

MOTIVATION AND AFFECT

General Effects of Motivation

Extrinsic versus Intrinsic Motivation

Basic Human Needs

Drive Reduction

Arousal

Maslow's Hierarchy of Needs

Competence and Self-Worth

Autonomy

Relatedness and Belonging

Individual Differences in Motivation

Need for Approval

Need for Achievement

Sense of Identity

Dispositions

Affect and Its Effects

How Affect Is Related to Motivation

How Affect Is Related to Cognition and Learning

Anxiety

Creating a Motivating and Affect-Friendly Classroom

Environment

Summary

LEARNING OUTCOMES

- 14.1. Describe the general nature of human motivation and the effects it can have on cognition and behavior.
- 14.2. Describe and illustrate various basic needs that all human beings appear to have.
- 14.3. Give several examples of individual differences in human needs and dispositions.
- 14.4. Explain how feelings and emotions (i.e., *affect*) are often intertwined with motivation, cognition, learning, and performance.
- 14.5. Identify numerous ways in which teachers can engender motivated learning and productive affect in instructional settings.

Over the years I've learned how to do a great many things. For example, I've learned how to teach and write about psychology. I've learned how to find my favorite junk food in the supermarket and my favorite game shows on television. I've learned how to control my tongue and temper in committee meetings. I've learned how to mow the lawn, file a tax return, cook lima beans, and clean the garage.

Yet you don't see me doing all these things on a regular basis. I engage in some activities (e.g., writing about psychology, eating junk food, and watching television game shows) because I like doing them. I engage in others (e.g., behaving myself at committee meetings, filing tax returns, and mowing the lawn) not because I enjoy them but because they bring me things I *do* enjoy, such as productive relationships with colleagues, IRS refunds, or a well-kept yard. But there are some things that I rarely do because they aren't fun and reap few, if any, rewards. For instance, you won't find me cooking lima beans (which I detest) or cleaning the garage (which would quickly get dirty again). And there are additional things I've never learned at all because

I see little point in doing so. Batting averages of professional baseball players, locations for the “petite” sizes in ladies’ clothing at Sears, and strategies for walking barefoot on hot coals all fall into this category.

Motivation—an internal state that arouses us to action, pushes us in particular directions, and keeps us engaged in certain activities—is the key ingredient here. Even if we’re perfectly capable of learning something—and I am, mind you, quite capable of learning where to find virtually any clothing size at Sears—motivation often determines whether and to what extent we actually learn it, especially if the behaviors and cognitive processes necessary for learning are voluntary and under our control. Furthermore, once we *have* learned how to do something, motivation is largely responsible for whether we continue to do it.

We’ve touched on the importance of motivation in previous chapters—for instance, within our discussions of reinforcement (Chapter 3), modeling (Chapter 5), conceptual change (Chapter 9), and self-regulated learning (Chapter 12). In the final two chapters of the book, we’ll look more closely at the nature of motivation. In this chapter, we’ll consider how, in general, motivation influences behavior, cognition, and learning, and then explore various theories regarding basic human needs. Later, we’ll turn our attention to a close companion of motivation—*affect* (emotion)—and look at the many ways in which it’s involved in learning and behavior.

As we proceed, keep in mind that *learners are almost always motivated in one way or another*. For example, students in any given classroom are likely to have a variety of motives. Some almost certainly want to learn the subject matter being taught. Others may be more interested in getting good grades, outperforming their classmates, pleasing their teachers and parents, or simply completing assignments as quickly and painlessly as possible. Such motives all have an *approach* quality to them: Underlying them is a desire to achieve certain outcomes. Yet students may sometimes behave in order to *avoid* certain situations—perhaps an assigned task with which they’re likely to struggle or a social situation in which they might encounter bullies. In general, teachers should never question *whether* their students are motivated. Instead, they should try to determine *in what ways* their students are motivated.

It’s even more important to understand that, although learners bring certain motives to any instructional setting, *motivation is also partly a function of the learning environment*—a phenomenon known as **situated motivation** (Paris & Turner, 1994; Rueda & Moll, 1994; J. C. Turner & Patrick, 2008). In classrooms, many factors influence students’ motivation, including the nature of instructional materials and activities, the extent to which students must compete or cooperate with one another, and the ways in which learning and achievement are assessed. Furthermore, *learners and the learning environment reciprocally influence one another* (A. Kaplan, Katz, & Flum, 2012; Pintrich, 2003; Reeve, 2013). For example, when students ask questions, express their opinions, work with classmates on challenging projects, or tailor assignments to address their personal interests, they actually *change* their environment in ways that can either enhance or diminish both their motivation and their achievement levels.

Ultimately, I hope you’ll discover that motivation isn’t simply a “switch” that people turn on or turn off at will. Rather, it’s the result of numerous factors, some of which may be in learners’ immediate control, but many more of which are either directly or indirectly a function of learners’ past and present environmental circumstances.

GENERAL EFFECTS OF MOTIVATION

Children and adults alike aren't always consciously aware of the particular motives that drive their actions (Immordino-Yang & Sylvan, 2010; Pintrich, 2003; Schultheiss & Brunstein, 2005). Yet motivation consistently reveals itself through its effects on behavior and learning:

- It directs behavior toward particular goals.
- It increases effort and energy in pursuit of those goals.
- It increases initiation of and persistence in certain activities, even in the face of occasional interruptions and frustrations.
- It affects cognitive processes, such as what learners pay attention to and how much they think about and elaborate on it.
- It determines which consequences are and aren't reinforcing and punishing. (Ladd & Dinella, 2009; Larson, 2000; Maehr & Meyer, 1997; Pintrich, Marx, & Boyle, 1993; Pugh & Bergin, 2006)

Thus, learners' motivation tends to be reflected in *personal investment* and in cognitive, emotional, and behavioral *engagement* in certain activities. In general, motivation increases **time on task**, an important factor affecting learning and achievement in a particular domain (Fredricks, Blumenfeld, & Paris, 2004; Ladd & Dinella, 2009; J. Lee & Shute, 2010; Maehr & McInerney, 2004; M.-T. Wang & Holcombe, 2010).

Yet not all forms of motivation have exactly the same effects on human learning and performance, as we'll see now.

Extrinsic versus Intrinsic Motivation

Just as behaviorists distinguish between extrinsic and intrinsic reinforcement, motivation theorists distinguish between extrinsic and intrinsic motivation. **Extrinsic motivation** exists when the source of motivation lies outside the individual and the task being performed. For example, I file an income tax return every year partly because I often get a refund when I do so and partly because I might be fined (i.e., punished) if I *don't* file. For many years I attended university committee meetings because university service was part of my job description and I was quite dependent on my monthly paycheck. I give my house a thorough cleaning right before I have a party because I would hate for my friends to discover that I'm a slob.

In contrast, **intrinsic motivation** exists when the source of motivation lies within the individual and task: The person finds the task enjoyable or worthwhile in and of itself. For example, I frequently read books and articles about human learning and motivation because they continue to shed new light on topics that are, to me, utterly fascinating. I watch television game shows because I enjoy playing along as a home viewer. I eat junk food because it tastes good (an unfortunate consequence is that I have no need for the small, slender clothing sizes at Sears).

Extrinsic motivation can certainly promote successful learning and productive behavior (Cameron, 2001; Hidi & Harackiewicz, 2000; C. S. Ryan & Hemmes, 2005; also see Chapter 4). But extrinsic motivation in classroom settings has its drawbacks: Externally motivated students may exert only the minimal behavioral and cognitive effort they need to execute a task successfully—occasionally this may mean copying a classmate's work—and they may stop an

activity as soon as reinforcement ceases (Brophy, 2004; Flink, Boggiano, Main, Barrett, & Katz, 1992; McClure et al., 2011; Reeve, 2006).

Intrinsic motivation has numerous advantages over extrinsic motivation. For any particular task, intrinsically motivated learners are more likely to:

- Pursue a task on their own initiative, without having to be prodded or cajoled
- Be cognitively engaged in the task (e.g., by keeping attention focused on it)
- Undertake more challenging aspects of the task
- Strive for genuine understanding of a topic
- Undergo conceptual change when warranted
- Show creativity in performance
- Persist in the face of failure
- Experience pleasure in what they're doing
- Seek out additional opportunities to pursue a topic
- Achieve at high levels (Becker, McElvany, & Kortenbruck, 2010; Corpus, McClintic-Gilbert, & Hayenga, 2009; Csikszentmihalyi, Abuhamdeh, & Nakamura, 2005; Csikszentmihalyi & Nakamura, 1989; Flink et al., 1992; Gottfried, 1990; B. A. Hennessey, 2010; Maehr, 1984; Pintrich et al., 1993; Reeve, 2006; Schweinle, Meyer, & Turner, 2006)

An especially intense form of intrinsic motivation, called **flow**, is characterized by a state of complete absorption, focus, and concentration in a challenging activity, to the point that a learner loses track of time and completely ignores other tasks (Csikszentmihalyi, 1990; Csikszentmihalyi et al., 2005; Shernoff & Csikszentmihalyi, 2009; also see Gable & Poole, 2012).

Obviously, intrinsic motivation is the optimal state of affairs in the classroom. At the same time, we shouldn't assume that extrinsic and intrinsic motivation must be an either-or situation. On many occasions, learners may be *both* extrinsically and intrinsically motivated. Furthermore, even a single motive can have both extrinsic and intrinsic aspects; for example, students may strive for good grades not only for the external rewards that such grades bring but also for confirmation that they've mastered a topic or skill they personally value. And as we'll discover in the discussion of *internalized motivation* in Chapter 15, some motives have a partly-extrinsic-partly-intrinsic nature.

BASIC HUMAN NEEDS

Over the years, theorists have offered varying perspectives about needs that might be universal across the human species. Here we focus on early perspectives (drives, need for arousal, and Maslow's hierarchy of needs) and more recent ones (needs for competence, self-worth, autonomy, and relatedness) that are especially relevant to instructional settings. As you'll see, some of these perspectives point to environmental conditions that can foster intrinsic motivation.

Drive Reduction

Drive theory is based on the notion that people and other animals (*organisms*) try to maintain physiological homeostasis—that is, they try to keep their bodies at an optimal state of functioning (e.g., Freud, 1915/1949; Hull, 1951, 1952; Woodworth, 1918). A **drive** is an internal state

of need: Something necessary for optimal functioning (e.g., food, water, adequate rest) is missing. When a drive exists, the organism behaves in ways that reduce the need and bring the body back into balance. For example, a hungry person eats, a thirsty person drinks, and a tired person goes to bed. If a need-reducing response isn't immediately possible, the organism shows a general increase in activity—activity that may eventually lead to an encounter with a need-reducing stimulus.

Although early psychologists of many theoretical persuasions found value in the concept of drive, advancements in drive theory emerged largely through the work of behaviorists. From a behaviorist perspective, a reinforcer is effective to the extent that it reduces a need state, thereby simultaneously reducing drive. For example, food is reinforcing only if an organism is hungry, and a drink of water is reinforcing only if the organism is thirsty. Behaviors that reduce a need state—behaviors that are reinforced—are likely to be repeated when the same need emerges at a later time.

Probably the most widely cited version of drive theory is that of behaviorist Clark Hull (1943, 1951, 1952). Hull initially proposed that drive is based on physiological needs such as hunger and thirst. All of these needs contribute to an organism's general drive state, which itself isn't specific to a particular need. Hull further proposed that the strength (or intensity) of a behavior is a function of both *habit strength* (i.e., the degree to which a particular stimulus–response association has been learned) and drive:

$$\text{Strength of behavior} = \text{Habit} \times \text{Drive}$$

In such a multiplicative relationship, both habit (prior learning) and drive must be present. If either is zero, the strength of the behavior—the likelihood that it will occur—is also zero.

Hull based his notion of *habit times drive* on experiments conducted by two of his students (Perin, 1942; S. B. Williams, 1938). In these experiments, rats were placed in Skinner boxes and trained to press a bar for a food reinforcer. Different groups of rats received varying amounts of training, with a greater number of reinforced responses presumably leading to greater habit strength. Later, after going without food for either 3 hours (low drive) or 22 hours (high drive), the rats were once again placed in Skinner boxes, and their frequency of bar pressing was recorded under nonreinforcement (extinction) conditions. The hungrier rats pressed the bar many more times than the less hungry rats; similarly, rats who had received more training pressed the bar more often than those who had undergone little training. Rats with little drive (three hours of food deprivation) and low habit strength (five training trials) pressed the bar, on average, only once.

Hull later revised his thinking in two significant ways. First, he observed that some behaviors serve no apparent biological purpose. He therefore proposed that some drives are **acquired drives**: They develop when previously neutral stimuli are associated with drive-reducing stimuli such as food. To illustrate, one might become driven by a need for other people's approval if their approval has previously been associated with candy and other tasty treats. From this perspective, reinforcement results from reduction of one's drive rather than reduction of specific physiological needs.

In addition, Hull took into account research by Crespi (1942) and others indicating that reinforcers may affect performance rather than learning. (You previously read about Crespi's study in Chapter 3. To refresh your memory, rats running down a runway for food began to run faster when the amount of reinforcement was increased; they began to run more slowly when the amount was decreased.) With this research in mind, Hull introduced the concept of *incentive* into his theory, acknowledging that behaviors are influenced by characteristics of a goal object—for

example, by the amount of food at the end of a runway. Incentive became a third essential ingredient for a behavior to occur, as follows:

$$\text{Strength of behavior} = \text{Habit} \times \text{Drive} \times \text{Incentive}$$

When any of these three factors—habit strength, drive, or incentive—is absent, the behavior doesn't occur.

Other theorists have since expanded on Hull's notion that the characteristics of goal objects (incentives) are motivating forces in behavior (Mowrer, 1960; Overmier & Lawry, 1979; K. W. Spence, 1956). In their view, **incentive motivation** serves as a mediator (M) between stimuli and responses, affecting which stimuli are responded to and which are not. Symbolically, we could describe the relationship this way:

$$S \rightarrow M_{\text{incentive}} \rightarrow R$$

For example, I find a bag of microwave popcorn quite enticing after several hours of food-free book writing, thus leading to a reach-in-and-grab-a-handful response. However, the same bag provokes no response whatsoever right after a Thanksgiving dinner, when I've stuffed myself with turkey, mashed potatoes, and pumpkin pie.

Incentives undoubtedly play a role in human motivation. Just as Crespi's rats ran faster when they knew that a lot of food lay waiting at the end of the runway, so, too, do we humans apparently work harder when incentives are more attractive. When our progress toward a particular goal object is temporarily stymied, we often intensify our efforts. And when our progress is permanently blocked, we're likely to respond with immature behavior or aggression (Bandura, Ross, & Ross, 1961; Berkowitz, 1989; Dollard, Doob, Miller, Mowrer, & Sears, 1939; Klinger, 1975, 1977).

Incentives remain in vogue as a probable factor in motivation (see the discussion of social cognitive theory in Chapter 5), and behaviorists acknowledge that different objects and events may be more or less reinforcing depending on whether an organism has been deprived of them for any significant period (McGill, 1999; Michael, 1993, 2000). But theorists have largely abandoned drives in their discussions of motivation, and for a couple of reasons. For one thing, a good deal of human behavior seems to be aimed at accomplishing long-term goals rather than addressing short-term needs and drives (we'll look at such goals in Chapter 15). Also, organisms sometimes behave in ways that actually *increase* their drive states (Olds & Milner, 1954; Rachlin, 1991; Sheffield, 1966a, 1966b). For instance, we humans voluntarily increase our drive states by going to scary movies, reading suspense novels, and riding roller coasters. Some of us are even **sensation seekers**, putting ourselves in risky or dangerous situations on a regular basis for the physiological thrills that such situations yield (Joseph, Liu, Jiang, Lynam, & Kelly, 2009; M. Zuckerman, 1994). Perhaps such sensation seeking is an extreme form of a more basic need—a need for arousal.

Arousal

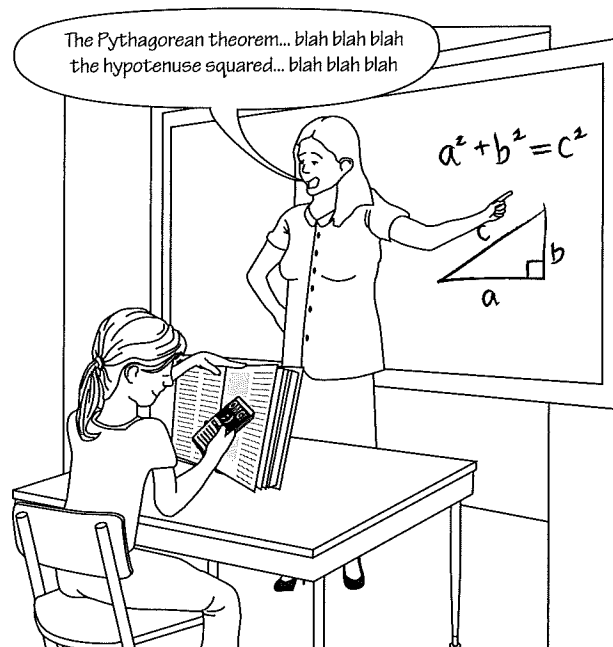
Psychologists use the term **arousal** to refer to an organism's current level of internal energy. Organisms experiencing low levels of arousal are relaxed, bored, or asleep. Organisms experiencing high levels of arousal are greatly energized, perhaps to the point of being quite anxious. Some research indicates that people have a basic need for stimulation; in other words, they have a **need for arousal**.¹

¹Occasionally, one of my readers mistakenly infers that this term refers to sexual activity. On the contrary, *need for arousal* refers to a basic need for stimulation of any kind.

As an example, let's consider a classic study by Heron (1957). Male college students were given \$20 a day (quite an incentive in the 1950s) to stay as long as they could in a boring environment—and I mean a *really* boring environment. Aside from occasional brief breaks for eating and other biological necessities, the students spent the time in a small, sparsely furnished cubicle in which the only sound was the continuous hum of an air conditioner. They wore plastic visors that allowed them to see only diffused, unpatterned light (making them functionally blind); they also wore thick gloves and cardboard sleeves that prevented them from feeling different shapes and textures (minimizing information they could gain through touch). Naturally, many students began by catching up on sleep. Students spent their first few waking hours thinking about college coursework, personal issues, past experiences, and the like. Eventually, they ran out of things to think about and so simply let their minds wander aimlessly. As time went on, cognitive functioning deteriorated: The students had trouble concentrating, reported distorted perceptual processes (e.g., the room seemed to move, objects seemed to change size and shape), and in general were quite disoriented. Some began to hallucinate, perhaps seeing a row of cartoonlike men with open mouths or a line of marching squirrels with bags over their shoulders, or perhaps hearing a church choir singing or a music box playing. Some also reported feelings of touch or movement: “One had a feeling of being hit in the arm by pellets fired from a miniature rocket ship he saw” (Heron, 1957, p. 54). More generally, people seem to have exceptional difficulty functioning under conditions of *sensory deprivation* for any length of time (Solomon et al., 1961).

Some theorists have suggested that not only do people have a basic need for stimulation but they also strive for a certain *optimal level* of arousal (E. M. Anderman, Noar, Zimmerman, &

All human beings have a basic need for arousal. Students who don't find classroom activities stimulating will satisfy their need for arousal in other ways.



Donohew, 2004; Berlyne, 1960; Hsee, Yang, & Wang, 2010). Too little stimulation is unpleasant, but so is too much. For example, you might enjoy watching a television game show or listening to music, but you'd probably rather not have three television sets, five CD players, and a live rock band all blasting in your living room at once. Different people have different optimal levels: Some are sensation seekers, whereas others prefer a quieter existence. I, for one, like things a bit on the dull side. Although I certainly enjoy a suspenseful mystery novel on occasion, you'll never catch me riding a roller coaster or bungee jumping.

People's need for arousal probably explains some of the behaviors we see in classrooms. For instance, it explains why students create their own excitement (perhaps passing notes or playing practical jokes on one another) when their teacher drones on at length about a dry topic (Pekrun, Goetz, Daniels, Stupnisky, & Perry, 2010). (I recall a college sociology class in which the girl who sat next to me kept a running tally of how many times the professor cleared his throat. This simple activity kept us both entertained, which was fortunate, because the professor certainly didn't.) Furthermore, descriptions of personality characteristics reflecting varying levels of need for arousal have recently appeared on the scene, as we'll see in the descriptions of *stimulation seeking* and the *need for cognition* in the section on dispositions later in the chapter.

Maslow's Hierarchy of Needs

Another early perspective of motivation was that of Abraham Maslow (1943, 1959, 1973, 1987). Maslow's theory was a central feature of **humanism**, a movement in psychology that gained prominence in the 1960s and 1970s. Humanism had its roots in counseling psychology and focused its attention on how individuals acquire emotions, attitudes, values, and interpersonal skills. Although early humanist perspectives such as Maslow's were grounded more in philosophy than in research, they offered useful insights into human motivation nevertheless. (A more contemporary, research-based version of humanism is known as **positive psychology**; for example, see Gilman, Huebner, & Furlong, 2009; C. Peterson, 2006; Waterman, 2013.)

In an attempt to pull together his informal observations of human behavior, Maslow proposed that people have five distinct kinds of needs:

1. **Physiological needs.** People are motivated to satisfy needs related to their immediate physical survival, such as needs for food, water, exercise, and rest. Maslow's physiological needs are essentially the same as those in Hull's early drive theory.
2. **Safety needs.** People have a need to feel safe and secure in their environment. Although they may enjoy an occasional surprise, generally speaking they prefer some structure, order, and predictability in their lives.
3. **Love and belonging needs.** People seek affectionate relationships with others and like to feel that they belong to and are accepted in a social group.
4. **Esteem needs.** People need to feel good about themselves (**need for self-esteem**) and to believe that others also feel positively about them (**need for esteem from others**). To develop positive self-esteem, individuals strive for achievement and mastery of their environment. To attain the esteem and respect of others, they behave in ways that gain them recognition, appreciation, and prestige.
5. **Need for self-actualization.** People have a need to **self-actualize**—to develop and become all they're capable of becoming (also see C. R. Rogers, 1951, 1961).

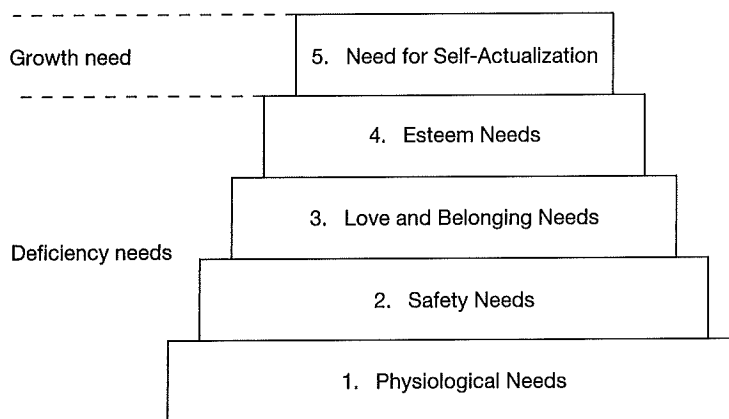
Individuals striving toward self-actualization seek out new activities as a way of expanding their horizons and want to learn simply for the sake of learning. For example, people seeking self-actualization might be driven by their own curiosity to learn everything they can about a particular topic, or they might pursue an active interest in ballet both as a means of developing muscle tone and as an outlet for creative self-expression.

Maslow proposed that the five sets of needs form a hierarchy, as illustrated in Figure 14.1. When two or more of these needs are unmet, people tend to satisfy them in a particular sequence. They begin with the lowest needs in the hierarchy, satisfying physiological needs first, safety needs next, and so on, addressing higher needs only after lower needs have been attended to. For example, a boy with a need to release pent-up energy (a physiological need) may become excessively restless in class even though his teacher scolds him for his hyperactivity (thereby *not* satisfying the boy's need for esteem from others). A girl with an unfulfilled need for love and belonging may choose not to enroll in intermediate algebra—a class that would satisfy her desire to learn more math—if the peers whose friendships she most values tell her the class is only for nerds and dweebs. I once met a boy who had a strong interest in learning yet often stayed home from school to avoid the violent gangs that hung out on the street corner in his crime-ridden neighborhood. This boy's need for safety took precedence over any higher needs he might have had.

According to Maslow, the first four needs in the hierarchy—physiological, safety, love and belonging, and esteem needs—result from things a person *lacks*; hence, Maslow called them **deficiency needs**. Deficiency needs can be met only by external sources—by people or events in one's environment. Furthermore, once these needs are fulfilled, there's no reason to satisfy them further. In contrast, self-actualization is a **growth need**: Rather than addressing a deficiency in a person's life, it enhances the person's growth and development and thus is rarely satisfied completely. Self-actualizing activities tend to be intrinsically motivated: People engage in them because doing so gives them pleasure and satisfies their desire to know and grow.

