always reflect inner feelings. They also come to comprehend that a person's reaction to a distressing situation can have many facets. Toward the end of the elementary school years and increasingly during adolescence, children become capable of taking a somewhat detached and analytical view of their own behavior, as well as the behavior of others. By mid-adolescence, they can, for example, understand that offering unsolicited academic help to a classmate may embarrass that individual (Hoffman, 2000).

   Selman believes that teachers and therapists might be able to aid children who are not as advanced in role-taking skills as their age-mates by helping them become more sensitive to the feelings of others. If an eight-year-old boy is still functioning at the egocentric level, for example, he may fail to interpret the behavior of classmates properly and become a social isolate. Selman describes how one such boy was encouraged to think continually about the reasons behind his social actions and those of others and acquired sufficient social sensitivity to learn to get along with others.

   Discussion techniques Selman recommends can be introduced in a natural, rather than a formal, way. If you see a boy react with physical or verbal abuse

JOURNAL ENTRY
Ways to Promote Social
Sensitivity

Table 3.6	Stages of Interpersonal Reasoning Described by Selman

Stage 0: egocentric level (about ages four to six). Children do not recognize that other persons may interpret the same social event or course of action differently from the way they do. They do not reflect on the thoughts of self and others. They can label the overtly expressed feelings of others but do not comprehend cause-and-effect relations of social actions.

Stage 1: social information role taking (about ages six to eight). Children are able in limited ways to differentiate between their own interpretations of social interactions and the interpretations of others. But they cannot simultaneously think of their own view and those of others.

Stage 2: self-reflective role taking (about ages eight to ten). Interpersonal relations are interpreted in specific situations whereby each person understands the expectations of the other in that particular context. Children are not yet able to view the two perspectives at once, however.

Stage 3: multiple role taking (about ages ten to twelve). Children become capable of taking a third-person view, which permits them to understand the expectations of themselves and of others in a variety of situations as if they were spectators.

Stage 4: social and conventional system taking (about ages twelve to over fifteen). Each individual involved in a relationship with another understands many of the subtleties of the interactions involved. In addition, a societal perspective begins to develop. That is, actions are judged by how they might influence *all* individuals, not just those who are immediately concerned.

SOURCE: Adapted from discussions in Selman (1980).

when jostled by a playmate, for example, you might say, "You know, people don't always intentionally bump into others. Unless you are absolutely sure that someone has hurt you on purpose, it can be a lot pleasanter for all concerned if you don't make a big deal out of it."

> Discussion of controversial
> issues may be difficult because
> of strong desire to conform to
> peer norms

2. *The desire to conform reaches a peak during the middle school years.* Early adolescents find it reassuring to dress and behave like others, and they are likely to alter their own opinions to coincide with those of a group. When you encourage student participation in class discussions, you may need to be alert to the tendency for students at these grade levels to be reluctant to voice minority opinions. If you want them to think about controversial issues, it may be preferable to invite them to write their opinions anonymously rather than voice them in front of the rest of the class.

VIDEO CASE ◄◄ ▶ ▶▶

Social and Emotional Development: The Influence of Peer Groups

Watch the video clip, study the artifacts in the case, and reflect upon the following questions:

1. Describe how the middle school students in this Video Case illustrate Selman's theory of interpersonal reasoning.

2. How do the students in this Video Case illustrate the "desire to conform"?

pause & reflect

> During the middle school years, the peer group becomes the general source for rules of behavior. Why? What advantages and disadvantages does this create?

Because early adolescents are often so concerned with receiving social approval from their peers, they may adapt their explanations of school performance to suit this purpose. This tendency was demonstrated by Jaana Juvonen (2000) in a study of fourth, sixth, and eighth graders. These students were asked to imagine that they had received a low score on an important exam and then to indicate how they would explain their performance to teachers and peers. The results may surprise you. The fourth and sixth graders were willing to explain their poor performance to both teachers and peers as being due to low ability rather than to low effort, whereas the eighth graders were much more likely to offer that explanation to their peers than to their teacher. This seems counterintuitive. Why would adolescents want to portray themselves to their peers as being dumb (to put it crudely)? The answer is that ability is seen by many adolescents as something beyond their control (see our account of Carol Dweck's work along this line in Chapter 12, "Motivation"). They therefore conclude that ascribing poor performance to low ability rather than to low effort will result in expressions of sympathy rather than contempt ("It wasn't Matthew's fault that he got a low grade on the last math exam; he just doesn't have a head for numbers").