Needs that are satisfied most of the time have little effect on behavior. For example, many people in our society routinely satisfy their physiological and safety needs. The needs for love

Figure 14.1
Maslow's hierarchy of needs.



and esteem are more likely to go unfulfilled; hence, people may direct much of their effort toward developing self-respect and gaining others' love and respect. People are likely to strive for self-actualization only when all four deficiency needs are at least partially met. Once they're regularly focusing on self-actualization, however, they may occasionally disregard more basic needs, perhaps forgoing meals or jeopardizing personal safety in pursuit of a noble cause.

In Maslow's view, self-actualized individuals have many noteworthy characteristics. For example, they're independent, spontaneous, creative, and sympathetic to the plights of others. They perceive themselves and others in an objective, realistic light, and they're quite comfortable with who they are. They typically have a mission in life—an important problem that they're concerned about solving. Maslow suggested that very few people—probably less than 1% of the population—become fully self-actualized, and then only in life's later years.

Despite its intuitive appeal, Maslow's hierarchy has been criticized on several counts (e.g., Kristjánsson, 2012; Schunk, Meece, & Pintrich, 2014). For one thing, little hard evidence exists to substantiate the hierarchical nature of human motivation. Maslow derived his theory from his informal, subjective observations of presumably "self-actualized" personal friends and from published descriptions of such historical figures as Thomas Jefferson and Abraham Lincoln; it would be almost impossible for other investigators to confirm that these individuals had the characteristics Maslow identified. Also, as you'll discover in upcoming pages, people's various motives are probably too diverse to be boiled down into such a short list of basic needs. Furthermore, self-actualization is so rare that the hierarchy might not provide an accurate description of people in general. And finally, Maslow's theory places the source of motivation entirely in people themselves, without regard for environmental contexts that might either enhance or dampen their motivation.

At the same time, aspects of Maslow's theory clearly have some merit. It makes sense that people will worry about their physiological well-being and personal safety before they try to address more social needs (e.g., Kenrick, Griskevicius, Neuberg, & Schaller, 2010).² And many people do seem to be eager to gain wisdom or creatively express themselves, consistent with Maslow's idea of self-actualization (Kesebir, Graham, & Oishi, 2010; C. Peterson, 2006; C. Peterson & Park, 2010). Furthermore, Maslow's notions of *esteem needs* and *love and belonging needs* are clearly reflected in contemporary theories about self-worth and relatedness—topics we turn to in upcoming sections.

Competence and Self-Worth

Maslow has hardly been the only one to suggest that people have a need to think positively about themselves. In 1959, Robert White proposed that human beings (and, he suggested, many other species as well) have a basic need for **competence**—a need to believe they can deal effectively with their environment. Other theorists have since echoed this belief, asserting that the need for competence is a fundamental human need (e.g., Boggiano & Pittman, 1992; Connell & Wellborn, 1991; Reeve, Deci, & Ryan, 2004; R. M. Ryan & Deci, 2000).

²Kenrick and colleagues (2010) have suggested that our evolutionary history has endowed us with a hierarchy of fundamental human motives, which include Maslow's four deficiency needs plus three additional needs (mate acquisition, mate retention, and parenting) that ensure reproduction and preservation of our species. In their view, upper levels of the hierarchy emerge later in development and overlap with, but do not fully replace, lower levels.

To achieve a sense of competence, young children spend a great deal of time engaged in exploring and attempting to master the world. As an illustration, let's look once again at an example presented in Chapter 10, in which Jean Piaget's son Laurent tried to get a piece of bread that was beyond his reach:

Laurent is seated before a table and I place a bread crust in front of him, out of reach. Also, to the right of the child I place a stick about 25 cm. long. At first Laurent tries to grasp the bread without paying attention to the instrument, and then he gives up. I then put the stick between him and the bread. . . . Laurent again looks at the bread, without moving, looks very briefly at the stick, then suddenly grasps it and directs it toward the bread. But he grasped it toward the middle and not at one of its ends so that it is too short to attain the objective. Laurent then puts it down and resumes stretching out his hand toward the bread. Then, without spending much time on this movement, he takes up the stick again, this time at one of its ends . . . and draws the bread to him. (Piaget, 1952b, p. 335)

Laurent was only 16 months old at the time yet clearly had an intrinsic desire to master an aspect of his environment. According to White (1959), the need for competence has biological significance and probably evolved with our species: It pushes people to develop ways of dealing more effectively with environmental conditions and thus increases their chances of survival.

Martin Covington has proposed that *protecting* one's sense of competence—something he calls **self-worth**—is one of people's highest priorities (Covington, 1992, 2004; De Castella, Byrne, & Covington, 2013; also see Mezulis, Abramson, Hyde, & Hankin, 2004; Sedikides & Gregg, 2008; T. D. Wilson & Gilbert, 2008). Obviously, achieving success on a regular basis is one way of maintaining or even enhancing self-worth. But consistent success isn't always possible, especially when people face challenging tasks. In such situations, an alternative way to maintain self-worth is to *avoid failure*, because failure gives the impression of low ability. Failure avoidance manifests itself in a variety of ways; for instance, people may refuse to engage in an activity, downplay its importance, set and communicate low self-expectations for performance, or refuse to abandon existing beliefs in the face of considerable contradictory evidence³ (Covington, 1992; Harter, 1990; A. J. Martin, Marsh, & Debus, 2001; Rhodewalt & Vohs, 2005; D. K. Sherman & Cohen, 2002).

In some situations, however, people can't avoid tasks at which they expect to do poorly and so use alternative strategies to protect their self-worth. Sometimes they make excuses that seemingly justify their poor performance (Covington, 1992; Urdan & Midgley, 2001; T. D. Wilson & Gilbert, 2008). Yet they may also do things that actually *undermine* their chances of success—a phenomenon known as **self-handicapping**. Self-handicapping takes a variety of forms, including these:

- *Setting unattainably high goals.* Working toward goals that even the most able individuals couldn't achieve
- *Taking on too much.* Assuming so many responsibilities that no one could possibly accomplish them all
- *Creating impediments.* Concocting obstructions or additional requirements that make a task almost impossible to accomplish
- *Procrastinating.* Putting a task off until success is virtually impossible

³Accordingly, the need to protect one's self-worth may be one reason that people don't undergo *conceptual change*.

- *Reducing effort.* Putting forth an obviously insufficient amount of effort to succeed
- *Cheating in class.* Presenting others' work as one's own
- *Using alcohol or drugs.* Taking substances that will inevitably reduce performance (E. M. Anderman, Griesinger, & Westerfield, 1998; Covington, 1992; Hattie, 2008; E. E. Jones & Berglas, 1978; S. W. Park & Sperling, 2012; Rhodewalt & Vohs, 2005; Urdan, Ryan, Anderman, & Gheen, 2002; Wolters, 2003a)

It might seem paradoxical that people who want to be successful would engage in such behaviors. But if people believe that they're unlikely to succeed at a particular task, they increase their chances of *justifying* their failure—and therefore they maintain self-worth—by acknowledging that, under the circumstances, success wasn't very likely to begin with. Curiously, some people are more likely to perform at their best and less likely to display self-handicapping behaviors when almost anyone's chances of success would be slim or when a task is in a seemingly unimportant domain (Covington, 1992; Urdan et al., 2002). In such situations, failure isn't interpreted as indicating low ability and so doesn't threaten people's sense of self-worth.

To date, most research on self-worth theory and self-handicapping has focused on academic tasks and accomplishments. Some theorists suggest, however, that academic achievement isn't always the most important thing affecting people's sense of self-worth; for many people, such factors as social success or physical appearance may be more influential (Harter, 1999; Loose, Régner, Morin, & Dumas, 2012; L. E. Park & Maner, 2009). Also troubling for motivation theorists is the finding that people sometimes seem more comfortable maintaining *consistent* self-perceptions, even if those self-perceptions are negative ones (Hattie, 2008; Hay, Ashman, van Kraayenoord, & Stewart, 1999). Yet in most instances, positive self-perceptions do appear to be a high priority.

On average, young people's sense of competence, self-worth, and general beliefs about themselves become increasingly stable as they grow older (D. A. Cole et al., 2001; Harter, 1999; Wigfield, Byrnes, & Eccles, 2006). For most people, this stability is a good thing, in that it enables them to take their occasional failures in stride (Heppner et al., 2008).⁴ When, instead, learners base their self-worth largely on their immediate successes and failures—a phenomenon known as **contingent self-worth**—they can be on an emotional roller coaster, feeling competent one day and inadequate the next (Assor, Roth, & Deci, 2004; Crocker, Karpinski, Quinn, & Chase, 2003; Dweck, 2000; Smiley, Coulson, Greene, & Bono, 2010).

Revisiting self-efficacy On the surface, the concepts of competence and self-worth are similar to the concept of *self-efficacy* we examined in Chapter 5. In theory, however, there are two key differences between the needs for competence and self-worth, on the one hand, and self-efficacy, on the other. First, in line with our discussion here, having a sense of competence and self-worth may be a basic human need. In contrast, social cognitive theorists have suggested that self-efficacy is certainly a *good* thing, but they don't go so far as to speculate that it's an essential driving force of human nature. Second, competence and self-worth have been conceived as being fairly general, overarching self-perceptions—that is, what you think about yourself overall—whereas self-efficacy tends to be more task specific.

But now let's muddy the waters a bit. To some degree, how competent you think you are overall is apt to affect the confidence with which you approach a particular task, and how

⁴This idea should remind you of social cognitivists' concept of *resilient self-efficacy* (see Chapter 5).

self-efficacious you feel about performing a task is apt to contribute in some way to your overall sense of competence and self-worth (Bong & Skaalvik, 2003; Schunk & Pajares, 2005). Furthermore, in my own reading of the motivation literature, I find that theorists sometimes use the term *sense of competence* (or something similar) when talking about fairly specific tasks or situations, and they sometimes use the term *self-efficacy* to refer to a fairly general self-perception (e.g., Bandura, 1997).

One point on which many researchers agree is that one's sense of confidence—both about accomplishing specific tasks and about dealing with life in general—is an important variable influencing motivation, especially *intrinsic motivation*. Conversely, feelings of incompetence lead to decreased motivation and engagement (Boggiano & Pittman, 1992; Harter et al., 1992; Mac Iver, Stipek, & Daniels, 1991; Reeve et al., 2004; R. M. Ryan & Deci, 2000; E. Skinner, Furrer, Marchand, & Kindermann, 2008).

When we discussed self-efficacy in Chapter 5, we identified several variables that help learners believe they can succeed at a task, including encouraging messages, the successes of peers, and, most importantly, their own successes (either individually or as part of a group) at a task or activity. The last of these—actual successes—are, of course, the most powerful. Sometimes learners' successes are obvious; winning a bicycle race and constructing a sturdy bookcase from a set of instructions are examples. But many others aren't so clear-cut, and in such instances feedback is often helpful. Curiously, even class grades and other extrinsic reinforcers can promote *intrinsic* motivation to the extent that they signal successful performance and therefore enhance learners' self-efficacy and overall sense of competence (Cameron, 2001; Deci & Moller, 2005; Hynd, 2003; Schunk & Zimmerman, 1997).

Autonomy

Not only do people want to feel competent, it appears that they also have a basic need for **autonomy**: They want to have some sense of control regarding the things they do and the directions their lives take. For instance, when we think “I *want* to do this” or “I would *find it valuable* to do that,” we have a high sense of autonomy. In contrast, when we think “I *have to*” or “I *should*,” we're telling ourselves that someone or something else is making decisions for us. Even toddlers sometimes resist adults' efforts to control their behaviors, leading some parents to refer to toddlerhood as the “terrible twos” (d'Ailly, 2003; deCharms, 1972; Deci & Ryan, 1992; Dix, Stewart, Gershoff, & Day, 2007; Reeve et al., 2004; R. M. Ryan & Deci, 2000; Vansteenkiste, Zhou, Lens, & Soenens, 2005).

This idea of autonomy might remind you of *personal agency*, a key concept in social cognitive theory: People often intentionally create or modify the environments in which they live and work (see Chapter 5). Here we go one step further by saying that people *want* to control what happens to them.

The need for autonomy figures prominently in a perspective known as *self-determination theory* (e.g., Deci & Ryan, 1985; Reeve et al., 2004; R. M. Ryan & Deci, 2000).⁵ From this

⁵In particular, self-determination theorists suggest that satisfaction of three basic needs—competence, autonomy, and relatedness—is central to human motivation, especially *intrinsic* motivation. In early descriptions of this theory, the term *self-determination* was sometimes used as a synonym for autonomy (e.g., Deci & Ryan, 1992).

perspective, learners are more likely to be intrinsically motivated when they have a sense of autonomy about their present circumstances. For example, when current conditions and events confirm learners' feelings of autonomy, learners are likely to

- Experience pleasure in activities, and voluntarily engage in them for long periods
- Think meaningfully and creatively about tasks and problems
- Undertake challenges that maximize long-term learning and development
- Achieve at high levels
- Stay in school rather than dropping out (Deci, 1992; Deci & Ryan, 1985, 1987; Hagger, Chatzisarantis, Barkoukis, Wang, & Baranowski, 2005; Hardré & Reeve, 2003; B. A. Hennessey, 2010; Reeve et al., 2004; Standage, Duda, & Ntoumanis, 2003; Vansteenkiste, Lens, & Deci, 2006)

In contrast, when environmental circumstances and events lead people to conclude that they have little involvement in determining the course of their lives, they may comply with external demands but are unlikely to have much intrinsic motivation—and thus they are unlikely to work very hard at what they're doing. Often, too, they may feel bored or depressed and have a diminished sense of self-worth (Deci & Ryan, 1987; Pekrun et al., 2010; E. Skinner et al., 2008; Vansteenkiste et al., 2006).

Several variables appear to influence people's sense of autonomy one way or the other, as we'll see now.

Choices Let's return to a point I made in Chapter 4: Children and adults alike seem to prefer having some choice in the reinforcers for which they work. From the perspective of self-determination theory, this finding makes perfect sense. In general, people have a greater sense of autonomy (and so are more intrinsically motivated) when they're able to make choices—within reasonable limits—about the things they do and the outcomes for which they'll work (Deci & Ryan, 1992; Morgan, 1984; Patall, Cooper, & Wynn, 2010). For example, when students have legitimate choices about the activities in which they engage, they show greater interest and involvement in their schoolwork, and they display fewer off-task behaviors (Dunlap et al., 1994; Foster-Johnson, Ferro, & Dunlap, 1994; Morgan, 1984; Patall et al., 2010; Powell & Nelson, 1997; B. J. Vaughn & Horner, 1997). Opportunities to make choices even seem to perk up brain regions that underlie pleasant emotions (Leotti & Delgado, 2011).

We must qualify the effects of choices in a couple of ways, however. First, choices are likely to enhance one's sense of autonomy only if they're *real* choices—that is, if they truly allow a selection among two or more possible courses of action. Choices have little effect on motivation when they're highly constrained—say, when a teacher gives students a “choice” between two or three unappealing tasks (Reeve, Nix, & Hamm, 2003; Stefanou, Perencevich, DiCintio, & Turner, 2004). Second, cultural differences have been observed in the importance of choices. In particular, although many American children find choice-making opportunities highly motivating, children from Asian American families often prefer that people they trust make the choices for them (Bao & Lam, 2008; Iyengar & Lepper, 1999). Perhaps the latter see trusted others as people who can make wise choices—choices that will ultimately lead to higher levels of learning and competence.

Threats and deadlines Threats (e.g., “Do this or else!”) and deadlines (e.g., “This is due by January 15—no exceptions!”) are typically experienced as controlling one's behaviors. As a result, they reduce one's sense of autonomy and hence also reduce intrinsic motivation (Deci & Ryan, 1987; Reeve, 2009).

Controlling statements Some of the things people say to us—even though they aren't threatening—nevertheless convey the message that others control our fate and thus can undermine our sense of autonomy (Amabile & Hennessey, 1992; Boggiano, Main, & Katz, 1988; Reeve, 2009). For example, in one experiment (Koestner, Ryan, Bernieri, & Holt, 1984), first- and second-graders were asked to paint a picture of a house in which they'd like to live. Working alone, each child was given the necessary materials—a paintbrush, a set of watercolor paints, two sheets of paper, and several paper towels—and then told some rules about how to proceed. For some children (the controlling-limits condition), restrictions described things the child could and couldn't do, as follows:

Before you begin, I want to tell you some things that you will have to do. They are rules that we have about painting. You have to keep the paints clean. You can paint only on this small sheet of paper, so don't spill any paint on the big sheet. And you must wash out your brush and wipe it with a paper towel before you switch to a new color of paint, so that you don't get the colors all mixed up. In general, I want you to be a good boy (girl) and don't make a mess with the paints. (Koestner et al., 1984, p. 239)

For other children (the informational-limits condition), restrictions were presented only as information, like this:

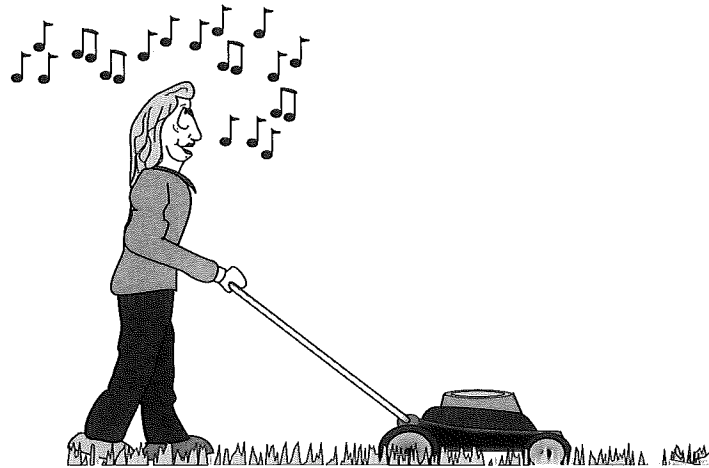
Before you begin, I want to tell you some things about the way painting is done here. I know that sometimes it's really fun to just slop the paint around, but here the materials and room need to be kept nice for the other children who will use them. The smaller sheet is for you to paint on, the larger sheet is a border to be kept clean. Also, the paints need to be kept clean, so the brush is to be washed and wiped in the paper towel before switching colors. I know that some kids don't like to be neat all the time, but now is a time for being neat. (Koestner et al., 1984, p. 239)

Each child was given 10 minutes of painting time. At the end of this allotted time, the experimenter took the child's painting to another room, saying he would return in a few minutes. As he left, he put two more sheets of paper on the child's table, saying, "You can paint some more on this piece of paper if you like, or, if you want, you can play with the puzzles over on that table." In the experimenter's absence, the child was surreptitiously observed, and painting time was measured. Children in the informational-limits condition spent more time painting—and so were apparently more intrinsically motivated to paint—and their paintings were judged to be more creative than was true for their counterparts in the controlling-limits condition.

Extrinsic rewards In Chapter 4, I expressed the concern that using extrinsic reinforcement may undermine the intrinsic reinforcement that an activity provides. Extrinsic reinforcers are most likely to have this adverse effect when people perceive them as controlling or manipulating their behavior rather than as providing information about their progress.⁶ Thus, they're unlikely to be beneficial, at least over the long run, if people interpret them as bribes or limits on their freedom (Deci, Koestner, & Ryan, 2001; B. A. Hennessey, 2010; Lepper & Hodell, 1989; Reeve, 2006; R. M. Ryan, Mims, & Koestner, 1983). This principle may, in part, be the result of the

⁶To my knowledge, motivation theorists haven't specifically talked about the informational or controlling messages that *punishment* might communicate, but we can logically deduce that a similar pattern exists here as well. Certainly punishment can be presented in either of two ways—as a means of control or as a source of information about appropriate behavior. As you discovered in Chapter 4, punishment is more effective when it's accompanied by reasons (information) about why the punished behavior is unacceptable.

Feelings of autonomy and intrinsic motivation are often greater when potential evaluators are absent from the scene.



message that an external reward communicates: An activity isn't worth doing for its own sake (B. A. Hennessey, 1995).

A reward for desirable behavior appears to have *no* adverse effects when learners interpret it as communicating that they're skillful or in some other way have *competence* (Cameron & Pierce, 2005; Cameron, Pierce, Banko, & Gear, 2005; Reeve et al., 2004). Nor does it undermine intrinsic motivation when it's unexpected—for instance, when scientists win the Nobel Prize for groundbreaking research findings—or when it's *not* contingent on specific behaviors (Cameron, 2001; Deci et al., 2001; Reeve, 2006).⁷

Surveillance and evaluation People who think or know their performance will be evaluated have a lower sense of autonomy and, as a result, are less intrinsically motivated. This is especially likely to be the case when the task at hand is a difficult one and when the evaluation is perceived as a final judgment rather than as a means of substantiating or enhancing a sense of competence (E. M. Anderman & Dawson, 2011; B. A. Hennessey, 2010). In fact, the mere presence of a potential evaluator is apt to undermine intrinsic motivation (Deci & Ryan, 1987). For example, even though I have a mediocre singing voice, I like to sing and will often do so when no one else is around to hear me (e.g., when I'm mowing the lawn or driving alone on business). But my intrinsic motivation to sing vanishes when anyone else is in earshot.

In Chapter 8, I mentioned that formal classroom assessments (e.g., assignments and tests) often promote effective long-term memory storage. Among other things, they encourage students to review classroom material more regularly and process information more thoroughly. But here we see a disadvantage of formal assessments: They may undermine students' intrinsic motivation to learn (Grolnick & Ryan, 1987; Hatano & Inagaki, 2003; L. Shepard, Hammerness, Darling-Hammond, & Rust, 2005). For example, in one study (Benware & Deci, 1984), college students studied an article about brain functioning under either of two conditions: Some studied it with the expectation of being tested on it, while others studied it with the expectation that they would have to teach the material to someone else (a presumably nonevaluative situation). Compared with their counterparts in the testing group, students in the teaching group enjoyed their learning

⁷A potential downside of noncontingent reinforcement is that it may in some cases lead to superstitious behavior (see Chapter 3).

experience more, found the material more interesting, and engaged in more meaningful (rather than rote) learning. Similar results have been found with fifth-graders (Grolnick & Ryan, 1987).

We should keep in mind that no amount of autonomy is going to make us feel intrinsically motivated to do something if we don't also have a sense of competence. As an illustration, let's consider a study with seventh-graders who varied in their beliefs about their writing competence (Spaulding, 1992, pp. 54–55). All the students were asked to write an essay concerning what they'd learned in English class that year. Some students were asked to write it for their teacher, someone they believed would evaluate their work; hence, this group experienced a low sense of autonomy. Other students were asked to write the essay for the researcher so that she could tell future teachers what kinds of things students study in English; without the threat of evaluation looming over them, these students presumably experienced relatively high autonomy. Students who believed themselves to be competent writers showed greater task engagement and intrinsic motivation in the high autonomy condition—that is, when writing for the researcher. In contrast, students who believed they were poor writers were more engaged in the task when writing for the teacher. Apparently, autonomy in the absence of perceived competence didn't promote intrinsic motivation.⁸

Putting a Positive Spin on Controlling Circumstances

Sometimes people respond to circumstances beyond their control by identifying ways to take charge of aspects of their lives despite existing constraints on their freedom. Because they can't change their environment, they instead change *themselves* to better adapt to it—a phenomenon known as **secondary control** (N. C. Hall, Chipperfield, Perry, Ruthig, & Goetz, 2006; N. C. Hall, Goetz, Haynes, Stupnisky, & Chipperfield, 2006; Rothbaum, Weisz, & Snyder, 1982).

One common secondary-control strategy is to reinterpret an aversive event as something that can ultimately work in one's best interest—that is, to invoke the adage “Every cloud has a silver lining.” Another is to take proactive steps to improve one's circumstances and, in the process, gain more control. For example, a college student might interpret a low grade on a difficult exam as a “wake-up call” to study harder or seek extra help. Parents of a child with a mental disability might become active, productive members of organizations such as the Autism Society of America or the National Alliance for the Mentally Ill. In part by helping people maintain their sense of autonomy, secondary-control strategies enhance motivation to achieve at school and elsewhere, as well as psychological well-being more generally (J. E. Bower, Moskowitz, & Epel, 2009; N. C. Hall, Chipperfield, et al., 2006; N. C. Hall, Perry, Ruthig, Hladkyj, & Chipperfield, 2006).

Relatedness and Belonging

Many motivation theorists have proposed that people of all ages have a fundamental need to feel socially connected and to secure the love and respect of others. In other words, people have a **need for relatedness** (Connell & Wellborn, 1991; A. J. Martin & Dowson, 2009; Reeve et al., 2004; R. M. Ryan & Deci, 2000). The need for relatedness is sometimes manifested more specifically as a **need for belonging** (or *belongingness*) to one or more social groups (E. M. Anderman,

⁸Using different terminology, social cognitive theorists also talk about the interplay between competence and autonomy. In particular, when people have a high sense of *self-efficacy* and good *self-regulation* skills, they gain an increasing sense of *personal agency* (Bandura, 2008; Schunk & Zimmerman, 2006; Zimmerman, 2010).