Emotional Characteristics: Middle School

1. *The view of early adolescence as a period of "storm and stress" appears to be an exaggeration.* Starting with G. Stanley Hall, who wrote a pioneering two-volume text on adolescence in 1904, some theorists have described adolescence as a period of turmoil. Feelings of confusion, anxiety, and depression; extreme mood swings; and low levels of self-confidence are felt to be typical of this age group. Some of the reasons cited for this turbulence are rapid changes in height, weight, and

Because of the importance of peer group values, middle school students often dress and behave similarly.

Teenagers experience different degrees of emotional turmoil

body proportions; increases in hormone production; the task of identity formation; increased academic responsibilities; and the development of formal operational reasoning (Jackson & Bosma, 1990; Peterson, 1988; Susman, 1991).

Since the 1970s, however, a number of psychologists have questioned whether turmoil is universal during the emerging adolescent (and later) years (for example, see Jackson & Bosma, 1990; Peterson, 1988; Steinberg & Morris, 2001). Current evidence suggests that although many adolescents have social and emotional problems from time to time and experiment with risky behavior, most do not develop significant social, emotional, or behavioral difficulties. For example, although most adolescents will have been drunk at least once before high school graduation, relatively few will develop drinking problems or allow alcohol to adversely affect their academic or social lives. Those adolescents who do exhibit a consistent pattern of delinquency, substance abuse, and depression are likely to have exhibited these behaviors as children. In other words, problems displayed *during* adolescence are not necessarily problems *of* adolescence (Steinberg & Morris, 2001).

Some gender differences in psychological adjustment have been documented. Boys who exhibit problems during adolescence are more likely to have had similar problems in childhood, whereas girls are more likely to exhibit problems initially in adolescence. Achievement situations are more likely to produce anxiety responses in boys, whereas girls are more likely to become anxious in interpersonal situations. Finally, girls are more likely than boys to exhibit signs of depression.

2. *As a result of the continued influence of egocentric thought, middle school students are typically self-conscious and self-centered.* Because emerging adolescents are acutely aware of the physical and emotional changes that are taking place within them, they assume that everyone else is just as interested in, and is constantly evaluating, their appearance, feelings, and behavior. Consequently, they are deeply concerned about such matters as what type of clothing to wear for special occasions, with whom they should and should not be seen in public (they should never be seen with their parents at the mall, for example), and how they greet and talk with various people.

Another manifestation of adolescent egocentrism is the assumption that adults do not, indeed cannot, understand the thoughts and feelings of early adolescence.

It's as if the early adolescent believes she is experiencing things no one else has ever experienced before. Hence, a teen or preteen will likely say to a parent, "You just don't know what it feels like to be in love" (Wiles, Bondi, & Wiles, 2006).

## Cognitive Characteristics: Middle School

1. *Because of the psychological demands of early adolescence, middle school students need a classroom environment that is open, supportive, and intellectually stimulating.* Early adolescence is an unsettling time for students because of changes in their physical development, social roles, cognitive development, and sexuality. Another source of stress is coping with the transition from the elementary grades to a middle school (which often begins in sixth grade) or junior high (which typically begins in seventh grade). Partly because of these personal and environmental stresses, the self-concept, academic motivation, and achievement levels of adolescents decline, sometimes drastically. Are schools at all to blame for these problems? Perhaps they are. Several researchers (e.g., Clements & Seidman, 2002; Midgley, 2001; Roeser & Lau, 2002; Wigfield & Eccles, 2002a) provide persuasive evidence that these negative changes are due in part, perhaps in large part, to the fact that the typical school environment does not meet the needs of developing adolescents.