2002; A. P. Fiske & Fiske, 2007; M. E. Ford & Smith, 2007; Thorkildsen, Golant, & Cambray-Engstrom, 2008). As is true for the need for competence, the needs for relatedness and belonging may be important from an evolutionary standpoint: People who live in cohesive, cooperative social groups are more likely to survive than people who go it alone (Wright, 1994).

In classroom settings, students' need for relatedness and belonging may manifest itself in a variety of behaviors. Many children and adolescents place high priority on interacting with friends, sometimes at the expense of completing schoolwork (Dowson & McInerney, 2001; Doyle, 1986; Wigfield, Eccles, Mac Iver, Reuman, & Midgley, 1991). They may also be concerned about projecting a favorable public image—that is, by looking smart, popular, athletic, or cool (Juvonen, 2000). And some may exhibit their need for relatedness by showing concern for other people's welfare or helping peers who are struggling with classroom assignments (Dowson & McInerney, 2001; M. E. Ford & Smith, 2007). The needs for relatedness and belonging appear to be especially high in the middle school years (B. B. Brown, Eicher, & Petrie, 1986; Juvonen, 2000; A. M. Ryan & Patrick, 2001). Young adolescents tend to be overly concerned about what others think, prefer to hang out in tight-knit groups, and are especially susceptible to peer influence.

Some individuals seem to have a greater need for interpersonal relationships than others (Connell & Wellborn, 1991; C. A. Hill, 1987; Kupersmidt, Buchele, Voegler, & Sedikides, 1996). For example, as high school students, my oldest two children couldn't stand the thought of being home "alone" (i.e., with their parents) on weekend nights and so almost always found something to do with their friends. When they were home on weeknights, they spent long hours talking to friends on the phone, to the point that schoolwork sometimes didn't get done. In contrast, my youngest child, Jeff, was always able to work or play alone quite happily for hours at a time.

At school, students' needs for relatedness and belonging are often reflected in the choices they make—for instance, in (a) their preferences to work alone or with classmates and (b) their selection of class schedules that either meet their own interests and ambitions, on the one hand, or enable them to be with their friends, on the other (Boyatzis, 1973; French, 1956; Sansone & Smith, 2002; Wigfield, Eccles, & Pintrich, 1996). As a result, high needs for relatedness and belonging can sometimes interfere with maximal learning and academic achievement (Urdan & Maehr, 1995; Wentzel & Wigfield, 1998).

People seem to be more intrinsically motivated to accomplish new tasks when their need for relatedness has been addressed. For instance, students are more eager to engage in classroom activities and master academic subject matter when they believe their teachers truly care about them and will support them in their efforts to learn (H. A. Davis, 2003; Furrer & Skinner, 2003; Roeser, Eccles, & Sameroff, 2000). Students' motivation in the classroom also increases when their classmates support them in their learning (see Chapter 11, especially the discussion of communities of learners). Other people's love and respect can enhance learners' intrinsic motivation *indirectly* as well as directly—in particular, by communicating high expectations for performance and in other ways boosting an overall sense of competence and self-worth (L. H. Anderman, Patrick, Hruda, & Linnenbrink, 2002; Newberg & Sims, 1996; Patrick, Anderman, & Ryan, 2002).

Occasionally, the needs for relatedness and belonging conflict with the need for autonomy. If people want to gain the approval of others (which can enhance their feelings of interpersonal connectedness), they might occasionally have to comply with others' expectations or demands (which reduces their sense of autonomy). In cultures that especially value conformity and commitment to group (rather than individual) achievement—as is true in many Asian cultures—people typically place higher priority on relatedness than on autonomy. To some extent they may invoke that positive spin I spoke of earlier, acknowledging that conforming with others' wishes and goals

contributes to the greater good of society as a whole (Heine, 2007; Rothbaum & Trommsdorff, 2007; Savani, Markus, Naidu, Kumar, & Berlia, 2010).

INDIVIDUAL DIFFERENCES IN MOTIVATION

Up to this point we've been talking about needs that probably characterize all of us. But some theorists suggest that motivation can also involve relatively enduring personality characteristics that people have to a greater or lesser degree. We've already seen examples in preceding discussions of sensation seeking and relatedness. Theories that propose fairly stable individual differences in motivation are known as **trait theories**.

The four topics we address in this section—need for approval, need for achievement, sense of identity, and dispositions—all have a trait-like nature to them. We'll consider additional individual differences in the sections on interests, goals, and attributions in Chapter 15.

Need for Approval

Related to the need for relatedness is an individual difference variable known as the **need for approval**—a desire to gain the acceptance and positive judgments of other people (M. Boyatzis, 1973; Crowne & Marlowe, 1964; Rudolph, Caldwell, & Conley, 2005; Urdan & Maehr, 1995). Many elementary school students have a strong desire to attain the approval of their teacher; at the secondary level, students are more inclined to seek the approval of peers (Harter, 1999; Juvonen & Weiner, 1993; Urdan & Maehr, 1995).

People with a high need for approval are often those with low self-esteem. They may go out of their way to behave in ways they think will please others, sometimes compromising their own standards for appropriate behavior. They're apt to engage in and persist at school tasks primarily to gain praise, and they may self-handicap in activities at which they expect to do poorly. Especially in adolescence, students with a high need for approval give in easily to peer pressure, for fear that they might otherwise be rejected. Such efforts are often counterproductive: Perhaps because they're trying *too* hard to be liked, students with a high need for approval can be relatively unpopular with peers and are often the victims of bullying (Berndt & Keefe, 1996; Boyatzis, 1973; Crowne & Marlowe, 1964; H. A. Davis, 2003; S. C. Rose & Thornburg, 1984; Rudolph et al., 2005; Wentzel & Wigfield, 1998).

Some adolescents may be so preoccupied with peer approval that they base their own sense of self-worth largely on what their peers think of them—or at least on what *they think* their peers think of them (Dweck, 2000; Harter, 1999; Harter, Stocker, & Robinson, 1996). Teenagers who have such socially based contingent self-worth may exhibit significant mood swings, depending on how peers have recently treated them (Burwell & Shirk, 2009; Larson, Clore, & Wood, 1999).

Need for Achievement

The **need for achievement**, sometimes called **achievement motivation**, is the need for excellence for its own sake, without regard for any external rewards one's accomplishments might bring (J. W. Atkinson, 1957, 1964; J. W. Atkinson & Feather, 1966; D. C. McClelland, Atkinson,

Clark, & Lowell, 1953; Vernon, 1969; Veroff, McClelland, & Ruhland, 1975). For example, a person with a high need for achievement might work diligently to maintain a 4.0 grade point average, practice long hours to become a professional basketball player, or play Monopoly with a vengeance.

An early and widely cited theory of achievement motivation is that of John Atkinson and his associates (e.g., J. W. Atkinson & Birch, 1978; J. W. Atkinson & Feather, 1966; J. W. Atkinson & Raynor, 1978; also see Covington & Omelich, 1991; De Castella et al., 2013). These theorists proposed that the tendency to strive for achievement is a function of two related needs: the **motive for success**, or M_s (the desire to do well and accomplish goals), and the **motive to avoid failure**, or M_{af} (anxiety about failing to accomplish goals and reluctance to engage in activities that may lead to failure). For many people, one of these needs is stronger than the other, and achievement behavior depends on which need predominates.

Individuals with a stronger motive for success tend to seek and tackle moderately difficult tasks—those that are challenging yet realistically accomplishable—without worrying about mistakes they might make or stumbling blocks they might encounter. In contrast, individuals with a stronger motive to avoid failure typically forgo such risks in favor of a sure thing. Given a choice, they often select easy tasks at which they'll almost certainly be successful. Curiously, though, high M_{af} individuals occasionally choose extremely difficult tasks—those at which they can't possibly succeed. When they fail at such tasks, they have a built-in explanation—after all, the task was impossible—and so they can easily rationalize the failure. This tendency to choose impossibly difficult tasks should remind you of the self-handicapping phenomenon described earlier.

In a classic study demonstrating such tendencies (J. W. Atkinson & Litwin, 1960), male college students completed a test that enabled the researchers to categorize them as being either high M_s or high M_{af} . The students then played a ring toss game, throwing ring-like objects in an effort to land them around an upright peg. They were told that they could stand wherever they wished, within a 15-foot range, as they attempted to throw 10 rings, one at a time, around the peg. The great majority of high M_s students opted to stand about 8 to 12 feet away from the peg (thus taking on a moderate challenge). Of the high M_{af} students, only half stood in the 8- to 12-foot range; the other half stood either within 7 feet of the peg (thus making the task an easy one) or at least 13 feet away from it (thus making it extremely difficult). Isaacson (1964) found the same pattern in the course selections of college students: Those with a higher M_s tended to choose classes of moderate difficulty, whereas those with a higher M_{af} chose either very easy or very difficult classes.

In its earliest conceptualization, the need for achievement was thought to be a general trait that people exhibit consistently in a variety of activities across many domains. More recently, however, many theorists have proposed that this need may instead be somewhat specific to particular tasks and environments. Most contemporary psychologists now think of achievement motivation as reflecting specific *achievement goals*, which we'll examine in Chapter 15.

Sense of Identity

Over the course of childhood, adolescence, and adulthood, most people construct an increasingly complex **sense of identity**—a sense of who they are, what things they find important, and what goals they want to accomplish in life (Kroger, 2007; Marcia, 1991; Sinai, Kaplan, & Flum, 2012).

To some degree, their sense of identity is apt to encompass their membership in one or more ethnic, cultural, or social groups—for instance, their self-perceptions of being Mexican American or one of the “popular” kids at school (e.g., Bergin & Cooks, 2008; Nolen, 2011; A. M. Ryan, 2000; Thorkildsen et al., 2008).

For better or for worse, people’s self-constructed identities influence their behaviors and priorities. For example, people are more likely to perform acts of compassion and altruism if they see themselves as generally caring individuals who are concerned about the rights and well-being of others (Blasi, 1995; D. Hart & Fegley, 1995; Hastings, Utendale, & Sullivan, 2007; Youniss & Yates, 1999). And at school, students are more likely to engage productively in activities and assignments that they can closely connect to personally important issues and topics (Elmore & Oyserman, 2012; Faircloth, 2012).

Dispositions

A **disposition** is a general, relatively stable inclination to approach learning and problem-solving situations in a particular way.⁹ Dispositions are intentional rather than accidental, and they encompass cognition, motivation, and personality characteristics. Following are examples of productive dispositions theorists have identified:

- *Stimulation seeking.* Eagerly interacting with one’s physical and social environment in order to encounter new experiences and information (Raine, Reynolds, & Venables, 2002)
- *Need for cognition.* Regularly seeking and engaging in challenging cognitive tasks (Cacioppo, Petty, Feinstein, & Jarvis, 1996; DeBacker & Crowson, 2009; Kardash & Scholes, 1996; West, Toplak, & Stanovich, 2008)
- *Epistemic curiosity.* Eagerly seeking knowledge about a wide range of topics (you may also see the term *intellectual curiosity*; M. J. Kang et al., 2009; von Stumm, Hell, & Chamorro-Premuzic, 2011)
- *Adaptability.* Flexibility and adjustment in the face of new, changing, or uncertain situations (A. J. Martin, Nejad, Colmar, & Liem, 2013)
- *Conscientiousness.* Consistently addressing assigned tasks in a careful, focused, and responsible manner (Hampson, 2008; Trautwein, Lüdtke, Schnyder, & Niggli, 2006)
- *Learned industriousness.* Persisting and persevering even when considerable effort is required (Eisenberger, 1992)
- *Open-mindedness.* Flexibly considering alternative perspectives and multiple sources of evidence, and suspending judgment for a time rather than leaping to immediate conclusions (Southerland & Sinatra, 2003; West et al., 2008)¹⁰

⁹Theorists are addressing a similar idea when they talk about *habits of mind*.

¹⁰Open-mindedness can be contrasted with a *need for closure*, whereby people strive to draw rapid conclusions about what is and isn’t true. Learners with a need for closure tend to have relatively unsophisticated epistemic beliefs (e.g., knowledge is an accumulation of facts that can best be obtained from authority figures), to process information in relatively superficial ways, and to reject any information that challenges their current beliefs and prejudices (DeBacker & Crowson, 2006, 2009; Kruglanski & Webster, 1996; Roets & Van Hiel, 2011).

- *Critical thinking.* Consistently evaluating information or arguments in terms of their accuracy, logic, and credibility, rather than accepting them at face value (Giancarlo & Facione, 2001; Halpern, 2008; Toplak & Stanovich, 2002)
- *Consensus seeking.* Seeking a synthesis of diverse perspectives, rather than assuming that perspectives must necessarily be mutually exclusive (Halpern, 1997)
- *Future time perspective.* Predicting and considering the long-term consequences of various courses of action (Bembenutty & Karabenick, 2004; Husman & Freeman, 1999; Simons, Vansteenkiste, Lens, & Lacante, 2004)

Such dispositions are often positively correlated with students' learning and achievement, and many theorists have suggested that they play a causal role in what and how much students learn. In fact, dispositions sometimes *override intelligence* in their influence on long-term achievement (Dai & Sternberg, 2004; D. Kuhn & Franklin, 2006; Perkins & Ritchhart, 2004). For instance, children who eagerly seek out physical and social stimulation as preschoolers later become better readers and earn higher grades in school (Raine et al., 2002). Adolescents who are adaptable and conscientious are more self-regulating and engage more productively in classroom activities; for instance, they're more likely to do their homework (Hampson, 2008; A. J. Martin et al., 2013; Trautwein, Lüdtke, Kastens, & Köller, 2006). People who have a strong future time perspective are more motivated to engage in activities that will help them achieve their future goals (Bembenutty & Karabenick, 2004; Husman & Freeman, 1999; Simons et al., 2004). People with a high need for cognition learn more from what they read and are more likely to base conclusions on sound evidence and logical reasoning (Cacioppo et al., 1996; Dai, 2002; P. K. Murphy & Mason, 2006). People who critically evaluate new evidence and are receptive to and open-minded about diverse perspectives show more advanced reasoning capabilities; they're also more likely to undergo conceptual change when warranted (Matthews, Zeidner, & Roberts, 2006; Southerland & Sinatra, 2003).

Researchers haven't yet systematically addressed the origins of various dispositions. Perhaps inherited temperamental differences (e.g., in stimulation seeking) are involved (A. J. Martin et al., 2013; Raine et al., 2002). Epistemic beliefs—for instance, the belief that knowledge is fixed and unchanging, on the one hand, or dynamic and continually evolving, on the other—may also play a role (P. M. King & Kitchener, 2002; D. Kuhn, 2001b; Mason, 2003; Schommer-Aikins, Hopkins, Anderson, & Drouhard, 2005). And quite possibly teachers' actions in the classroom—for instance, whether they encourage inquisitive exploration, risk taking, and critical thinking with respect to classroom topics—make a difference (DeBacker & Crowson, 2009; Flum & Kaplan, 2006; D. Kuhn, 2001b, 2006). In the following classroom interaction, a teacher actually seems to *discourage* any disposition to think analytically and critically about classroom material:

- Teacher: Write this on your paper . . . it's simply memorizing this pattern. We have meters, centimeters, and millimeters. Let's say . . . write millimeters, centimeters, and meters. We want to make sure that our metric measurement is the same. If I gave you this decimal, let's say .234 m (yes, write that). In order to come up with .234 m in centimeters, the only thing that is necessary is that you move the decimal. How do we move the decimal? You move it to the right two places. (Jason, sit up please.) If I move it to the right two places, what should .234 m look like, Daniel, in centimeters? What does it look like, Ashley?
- Ashley: 23.4 cm.

Teacher: Twenty-three point four. Simple stuff. In order to find meters, we're still moving that decimal to the right, but this time, boys and girls, we're only going to move it one place. So, if I move this decimal one place, what is my answer for millimeters?
(Dialogue from J. C. Turner et al., 1998, p. 741)

Undoubtedly, this teacher means well: She wants her students to know how to convert from one unit of measurement to another. But notice the attitude she engenders: "Write this . . . it's simply memorizing this pattern."

AFFECT AND ITS EFFECTS

A close partner of motivation is **affect**—the feelings, emotions, and general moods that a learner brings to bear on a task.¹¹ For example, earlier in the chapter we noted that intrinsically motivated individuals typically find pleasure in what they're doing. Yet too much motivation—perhaps wanting something too much—can lead to anxiety and other unpleasant emotions. Pleasure, anxiety, excitement, pride, depression, anger, guilt, boredom—all of these are forms of affect.

Affect often has measurable physiological correlates, such as changes in blood pressure, heart rate, muscular tension, and general energy level. And it's interrelated with motivation, learning, and cognition in a variety of ways, as we'll see now.

How Affect Is Related to Motivation

From an evolutionary perspective, the brain's immediate emotional responses to certain events—say, fearfully darting away from a snake or responding angrily to a threatening neighbor—have helped human beings survive and thrive over the centuries (Damasio, 1994; Öhman & Mineka, 2003). But affect plays a role in the playful, thoughtful aspects of human motivation as well. In general, how people feel depends on whether their needs are being met and their goals are being accomplished (E. M. Anderman & Wolters, 2006; Goetz, Frenzel, Hall, & Pekrun, 2008; A. J. Martin & Dowson, 2009). People also consider how they're apt to feel later on—in particular, how good a success will feel (e.g., making them happy or proud) and how bad a failure will feel (e.g., making them sad or ashamed)—when deciding what activities to pursue (Mellers & McGraw, 2001).

Some emotions, known as **self-conscious emotions**, are closely tied to people's self-assessments and thus are intertwined with their sense of self-worth (M. Lewis & Sullivan, 2005; Pekrun, 2006). When people evaluate their behaviors and accomplishments as being consistent with their culture's standards for appropriate and desirable behavior, they're apt to feel pride. When, in contrast, they see themselves as failing to live up to those standards—for instance, when they thoughtlessly cause harm to someone else—they're apt to feel guilt and shame.

Another emotion we must not overlook is **boredom**—a generally unpleasant feeling that results from a lack of stimulation and arousal (Eastwood, Frischen, Fenske, & Smilek, 2012;

¹¹Some theorists use the terms *affect* and *emotion* almost interchangeably. But others suggest that we use *emotion* to refer only to short-term states and *affect* in a broader sense to include both short-term states and longer-term moods and predispositions (Forgas, 2000; Linnenbrink & Pintrich, 2002; Rosenberg, 1998; Wilson-Mendelhall, Barrett, & Barsalou, 2013).

Pekrun et al., 2010). Recall the earlier discussion of *need for arousal*: Human beings feel more comfortable when they have some degree of either physical or cognitive stimulation. Boredom-inducing activities can take a variety of forms: They might be either too easy or too difficult for learners' current ability levels, or they might involve repetitive, monotonous tasks that seemingly have little relevance to learners' lives. Learners who are bored in their current environment will either seek to escape it or else create their own stimulation—perhaps in the form of passing notes across the aisle or checking their cell phones for recent text messages. In classroom settings, then, students who are bored with the topic at hand are unlikely to pay much attention to or benefit from instructional activities (Nett, Goetz, & Hall, 2011; Pekrun et al., 2010).

Occasionally, unpleasant emotions work to one's advantage; for instance, shame can spur a person to address current shortcomings, and anger about an injustice or unfair treatment can mobilize a person to make things right (Eid & Diener, 2001; Tamir, 2009). As a general rule, however, people act in ways that help them feel happy and comfortably aroused rather than sad, confused, angry, or bored (Eastwood et al., 2012; Isaacowitz, 2006; Tsai, 2007). *How* happy and aroused they want to feel is to some degree a cultural matter. On average, people in European and North American cultures like a highly aroused yet pleasant affective state—for instance, a feeling of excitement—whereas people in Asian cultures prefer a more sedate, peaceful state (Mesquita & Leu, 2007; Tsai, 2007).

When learners are in a good mood during a learning activity, they're more likely to cognitively engage with new material and work hard to make sense of it (Linnenbrink & Pintrich, 2004; Mega, Ronconi, & De Bani, 2014; Pekrun, Goetz, Titz, & Perry, 2002). But as they study, they may occasionally encounter ideas that conflict with their current beliefs. Such discrepancies can cause considerable mental discomfort—a state of affairs that Piaget called *disequilibrium* but many contemporary theorists call **cognitive dissonance**. This dissonance typically motivates learners to try to resolve the discrepancies in some way—perhaps revising existing beliefs (thus undergoing *conceptual change*) or perhaps ignoring or discrediting the new information—so that they can return to a more contented frame of mind (Harmon-Jones, 2001; Marcus, 2008; Pintrich et al., 1993; Sinatra & Mason, 2008).

How Affect Is Related to Cognition and Learning

Historically, a significant weakness of cognitive and social-cognitive perspectives of learning has been their general disregard for the affective aspects of mental processes (Hidi, Renninger, & Krapp, 2004; E. Peterson & Welsh, 2014; Pintrich, 2003). Yet affect is clearly intermingled with cognition and learning. For example, while learning how to perform a task, we simultaneously learn whether we like doing it (Goetz et al., 2008; Zajonc, 1980). Problem solving is easier when we enjoy what we're doing, and successful attempts at learning and problem solving often bring on feelings of excitement, pleasure, and pride (E. M. Anderman & Wolters, 2006; C. S. Carver & Scheier, 1990; Pekrun, 2006; Shernoff & Csikszentmihalyi, 2009). Our failed attempts at a task are apt to make us feel frustrated or anxious, especially if the task seems to be an easy one, and we're apt to develop a dislike for the task (C. S. Carver & Scheier, 1990; Shepperd & McNulty, 2002; Stodolsky, Salk, & Glaessner, 1991).

As we're thinking about, learning, or remembering something, our very thoughts and memories may have emotional overtones—a phenomenon known as **hot cognition**. Often the nature of the material we're trying to learn induces hot cognition and, as a result, affects cognitive processing.

When information is emotionally charged, we're more likely to pay attention to it (Kuhbandner, Spitzer, & Pekrun, 2011; Phelps, Ling, & Carrasco, 2006). We're also more likely to continue to think about it and repeatedly elaborate on it, provided that the emotion it evokes isn't so overwhelming that it distresses us (G. H. Bower, 1994; Heuer & Reisberg, 1992; D. J. Siegel, 2012). Yet our ability to draw inferences from, and respond appropriately to, emotionally charged topics is sometimes hampered, at least in comparison with our ability to think logically about nonemotional topics (Blanchette & Richards, 2004; Harmon-Jones, Gable, & Price, 2013; Marcus, 2008).

In addition, the emotional nature of what we've stored in long-term memory may influence our ability to retrieve it later on. Although we may occasionally repress extremely painful memories (see Chapter 8), in general we can more easily retrieve information with high emotional content than we can recall relatively nonemotional information (Kensinger, 2007; Phelps & Sharot, 2008; Talarico, LaBar, & Rubin, 2004; Talmi, 2013). As one example, recall the discussion of *flashbulb memories* in Chapter 8. As another example, let's consider an experiment by Heuer and Reisberg (1990). College students looked at a series of pictures that depicted one of two stories, both involving a boy and his mother visiting the boy's father at work. For some students (the emotional-content group), the father was a surgeon operating on an accident victim; among other things, these students saw pictures of surgery in progress (with a person's internal organs in full view) and the badly scarred legs of a child. For other students (the neutral-content group), the father was an auto mechanic repairing a broken-down car; these students saw the internal workings of the car, including a piece that was clearly broken. Two weeks later, all the students were given an unexpected quiz about what they'd observed. Students who had seen the emotion-laden sequence remembered both the general gist of the story and many of the tiny details depicted in the slides far more accurately than did students who had seen the neutral sequence. In fact, although they didn't expect to be tested on what they'd seen, students in the emotional-content group remembered more than students who had watched the neutral sequence and specifically been *told* to remember its plot and details. The superior memories of the surgery-group students were probably due not only to the vividly gory visual material but also to the fact that a human being was in distressed circumstances (see Cahill & McGaugh, 1995).

General mood states, too, can affect learning and memory. When we're in a good mood—for instance, when we feel happy or excited rather than bored or depressed—we're more likely to pay attention to information, relate it to things we already know, and creatively elaborate on it (Bohn-Gettler & Rapp, 2011; Efklides, 2011; Pekrun, 2006; Pekrun et al., 2010; N. Schwarz & Skurnik, 2003). A good mood is also likely to help us retrieve things we've previously stored in long-term memory (Oatley & Nundy, 1996). But in addition, we can sometimes retrieve information from long-term memory more successfully when our mood at the time of retrieval is the same as our mood when we initially stored the information—an effect known as **mood-dependent memory** (G. H. Bower & Forgas, 2001; Eich, 1995; Pekrun et al., 2002).

Some cognitive theorists have suggested that affective responses to objects and events are integral parts of the network of associations that comprises long-term memory.¹² Just as people can easily categorize things on the basis of concepts or schemas, so, too, can they easily categorize them

¹²Neurological evidence supports this view. Areas of the brain associated with emotion (e.g., the limbic system) communicate regularly with those responsible for “colder” aspects of cognition (e.g., the frontal cortex), and they sound an alarm when a potentially important stimulus warrants immediate attention (Benes, 2007; Forgas, 2008; Talmi, 2013).

on the basis of affect—what things make them happy, sad, angry, and so on (G. H. Bower & Forgas, 2001). Affective responses may, in fact, be an important source of *information* that learners have about objects and events (Clore, Gasper, & Garvin, 2001; Minsky, 2006; N. Schwarz & Skurnik, 2003; C. A. Smith & Kirby, 2001). For instance, it's quite helpful to know that reading a good book will be a source of pleasure but that spending time with a verbally abusive relative will not.

In some circumstances, the affective components of a memory are so intense that they're easily retrieved, perhaps to the point that they're hard to ignore and unlikely to be confused with other memories¹³ (Berntsen, 2010; G. H. Bower & Forgas, 2001; Schacter, 1999). In other cases, affective components may be sufficiently subtle that learners aren't consciously aware of them; that is, they're *implicit* rather than explicit knowledge (G. H. Bower & Forgas, 2001; Ito & Cacioppo, 2001; Winkielman & Berridge, 2004). Occasionally people show physiological responses to a stimulus of which they have no conscious recollection; in such situations, previous affective responses to that stimulus are the *only* things that appear to remain in memory (Nadel & Jacobs, 1998; Zajonc, 2000).

Probably the most widely studied form of affect within the context of learning and instruction is anxiety. Behaviorists have discovered that anxiety can be classically conditioned and sometimes leads to avoidance learning (see Chapter 3). Cognitivists have documented anxiety's negative effects on such cognitive processes as long-term memory retrieval and problem solving (see Chapters 8 and 13). Anxiety has other effects as well—some beneficial and others not, as we'll see now.

Anxiety

Anxiety is a feeling of uneasiness and apprehension about a situation, typically one with an uncertain outcome. Fear and anxiety are related concepts, in that both reflect the high end of the *arousal* continuum. Yet they have one critical difference that sets them apart: Fear is a response to a specific threat, whereas anxiety is vague and relatively unfocused. For example, people are *afraid* of certain things, but they don't always know exactly what they're *anxious* about (Lazarus, 1991).

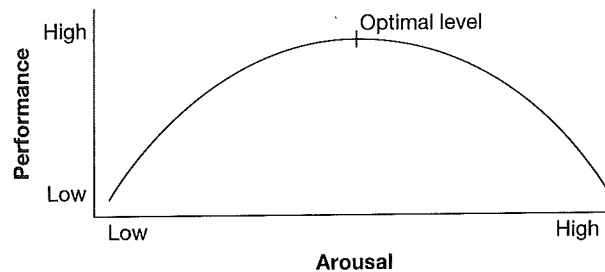
Anxiety has two distinct components: worry and emotionality (R. Carter, Williams, & Silverman, 2008; Hong, O'Neil, & Feldon, 2005; Tryon, 1980). *Worry* is the cognitive aspect of anxiety, which includes troubling thoughts and beliefs about one's ability to deal with a situation. *Emotionality* is the affective aspect, which includes such physiological responses as muscular tension (e.g., stomach "butterflies"), increased heart rate, and perspiration, as well as such behavioral responses as restlessness and pacing. Neurologically, anxiety is reflected in higher-than-normal activation of the amygdala—an especially "emotional" part of the brain's limbic system—with less-than-optimal activation of the more "logical" prefrontal cortex (Sharot, Martorella, Delgado, & Phelps, 2007; Young, Wu, & Menon, 2012).

Psychologists have found it useful to distinguish between two types of anxiety. **State anxiety** is a temporary condition elicited by a particular stimulus. For example, you might experience state anxiety when working on an especially challenging math problem or thinking about an upcoming exam in a notoriously difficult class. In contrast, **trait anxiety** is a relatively stable state of affairs, such that an individual is chronically anxious in certain situations.

¹³In the terminology of Chapter 8, emotionally intense memories are less prone to *interference* from other memories (G. H. Bower & Forgas, 2001).

Figure 14.2

The inverted U curve, depicting a curvilinear relationship between arousal and performance.



For instance, you might have general mathematics anxiety or test anxiety, becoming anxious whenever you encounter number problems or think about exams.

Effects of Anxiety

Early studies focused on the effects of anxiety on learning and performance. More recently, with the advent of more cognitively oriented theories of learning, studies have investigated the effects that anxiety is likely to have on cognitive processes. Let's examine the evidence in each of these areas.

Effects on learning and performance Earlier I mentioned that people may strive to seek an optimal level of arousal—a comfort zone somewhere between too little and too much. But what's optimal depends not only on the individual but also on the task at hand. Arousal seems to affect learning and performance in a curvilinear (“inverted U”) fashion (Broadhurst, 1959; D. J. Siegel, 2012). More specifically, a small degree of arousal (e.g., a little bit of anxiety) facilitates learning and performance. A high degree of arousal (e.g., high anxiety) may facilitate learning and performance when the task is easy, but likely to interfere when the task is more difficult. For any task, there's probably some optimal level of arousal at which learning and performance are maximized (see Figure 14.2).

A classic experiment with mice by Yerkes and Dodson (1908) provides a concrete illustration of how arousal level and task difficulty interact. Each mouse was placed in a chamber from which it could escape by either of two doors. The wall opposite the doors was slowly moved to make the chamber smaller and smaller, until the mouse was eventually forced to escape through one door or the other. One door led to a safe, comfortable “nest box”; the other led to electric shock. The experimenters provided a clue to help the mouse determine which door was which: The doorway leading to the nest box was consistently lighter in color than the doorway leading to shock.

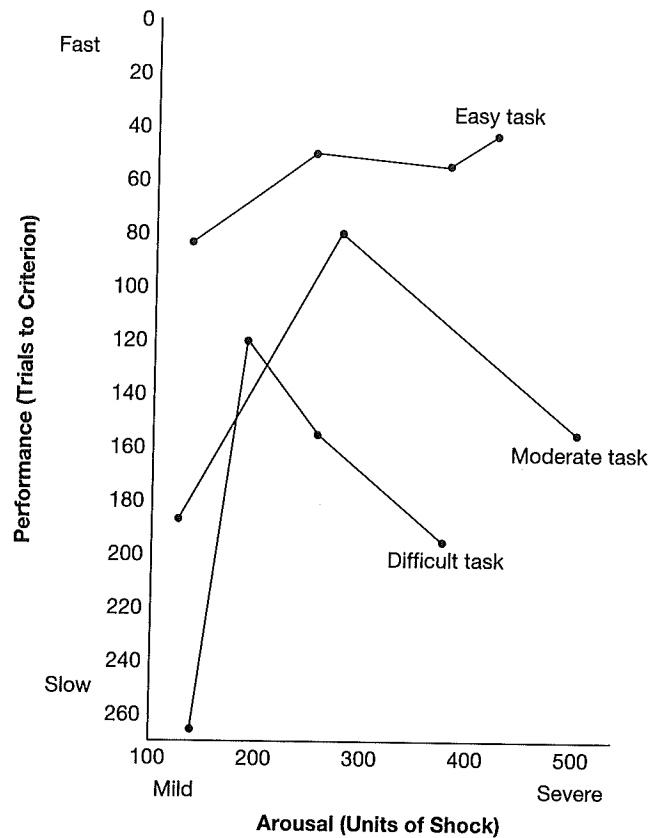
For different groups of mice, the experimenters varied arousal level by the amount of shock administered—mild, intense, or somewhere in between—when the wrong door was entered. They varied task difficulty by varying the relative similarity or difference between the two doorways: some mice had to choose between white and black (an easy task), others chose between light and dark gray (a moderately difficult task), and still others chose between similar shades of gray (a very difficult, although not impossible, task).

The experimenters established a criterion of 30 correct door choices in a row as an indication that a mouse had successfully learned the discrimination. Figure 14.3 shows the average number of learning trials for mice in each condition; because the y-axis reflects quality of performance (speed of learning), groups needing fewer trials to reach the criterion appear higher in the figure than groups with more trials. Notice how the mice with an easy choice performed best under high arousal (intense shock) conditions. Those with a moderately difficult task performed better

Figure 14.3

Arousal level interacts with task difficulty, resulting in different optimal levels for different tasks.

From data reported in "The relation of strength of stimulus to rapidity of habit-formation" by R. M. Yerkes and J. D. Dodson, 1908, *Journal of Comparative Neurology and Psychology*, 18, pp. 459–482.



with moderate arousal (moderate shock). Those with an extremely difficult discrimination performed best when shock and arousal were relatively low.

This principle—that easy tasks are best accomplished with a relatively high level of arousal but more difficult tasks are better accomplished with a low or moderate level—is often called the **Yerkes–Dodson law**. The principle holds true for many species, including human beings. In general, a high level of anxiety enhances performance of well-learned, automatic behaviors; here we have a case of **facilitating anxiety**. But the same high level is apt to interfere with performance on a challenging new task; in this situation, we have **debilitating anxiety**. For example, people generally run faster when they're highly anxious—running is a skill most people learn to automaticity—but high anxiety levels interfere with more complex motor skills, such as playing golf (Beilock & Carr, 2001; Gladwell, 2005). And although a small amount of anxiety about an upcoming exam is apt to spur students to be diligent in their schoolwork, a lot of anxiety *during* the exam is apt to be counterproductive (Cassady, 2010b; Kirkland, 1971; Spielberger, 1966).

A useful distinction in this context is the difference between threat and challenge (Combs, Richards, & Richards, 1976). A **threat** is a situation in which learners believe they have little chance of success—they see failure as an almost inevitable outcome. In contrast, a **challenge** is a situation in which learners believe they can probably succeed if they try hard enough. Students are apt to have debilitating anxiety when they perceive a situation to be threatening. They

respond to challenges more favorably; for example, they're likely to be highly motivated to do their best, and they express considerable excitement and satisfaction when they succeed (Cassady, 2010b; Cobb, Yackel, & Wood, 1989; N. E. Perry, Turner, & Meyer, 2006; Shernoff & Csikszentmihalyi, 2009; A. G. Thompson & Thompson, 1989).

Effects on cognition Imagine yourself sitting in class taking a test. Here are some thoughts that might run through your mind as you do so:

- Oh, yes, my professor introduced this concept last week. It refers to . . .
- Here's something we didn't specifically talk about in class. Let me see if I can relate it to something we *did* talk about . . .
- The best way to solve this problem might be to . . .
- These questions are getting harder and harder . . .
- Oh, no, I only have 10 minutes left. I can't possibly finish . . .
- What if I fail this test? It's required for my program . . .

The first three thoughts are clearly relevant to the task at hand and should help you do your best on the exam. In contrast, the last three are irrelevant to your task: You're devoting your time and thoughts to worrying rather than to thinking about how to answer the test questions. As you should recall from the discussion of attention and working memory in Chapter 7, people can attend to and process only a small amount of information at any one time. The more time and attention they devote to worrying about a test they're taking, the less capacity they have for dealing with the test itself.

Anxiety interferes with an individual's attention to a task. And because worrisome thoughts take up a certain amount of working memory capacity, anxiety also interferes with effective cognitive processing. Such effects are especially common when the task at hand is a difficult one—for instance, when it involves solving problems—and when it involves considerable retrieval of information from long-term memory (Ashcraft & Krause, 2007; Beilock & Carr, 2005; Beilock, Kulp, Holt, & Carr, 2004; Pekrun et al., 2002; Tobias, 1980).

In general, then, anxiety's debilitating effects are distractive ones: When performing a difficult task, highly anxious people are more likely to be diverted by irrelevant stimuli, think irrelevant thoughts, and exhibit irrelevant responses (Ashcraft, 2002; Beilock et al., 2004; Fletcher & Cassady, 2010; Wine, 1980).

Common Sources of Anxiety

People can be anxious about a variety of things. For example, they might be concerned about their personal appearance (N. J. King & Ollendick, 1989). They're likely to feel insecure when entering a new, unknown, and perhaps unsettling situation—for instance, when, as young adolescents, they make the transition from a nurturing elementary school to a more impersonal junior high or high school (Benner & Graham, 2009; Eccles & Midgley, 1989; Phelan, Yu, & Davidson, 1994). They may feel uncomfortable when they encounter ideas that conflict with what they currently believe; recall the earlier discussion of *cognitive dissonance* (Bendixen, 2002; Harmon-Jones, 2001). And, in general, people are likely to become anxious whenever their sense of self-worth or self-efficacy is threatened—for instance, when they know or think they're being evaluated by adults or peers (Cassady, 2010a; Covington, 1992; Eccles, Wigfield, & Schiefele, 1998; Zeidner & Matthews, 2005).

Two forms of trait anxiety—mathematics anxiety and test anxiety—have been the focus of considerable study. We'll now look at what research tells us about each of these.

Mathematics anxiety Some school subjects tend to elicit more anxiety than others; for instance, some students get especially anxious in science or foreign language classes (Britner, 2010; Goetz, Frenzel, Pekrun, Hall, & Lüdtke, 2007; Horwitz, Tallon, & Luo, 2010). But of all the subjects taught in schools, none seems to elicit as much anxiety for as many students as mathematics. Math anxiety has both worry and emotionality components. First, math-anxious people firmly believe they're incapable of succeeding at mathematical tasks; in other words, they have low self-efficacy for math. Second, they have negative emotional reactions to math: They fear and dislike it, often intensely (B. Hoffman, 2010; Jain & Dowson, 2009; Jameson, 2010; Wigfield & Meece, 1988).

One possible reason that students become anxious about math is that school curricula often introduce mathematical concepts and procedures before students are cognitively ready to handle them. For example, developmental researchers have found that the abilities to understand proportions and deal with abstract ideas emerge only gradually over the course of childhood and adolescence (see Chapter 10). Yet schools often expect students to work with mathematical proportions and abstractions—for instance, fractions, ratios, negative numbers, and pi (π)—in the upper elementary and early junior high school years. Furthermore, many teachers and textbooks begin new units or lessons with abstract ideas—for instance, by describing the Pythagorean theorem first in symbolic notation ($a^2 + b^2 = c^2$) and as a geometric diagram and only later placing it in concrete, real-world contexts (Nathan, 2012). If students are asked to deal with concepts and tasks they can't understand, many of them will undoubtedly encounter frustration and failure. And when students associate frequent failure with math, we can expect them to acquire a dislike for the subject and a belief that they're incapable of doing well in it.

As you might expect, students with high math anxiety do more poorly in math than students with low math anxiety. Furthermore, highly math-anxious students are less likely to enroll in additional math classes of their own volition or pursue careers in math or related fields (e.g., science, technology). Such differences between high-math-anxious and low-math-anxious students appear even when the two groups of students have done equally well in previous math classes (Ashcraft, 2002; Chipman, Krantz, & Silver, 1992; Jameson, 2010; Meece, Wigfield, & Eccles, 1990; Vukovic, Kieffer, Bailey, & Harari, 2013; Zeidner & Matthews, 2005).

Test anxiety Most of us get a little bit anxious about tests and, as we've already seen, a small amount of anxiety can actually help us do better on them. But some students become extremely anxious in test-taking situations, and these students typically get lower test scores than their less-anxious classmates (Cassady & Johnson, 2002; Chapell et al., 2005; Hembree, 1988). Such students appear to be concerned primarily about the *evaluative* aspect of tests: They're terribly concerned that someone else (e.g., their teacher) will make negative judgments about them (Harter, Whitesell, & Kowalski, 1992; B. N. Phillips, Pitcher, Worsham, & Miller, 1980; Zeidner & Matthews, 2005). Test anxiety interferes not only with retrieval at the time of the test but also with encoding and storage when learners are studying for the test (Cassady, 2010b; Zeidner & Matthews, 2005). Thus, highly test-anxious students don't just "test" poorly; they also learn poorly.

Many students in the upper elementary and secondary grades have test anxiety that interferes with their test performance, especially when taking *high-stakes* tests whose results influence decisions about promotion, graduation, and other significant consequences. Debilitative test anxiety is especially common in students from ethnic minority groups and students with disabilities (R. Carter et al., 2008; Chabrán, 2003; M. G. Jones, Jones, & Hargrove, 2003; Putwain, 2007; Whitaker Sena, Lowe, & Lee, 2007).

Anxiety may be at the root of a phenomenon known as **stereotype threat**, in which individuals from stereotypically low-achieving groups (e.g., females, certain minority groups) perform more poorly on tests than they otherwise would simply because they're aware that their group traditionally *does* do poorly (J. Aronson & Steele, 2005; Steele, 1997). When people are aware of the unflattering stereotype—and especially when they know that the task they're performing reflects their ability in an important domain—worrying thoughts intrude into working memory, heart rate and other physiological correlates of anxiety go up, and performance goes down (Cadinu, Maass, Rosabianca, & Kiesner, 2005; Inzlicht & Ben-Zeev, 2003; Krendl, Richeson, Kelley, & Heatherton, 2008; Schmader, 2010; G. M. Walton & Spencer, 2009; Yeager & Walton, 2011). We're less likely to see the negative effects of stereotype threat when people don't interpret their performance on a task as indicative of their competence, ability, and overall status in comparison with peers (Josephs, Newman, Brown, & Beer, 2003; McKown & Weinstein, 2003; Osborne, Tillman, & Holland, 2010; Régner et al., 2010).

CREATING A MOTIVATING AND AFFECT-FRIENDLY CLASSROOM ENVIRONMENT

All too often, I hear people—including some teachers—complain that students “just aren't motivated” to learn. In fact, many teachers mention students' lack of motivation as their number one concern (J. C. Turner, Warzon, & Christensen, 2011). But one thing should be clear by now: Motivation to learn classroom subject matter isn't necessarily something that students bring to school with them—it can also be something teachers *instill* in students.

The theories and principles we've examined in this chapter offer numerous ideas about how instructional practices can promote motivation and productive affect.

- ♦ *Students learn more effectively and engage in more productive classroom behaviors when they're intrinsically rather than extrinsically motivated to learn and achieve.* Our society often focuses on the extrinsic advantages of school achievement. Parents offer money and other rewards for good grades. School athletic departments confer varsity letters for high-level performance on sports teams. Teachers and guidance counselors stress the importance of high school diplomas for long-term financial success. Yet as we've seen, students are more likely to exhibit cognitive and behavioral engagement, meaningful learning, and enjoyment in academic activities—and more likely to achieve at high levels—when they're *intrinsically* rather than extrinsically motivated. Unfortunately, children's intrinsic need to learn and achieve at school tends to decrease as they progress through the school grades and especially as they make the transition from elementary school to middle or secondary school (E. M. Anderman & Mueller, 2010; Gottfried, Fleming, & Gottfried, 2001; Lepper, Corpus, & Iyengar, 2005).

Researchers have identified a variety of strategies that appear to promote intrinsic motivation to learn classroom subject matter. One effective approach is to talk about intrinsic rather than extrinsic motives for pursuing classroom activities—for example, by saying, “It's nice to get good grades, but it's more important that you understand what you're studying and enjoy what you're doing” (Amabile & Hennessey, 1992; Graham & Weiner, 1996; Urdu & Turner, 2005). Adults who model intrinsic motivation—for instance, by showing enthusiasm about what they're doing—promote observers' intrinsic motivation for the same activities (Frenzel, Goetz, Lüdtke, Pekrun, & Sutton, 2009; Nolen, 2007; Radel, Sarrazin, Legrain, & Wild, 2010). And relating

classroom topics to students' own lives, experiences, needs, and feelings increases the likelihood that students will genuinely want to learn about them (A. Kaplan & Flum, 2009; W.-M. Roth, 2011; Urdan & Turner, 2005; M.-T. Wang & Holcombe, 2010).

♦ *Students are more likely to be intrinsically motivated when they feel confident they can succeed at classroom tasks.* Throughout the book I've been identifying strategies for promoting students' academic success. Yet not *all* successes enhance learners' sense of competence. To see what I mean, take a moment to do this exercise:

Write the numbers 1 to 10 on a piece of paper. See if you can do it in less than 10 seconds.

Were you successful? If so, how good did your success make you feel? I successfully completed the task in about four seconds' time but had little reason to feel particularly proud. After all, I'm in my mid-sixties; if I can't write these numbers quickly and accurately by now, something must be terribly wrong.

Success on easy tasks, although virtually guaranteed, does little to enhance our self-efficacy and overall sense of competence. Sure, we can do it, but so can anyone else. However, challenges aren't so easily accomplished: Perhaps we've failed to accomplish them in the past, or perhaps we know others who have failed. When we successfully meet a challenge, we must obviously be pretty competent folks. Success on a challenging task, then, gives learners feelings of satisfaction that aren't possible with an easier task. Furthermore, because it enhances their feelings of competence, success in a challenging situation increases their intrinsic motivation (Deci & Ryan, 1992; Dweck, 2000; Urdan & Turner, 2005).

Too much of a challenge can be discouraging, however. With this point in mind, teachers should help students develop a reasonable perspective as to what success is—for instance, daily or monthly improvement qualifies, but consistent perfection isn't realistic. And teachers can cast students' errors in an appropriate light—as inevitable minor stumbling blocks on the road to success—and make sure that, despite such errors, students eventually do succeed with effort, persistence, and appropriate strategies. Ultimately, students maximize their progress when they don't agonize over how well or poorly they're doing—when they instead focus their attention on actually mastering the task at hand (more on this point in Chapter 15).

♦ *Students' intrinsic motivation also increases when they have some degree of autonomy in classroom activities.* For both pedagogical and logistical reasons, students often have little control over things that happen in school. For example, society's needs and school district curricula typically dictate the kinds of knowledge and skills students must master. The use of the same facilities and resources by many different students requires adherence to certain schedules. And to keep students' attention focused on school tasks, teachers must maintain some semblance of order in the classroom.

Yet some degree of autonomy seems to be essential for enhancing students' intrinsic motivation to master school subject matter (e.g., Hardré, Crowson, DeBacker, & White, 2007; Hardré & Reeve, 2003; Prout, 2009). Teachers can do many little things to give students a sense of autonomy about classroom activities. For instance, they can provide opportunities for students to learn independently, perhaps through small-group work or computer-based instruction (Stefanou et al., 2004). They can acknowledge that certain activities might be boring and tedious while also showing students exactly how these activities will be beneficial over the long run (Jang, 2008; Reeve, 2009). And when evaluation is useful in promoting academic progress, teachers can provide checklists, self-check quizzes, and other simple mechanisms through which students can evaluate themselves (Belland, Kim, & Hannafin, 2013; Paris & Ayres, 1994).

As noted earlier, a key factor affecting learners' sense of autonomy is having choices about what to do. Learners are more likely to have a sense of ownership about activities they've chosen for themselves (Schraw, Flowerday, & Lehman, 2001). Opportunities for choice-making must, of course, be within reasonable limits and take into account students' developmental readiness to make appropriate decisions (Brophy, 2004; K. Lane, Falk, & Wehby, 2006). For instance, when a particular objective can be accomplished in several different ways, teachers might give students a choice about how best to proceed or in what manner to demonstrate mastery (Ciani, Middleton, Summers, & Sheldon, 2010; B. A. Hennessey & Amabile, 1987; Stefanou et al., 2004). And when extrinsic reinforcers are used as a way of encouraging students to perform dull but necessary tasks, teachers can preserve students' sense of autonomy by giving them choices regarding the specific reinforcers they can earn by completing the tasks (Leotti & Delgado, 2011; Tiger, Hanley, & Hernandez, 2006; Ulke-Kurcuoglu & Kircaali-Iftar, 2010).

Giving students autonomy *doesn't* mean removing all structure from classroom activities (Ciani et al., 2010; Jang, Reeve, & Deci, 2010; Reeve et al., 2004; Wijnia, Loyens, & Derous, 2011). Some structure—for instance, in the form of scaffolding that guides and supports students' efforts to learn—is essential for promoting students' sense of self-efficacy and competence. In addition, a certain amount of structure can enhance students' sense of autonomy. For instance, if teachers clearly communicate expectations for academic performance (e.g., by providing evaluation criteria in advance), students know exactly what they must do to be successful (Reeve, 2006). Teachers can inform students well ahead of time about upcoming deadlines, so that students can budget their time accordingly (Spaulding, 1992). And teachers can establish general routines and procedures that students should typically follow as they work, thereby minimizing the need to give explicit instructions for each and every assignment (Spaulding, 1992).

♦ *Extrinsic motivation can also promote learning.* Although intrinsic motivation is the optimal situation, extrinsic motivation isn't necessarily a bad thing, and it's certainly better than *no* motivation to learn and achieve. Oftentimes students are motivated both by an intrinsic desire to master classroom subject matter and by the external rewards such mastery brings, such as good grades, public recognition, and access to desirable educational opportunities and career tracks. Furthermore, many students have multiple demands on their time, to the point where they must place priority on activities that bring them good grades and other outcomes important to their future well-being (M. Hofer, 2010; C. S. Ryan & Hemmes, 2005).