Their argument is based on an analysis of the psychological needs of early adolescence and the kinds of changes that take place in classroom organization, instruction, and climate as one moves from the last of the elementary grades to the first of the middle school or junior high grades. Although the typical middle school classroom is much improved in meeting students' needs for a sense of community, acceptance, and belonging (our Case in Print for this chapter describes how several schools accomplish this goal), the environment continues to be largely incompatible with students' intellectual needs (Gentry, Gable, & Rizza, 2002; Midgley, 2001; Midgley, Middleton, Gheen, & Kumar, 2002; Wigfield & Eccles, 2002a). Common problems include these:

- Instead of providing students with opportunities to make decisions about such things as classroom rules, seating arrangements, homework assignments, and time spent on various tasks, teachers impose most of the requirements and limit the choices students can make. In one study, most middle school students

> Environment of middle schools does not meet needs of adolescents, leading to lower levels of learning

Early adolescents are faced with several developmental challenges. Consequently, middle school teachers should make a special effort to establish a supportive classroom atmosphere in which students can meet their social, emotional, and cognitive needs.
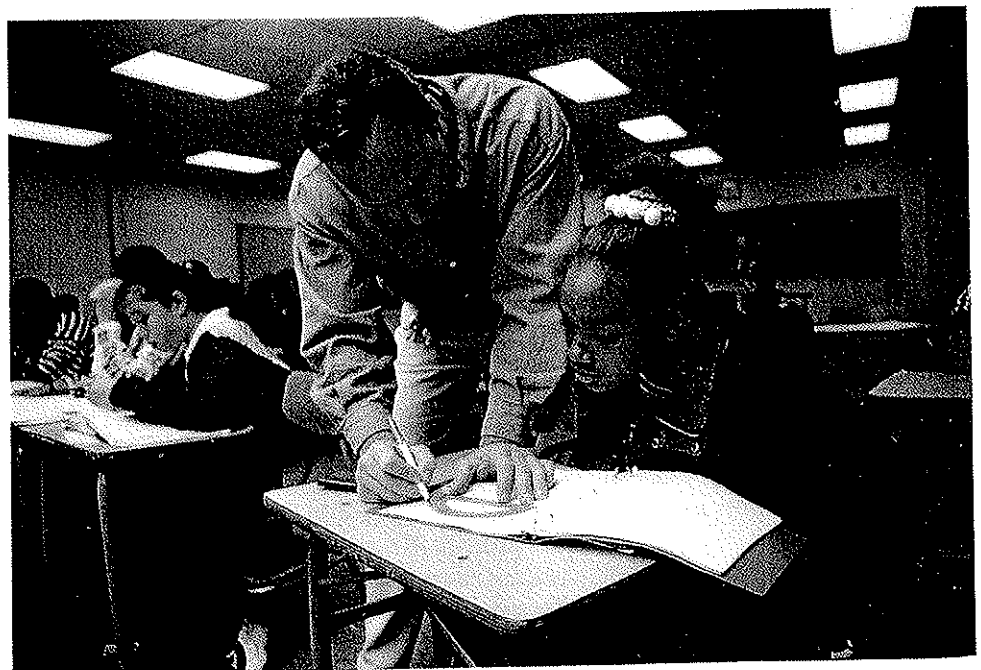
Take a Stand!

Meeting the Intellectual Needs of Middle School Students

Research from developmental and cognitive psychologists paints a consistent picture of middle school students. They can handle more abstract and complex tasks and work more independently of the teacher, and they have strong needs for both autonomy and social contact. Consequently, middle school teachers ought to minimize the use of lecture, independent seatwork, and competition for grades. Instead, teachers should design lessons around constructivist learning principles. For example, teachers should create assignments that relate to the issues and experiences adolescents are familiar with and care about, let students work cooperatively in small groups, provide whatever intellectual and emotional support students need to complete assignments, and foster the perception that the purpose of education is personal growth rather than competition for grades. Teachers who fail to provide this kind of environment may be doing more harm than good.

HM TeacherPrepSPACE

Do you agree that middle school teaching practices often leave much to be desired? As you consider this issue, check the additional resources available in the Take a Stand! section of the textbook's student website.

(grades 6 through 8) characterized their classroom activities as less interesting and enjoyable and as providing fewer opportunities for choice than did students in grades 3 through 5 (Gentry et al., 2002).

- Competition and social comparisons among students are increased as a result of such practices as whole-class instruction, ability grouping, normative grading (also called grading on the curve, a practice we discuss in Chapter 14, "Assessment of Classroom Learning"), and public evaluations of one's work. Small-group instruction is infrequent, and individualized instruction almost never occurs.
- Many classroom tasks in middle school or junior high involve low-level seatwork, verbatim recall of information, and little opportunity for discussion or group work. In one study of eleven junior high school science classes, the most frequent activity was copying information from the board or textbook onto worksheets. This emphasis on rote learning and recall has unfortunately been intensified in recent years by the growth of statewide learning standards, standardized testing, and accountability. We say "unfortunately" because this type of testing and approach to accountability discourages teachers from using instructional methods that foster meaningful learning.
- Students perceive their relationships with their teachers as being less friendly, supportive, and caring than those in earlier grades.