As we've noted on previous occasions, extrinsic reinforcement may be most useful when desired behaviors apparently won't occur any other way. Learners may initially find a new activity boring, difficult, or frustrating and therefore need external encouragement to persist (Cameron, 2001; Deci et al., 2001; Hidi & Harackiewicz, 2000). In such circumstances, teachers should ideally reinforce students not just for doing something but for doing it *well*—that is, for engaging in behaviors and cognitive processes that will maximize achievement over the long run (Cameron & Pierce, 1994; Eisenberger & Cameron, 1996). With continuing practice, students' competence and skill are likely to improve, and they may eventually begin to find the activity intrinsically rewarding.

It's important to note, too, that students' intrinsic motivation to learn classroom material isn't likely to spring up in full force overnight; instead, it will emerge slowly over time, especially if students have previously been accustomed to receiving extrinsic reinforcement for their efforts. When working with extrinsically motivated students, a reasonable approach is to increase emphasis on the intrinsic rewards of learning while only gradually weaning students from their dependence on external reinforcers (Covington, 1992; Lepper, 1981; Stipek, 2002).

♦ *Feedback and other forms of extrinsic reinforcement should maintain or enhance students' sense of competence and autonomy.* In Chapter 3, I described positive feedback as a form of reinforcement; from an operant conditioning perspective, feedback has a *direct* effect on behavior. In Chapters 5 and 8, I mentioned that feedback can also enhance performance *indirectly* by giving learners information about how they can improve. As we've seen in this chapter, motivation theorists suggest that feedback has an additional indirect effect on behavior: It enhances performance to the extent that it affirms an individual's sense of competence and overall self-worth.

In contrast, positive feedback is *unlikely* to be beneficial when it either (a) diminishes one's sense of competence or (b) communicates an attempt to control one's behavior and so undermines one's sense of autonomy (P. Burnett, 2001; Deci & Moller, 2005; Reeve et al., 2004). For example, I respond to my children more favorably when they tell me

Boy, Mom, these brownies you made are really good. (*a competence-enhancing statement*)
than when they say

It's a good thing you finally baked something around here, Ma. All my friends' mothers do it all the time. (*a controlling statement*)

Compliments about things I do well are always welcome. But statements about what "good" parents are supposed to do make me feel as if I'm not in charge in my own home. Besides, I have no intention of letting my children tell *me* how to behave.

Even *negative* feedback can be effective when it promotes competence and a sense of autonomy (Narciss, 2008; Reeve, 2006; Sedikides & Gregg, 2008). If it provides information about how to improve in the future, thereby implying that the individual can eventually be successful, it's likely to promote intrinsic motivation. If it instead conveys the message that a learner is incompetent or evokes a feeling of outside control, it's apt to undermine any intrinsic motivation to continue engaging in a task.

♦ *Students are more likely to focus on their schoolwork when their nonacademic needs have been met* (Brophy, 2004; Fredricks et al., 2004). Our earlier discussions of drives, Maslow's hierarchy, and the needs for arousal and relatedness point to a number of nonacademic needs that students are likely to have. On some occasions students may have physiological needs; for instance, they may be hungry, thirsty, tired, or restless. Students may feel uncertain or insecure about what will happen to them in class, in the schoolyard, or on the way to and from school. And many students have a strong desire to interact with other people—classmates and teachers alike—and ideally gain others' approval, respect, and companionship. The need for self-worth, too, has nonacademic implications, in that students are apt to judge themselves not only on the basis of what they can do but also on the basis of how other people treat them and respond to their actions.

Teachers can do a number of simple things to ensure that students' physiological needs are met. For example, they can help students enroll in free lunch programs, refer students with apparently untreated illnesses to the school nurse, and grant reasonable requests to use the restroom. And students are more likely to stay on task in the classroom if they have occasional opportunities for physical exercise and release of pent-up energy—thereby helping them arrive at an optimal level of arousal (Pellegrini & Bohn, 2005; Tomporowski, Davis, Miller, & Naglieri, 2008).

To meet students' need for safety and security at school and to keep students' anxiety about academic tasks and activities at a facilitative level, teachers must create an environment that's somewhat orderly and predictable but also psychologically warm and supportive (Fletcher & Cassady,

2010; H. A. Davis, 2003; D. K. Meyer & Turner, 2006; Pekrun, 2006). For instance, teachers should clearly describe expectations for both academic performance and classroom behavior. They should deal with misbehaviors in a fair and consistent fashion. They should provide opportunities for students to voice their questions and concerns. And they must actively address bullying and other circumstances that may jeopardize students' physical or psychological well-being.

Students' needs for love, belonging, and approval—in general, their need for relatedness—can be met in a variety of ways. Teacher–student relationships are, by their very nature, somewhat businesslike; after all, both teachers and students have a job to do. At the same time, teachers can express their interest and affection for students through the many little things they do throughout the day—for example, by acknowledging birthdays and other special occasions, taking students' ideas and opinions seriously, and offering a sympathetic and nonjudgmental ear when a particular student seems angry or depressed. Teachers should also provide opportunities for students to interact frequently with classmates—for example, through such group-oriented instructional techniques as discussions, cooperative learning, reciprocal teaching, and role-playing. In general, students are more likely to be academically successful—and more likely to stay in school rather than drop out—when they believe that their teachers and peers like them and when they feel that they're valued members of the classroom (Certo, Cauley, & Chafin, 2003; Hymel, Comfort, Schonert-Reichl, & McDougall, 1996; Osterman, 2000; M. Watson & Battistich, 2006; Wentzel, Battle, Russell, & Looney, 2010).

To help students gain others' respect and maintain their own sense of self-worth, teachers can acknowledge students' accomplishments both in and out of class. They can schedule activities in such a way that all students are able to demonstrate their particular strengths at some point during the school day or at special events after school (Bracken, 2009; Jenlink, 1994; A. J. Martin, 2008). They can highlight students' accomplishments in many subtle ways—for example, by posting students' art projects on the wall, describing noteworthy achievements at parent–teacher conferences, and sending occasional good-news reports home to parents. But most importantly—I'm probably beginning to sound like a broken record here—teachers must have high expectations for students' performance and do everything they can to help students *meet* those expectations (L. H. Anderman et al., 2002; Roeser, Marachi, & Gehlbach, 2002).

♦ *Dispositions that involve actively and thoughtfully engaging with school subject matter should promote more effective cognitive processing and learning over the long run.* To date, researchers have focused more on how students differ in their dispositions than on how to *promote* certain dispositions. But we can reasonably assume that teachers who encourage and model productive dispositions—for instance, by presenting thought-provoking questions, asking students to evaluate the quality of scientific evidence, insisting that students defend their opinions with sound rationales, teaching strategies for constructing persuasive arguments, and consistently exhibiting their own open-mindedness about diverse perspectives—get students off to a good start (Derry, Levin, Osana, & Jones, 1998; Gresalfi, 2009; Halpern, 1998; D. Kuhn, 2001b; Nussbaum, 2008; Perkins & Salomon, 2012; Perkins & Ritchhart, 2004).

♦ *Learning is—and should be—an affective as well as cognitive enterprise.* There's no reason that academic subject matter need be dry and emotionless. On the contrary, students will probably remember more if they have feelings about the things they study. For example, a scientific discovery might be exciting. A look at social injustices might make students angry. A poem or musical concerto might convey peace and serenity.

Although students may occasionally feel outrage about certain historical events or current social phenomena—and sometimes they *should* be outraged—by and large they should associate pleasure and other forms of positive affect with classroom activities. For example, although teachers

don't necessarily want to give the impression that schoolwork is all fun and games, they can sometimes incorporate gamelike features into classroom tasks and activities (Brophy, 1986, 2004; K. S. Cooper, 2014)—perhaps by using a television game show format during a review session (this strategy also addresses social needs) or having students act as detectives in interpreting archeological artifacts. In general, teachers must make sure that most of their students' experiences with any task or subject matter—and especially their *early* experiences—are positive, nonthreatening ones.

♦ *Classroom assessments are more effective motivators when students perceive them as means of enhancing future achievement rather than as judgments of current ability and worth.* Under the right circumstances, tests and other forms of classroom assessment can serve as effective motivators—albeit extrinsic ones—for academic learning. On average, students study class material more, review it more regularly, and learn it better when they're told they'll be tested on it or in some other way held accountable for it, rather than when they're simply told to learn it (see Chapter 8). Yet *how* students are assessed is as important as *whether* they're assessed. Assessments are especially effective as motivators when they're closely aligned with important instructional goals and challenge students to do their best (Mac Iver, Reuman, & Main, 1995; Maehr & Anderman, 1993; L. H. Meyer, Weir, McClure, & Walkey, 2008). Students' sense of competence and self-efficacy affects their perceptions of the challenge, of course: Students must believe that success is possible if they exert reasonable effort and use appropriate strategies.

As noted earlier, some students have debilitating anxiety in test-taking situations. Following are several suggestions for keeping students' anxiety about classroom assessments at a facilitative level:

- Help students master class material and effective study strategies to the point where successful performance on assessments is highly probable.
- Have students reflect on *why* they might be anxious about an assessment, perhaps in a short journal entry (doing so seems to help them more clearly and objectively evaluate their concerns).
- Keep an assessment short enough that students can easily complete it within the allotted time.
- Encourage students to do their best without creating unnecessary anxiety about the consequences of doing poorly.
- Provide reasonable support (scaffolding) to help students perform successfully—for instance, give pretests for practice and feedback or allow students to use notes and other resources when there's no inherent value in committing certain kinds of information to memory.
- Give students some leeway to take risks and make errors without adverse consequences.
- Base students' end-of-term grades on many sources of data (e.g., numerous small assessments) instead of on only one or two test scores.
- Minimize—and ideally eliminate—opportunities for students to compare their performance with that of classmates. (Brookhart, 2004; Brophy, 2004; Covington, 1992; Gaudry & Spielberger, 1971; K. T. Hill, 1984; Kirkland, 1971; Leherissey, O'Neil, & Hansen, 1971; Naveh-Benjamin, 1991; Ramirez & Beilock, 2011; I. G. Sarason, 1980; Usher, 2009)

And above all, teachers and students alike must keep tests and other forms of classroom assessment in the proper context—as a means of promoting learning and long-term achievement, rather than as a means of making judgments about students' abilities and worth.

SUMMARY

Motivation is an internal state that arouses us to action, pushes us in certain directions, and keeps us engaged in certain activities. Motivation determines the extent to which we show what we've learned; it also affects whether and in what ways we process the information we receive. *Intrinsic motivation* is ultimately more beneficial than *extrinsic motivation*; for example, intrinsically motivated individuals do things on their own initiative, keep their attention on tasks for lengthy periods, and process information in meaningful and elaborative ways. Yet intrinsic and extrinsic motivation aren't necessarily mutually exclusive; often learners are simultaneously both intrinsically and extrinsically motivated.

Many theorists have speculated about the nature of human beings' basic, universal needs. Early *drive* theorists believed that members of many species (including humans) behave in ways that satisfy their physiological needs and maintain homeostasis; a bit later, theorists modified drive theory to include *incentives*, suggesting that characteristics of goal objects mediate a stimulus-response relationship and thereby affect which stimuli are responded to and to what degree. In addition to maintaining homeostasis, people may also have a need for stimulation, or *arousal*: People who have little access to environmental stimulation for extended periods show significant disruptions in perception and thinking. From the perspective of *Maslow's hierarchy*, people have five different sets of needs (ranging from physiological needs to self-actualization) that they strive to meet in a particular order.

More recently, some researchers have found evidence that people have a need to believe they have *competence*, but they may sometimes actually undermine their own successes as a way of protecting their sense of *self-worth*. People may also have a need for *autonomy*—a sense that they have some control regarding the things they do and the courses their lives take. A third basic need that has emerged in contemporary research literature is the need for *relatedness*—a need to interact with and feel psychologically connected to others. Some motivation theorists have suggested that learners are more intrinsically motivated to learn new information

and skills when all of these needs—competence and self-worth, autonomy, and relatedness—have been adequately addressed.

Trait theorists have found individual differences in human motivation. For instance, people seem to vary in their needs for approval and achievement, and, especially in adolescence and adulthood, their general sense of *identity* is apt to drive a good deal of what they do. In addition, some learners have *dispositions*—general inclinations to approach learning and problem-solving situations in particular ways—that enhance their cognitive engagement and learning success.

Closely related to motivation is *affect*—the feelings, emotions, and moods an individual brings to bear on a task. Affect influences motivation; for example, people choose activities in part based on how they think the activities will make them feel. Affect also influences learning and memory; for example, people can typically pay more attention to, and are more likely to think about and remember, information with emotional overtones. Of the various forms affect might take, *anxiety* is one that researchers have investigated at length. Anxiety tends to facilitate performance on easy tasks, but high levels interfere with performance on difficult tasks, apparently by interfering with effective cognitive processing and in other ways distracting learners from what they should be doing.

Theory and research on human motivation and affect yield numerous implications for promoting learning and achievement in instructional settings. For example, teachers should emphasize the intrinsically motivating aspects of school learning, yet remember that, when needed, extrinsic rewards can also be effective motivators. Teachers can promote intrinsic motivation in part by addressing students' needs for competence and autonomy in classroom activities, as well as by addressing such nonacademic needs as those for physical well-being and supportive interpersonal relationships. Teachers should also keep in mind that certain emotions (e.g., enjoyment, excitement, and in some cases anger) can enhance classroom learning, whereas others (especially fear and anxiety) often interfere with students' concentration and performance.

CHAPTER 15

COGNITIVE FACTORS IN MOTIVATION

Interests

- Effects of Interest*
- Factors Promoting Interest*

Expectancies and Values

- Effects of Expectancies and Values*
- Factors Influencing Expectancies and Values*

Goals

- Achievement Goals*
- Work-Avoidance and Doing-Just-Enough Goals*
- Social Goals*
- Career Goals*
- Coordinating Multiple Goals*

Attributions

- Effects of Attributions*
- Factors Influencing the Nature of Attributions*
- Explanatory Style: Mastery Orientation versus Learned Helplessness*

Motivation, Affect, and Self-Regulation

- How Motivation and Affect Are Intertwined with Self-Regulation*
- Internalized Motivation*

Encouraging Motivating Cognitions

- A TARGETS Mnemonic for Motivational Strategies*

Summary

LEARNING OUTCOMES

- 15.1. Describe the beneficial effects of personal interests and situational interest on learning and achievement.
- 15.2. Explain how people's expectancies and values can influence their engagement in certain activities, and describe environmental conditions that can give rise to particular expectancies and values.
- 15.3. Identify various goals that people might have either inside or outside of instructional settings, and explain how people's particular goals can have a significant impact on their behaviors and achievement levels.
- 15.4. Describe the nature, effects, and origins of self-constructed and other-constructed attributions relative to learners' performance.
- 15.5. Explain how motivation and affect can become increasingly self-regulated over time.
- 15.6. Identify numerous ways in which teachers can enhance students' learning and achievement by addressing cognitive factors that underlie students' motivation.

Within the past few decades, psychologists have radically changed their approach to the study of human motivation. Certainly physiological needs and drives influence people's behavior, as do concrete, extrinsic reinforcers. But most contemporary theorists now describe human motivation as being a function of cognitive processes—interpreting events, forming expectations about future success, setting goals toward which to strive, and so on. Not only does motivation *affect* cognition, as noted in Chapter 14, but in many respects motivation *is* cognition.

In our discussions of competence, self-worth, autonomy, and identity in Chapter 14, we discovered how certain aspects of cognition—in particular, perceptions of oneself and one's circumstances—are key ingredients in human motivation. In this chapter we'll consider additional cognitive factors, including interests, expectancies, values, goals, and attributions. Later we'll consider how learners become increasingly able to *self-regulate* their motivations and emotions,

and we'll discover that some behaviors that are initially motivated extrinsically may become *internalized* over time, such that a learner eventually engages in them freely and willingly.

INTERESTS

When we say that people have **interest** in a particular topic or activity, we mean that they find the topic or activity intriguing and enticing. Interest, then, is one form of intrinsic motivation. Positive affect accompanies interest; for example, people pursuing a task in which they're interested experience such feelings as enjoyment, excitement, and liking (M. Hofer, 2010; Renninger, 2009; Silvia, 2008).

Theorists distinguish between two general types of interest. Some interests reside within people, who tend to have different preferences regarding the topics they pursue and the activities in which they engage. Such **personal interests**¹ are relatively stable and manifest themselves in consistent patterns in choice making over time. For example, my husband has a strong interest in American football and thus can often be found in front of the television set on Saturdays, Sundays, and certain evenings from September to January. (Fortunately, these aren't the times when my favorite game shows are on the air.) And each of my three children showed unique personal interests from an early age. When Tina was growing up, she spent many hours talking either to or about boys, and as a college student, she lived in a coeducational, so-called "fraternity" house with a ratio of three males to every female. Meanwhile, Alex had a thing for critters; as a toddler he was fascinated with ants, and throughout the elementary and middle school grades he had an intense interest in various kinds of reptiles (lizards, snakes, dinosaurs). In contrast, Jeff was very much a Lego man, putting most of his allowance toward Lego sets and spending many hours in the basement building architectural wonders. Now that he's an adult, Jeff's interest has morphed into carpentry—simply another means of building things.

In contrast to personal interest, **situational interest** is evoked by something in the environment—something that's perhaps new, unusual, or surprising (Hidi & Renninger, 2006; M. Hofer, 2010). For example, as I was driving through the plains of eastern Colorado one day many years ago, out of the corner of my eye I saw what looked like a llama. Well, I knew quite well that the Colorado plains are cattle and horse country, not llama country, so I slowed down to look more closely and eventually confirmed the unlikely llama hypothesis. For a few minutes I was more interested in identifying the strange creature I saw than in getting to my destination. In much the same way, you might have your interest temporarily piqued by a traffic accident at the side of the road; a strange-but-true tidbit someone has posted on Facebook; or a large, brightly wrapped gift with your name on it.

Effects of Interest

In general, interest promotes more effective information processing. People who are interested in a topic devote more attention to it and become more cognitively engaged in it. They're also more likely to process information in a meaningful, organized, and elaborative fashion—for instance,

¹You may also see the term *individual interests*.

by interconnecting ideas, drawing inferences, generating their own examples, and identifying potential applications. And provided that they aren't too attached to particular perspectives about a topic, they're more likely to undergo conceptual change if they encounter information that contradicts their existing understandings. As you might guess, then, learners who are interested in what they're studying are more likely to remember it over the long run and so show higher academic achievement (Barron, 2006; Harackiewicz, Durik, Barron, Linnenbrink-Garcia, & Tauer, 2008; Hidi & Renninger, 2006; K. E. Johnson, Alexander, Spencer, Leibham, & Neitzel, 2004; Mason, Gava, & Boldrin, 2008; Schraw & Lehman, 2001; Sinatra & Pintrich, 2003a).

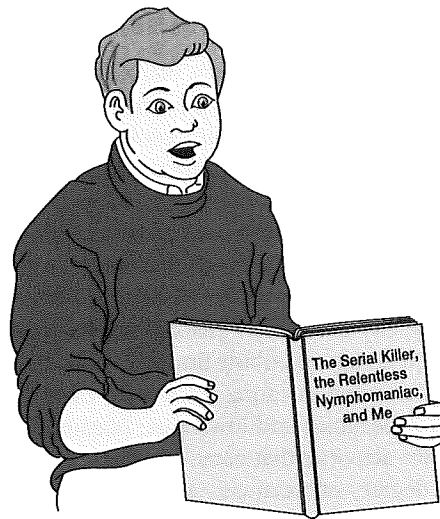
The *type* of interest makes a difference, however. Situational interest is sometimes of the "catch" variety: It engages you for a short time (as the llama engaged me), but you quickly move on to something else, and so cognitive processing and learning are apt to be limited. Other instances of situational interest are of the "hold" variety: You stay with a task or topic for a lengthy period—say, for an hour or more. Hold-type situational interest and enduring personal interests are ultimately more beneficial than catch-type interest. Whereas the last of these three things may temporarily capture a learner's attention, the first two—and especially personal interests—provide the impetus that ultimately sustains involvement in an activity over the long run (Barron, 2006; Durik & Harackiewicz, 2007; Flowerday, Schraw, & Stevens, 2004; M. Mitchell, 1993).

Factors Promoting Interest

From an early age, we humans seem to be naturally curious about the world around us, as reflected in the many *why* questions young children ask (Chouinard, 2007; Frazier, Gelman, & Wellman, 2009; Geary, 2008; also see Piaget's theory in Chapter 10). Researchers have identified numerous factors that seem to promote situational interest. Some topics—for instance, death, destruction, danger, romance, and sex—appear to be inherently interesting for human beings. Things that are new, different, or unexpected often generate interest, as do things with a high activity level or intense emotions. Children and adolescents also tend to be intrigued by topics related to people and culture (e.g., disease, violence, or holidays), nature (e.g., dinosaurs, weather, the sea), and entities within popular media (e.g., certain television shows, video games, or musical groups). Works of fiction and fantasy (novels, short stories, movies, etc.) are more engaging when they include themes and characters with which people can personally identify. Nonfiction is more interesting when it's concrete and easy to understand and when relationships among ideas are clear. And challenging tasks are often more interesting than easy ones—a fortunate state of affairs if, as Lev Vygotsky proposed, challenges promote cognitive growth (Ainley, 2006; J. M. Alexander, Johnson, Leibham, & Kelley, 2008; Hidi & Renninger, 2006; M. Hofer, 2010; Schraw & Lehman, 2001; Shernoff & Csikszentmihalyi, 2009; Zahorik, 1994).

Many longer-term, personal interests probably come from people's prior experiences with various topics and activities. For example, objects or events that initially invoke situational interest may provide the seed from which a sustained personal interest gradually emerges (Hidi & Harackiewicz, 2000; Hidi & Renninger, 2006; Nolen, 2007). Parents and other adults may sometimes nurture children's budding interests by providing relevant books and experiences (Leibham, Alexander, Johnson, Neitzel, & Reis-Henrie, 2005; Renninger, 2009). And throughout much of childhood, adolescence, and adulthood, important friends and social groups can stimulate and enhance interest in particular activities—say, playing video games, Words with Friends, or golf (Barron, 2006; Thoman, Sansone, Fraughton, & Pasupathi, 2012).

For better or for worse, some topics seem to be inherently interesting for human beings.



People often actively seek out social and cultural environments that nurture their knowledge and skills in an area of interest (Barron, 2006; Rounds & Su, 2014). For example, a seventh-grader named Craig once explained how he and a friend fostered each other's interest in and knowledge about computers:

I have a friend who is very . . . who likes computers a lot. . . . We both love computers and we teach each other some of the things we find out. "Did you know you can do this?" Or, "how do you do that?" (Barron, 2006, p. 212)

Furthermore, interest and knowledge seem to perpetuate each other: Not only does personal interest in a topic fuel a quest to learn more about the topic but also the increasing knowledge that one gains can, in turn, promote greater interest (P. A. Alexander, 1997; Hidi & Renninger, 2006). To some degree, gaining knowledge and skill in a particular area can enhance one's sense of self-efficacy and competence, thereby generating intrinsic motivation. And especially in adolescence, long-standing personal interests can be important components of a learner's sense of identity (Barron, 2006; M. Hofer, 2010).

EXPECTANCIES AND VALUES

Some theorists have proposed that motivation for performing a task is a function of two variables, both of which are fairly subjective. First, a person must have a high expectation, or **expectancy**, for success. This concept overlaps with social cognitive theorists' concept of *self-efficacy* but also takes into account such outside factors as task difficulty and availability of outside support. Equally important is **value**: A person must believe that performing a task has direct or indirect benefits (Dweck & Elliott, 1983; Feather, 1982; Trautwein et al., 2012; Wigfield & Eccles, 2002; Wigfield, Tonks, & Eccles, 2004).

Effects of Expectancies and Values

Children in the preschool and early elementary school years often pursue activities they find interesting and enjoyable, regardless of their expectancies for success (Wigfield, 1994; Wigfield et al., 2004). For older children and adults, however, intrinsically motivated behavior is most likely to occur when both high expectancy and high value are present. For example, as a doctoral student in educational psychology in the 1970s, I found value in theories of human learning and cognition and had a high expectancy that I could master them; thus, I was motivated to learn as much as I could about how people learn new things. I value good music, too, but have a low expectancy for becoming an accomplished musician (I haven't yet learned basic piano playing skills to automaticity despite five years of lessons), so I don't work very hard or very often at my music. I'm much better at cooking lima beans than I am at piano playing, but I never cook them because I find no value in eating them. And there are some things that, for me, are associated with both low expectancy and low value; playing violent video games and walking barefoot on hot coals are two activities that come to mind.

To some degree, expectancies and values are related to different aspects of learners' behavior and performance. Values affect the choices learners make, such as the courses they take and the career paths they pursue. In contrast, although values certainly influence the extent to which learners work to make sense of what they're studying, on average learners' actual effort and achievement levels are more closely correlated with their expectancies for success (Durik, Vida, & Eccles, 2006; Eccles, 2005; Mac Iver, Stipek, & Daniels, 1991; R. B. Miller, Greene, & Dillion, 2010; Simons, Vansteenkiste, Lens, & Lacante, 2004; Wigfield & Eccles, 2002).

Factors Influencing Expectancies and Values

People's expectancies are probably the result of several variables. Prior successes and failures in a particular domain make a difference, of course; for example, learners will lower their expectations after experiencing a series of failures. But other factors affect expectancy level as well, including the perceived difficulty of a task, the quality of instruction, the availability of resources and support, the amount of effort that will probably be necessary, and stereotypes about what males and females are "good at" and "not good at." From such factors, a learner comes to a conclusion—perhaps accurate, perhaps not—about the likelihood of success (Dweck & Elliott, 1983; Dweck, Goetz, & Strauss, 1980; Ford & Smith, 2007; Jacobs, Davis-Kean, Bleeker, Eccles, & Malanchuk, 2005; Mac Iver et al., 1991; Wigfield & Eccles, 1992).

Expectancy-value theorists have suggested four key reasons why value might be high or low: importance, utility, interest, and cost (Eccles, 2005; Wigfield & Eccles, 1992, 2000). Some activities are valued because they're associated with desirable personal qualities; that is, they're viewed as *important*. For example, a boy who wants to be smart and thinks that smart people do well in school will place a premium on academic success. Other activities have high value because they're seen as a means to a desired goal; that is, they have *utility*. For example, much as my daughter Tina found mathematics confusing and frustrating, she struggled through four years of high school math classes because many colleges require that much math. Still other activities are valued simply because they bring pleasure and enjoyment; more specifically, they're *interesting*. For example, watching television game shows doesn't help me achieve any of my long-range goals (in fact, it interferes with my goal of losing 15 pounds this year), but I enjoy playing along

as a home viewer and occasionally learning obscure bits of trivia. (For example, do you know which mammal species has the highest blood pressure? I do.)

Meanwhile, the *cost* factor may explain occasions in which a person sees little or no value in an activity. For example, I could undoubtedly improve my piano-playing skills with lessons and practice, but right now I have more important things to which I need to devote my time and energy. Other activities may be associated with too many bad feelings. For example, I can't imagine hang gliding or bungee jumping because I'm deathly afraid of heights. And anything likely to threaten one's self-esteem is a "must" to avoid (Eccles, 2005; Wigfield, 1994). For example, you may know individuals who rarely make the first move with people they'd like to date for fear of being rejected.²

In addition to the importance, utility, interest, and cost factors, social and cultural factors undoubtedly influence values as well. In particular, the people in one's life may, through everyday communications and activities, continually convey the belief that certain things are worth doing in their own right (Eccles, 2005, 2007; Gniewosz & Noack, 2012; Hickey & Granade, 2004; M. H. Jones, Audley-Piotrowski, & Kiefer, 2012; C. Peterson, 2006). When we address the topic of *internalized motivation* later in the chapter, we'll identify one possible mechanism through which children adopt the values of the people around them.

Expectancies and values also influence *each other*. More specifically, people who don't expect to do well in a particular activity may find reasons to devalue it. And people who don't value an activity are less likely to work hard at it and so have lower expectancies about their performance. As children move through the grade levels, they increasingly attach value to activities for which they have high expectancy for success and to activities they think will help them meet long-term goals. Meanwhile, they begin to *devalue* the things they do poorly. Sadly, students' expectancies and values related to many school-related domains (e.g., math, English, music, and sports) decline markedly over the school years (Archambault, Eccles, & Vida, 2010; Eccles, 2009; Eccles et al., 1998; Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Wigfield et al., 2004).

GOALS

Goals figure prominently in theories of motivation. In our discussion of motivation's general effects in the preceding chapter, we noted that motivation revolves around the accomplishment of certain goals, with such goals influencing both the choices people make and the consequences they find reinforcing. People's goals also influence their cognitive processing; for instance, goals affect the extent to which learners become cognitively engaged in particular tasks and the cognitive strategies they use to study and learn (E. M. Anderman & Maehr, 1994; Brickman, Miller, & Roedel, 1997; Locke & Latham, 2006; R. B. Miller & Brickman, 2004; Nolen, 1996). Furthermore, goal attainment results in considerable self-satisfaction, enhances self-efficacy, and leads to higher standards for future performance (Bandura, 1986, 1989; Zimmerman, 2010). We must

²In Chapter 4, I mentioned that learners sometimes engage in a cost-benefit analysis when deciding whether to engage in certain, potentially reinforceable behaviors. Such an analysis fits comfortably within an expectancies-values framework. In particular, we can expect that people *won't* exhibit a behavior if they think they'll have to exert an inordinate amount of effort to achieve success or if they place little value on the activity and its consequences.

note, however, that goals are beneficial only to the extent that they're accomplishable. If they're unrealistically high—for instance, if learners expect error-free perfection—consistent failure to achieve them may result in excessive stress, frustration, or depression (Bandura, 1986; Blatt, 1995; F. A. Dixon, Dungan, & Young, 2003).

Researchers have identified a wide variety of goals that people may have, including these:

- Gaining physical comfort and personal well-being
- Obtaining extrinsic, concrete rewards
- Doing well in school (e.g., getting good grades)
- Mastering new topics or skills
- Gaining a better understanding of the world
- Achieving and maintaining a sense of competence and self-worth
- Finding novelty and adventure
- Engaging in activities requiring intellectual or artistic challenge and creativity
- Making a good impression on others
- Developing productive interpersonal relationships
- Having an enjoyable, fulfilling career
- Gaining material wealth
- Contributing to the welfare of others or to the general betterment of society
- Achieving a sense of spiritual understanding or harmony (A. P. Fiske & Fiske, 2007; Ford & Smith, 2007; J. Q. Lee, McInerney, Liem, & Ortiga, 2010; Schutz, 1994; Urdan & Maehr, 1995)

People aren't necessarily aware of all of their goals. Some goals may lie below the surface of conscious inspection and yet still have a strong influence on behavior (Eitam, Hassin, & Schul, 2008; Gollwitzer & Bargh, 2005; J. Y. Shah, 2005).

Most human beings have and strive to achieve many of the goals just listed. For example, I achieve some degree of physical comfort by occasionally eating microwave popcorn, I strive to affirm my general sense of competence by playing along at home as I watch television game shows, and I try to make a good impression on family and friends (or at least try not to look like a complete klutz) as I attempt parallel turns on the ski slope. But many of us have **core goals**—general goals of considerable priority for us at any given point in time—that seem to drive much of what we do (Schutz, 1994). For instance, my own Number One goal for many years has been to be a productive member of society—to leave the world a better place than I found it—and many of my behaviors (e.g., trying to raise socially responsible children, supporting friends through difficult times, and writing books that can help teachers and other professionals understand and apply psychological principles) have in one way or another been directed toward that end.

In the next few pages we'll focus on research findings related to several kinds of goals: achievement goals, work-avoidance and doing-just-enough goals, social goals, and career goals.

Achievement Goals

As mentioned in the preceding chapter, the need for achievement (also known as achievement motivation) was originally conceptualized as a general characteristic that people exhibit consistently across a variety of tasks and in many domains. But some contemporary psychologists have proposed that achievement motivation is somewhat situation-specific and can take several

different forms, depending on the circumstances. To illustrate, let's consider what each of three girls might be thinking during the first day of a basketball unit in a physical education class:

- Jane: This is my chance to show all the girls what a great basketball player I am. If I stay near the basket, Joan and June will keep passing to me, and I'll score a lot of points. I can really impress Coach and my friends.
- Joan: Boy, I hope I don't screw this up. If I shoot at the basket and miss, I'll look like an idiot. Maybe I should just stay outside the 3-point line and keep passing to Jane and June.
- June: I'd really like to become a better basketball player. I can't figure out why I don't get more shots into the basket. I'll ask Coach to give me feedback about how I can improve my game. Maybe some of my friends will have suggestions as well.

All three girls want to play basketball well but for different reasons. Jane is concerned mostly about her performance—that is, about looking good in front of her coach and classmates—and so wants to maximize opportunities to demonstrate her skill on the court. Joan, too, is concerned about the impression she'll make, but she just wants to make sure she *doesn't* look *bad*. Unlike Jane and Joan, June isn't even thinking about how her performance will appear to others. Instead, she's interested mainly in developing her skill—in mastering the game of basketball—and doesn't expect herself to be an expert on the first day. For June, making mistakes is an inevitable part of learning a new skill, not a source of embarrassment or humiliation.

June's approach to basketball illustrates a **mastery goal**³—a desire to achieve competence by acquiring additional knowledge or mastering new skills. In contrast, Jane and Joan are each setting a **performance goal**⁴—a desire to present oneself as competent in the eyes of others. More specifically, Jane has a **performance-approach goal**: She wants to look good and receive favorable judgments from others. Meanwhile, Joan has a **performance-avoidance goal**: She wants *not* to look bad and receive unfavorable judgments. Performance goals often have an element of social comparison: Learners are concerned about how their accomplishments compare to those of their peers. In mastery goals, however, other people's performance is used only as a gauge to judge what mastery might ideally look like (Elliot, Murayama, & Pekrun, 2011; Grant & Dweck, 2003; Midgley et al., 1998; Régner, Escribe, & Dupeyrat, 2007; Senko, Hulleman, & Harackiewicz, 2011).⁵

³Theorists are referring to a similar idea when they talk about *learning goals*, *task involvement*, or *task orientation*. You may also see references to two subtypes of mastery goals: *task goals* (which focus on absolute standards for performance) and *self goals* (which focus on self-improvement or doing one's personal best) (e.g., see Elliot, Murayama, & Pekrun, 2011; A. J. Martin, 2012; McClure et al., 2011).

⁴You may also see the terms *ability goals*, *ego involvement*, or *ego orientation*. Psychologists sometimes like to stick to certain terminology to indicate the particular theoretical traditions on which they're building (P. K. Murphy & Alexander, 2000; Zusho & Clayton, 2011). However, the inconsistency in terms can be frustrating for newcomers to the field, because it interferes with their ability to synthesize what they're seeing in the research literature. As I present research findings in this section, I'll be drawing on multiple programs of research and basically ignoring any subtle distinctions that theorists assign to the terms they use.

⁵Some researchers have argued that mastery goals can, like performance goals, be either approach oriented or avoidance oriented in nature; for instance, a person might want to *avoid* misunderstanding new material or losing previously acquired skills (e.g., L. H. Anderman & Anderman, 2009; Elliot et al., 2011; Huang, 2012; Linnenbrink & Pintrich, 2002; Madjar, Kaplan, & Weinstock, 2011). Our focus here will be on *mastery-approach* goals.

Mastery goals, performance-approach goals, and performance-avoidance goals aren't necessarily mutually exclusive. People may simultaneously have two kinds, or even all three (e.g., Conley, 2012; Daniels et al., 2008; Schwinger & Wild, 2012). For example, returning to our basketball example, we could imagine a fourth girl, Jeanne, who wants to improve her basketball skills *and* look good in front of peers *and* not come across as a klutz.

Effects of Achievement Goals

A considerable body of research indicates that mastery goals are the optimal situation. In fact, research findings regarding mastery goals versus performance-avoidance goals are similar to findings for motive for success versus motive to avoid failure (see Chapter 14). As Table 15.1

Table 15.1

Typical differences between learners with mastery goals versus performance goals.

Learners with Mastery Goals	Learners with Performance Goals (Especially Those with Performance-Avoidance Goals)
Are more likely to be actively engaged in classroom activities and intrinsically motivated to learn classroom subject matter	Are more likely to be extrinsically motivated and more likely to cheat to obtain good grades
Believe that competence develops over time through practice and effort; persist in the face of difficulty	Believe that competence is a stable characteristic (people either have talent or they don't); think that competent people shouldn't have to try very hard; give up quickly when facing difficulty
Choose tasks that maximize opportunities for learning; seek out challenges	Choose tasks that maximize opportunities for demonstrating competence; avoid tasks and actions that might reveal incompetence (e.g., asking for help)
Exhibit more self-regulated learning and behavior	Exhibit less self-regulation
Use learning strategies that promote true comprehension and complex cognitive processes (e.g., elaboration, comprehension monitoring, transfer)	Use learning strategies that promote only rote learning (e.g., repetition, copying, word-for-word memorization); may procrastinate on assignments
Are more likely to undergo conceptual change when confronted with convincing evidence that contradicts current beliefs	Are less likely to undergo conceptual change, in part because they're less likely to notice discrepancies between new information and existing beliefs
React to easy tasks with feelings of boredom or disappointment	React to success on easy tasks with feelings of pride or relief
Seek feedback that accurately describes their ability and helps them improve	Seek feedback that flatters them
Willingly collaborate with peers when doing so is likely to enhance learning	Collaborate with peers primarily when doing so can help them look competent or enhance social status
Evaluate their performance in terms of the progress they make	Evaluate their performance in terms of how they compare with others
Interpret failure as a sign that they need to exert more effort	Interpret failure as a sign of low ability and therefore predictive of future failures

Table 15.1 (Continued)

Learners with Mastery Goals	Learners with Performance Goals (Especially Those with Performance-Avoidance Goals)
View errors as a normal and useful part of the learning process; use errors to improve performance	View errors as a sign of failure and incompetence; engage in self-handicapping to provide apparent justification for errors and failures
Are satisfied with their performance if they try hard and make progress	Are satisfied with their performance only if they succeed; are apt to feel ashamed and depressed when they fail
View a teacher as a resource and guide to help them learn	View a teacher as a judge and as a rewarder or punisher
Remain relatively calm during tests and classroom assignments	Are often quite anxious about tests and other assessments
Are more likely to be enthusiastic about and become actively involved in school activities	Are more likely to distance themselves from a school environment; may suffer from chronic depression
Achieve at higher levels	Achieve at lower levels

Sources: Ablard & Lipschultz, 1998; E. M. Anderman & Maehr, 1994; L. H. Anderman & Anderman, 2009; Belenky & Nokes-Malach, 2012; Cao, 2011; DeBacker & Crowson, 2006; Dweck, 1986, 2000; Dweck, Mangel, & Good, 2004; Elliot et al., 2011; Gabriele, 2007; Gabriele & Montecinos, 2001; Grant & Dweck, 2003; Hardré, Crowson, DeBacker, & White, 2007; Jagacinski & Nicholls, 1984, 1987; A. Kaplan & Midgley, 1999; Lau & Nie, 2008; Levy-Tossman, Kaplan, & Assor, 2007; Liem, Lau, & Nie, 2008; Linnenbrink-Garcia et al., 2012; Linnenbrink & Pintrich, 2002; Locke & Latham, 2006; McGregor & Elliot, 2002; Meece, 1994; Middleton & Midgley, 1997; Newman & Schwager, 1995; Nolen, 1996; Pekrun, Elliot, & Maier, 2009; Poortvliet & Darnon, 2010; Pugh, Linnenbrink, Kelly, Manzey, & Stewart, 2006; Rawsthorne & Elliot, 1999; A. M. Ryan, Pintrich, & Midgley, 2001; A. M. Ryan & Shim, 2012; Senko et al., 2011; Shernoff & Hoogstra, 2001; Sideridis, 2005; Sinatra & Mason, 2008; Sins, van Joelingen, Savelsbergh, & van Hout-Wolters, 2008; Skaalvik, 1997; Steuer & Dresel, 2011; Tossman, Kaplan, & Assor, 2008; Urdan, 2004; Wolters, 2004.

illustrates, students with mastery goals tend to engage in the very activities that will help them learn: They pay attention in class, process information in ways that promote effective long-term memory storage, and learn from their mistakes. Furthermore, students with mastery goals have a healthy perspective about learning, effort, and failure: They realize that learning is a process of trying hard and continuing to persevere even in the face of temporary setbacks. Consequently, it's usually these students who learn the most from their classroom experiences.

In contrast, students with performance goals—especially those with performance-avoidance goals—may stay away from some of the very tasks that, because of their challenging nature, would do the most to promote mastery of new skills. Furthermore, these students often experience debilitating anxiety about tests and other classroom tasks. Performance-approach goals are a mixed bag: They sometimes have very positive effects, spurring students to achieve at high levels, especially in combination with mastery goals and high self-efficacy (Hardré, Crowson, DeBacker, & White, 2007; A. Kaplan, Middleton, Urdan, & Midgley, 2002; Liem, Lau, & Nie, 2008; Linnenbrink, 2005; Senko & Harackiewicz, 2005). Yet by themselves, performance-approach goals may be less beneficial than mastery goals: To achieve them, students may use relatively superficial learning strategies (e.g., rote memorization), exert only the minimal effort necessary to achieve desired outcomes, engage in self-handicapping, and in some cases cheat on assessments. Furthermore, learners with performance-approach goals find less pleasure in what they're doing than do learners with mastery goals. Performance-approach goals appear to be most

detrimental when students are younger (e.g., in the elementary grades), have relatively low ability in the subject area, and have low self-efficacy for classroom tasks (L. H. Chen, Wu, Kee, Linn, & Shui, 2009; Daniels et al., 2008; Hidi & Harackiewicz, 2000; Law, Elliot, & Murayama, 2012; Linnenbrink-Garcia et al., 2012; Midgley, Kaplan, & Middleton, 2001; Muis & Franco, 2009; Pekrun, Elliot, & Maier, 2009).

Some learners seem to choose mastery goals over performance goals fairly consistently (L. H. Anderman & Anderman, 2009; Senko & Harackiewicz, 2005; Senko & Miles, 2008; L. A. Turner & Johnson, 2003). These people can be thought of as having a strong **motivation to learn**—a general tendency to find learning activities meaningful and worthwhile and therefore to attempt to get the maximum benefit from them (Brophy, 2004, 2008; see D. Kuhn, 2009, for a similar idea). This concept puts a new twist on the traditional concept of achievement motivation: People want to engage in the cognitive processes that lead to successful learning as well as the behaviors that lead to observable achievements.

Origins of Achievement Goals

In some cases, mastery goals come from within. People are more likely to have mastery goals when they have high interest in a topic or activity—perhaps because it's an important part of their sense of identity—and high self-efficacy for learning it (Harackiewicz et al., 2008; A. Kaplan & Flum, 2009; P. K. Murphy & Alexander, 2000; C. R. Snyder et al., 2002). For example, when my son Alex was about 12 years old, his interest in lizards led him to subscribe to an adult-level herpetology magazine and read every issue from cover to cover. Similarly, people interested in antique automobiles might tinker with a Ford Model T engine until they know the engine inside and out. And people interested in gymnastics might spend a good portion of their free time at the gym practicing, practicing, practicing.

Yet the instructional environment can encourage mastery goals as well (M. A. Church, Elliot, & Gable, 2001; A. Kaplan et al., 2002; Newman, 1998). For example, teachers might describe the intrinsic benefits of learning a skill, focus students' attention on the progress being made, or communicate their own goal of having students understand rather than rote-memorize classroom subject matter. In fact, *insisting* that students understand—a **press for understanding**—can be especially helpful (Fredricks, Alfeld, & Eccles, 2010; Middleton & Midgley, 2002; J. C. Turner et al., 1998). For instance, teachers might continually ask students to explain and justify their reasoning, and they might refuse to accept substandard work that reflects little thought or effort.

Unfortunately, performance goals seem to be far more prevalent than mastery goals among today's students, especially those in the secondary grades (Blumenfeld, 1992; Bong, 2009; Elliot & McGregor, 2000; M. Lee, Lee, & Bong, 2010). Most students who are motivated to succeed in their schoolwork are concerned primarily about getting good grades, and they prefer short, easy tasks to lengthier, more challenging ones. Performance goals are also common in team sports, where the emphasis is often more on winning and gaining public recognition than on developing new skills and improving over time (Roberts, Treasure, & Kavussanu, 1997).

In some instances students adopt performance goals as a means of avoiding failure, protecting their sense of self-worth, or—especially if their need for relatedness is high—enhancing relationships with peers. In other cases students realize that performing at high levels—in particular, getting good grades—is critical for their future educational and professional opportunities

(L. H. Anderman & Anderman, 1999; Covington, 1992; Covington & Mueller, 2001; Elliot & McGregor, 2000; Urdan & Mestas, 2006).

Many common teaching and coaching practices also contribute to the development of performance goals. Posting “best” papers on the wall, scoring tests on a curve, reminding students that good grades are important for college admissions, emphasizing the desirability of surpassing other schools and teams—all of these strategies, though undoubtedly well intended, encourage learners to focus their attention more on “looking good” than on learning. (L. H. Anderman & Anderman, 1999; M. A. Church et al., 2001; A. Kaplan et al., 2002; Lau & Nie, 2008; Roberts et al., 1997).

Even simply *attending school* can increase youngsters’ focus on performance goals. When children are young, they seem to focus largely on mastery goals (Bong, 2009; Dweck & Elliott, 1983). But when they begin school at age 5 or 6, two things happen that begin to orient them more toward performance goals (Dweck & Elliott, 1983). First, they suddenly have many peers to whom they can compare their own behavior; as a result, they may begin to define success more in terms of doing better than classmates than in terms of task mastery. Second, whereas they’ve previously dealt primarily with physical tasks (e.g., learning to walk, fasten buttons, and ride a tricycle), they’re now being asked to deal with tasks of an intellectual and somewhat abstract nature (e.g., learning to read, write, and solve word problems). The value of these school tasks may not be readily apparent to them, and their efforts in accomplishing them might therefore seem unnecessarily laborious. Furthermore, they may have greater difficulty assessing their progress on such tasks, to the point where they must rely on others (e.g., teachers) to make judgments about their competence. As learners approach adolescence, yet another factor kicks in: They’re more likely to worry about what others think of them than they were in their early years (Hartup, 1983; Juvonen, 2000; Midgley, 1993).

Yet school is hardly the only environment influencing the acquisition of various achievement goals. Parents may encourage their toddlers and preschoolers to attempt and persist at challenging activities, on the one hand, or consistently chastise them for poor performance, on the other (L. A. Turner & Johnson, 2003). Furthermore, through the particular behaviors and values that are sanctioned and discouraged, different cultures may predispose children toward certain kinds of goals. For instance, cultures with a strong competitive element—as tends to be true in North American and some western European countries—may lead children to focus on performance goals. And cultures that instill in children a fear of bringing shame to themselves or their families—as is sometimes true in Asian families—can lead children to adopt performance-avoidance goals (Elliot, Chirkov, Kim, & Sheldon, 2001; Freeman, Gutman, & Midgley, 2002; A. Kaplan et al., 2002).

In recent years, achievement goal theory has largely dominated discussions of motivation in educational research journals (e.g., *Journal of Educational Psychology*). With such a strong presence, psychologists have observed its weaknesses as well as its strengths. For instance, the actual effects of various goals seem to depend on the nature of the particular tasks and contexts at hand (Elliot, Shell, Henry, & Maier, 2005). Also, when identifying students’ achievement goals, researchers tend to rely largely on self-report measures in which participants rate various statements about themselves as being either “more true” or “less true”; such measures may be more indicative of what participants *want to believe* about themselves rather than what is *actually true* about them (McCaslin, Vega, Anderson, Calderon, & Labistre, 2011). Furthermore, relationships

between students' achievement goals and their classroom achievement tend to be weak ones at best, probably because students have many nonachievement-oriented goals that also influence their classroom performance (Boekaerts, de Koning, & Vedder, 2006; Brophy, 2004; Zusho & Clayton, 2011). And in fact, when students are simply asked to describe what they want to accomplish at school—rather than to respond to researcher-written statements on questionnaires—many seem to be more concerned about work-avoidance and social goals than about achievement goals (Brophy, 2005; Dowson & McInerney, 2001; Tobias & Everson, 2009; Urdañ & Mestas, 2006). Such goals are our next topics.

Work-Avoidance and Doing-Just-Enough Goals

As we've just seen, students sometimes want to avoid looking bad as they perform classroom tasks. But on other occasions, they may want to avoid having to do classroom tasks *at all*, or at least to exert as little effort as possible. In other words, they may have a **work-avoidance goal** (Dowson & McInerney, 2001; Jagacinski, Kumar, Lam, & Lustenberger, 2008; Tuominen-Soini, Salmela-Aro, & Niemivirta, 2011).

A similar goal is a **doing-just-enough goal** (McClure et al., 2011). In particular, students want to get reasonable school grades through the easiest possible routes, perhaps by rote-memorizing isolated facts, copying classmates' homework, or submitting research papers downloaded from the Internet. A doing-just-enough goal is in some respects a performance goal, but the focus isn't on demonstrating competence or hiding a lack of it. Instead, students simply have other priorities for their time—perhaps pursuing nonacademic interests or enhancing their relationships with peers (Hickey, 2011; M. Hofer, 2010; Wells, 2011). Many students with doing-just-enough goals have relatively low achievement levels; others may earn high grades despite their mediocre efforts (Hemmings, 2004; McClure et al., 2011).

Students with work-avoidance or doing-just-enough goals use a variety of strategies to minimize their workload. For instance, they may engage in disruptive behaviors, solicit help on easy tasks and problems, pretend they don't understand something even when they *do*, complain loudly about challenging assignments, and select the least taxing alternatives whenever they have choices (Dowson & McInerney, 2001; Hemmings, 2004). Especially when they have work-avoidance goals, they're unlikely to use effective learning strategies or pull their weight in small-group activities (Dowson & McInerney, 2001; Gallini, 2000). At the college level—which gives students considerable leeway in how they schedule their time—students with work-avoidance goals are apt to put off doing assignments until the last minute (Cao, 2010; S. W. Park & Sperling, 2009; Wolters, 2003b).