When middle schools fail to provide students with an intellectually challenging yet emotionally safe classroom environment, one negative consequence is an effect on motivation. Theorists like Carol Dweck describe achievement goals as being either *mastery* or *performance* in nature. Students who subscribe to a mastery goal are primarily interested in understanding ideas and their interrelationships, acquiring new skills, and refining them over time. Students who subscribe to a performance goal are primarily interested in demonstrating their ability to finish first (however that is defined) and avoiding situations in which a relative lack of ability would be apparent. Mastery goals have been associated with positive feelings about one's ability, potential, the subject matter, and school and with the use of effective learning strategies (which we describe in Chapter 9, "Social Cognitive Theory").

The most recent evidence suggests that as students move from the elementary grades to the middle grades, there is a shift in their values and practices that leads to more of an emphasis on performance goals. Some researchers blame this change on teaching practices. For example, middle grade teachers are more inclined to post papers and exams with the highest scores, to grade on a curve, to accord special privileges to high achievers, and to remind students of the importance of getting high grades and producing mistake-free papers. Such an environment tells students that meaningful learning is not necessarily expected and that support of learning will not be provided (Midgley, 2001). Students then are motivated to focus on their scores and grades rather than on what they can learn.

Questions and Activities

1. If the middle school years are especially challenging for eleven- to thirteen-year-olds and their parents, then they certainly will be for teachers as well. What characteristics of this age group should you keep uppermost in mind, and what general approaches to instruction should you seek to implement?

2. Peggy Flynn, the sixth-grade teacher mentioned in this article, said that middle school teachers expect students to be more responsible and independent than they were in the

elementary grades, yet she suggests that some students may have not had much experience or instruction in these capabilities. What steps can you take, as either an elementary grade or a middle school teacher, to help students learn to be more responsible and independent?

3. To find out for yourself what middle school students are like, arrange to visit several middle school classrooms and then interview some students and teachers.

2. *Self-efficacy becomes an important influence on intellectual and social behavior.* As we mentioned in point 1 under "Social Characteristics," middle school children become capable of analyzing both their own views of an interpersonal interaction and those of the other person. This newfound analytic ability is also turned inward, resulting in evaluations of one's intellectual and social capabilities. Albert Bandura (1986), a learning theorist whom we will discuss later in the book, coined the term **self-efficacy** to refer to how capable people believe they are at dealing with one type of task or another. Thus a student may have a very strong sense of self-efficacy for math ("I know I can solve most any algebraic equation"), a moderate degree of self-efficacy for certain athletic activities ("I think I play baseball and basketball about as well as most other kids my age"), and a low sense of self-efficacy for interpersonal relationships ("I'm just not good at making friends").

> Self-efficacy beliefs for academic and social tasks become strong influences on behavior

These self-evaluative beliefs influence what activities students choose and for how long they will persist at a given task, particularly when progress becomes difficult. Students with a moderate to strong sense of self-efficacy will persist at a task long enough to obtain the success or corrective feedback that leads to expectations of future success. Students with a low sense of self-efficacy, however, tend to abandon tasks at the first sign of difficulty, thereby establishing a pattern of failure, low expectations of future success, and task avoidance. Because self-efficacy beliefs grow out of personal performance, observation of other people doing the same thing, and verbal persuasion, you can help students develop strong feelings of self-efficacy by following the suggestions we will make in later chapters about modeling and imitation, learning strategies, and effective forms of instruction.

HIGH SCHOOL (GRADES 9, 10, 11, AND 12; FOURTEEN, FIFTEEN, SIXTEEN, AND SEVENTEEN YEARS)

Physical Characteristics: High School

1. *Most students reach physical maturity, and virtually all attain puberty.* Although almost all girls reach their ultimate height, some boys may continue to grow even after graduation from high school. Tremendous variation exists in height and weight and in rate of maturation. Approximately 13 percent of students are considered to be overweight (Centers for Disease Control, 2006). As noted earlier, late-maturing boys seem to have considerable difficulty adjusting to their