In some instances, peers may encourage and model work-avoidance behaviors (Nolen, 1996). More often, however, students are likely to adopt work-avoidance goals when they find little pleasure and value in academic subject matter, have low self-efficacy for learning it, and see no long-term payoffs for mastering it (Fletcher & Cassady, 2010; Garner, 1998; Jagacinski et al., 2008; Tuominen-Soini et al., 2011; Wolters, 2003b). In other words, students are most likely to have work-avoidance goals when they have neither intrinsic nor extrinsic motivation to achieve instructional objectives. Students with work-avoidance goals may thus be among teachers' biggest challenges, and teachers will have to use a variety of motivational strategies—probably including extrinsic reinforcers—to get them engaged in, and eventually committed to mastering, important academic topics and skills.

Social Goals

In Chapter 14 we noted that many children and adolescents make social relationships a high priority, and in fact all human beings probably have some need for relatedness. People are apt to have a variety of social goals, perhaps including the following:

- Gaining other individuals' approval
- Forming and maintaining friendships
- Finding a spouse or other long-term mate
- Developing effective social skills
- Achieving status and prestige among peers (e.g., being one of the "popular kids")
- Gaining power and control over others
- Being part of a cohesive, mutually supportive group
- Meeting social obligations and keeping interpersonal commitments
- Being a "good citizen" (e.g., following rules, not unnecessarily distracting classmates from assigned tasks)
- Assisting and supporting others, and ensuring their welfare
- Being a source of honor and pride for one's family or community (Dowson & McInerney, 2001; A. P. Fiske & Fiske, 2007; Ford & Smith, 2007; Kiefer & Ryan, 2008; LaFontana & Cillessen, 2010; J. Li, 2005; Patrick, Anderman, & Ryan, 2002; A. M. Ryan & Shim, 2008; Schutz, 1994)

In classroom settings, the nature of students' social goals clearly affects their behavior and academic performance. For instance, if students want to gain their teacher's attention and approval, they're apt to strive for good grades and in other ways enhance their classroom performance (Hinkley, McInerney, & Marsh, 2001). And if they're seeking friendly relationships with classmates or are concerned about other people's welfare, they may eagerly and actively engage in such activities as cooperative learning and peer tutoring; concern for others' welfare may also foster mastery goals (L. H. Anderman & Anderman, 1999; Dowson & McInerney, 2001).

Not all social goals are productive ones, of course. For example, if students are especially concerned about their social status and popularity, they may willingly engage in risky behaviors that high-status peers suggest, and they're likely to cooperate with classmates only if doing so maintains or enhances their standing in the eyes of peers (Levy, Kaplan, & Patrick, 2004; Mayeux, Houser, & Dyches, 2011). If students want the approval of low-achieving peers, they may exert little effort in their studies and possibly adopt work-avoidance goals (B. Brown, 1990; Ford & Nichols, 1991). And if they want to gain a sense of power over others, they're apt to bully vulnerable classmates (Kiefer & Ryan, 2008; Pellegrini & Long, 2004).

Career Goals

Most children and adolescents include career goals among their long-term goals. Young children set such goals with little thought and change them frequently; for instance, a 6-year-old may want to be a firefighter one week and a professional basketball player the next. By late adolescence, some (though by no means all) have reached some tentative and relatively stable decisions about the career paths they want to pursue (e.g., Lapan, Tucker, Kim, & Kosciulek, 2003; Marcia, 1980; Yeager, Bundick, & Johnson, 2012).

Despite high aspirations, many young people, especially those raised in fairly traditional cultures, tend to limit themselves to gender-stereotypical careers. Even as traditional boundaries between what professions are “appropriate” for men and women are melting away, the majority of college students enrolled in engineering programs continue to be men, and the majority of education majors continue to be women. Certainly gender stereotypes aren’t the only things affecting learners’ career goals; self-efficacy, expectancies, values, and social goals are also involved. For instance, on average, females are more interested in the helping professions than males are, and they’re more concerned about juggling the demands of the workplace with the demands of raising a family (Diekmann, Brown, Johnston, & Clark, 2010; Eccles, 2005; Hemmings, 2004; K. F. Robertson, Smeets, Lubinski, & Benbow, 2010; Weisgram, Bigler, & Liben, 2010; Yeager et al., 2012).

Coordinating Multiple Goals

At any one time, people are apt to be working toward several goals. At school, for instance, students may be simultaneously concerned about learning and understanding classroom subject matter, earning the good grades so important for college admissions, and enhancing social relationships with peers.

People use a variety of strategies to juggle their diverse goals (Covington, 2000; Dodge, Asher, & Parkhurst, 1989; M. Hofer, 2010; McCaslin & Good, 1996). They may engage in activities that allow them to address more than one goal—for instance, joining a study group as a way of satisfying both achievement goals and social goals. Alternatively, they may pursue some goals while putting others on the back burner. For example, students might complete assignments important for class grades while temporarily ignoring more enticing topics. Likewise, as I pursue the goal of completing this book, I leave dirty dishes in the sink, thereby ignoring my lower-priority goal of having a clean house. People may also modify their ideas of what it means to achieve a particular goal. For example, as I’ve become increasingly busy with my professional writing in recent years (thereby, I hope, satisfying my desire to make the world a better place), my definition of a clean house has deteriorated rapidly from being a spotless, Martha Stewart–like home to one in which I try to keep all the clutter in semi-tidy piles.

People are most successful and experience better emotional well-being when their multiple goals all lead them in the same direction (M. Hofer, 2010; Locke & Latham, 2006; Schultheiss & Brunstein, 2005; Wentzel, 1999). Yet in some situations, accomplishing one goal simply isn’t compatible with accomplishing another. For example, achieving at a high level in the classroom may interfere with one’s ability to maintain a friendship with a peer who doesn’t value academic achievement. On such occasions, people may have little choice but to abandon one goal in favor of another, at least for the time being (Boekaerts et al., 2006; McCaslin & Good, 1996; J. Y. Shah, 2005).

Although we’ve identified several cognitive factors affecting motivation, we’ve largely ignored a very important one: the extent to which people make a *connection* between what they do and what happens to them. Certainly people are more eager to pursue an activity when they think their behaviors will help them achieve their goals. But some individuals fail to recognize existing contingencies between the behaviors they exhibit and the consequences that result. To what sources do people attribute the events that occur in their lives? To what things do they give credit when they succeed? What things do they blame when they fail? Our discussion of attributions in the next section will shed light on these questions.

ATTRIBUTIONS

You've undoubtedly gotten a grade of A on some of the classroom exams you've taken. On those occasions, why do you think you did so well? Did you study hard? Were the exams easy? Did you get lucky and guess right about topics you knew little about? Or is it simply that you're an incredibly intelligent human being?

Now let's consider those exams on which you haven't done as well. On what did you blame your failures? Did you spend too little time studying, or did you study the wrong things? Were the exams too difficult? Were questions poorly worded, leading you to misinterpret them? Were you too tired or sick to think clearly? Or do you just not have what it takes?

People's various explanations for success and failure—their beliefs about what causes what—are **attributions**. People are often eager to identify the causes of things that happen to them, especially when events are unexpected—for instance, when they get a low grade on an assignment after thinking they've done a good job. Forming attributions is just one of the many ways in which human beings try to make better sense of their world (Stupnisky, Stewart, Daniels, & Perry, 2011; Tollefson, 2000; Weiner, 1986, 2000).

Attributions are an excellent example of knowledge construction in action: People interpret new events in light of existing knowledge and beliefs about themselves and the world and then develop what seems to be a reasonable explanation of what has happened. Because attributions are self-constructed, they may or may not reflect the true state of affairs. For example, your poor performance on past exams may very well have been the result of ineffective study strategies; like many students, you may have tried to learn class material in a rote, meaningless manner (you obviously hadn't read this book yet). But because you thought of yourself as a smart person and believed you *had* studied adequately, perhaps you instead attributed your low scores to the exceptional difficulty or "pickiness" of your tests or to arbitrary and irrational teacher scoring.

Three key dimensions on which people's attributions vary are locus, stability, and controllability (Weiner, 1986, 2000, 2004).

Locus ("place"): Internal versus external We sometimes attribute the causes of events to *internal* things—that is, to factors within ourselves. Thinking that a good grade is the result of your hard work and believing that a poor grade is the result of your lack of ability are examples of internal attributions. At other times, we attribute events to *external* things—to factors outside of ourselves. Concluding that you received a scholarship because you were lucky and interpreting a teacher's scowl as being due to her bad mood (rather than to anything you might have done to deserve the scowl) are examples of external attributions. Some external attributions reflect social factors; for example, you might credit your parents for helping you succeed in your schoolwork, or you might blame your friends for insisting that you go to a party on a night when you should have been studying (Liu, Cheng, Chen, & Wu, 2009; McClure et al., 2011).

Some theorists have referred to the "locus" dimension as *locus of control*. However, *locus* and *control* are probably two distinctly different aspects of attributions (Weiner, 1986, 2000). For instance, one's ability to sing well is an internal characteristic that may be the result of both controllable things (e.g., taking voice lessons) and uncontrollable ones (e.g., physiological or neurological limitations).

Temporal stability: Stable versus unstable Sometimes we think that events are a result of *stable* factors—things that probably won't change much in the near future. For example, if you believe that you do well in school because of inherited ability or that you have trouble making

friends because you have a funny-looking nose, you're attributing events to stable, relatively unchangeable causes. But sometimes we instead believe that events are the result of *unstable* factors—to things that can change from one time to the next. Thinking that winning a tennis game was simply a fluke and believing that you got a bad test grade because you misinterpreted the instructions are examples of attributions involving unstable factors.

Controllability: Controllable versus uncontrollable On some occasions we attribute events to *controllable* factors—to things we can either directly or indirectly influence and change. For example, if you believe a classmate invited you to lunch because you always smile and say nice things to her, and if you think you probably failed a test simply because you didn't study the right things, you're attributing these events to controllable factors. On other occasions, we attribute events to *uncontrollable* factors—to things over which we have no influence. For example, if you think that you were chosen for a title role in *Romeo and Juliet* because you have the "right face" for the part, or that you played a lousy game of basketball because you had the flu, you're attributing these events to uncontrollable factors.

Attribution theory's notion of controllability overlaps with—yet is also somewhat different from—the concept of *autonomy* (Deci & Ryan, 1987). Attribution to controllable factors involves a belief that we can influence the things that happen to us. In contrast, autonomy involves a belief that we can choose our behaviors and, ultimately, the paths that our lives take. In other words, controllable attributions reflect control of *events*, whereas autonomy reflects long-term control of one's *actions*.

The controllability dimension possibly has two subcomponents (Weisz & Cameron, 1985). First, one must believe that there is a *contingency* between the behavior and the outcome—in other words, that a particular behavior can cause a certain event to occur. Second, one must have a sense of *competence* (or self-efficacy) that one is actually capable of performing the necessary behavior. Uncontrollable attributions may be due to a lack of either one of these things. For example, a student may know that good grades will result from making correct responses in class but may not believe he or she has the ability to make those responses; in this situation, there's a sense of contingency but no sense of competence (Weisz, 1986). As another example, a person from a minority group may have high self-efficacy for achieving a particular goal yet feel that other people's racial prejudices and discriminatory practices will make success impossible; in this case, there's a sense of competence but no sense of contingency (Schunk, Meece, & Pintrich, 2014; Sue & Chin, 1983; Weiner, 2004).

We can analyze virtually any attribution in terms of the three dimensions just described. For example, viewing success on a task as being the result of inherited ability is an internal, stable, and uncontrollable attribution. Believing that failure on a task was a case of bad luck is an external, unstable, and uncontrollable attribution. Table 15.2 analyzes eight common attributions in terms of the three dimensions.

As you look at Table 15.2, you might think that "ability isn't entirely the result of uncontrollable genetic endowments" or that "teachers' attitudes toward students often depend on how students behave in class and so are really the result of student-controllable factors." Perhaps you're right, but keep in mind that people's *beliefs* about locus, stability, and controllability—not the reality of the situation—are what affect future behavior (Dweck & Leggett, 1988; Weiner, 1994).

What about *effort* (trying or not trying hard) and *luck* (either good or bad)? Are these temporary states of affairs, or are they enduring qualities that tend to bless or haunt us time after

Table 15.2

Analyzing various attributions in terms of the three dimensions.

Attribution for Success or Failure	Locus	Stability	Controllability
Inherited ability	Internal	Stable	Uncontrollable
Personality	Internal	Stable	Uncontrollable
Effort	Internal	Unstable	Controllable
Health	Internal	Unstable	Uncontrollable
Energy level	Internal	Unstable	Uncontrollable
Task difficulty	External	Stable	Uncontrollable for oneself; possibly controllable for a teacher
Teacher attitudes	External	Stable	Uncontrollable for oneself; controllable for the teacher
Luck or chance	External	Unstable	Uncontrollable

time? People occasionally think of effort and luck as being relatively stable, enduring characteristics; for instance, they may believe that they have a strong work ethic (leading to high effort in many endeavors) or always seem to come out the losers in matters of luck. To be consistent with much of the literature in attribution theory, however, we'll treat both effort and luck as unstable, temporary factors in our discussions here.

Let's also consider *intelligence*, which I've intentionally omitted from Table 15.2. Whether intelligence is a stable or unstable characteristic is a matter of considerable controversy among psychologists. Nonpsychologists, too, are divided on the matter. Some children and adults have an **entity view**: They believe intelligence is a "thing" that's relatively permanent and unchangeable. Others have an **incremental view**: They believe intelligence can and does improve with effort and practice (Dweck & Leggett, 1988; Dweck & Molden, 2005; Weiner, 1994).⁶ Such views are examples of the personal theories described in Chapter 9, in that growing children self-construct them based on their own experiences with new tasks and challenges. Both entity and incremental views tend to be *implicit* theories that lie below the surface of conscious awareness; even so, they can have a huge impact on learners' behaviors.⁷

Effects of Attributions

Attributions can have a significant influence on learners' performance and achievement in classroom settings (e.g., Blackwell, Trzesniewski, & Dweck, 2007; J. A. Chen & Pajares, 2010; Liu et al., 2009; McClure et al., 2011). In particular, attributions influence learners' emotional

⁶Entity versus incremental views of intelligence are examples of *epistemic beliefs*—in particular, beliefs about the nature of learning ability (see Chapter 12).

⁷Dweck uses the term *mindsets* in reference to entity and incremental views of ability (e.g., Dweck, 2006; Yeager & Dweck, 2012), but don't confuse her use of the word with its much broader meaning in everyday language.

responses, reactions to reinforcement and punishment, self-efficacy and expectancies, effort and persistence, learning strategies, and future choices and goals—all of which, in turn, have an impact on learning and achievement.

Emotional responses to events Learners are, of course, happy when they succeed and sad when they fail. But they're apt to feel *self-conscious emotions*—for instance, pride about a success and shame or guilt about a failure—only if they attribute their performance to things they themselves have done. Unpleasant as shame and guilt might feel, such emotions often spur learners to address their shortcomings. If, instead, learners think someone else was to blame for an undesirable outcome, they're apt to be angry—an emotion that's unlikely to lead to productive follow-up behaviors (Hareli & Weiner, 2002; R. Neumann, 2000; Pekrun, 2006).

Reactions to reinforcement and punishment People's interpretations of the reinforcements and punishments they experience influence the long-term effects that reinforcement and punishment are likely to have. Consistent with our discussion of social cognitive theory in Chapter 5, reinforcement and punishment can be effective only when people realize that *their own behavior*—something over which they have control—has been the cause of such consequences (Bandura, 1986).

Self-efficacy and expectancies When learners attribute their successes and failures to stable factors—perhaps to innate ability or inability—they expect their future performance to be similar to their current performance. In contrast, when they attribute successes and failures to unstable factors—for instance, to effort or luck—their current success rate has little influence on their future expectations (Dweck, 2000; Schunk, 1990; Weiner, 1986, 2000). The most optimistic learners—those with the highest expectations for future success—are the ones who attribute their successes partly to stable, dependable factors, such as natural talent and a consistently supportive environment (thus, they'll know that success wasn't a fluke), and partly to unstable but controllable factors such as effort and strategies (thus, they'll continue to work hard). At the same time, they should attribute their past failures primarily to unstable factors they can control and change (Dweck, 2000; Hsieh & Schallert, 2008; McClure et al., 2011; Pomerantz & Saxon, 2001; Weiner, 1984).

With the preceding points in mind, let's return to the phenomenon of *stereotype threat*, previously described in Chapter 14. If we bring attributions into the mix, we can reasonably expect that members of stereotypically low-achieving groups (e.g., females, people in certain minority groups) will be most likely to have low self-efficacy about tests of ability—and so more likely to experience anxiety that adversely affects their test scores—if they have an entity view of intelligence. If they believe that the ability being assessed is a relatively permanent thing beyond their control, their anxiety is apt to go up and so their test scores will go down. If, instead, they realize that ability can and does change with effort, practice, and appropriate strategies—and so is unrelated to their group membership—they're less likely to become the victims of stereotype threat (Dweck et al., 2004; Dweck & Molden, 2005).

Effort and persistence In general, learners are most likely to exert effort and persist after a failure if they attribute the failure to internal, unstable, and controllable variables. But blaming *only* lack of effort can backfire. Learners who try hard and still fail are likely to reach the conclusion that they have low ability—that they simply don't have what it takes. It's more productive for learners to attribute failure also to ineffective strategies—to believe that they could succeed if they did things *differently*. Such attributions often characterize good students, who know that they not

only need to work hard but also need to work strategically (Curtis & Graham, 1991; Dweck, 2000; Dweck & Molden, 2005; Pressley, Borkowski, & Schneider, 1987).

Attributions and effort sometimes interact in unproductive ways. Let's look once again at learners with an entity view of intelligence. Entity-view learners tend to believe that ability and effort are inversely related: Success with little effort reflects high ability, and success that comes only with a great deal of effort is a sign of low ability. Such beliefs are especially prevalent when people have performance goals rather than mastery goals (see Table 15.1). When it comes to an activity that requires a lot of effort, entity-view learners who believe they have low ability are in a no-win situation. If they don't try hard, failure is inevitable. If they *do* try hard and fail anyway, they look "stupid," at least in their own eyes. Thus, many of them don't try very hard—that is, they *self-handicap*—perhaps as a way of saving face and hiding their lack of ability. They may also decide that the activity isn't worth doing—in other words, they attach little value to it (Covington & Beery, 1976; Covington & Omelich, 1979; Dweck, 1986; Eccles & Wigfield, 1985; Graham, 1990; Jagacinski & Nicholls, 1990).

Learning strategies People's attributions and resulting expectations for future performance clearly affect the cognitive strategies they apply to learning tasks. Students who expect to succeed in the classroom and believe that academic success is a result of their own doing are more likely to apply effective study strategies, especially when they're taught such strategies. These students are also more likely to be self-regulating learners and to seek help when they need it (more on help seeking later in the chapter). In contrast, students who expect failure and believe that their academic performance is largely out of their control often reject effective learning strategies in favor of rote-learning approaches (Dweck et al., 2004; Dweck & Molden, 2005; Palmer & Goetz, 1988; Zimmerman, 1998).

Future choices and goals As you might guess, students whose attributions lead them to expect success in particular subject areas or in school in general are more likely to pursue challenging courses and set their sights on completing high school (L. E. Davis, Ajzen, Saunders, & Williams, 2002; Dweck, 1986; Weiner, 1986). Learners' attributions also affect the achievement goals they set for themselves. Once again, their beliefs about intelligence come into play (Blackwell et al., 2007; J. A. Chen & Pajares, 2010; Yeager & Dweck, 2012). In particular, if learners have an entity view—if they believe that ability is something they either have or don't have—they're apt to set performance goals and assess their supposedly "inborn" talent by comparing themselves to others. In contrast, learners who subscribe to an incremental view are apt to set mastery goals and assess their ability by monitoring their progress over time. For example, in a series of studies conducted by Dweck and her colleagues (described in Dweck, 2000), middle school students were told they could choose one of three tasks, which were portrayed as follows:

1. One that's "easy enough so you won't make mistakes"
2. One that's "like something you're good at but hard enough to show you're smart"
3. One that's "hard, new and different—you might get confused and make mistakes, but you might learn something new and useful" (Dweck, 2000, p. 21)

Students with entity views were more likely to choose either Task 1 (consistent with a performance-avoidance goal) or Task 2 (consistent with a performance-approach goal). In contrast, students with incremental views more often chose Task 3 (consistent with a mastery goal).

Factors Influencing the Nature of Attributions

Why do different people attribute the same events to different causes? For instance, why does one person believe that a failure is merely a temporary setback due to an inappropriate strategy, while another attributes the same failure to low ability, and still another believes it to be the result of someone else's capricious and unpredictable actions? We now look at variables related to the acquisition of different attributions.

Age

Young children become increasingly able to distinguish among the various possible causes of their successes and failures. One distinction they gradually get a handle on is that between effort and ability. In the early elementary grades, children think of effort and ability as positively correlated: People who try harder are more competent. Thus, they tend to attribute their successes to hard work and are usually optimistic about their chances for future success as long as they try hard. Sometime around age 9, they begin to understand that effort and ability often compensate for each other and that people with less ability may need to exert greater effort. Many begin to attribute their successes and failures to an inherited ability that they perceive to be fairly stable and beyond their control. With age, then, learners increasingly acquire an entity view of intelligence. If they're usually successful at school tasks, they have high self-efficacy for such tasks. If, instead, they often fail, their self-efficacy is likely to plummet (Dweck, 1986, 2000; Eccles et al., 1998; Heyman, Gee, & Giles, 2003; Nicholls, 1990; E. A. Skinner, 1995).

This state of affairs can lead to a **self-fulfilling prophecy**—a situation in which a person's expectations about future events create conditions through which those expectations become reality. (We'll call it *Self-Fulfilling Prophecy #1* to distinguish it from a second phenomenon we'll examine later.) As noted in Chapter 5, people with low self-efficacy choose less challenging tasks and give up more easily than their more self-confident peers; thus they have fewer opportunities to discover that success *can* come with effort.

Situational Cues

Characteristics specific to the situation at hand—especially those that are easily noticed—can influence learners' attributions. Features of the task being performed are one influential characteristic; for example, complex math problems (such as those that include a lot of numbers) are perceived as being more difficult, and so failure to solve them can readily be attributed to task difficulty rather than to internal causes. The performance of peers provides another cue; for example, a failure is apt to be attributed to task difficulty if everyone else is failing, whereas it's more likely to be attributed to an internal source (e.g., lack of ability) if others are succeeding (Lassiter, 2002; Schunk, 1990; Weiner, 1984).

Patterns of Past Successes and Failures

Learners' attributions are also partly the result of their previous successes and failures in a particular activity or domain. Learners who have previously tried and succeeded are likely to believe that success is the result of internal factors, such as effort or high ability. In contrast, those who have tried and failed or have had an inconsistent pattern of successes and failures are likely to believe that success is due to something beyond their control—perhaps to an ability they don't possess or to such external factors as a tough break or poor instruction (Normandeau & Gobeil, 1998; Paris & Byrnes, 1989; Pressley, Borkowski, et al., 1987; Schunk, 1990).

When we consider classroom learning, metacognition also comes into play. In Chapter 12, I mentioned that students often think they've learned things they actually *haven't* learned; in other words, they have an *illusion of knowing*. When these students consistently do poorly on exams, they can't attribute their performance to internal factors; after all, they studied hard and so think they know the material. Instead, they're likely to attribute poor performance to such external factors as bad luck, exam difficulty, or teacher capriciousness (Horgan, 1990).

Verbal and Nonverbal Messages from Others

Just as people form attributions regarding the causes of their own performance, so, too, do they form attributions for *other people's* performance. For instance, I recall a conversation I once had with a well-educated man whose training was in mechanical engineering rather than psychology or education. We were discussing the fact that, on average, children in inner-city schools achieve at lower levels than children in suburban schools. Knowing that I was an educational psychologist, the man asked me why I thought there was such a difference in performance levels. I said that there were apt to be a number of reasons, probably including smaller school budgets, larger class sizes, more obligations and fewer resources at home, poor nutrition and health care, fear for personal safety, and a higher proportion of children with learning disabilities and other special needs. The man seemed quite surprised. "I always thought the kids just weren't *motivated*," he said. Notice how my attributions for the low achievement were largely external ones, whereas his sole attribution—students' motivation—was strictly internal. Unfortunately, even some experienced teachers attribute students' seemingly "unmotivated" behavior largely to internal causes (Kincheloe, 2009; J. C. Turner, Warzon, & Christensen, 2011).

The three dimensions described earlier—locus, stability, and controllability—are as relevant to people's attributions for other individuals as they are to people's self-attributions. Probably the most important dimension from an interpersonal standpoint is *controllability* (Weiner, 2000). The reasons I gave my engineer friend regarding the low achievement of many inner-city students all involved things beyond students' control. In contrast, my friend believed that the students performed poorly only because they didn't *want* to do well; in other words, high achievement was well within their grasp if they simply flipped that mythical motivation on-off switch I mentioned at the beginning of Chapter 14.

Other people—parents, teachers, peers, and so on—communicate their attributions for learners' successes and failures in a variety of ways. In some cases, they communicate attributions verbally and explicitly (Cimpian, Arce, Markman, & Dweck, 2007; C. M. Mueller & Dweck, 1998; Rattan, Good, & Dweck, 2012). For example, consider the things a teacher might say about a student's success:

- "That's wonderful. Your hard work has really paid off, hasn't it?"
- "You've done very well. It's clear that you really know how to study."
- "You did it! You're so smart!"
- "Terrific! This is certainly your lucky day!"

Also consider the statements a teacher might make about a student's failure:

- "Why don't you practice a little more and then try again?"
- "Let's see whether we can come up with study strategies that might work better for you."
- "Hmmm, maybe this just isn't something you're good at. Perhaps we should try a different activity."
- "Maybe you're just having a bad day."

All of these are well-intended comments, presumably designed to make a student feel good. But notice the different attributions they imply. In some cases success or failure is attributed to controllable (and therefore changeable) behaviors—that is, to hard work or lack of practice or to the use of effective or ineffective study strategies. But in other cases success or failure is attributed to uncontrollable ability—that is, to being smart or not “good at” something. And in still other cases an outcome is attributed to external, uncontrollable causes—that is, to a lucky break or a bad day.

People also communicate their attributions—and indirectly, their beliefs about a learner’s ability level—through the extent to which they praise or criticize the learner’s performance and through the emotional reactions they convey (Brummelman, Thomaes, Orobio de Castro, Overbeek, & Bushman, 2014; Graham, 1990; Hareli & Weiner, 2002; Weiner, 2005). For example, frequent praise is often a message that learners’ successes are the result of their efforts. However, by praising a learner for *easy* tasks, people may simultaneously communicate that success wasn’t expected—in other words, that the learner has low ability. Here, then, we see a perspective very different from that of behaviorism. Behaviorists propose that, as reinforcement, praise should increase the behavior it follows. From the standpoint of attribution theory, however, praise can be counterproductive for easy tasks. If it communicates low ability, learners may be unwilling to exert much effort on later tasks. Praise for effort is likely to be effective only when learners *have* exerted the effort.

Reactions to a learner’s failures communicate attributions as well. When people criticize, express anger about, and perhaps punish a learner’s poor performance, they convey the message that the learner has sufficient ability to master the task and simply isn’t trying hard enough. But when people express pity or sympathy for the same performance, they communicate their belief that the learner’s uncontrollable low ability is the reason for the failure.

Yet another way in which adults communicate their attributions is through the amount and kinds of help they provide. For example, although teacher assistance is often an important source of scaffolding for difficult tasks, it can be counterproductive if students don’t really need it. When students struggle temporarily with a task, unsolicited help from a teacher may communicate the message that they have low ability and little control over their own successes and failures. In contrast, allowing students to struggle on their own for a reasonable amount of time—not to the point of counterproductive frustration, of course—conveys the belief that students have the ability to succeed on their own (Graham, 1990, 1997; Graham & Barker, 1990; Stipek, 1996; Weiner, 2005).

Culture

People’s cultural backgrounds influence their attributions as well, particularly with respect to the controllability dimension. For example, members of some religious groups may place their fates in the hands of God, *karma*, or some other metaphysical force (Losh, 2003; also see the discussion of *worldviews* in Chapter 9). As another example, students from Asian backgrounds are more likely to attribute classroom success and failure to unstable factors—effort in the case of academic achievement, and temporary situational factors in the case of appropriate or inappropriate behaviors—than students who have grown up in mainstream Western culture (J. Li & Fischer, 2004; Lillard, 1997; Weiner, 2004).⁸ Also, in comparison to many Western students—who are

⁸Such attributions are often, but not always, a benefit. For instance, if students attribute their failures as well as their successes to effort and if they place high priority on bringing honor to their families (as is true for many Asian students), then consistent failure can lead to feelings of humiliation and depression (Dweck, 2000; Grant & Dweck, 2001).

apt to think that innate ability affects learning success—many Asian students reverse the cause-and-effect relationship: *Learning leads to intelligence* (J. Li, 2003).

Some studies have revealed a greater tendency for African American students—even those with high self-efficacy for academic subject matter—to believe they have little control over whether they achieve academic success. Real or perceived racial prejudice may contribute to such an attribution: Some students may begin to believe that because of the color of their skin, they have little chance of success no matter what they do (Graham, 1989; B. G. Holliday, 1985; Sue & Chin, 1983; van Laar, 2000; Weiner, 2004).

Gender

Some researchers have found gender differences in attributions, especially in stereotypically male domains such as mathematics and sports. In these instances, males are more likely to attribute their successes to ability and their failures to lack of effort, thus assuming the attitude that *I know I can do this because I have the ability*. Females show the reverse pattern: They attribute their successes to effort and their failures to lack of ability, believing that *I don't know if I can keep on doing it, because I'm not very good at this type of thing*. Such differences—which can be observed even when boys' and girls' previous achievement levels have been equivalent—typically reflect society's messages about what males and females are usually “good at” (Cimpian, Mu, & Erickson, 2012; Eccles, Wigfield, & Schiefele, 1998; McClure et al., 2011; Stipek & Gralinski, 1991; Vermeer, Boekaerts, & Seegers, 2000).

Self-Protective Bias

As a general rule, people tend to form attributions that maintain or enhance their sense of self-worth. For instance, we tend to attribute our successes to internal causes (e.g., to high ability or hard work) and our failures to external causes (e.g., to bad luck or another person's thoughtless behavior). By patting ourselves on the back for the things we do well and putting the blame elsewhere for poor performance, we're able to maintain positive self-perceptions (Mezulis, Abramson, Hyde, & Hankin, 2004; Sedikides & Gregg, 2008; Stupnisky et al., 2011). This **self-protective bias** isn't always in our best interest, however: If we inaccurately attribute our failures to factors outside of ourselves, we're unlikely to change our behavior in ways that will lead to greater success (Dweck & Molden, 2005; Seligman, 1991; Zimmerman, 2004).

Image Management

The attributions people communicate to others don't always reflect their true beliefs about the sources of their successes and failures. As children get older, they discover that different kinds of attributions elicit different kinds of reactions from other people (Hareli & Weiner, 2002; Juvonen, 2000). To maintain positive interpersonal relationships—and thereby satisfy their need for relatedness—they begin to modify their attributions for the particular audience at hand. This phenomenon is sometimes called *face-saving*, but I suggest using the broader term **image management**.

Teachers, parents, and other adults are often sympathetic and forgiving when children fail because of something beyond their control (illness, lack of innate ability, etc.) but frequently get angry when children fail simply because they didn't try very hard. By the time children reach fourth grade, most of them are aware of this fact and so may verbalize attributions that are likely to elicit favorable reactions (Juvonen, 1996, 2000; Weiner, 1995). To illustrate, a student who knows very well that she did poorly on an assignment because she didn't put forth her best effort

may distort the truth and place blame on uncontrollable factors, perhaps telling her teacher that she “can’t seem to make sense of this stuff” or “wasn’t feeling well.”

Children become equally adept at tailoring their attributions for the ears of their peers. Generally speaking, fourth-graders believe that their peers value diligence and hard work, and so they’re likely to tell their classmates that they did well on an assignment because they worked hard. By eighth grade, however, many students believe their peers disapprove of those who exert a lot of effort on academic tasks, and so they often prefer to convey the impression that they *aren’t* working very hard—for instance, that they “didn’t study very much” for an important exam or “just lucked out” when they’ve performed at a high level. Socially astute individuals tend not to credit their successes to high ability—at least not when talking with others—because such an attribution might be interpreted as arrogance (Howie, 2002; Juvonen, 1996, 2000; McClure et al., 2011).

Explanatory Style: Mastery Orientation versus Learned Helplessness

Over time people gradually develop consistent patterns of attributions for their successes and failures, and these patterns, in turn, affect their expectations for future performance. The general, typical way in which a person interprets and explains day-to-day events and consequences is known as **explanatory style**.⁹ For instance, some people typically attribute their accomplishments to their own abilities and efforts; they have an *I-can-do-it* attitude known as a **mastery orientation**. Other people attribute successes to outside and uncontrollable factors and believe that their failures reflect a relatively permanent lack of ability; they have an *I-can’t-do-it-even-if-I-try* attitude known as **learned helplessness**. You should think of this distinction as a continuum rather than a complete dichotomy. You might also look at it as a difference between *optimists* and *pessimists* (Dweck, 2000; Eccles & Wigfield, 1985; Mikulincer, 1994; C. Peterson, 2006; C. Peterson, Maier, & Seligman, 1993; Seligman, 1991).

As an illustration, consider these two boys, keeping in mind that both boys have the same ability level:

- Jerry is an enthusiastic, energetic learner. He enjoys working hard at school activities and takes obvious pleasure in doing well. He’s always looking for a challenge and especially likes to solve the brainteaser problems his teacher assigns as extra-credit work each day. He can’t always solve the problems, but he takes failure in stride and is eager for more problems the following day.
- Jason is an anxious, fidgety student. He doesn’t seem to have much confidence in his ability to successfully accomplish school tasks. In fact, he’s always underestimating what he can do; even when he has succeeded, he doubts that he can do it again. He seems to prefer filling out worksheets that help him practice skills he’s already mastered rather than attempting new tasks and problems. As for those daily brainteasers, he sometimes takes a stab at them, but he gives up quickly if the answer isn’t obvious.

Jerry exhibits a mastery orientation: He clearly has his life (and his attributions) under control, and he’s optimistic about his future performance. In contrast, Jason displays learned helplessness:

⁹You may also see the term *attributional style*.

He believes that challenging tasks are out of his reach and beyond his control, and he expects failure rather than success.

Researchers have identified a number of ways in which people with a mastery orientation differ from those with learned helplessness. In an academic context, those with a mastery orientation tend to perform better on classroom tasks than we would predict from their aptitude test scores and previous grade point averages (Seligman, 1991). In an athletic context, optimists bounce back from a lost game more readily and overcome injuries more quickly than do equally capable but more pessimistic athletes (C. Peterson, 1990). In general, people with a mastery orientation have good mental health and behave in ways that lead to higher achievement over the long run: They set ambitious goals, seek challenging situations, and persist in the face of failure. People with learned helplessness behave very differently: Because they underestimate their ability, they set performance goals they can easily accomplish, avoid the challenges likely to maximize their learning and growth, and respond to failure in counterproductive ways (e.g., giving up quickly) that almost guarantee future failure. They're also hampered by anxiety-related thoughts, which can consume some of the working memory capacity that might otherwise be available for concentrating on the task at hand (Dweck, 2000; Graham, 1989; Mikulincer, 1994; C. Peterson, 1990, 2006; Seligman, 1991).

Extreme cases of learned helplessness typically manifest themselves in three ways. First, there's a *motivational* effect: The individual is slow to exhibit responses that will yield desirable outcomes or enable escape from aversive situations. Second is a *cognitive* effect: The individual has trouble learning new behaviors that would improve environmental conditions. The third effect is an *emotional* one: The individual tends to be passive, withdrawn, anxious, and depressed (S. F. Maier & Seligman, 1976; Overmier, 2002).

Preschoolers occasionally show signs of learned helplessness about a particular task if they consistently encounter failure while attempting it (Burhans & Dweck, 1995). By age 5 or 6, some children begin to show a consistent tendency either to persist at a task and express confidence that they can master it, on the one hand, or to abandon a task quickly and say they don't have the ability to do it, on the other (Ziegert, Kistner, Castro, & Robertson, 2001). As a general rule, however, children younger than age 8 rarely exhibit extreme forms of learned helplessness, perhaps because they still believe that success is largely the result of their own efforts (Eccles et al., 1998; Lockhart, Chang, & Story, 2002; Paris & Cunningham, 1996). By early adolescence a general sense of helplessness becomes more common. Some middle schoolers believe they can't control the things that happen to them and are at a loss for strategies about how to avert future failures (Dweck, 2000; Paris & Cunningham, 1996; C. Peterson et al., 1993). By the time people reach adulthood, learned helplessness often manifests itself in chronic depression (Seligman, 1975, 1991).

Roots of Learned Helplessness

I previously described Seligman and Maier's (1967) classic study of learned helplessness in Chapter 1, but a memory refresher and additional details are probably in order here. In the first phase of the experiment, dogs received numerous painful and unpredictable shocks. Some dogs could escape the shocks by pushing a panel in the cage, whereas other dogs couldn't escape the shocks regardless of what they did. The following day, each dog was placed in a box that a barrier divided into two compartments. While in this box, the dog was given a series of tone-shock combinations, with a tone always preceding a shock; the dog could avoid the shock by jumping over the barrier into the other compartment as soon as it heard the tone. Dogs that had been able

to escape the shocks on the first day quickly learned to avoid the shocks on the second day. In contrast, dogs that had previously been unable to escape displayed learned helplessness: They made few attempts to escape, instead simply sitting still and whining as the shocks were presented. Seligman and Maier's study suggests that when aversive events occur repeatedly and an animal can't avoid, escape from, or otherwise terminate them, the animal will eventually give up and passively accept them.

People, too, begin to exhibit symptoms of learned helplessness when they can't control the occurrence of aversive events (e.g., Bargai, Ben-Shakhar, & Shalev, 2007; Hiroto & Seligman, 1975; C. Peterson et al., 1993). Such may be the case for schoolchildren who consistently have trouble successfully completing academic tasks (C. S. Carver & Scheier, 2005; Hen & Goroshit, 2014; Núñez et al., 2005). As an example, consider the child with a learning disability. Often remaining unidentified as a student with special educational needs, the child may encounter repeated failure in academic work, despite reasonable efforts to succeed, and so may eventually stop trying. I've also seen the learned helplessness phenomenon in presumably nondisabled students when I talk with them about certain subject areas. For instance, many students attribute their math anxiety to the fact that, as elementary school students, they couldn't comprehend how to solve certain problems no matter what they did or how hard they tried. Others show learned helplessness in the area of spelling: Even when they know they've spelled a word incorrectly, they don't try to correct themselves, excusing their behavior by such statements as "I'm just a bad speller" or "I never could spell very well."

Helplessness can also develop when people observe *other individuals* having little control over their lives (I. Brown & Inouye, 1978; C. Peterson et al., 1993). How adults behave in their interactions with children can contribute to feelings of helplessness as well. For instance, mothers of children who show early signs of learned helplessness are less likely to provide assistance when their children tackle challenging tasks—and they're *more* likely to suggest that a child give up in the face of difficulty—than mothers of mastery-oriented children (Hokoda & Fincham, 1995). Giving children negative feedback without also providing suggestions about how to improve—especially when the feedback calls into question children's overall competence and worth—can also instill helplessness (Dweck, 2000; Kamins & Dweck, 1999). Curiously, *praise for successes* can eventually lead to helplessness if the praise focuses on children's natural, inherited talents (thus fostering an entity view of ability) and then the children subsequently experience failures in the same domain (Dweck, 2000; Kamins & Dweck, 1999).

Having a consistent history of being able to control one's circumstances seems to inoculate people against learned helplessness in the face of temporarily uncontrollable events (C. Peterson et al., 1993). (This point should remind you of our discussion of *resilient self-efficacy* in Chapter 5.) And under some circumstances, learned helplessness can actually be a roundabout way in which people actually try to *maintain* a sense of control in chronically adverse conditions (N. C. Hall, Hladkyj, Ruthig, Pekrun, & Perry, 2002; N. C. Hall, Hladkyj, Taylor, & Perry, 2000; Rothbaum, Weisz, & Snyder, 1982). Because they're unable to change their environment, they instead accept their circumstances, recognize their limitations, acknowledge that factors beyond themselves (fate, God, *karma*, etc.) are ultimately in charge, and try to identify a silver lining in their unhappy situation.

One of the outcomes of a mastery orientation—and of controllable attributions more generally—is an increased tendency to self-regulate one's own learning. In fact, truly effective learners regulate not only their approach to a learning task but also their motivation and affect. We now look at the interplay among motivation, affect, and self-regulation.

MOTIVATION, AFFECT, AND SELF-REGULATION

In Chapter 14 we discovered how motivation and affect are interrelated both with each other and with learning and cognition. But in addition, motivation and affect influence, and are influenced by, self-regulation. Furthermore, the development of self-regulation often includes *internalizing* the motives, values, and goals of others.

How Motivation and Affect Are Intertwined with Self-Regulation

As noted early in Chapter 14, motivated individuals—especially *intrinsically* motivated individuals—are more likely to initiate and persist at activities, more likely to be cognitively engaged in what they're doing, and more likely to use effective strategies in a learning task. Thus, motivation—and again, especially intrinsic motivation—sets the stage for self-regulation.

People are more likely to be self-regulating learners when they feel confident they can be successful at a learning task and when they believe they can control the direction their lives are taking. In other words, self-regulating learners have both a sense of competence (self-efficacy) and a sense of autonomy. In addition, self-regulating learners tend to be those who set mastery goals for their performance and attribute successful outcomes to things they themselves have done—for instance, hard work and use of good strategies (R. Ames, 1983; Blazevski, McEvoy, & Pintrich, 2003; Paris & Turner, 1994; Schunk, 1995; Zimmerman, 2010; Zimmerman & Risemberg, 1997).

One aspect of self-regulated learning in which motivation and affect figure prominently is *help-seeking* behavior. Why do some students willingly seek others' assistance when they need it, whereas other struggling students consistently ignore opportunities and offers for assistance? Researchers have found that students are *less* likely to seek other people's help if they

- Perceive requests for help as threatening their sense of competence and self-worth
- Believe that asking for help will undermine their sense of autonomy (in some instances, they may also think they can learn more if they persist on their own)¹⁰
- Have performance goals (rather than mastery goals) in combination with low ability
- Have an entity (rather than incremental) view of intelligence
- Are concerned about making a good impression on others and think that a request for help might make them look stupid
- Worry that requests for help might be disparaged and rejected (Aleven, Stahl, Schworm, Fischer, & Wallace, 2003; R. Ames, 1983; R. Butler, 1998b; Dweck & Molden, 2005; Newman & Schwager, 1992; A. M. Ryan, Pintrich, & Midgley, 2001)

Not only do motivational and affective factors influence self-regulated learning but self-regulating learners also *control* their motivation and affect to some degree. They enhance their motivation in a variety of ways:

- *Aligning assigned tasks with areas of interest.* When self-regulating learners have a choice of learning activities, they intentionally choose alternatives that interest them (Covington, 2000). For example, when thinking about research projects for an upcoming science fair, they might develop a project that relates to a current interest in lizards or a long-term goal of becoming a dentist.

¹⁰Culture may also be a factor here. Many Western societies encourage students to be independent learners as much as possible and to minimize reliance on others (Karabenick & Sharma, 1994).

- *Setting goals.* Self-regulating learners set short-term as well as long-term goals for themselves (Locke & Latham, 2002; Zimmerman, 1998). For instance, they might tell themselves, “I need to finish reading this chapter on motivation before I go to lunch.” By setting and reaching short-term goals, they also enhance their sense of competence and self-efficacy (Wolters, 2003a).
- *Focusing on productive attributions.* Self-regulating learners identify factors within themselves over which they have considerable control, such as good strategies (Wolters, 2003a). For instance, while tackling a difficult geometry problem, they might think, “I’ve solved these kinds of problems before. What approaches did I use that worked for me?”
- *Minimizing enticing distractions.* Self-regulating learners create or find an environment in which they can concentrate as they study (J. Kuhl, 1987; Wolters, 2003a; Wolters & Rosenthal, 2000). For instance, they might turn off the television while studying in the living room, or they might retreat to a quiet corner of the library and turn off their cell phone.
- *Reminding themselves of the importance of doing well.* Self-regulating learners engage in self-talk that emphasizes reasons for completing a task or performing at high levels (Wolters, 2003a; Wolters & Rosenthal, 2000). For instance, they might say, “I can help others in my study group understand this only if I understand it myself” or “Getting an A on this test is important for my GPA.”
- *Enhancing the appeal of a task.* Self-regulating learners devise ways to make a boring task more interesting and enjoyable (Sansone, Weir, Harpster, & Morgan, 1992; Wolters, 2003a; Wolters & Rosenthal, 2000; Xu, 2008). For example, they might try to make the task into a game of some sort, or they might embellish their written work with artful illustrations.
- *Self-imposing consequences.* Self-regulating learners promise themselves rewards for doing well; they may also punish themselves in some way if they fail (Wolters, 2003a; Wolters & Rosenthal, 2000; also see the sections “Self-Reaction” and “Self-Reinforcement” in Chapter 5). For example, they might treat themselves to a night at the movies with friends if—but only if—they get at least a B on an assignment.

Emotions aren’t as easy to control as motivation, but self-regulating individuals rein in unproductive ones as much as they can. That is, they engage in **emotion regulation**. For example, they try to put worrisome thoughts out of their minds while they study and to think of upcoming challenges as being accomplishable with effort, rather than as threatening tasks that foreshadow almost certain doom. They also try to put a positive spin on what might otherwise be anger- or sadness-inducing circumstances—for instance, by interpreting an unexpectedly low quiz score as a wake-up call to study more diligently in the future. They bounce back quickly after a discouraging failure, renewing their efforts and finding reasons for optimism that they’ll be successful the next time. And occasionally they adjust their expectations for themselves to be in better alignment with their current ability levels (Fletcher & Cassady, 2010; Halperin, Porat, Tamir, & Gross, 2013; Pekrun, 2006; Richards, 2004; J. E. Turner, Husman, & Schallert, 2002; Wolters, 2003a; Zeidner, 1998).

Internalized Motivation

My son Alex and I once enrolled in an undergraduate course in art history. We were both taking the course primarily to gain a better understanding of the many works of art we’d seen in museums over the years. Alex also had a second reason for taking the course: to earn credit toward his

high school diploma. Alex, of course, had to get a passing grade in the course. As for me, it mattered little whether I got an A or an F. Yet I diligently studied for every test, often forgoing things I'd rather have been doing, such as reading a good mystery novel or watching a television game show. Why did I do it? Although I enjoyed attending class, studying the material before a test was definitely *not* an intrinsically motivating activity for me; the textbook had lots of beautiful pictures, but its prose was about as interesting and engaging as a telephone book. Nor was there any obvious extrinsic motivation for me to study; the grade I got in the course would in no way affect my future physical, financial, or emotional well-being. The bottom line was that, in my many years as a student, I had acquired a desire to achieve good grades, more or less for their own sake.

In our discussion so far, we've thought of intrinsic versus extrinsic motivation as an either/or state of affairs. In fact, there's a third possibility. The concept of **internalized motivation** refers to situations in which, over time, people gradually adopt behaviors that other individuals value, ultimately without regard for the external consequences that such behaviors may or may not bring.¹¹

Edward Deci and Richard Ryan (1995; Deci & Moller, 2005; R. M. Ryan & Deci, 2000) have proposed that internalized motivation may evolve in the following sequence:

1. *External regulation.* The learner is motivated to behave in certain ways—or perhaps *not* to behave in those ways—based primarily on the external consequences that will follow various behaviors; in other words, the learner is extrinsically motivated. For instance, students may do schoolwork primarily to avoid being punished for poor grades, and they're likely to need a lot of prodding to complete assigned tasks.
2. *Introjection.* The learner behaves in particular ways in order to gain other people's approval; for example, a student may willingly complete an easy, boring assignment as a means of getting in a teacher's good graces. At this point, we see some internal pressure to engage in desired behaviors; for instance, the learner may feel guilty after violating certain standards or rules for behavior. However, the learner doesn't fully understand the rationale behind such standards and rules. Instead, the primary motives appear to be avoiding a negative self-evaluation and protecting self-worth.
3. *Identification.* The learner now sees certain behaviors as being personally important or valuable. For instance, a student is likely to value learning and academic success for their own sake, to perceive assigned classroom tasks as being essential for learning, and to need little or no prodding to get assigned work done.
4. *Integration.* The learner has fully accepted the desirability of certain behaviors and integrated them into an overall system of motives and values. For example, a student might have acquired a keen interest in science as a possible career—an interest that will be evident in many things the student regularly does.

Internalized motivation is an important aspect of self-regulated learning. It fosters a general work ethic—including that *motivation to learn* I spoke of earlier—in which an individual spontaneously engages in activities that, although not always fun or immediately gratifying, are essential for reaching long-term goals (Brophy, 2008; Harter, 1992; McCombs, 1996; R. M. Ryan,

¹¹This concept should remind you of Vygotsky's notion of *internalization* (see Chapter 11).

Connell, & Grolnick, 1992). In a sense, then, we're returning to the notion of *values*: A learner perceives certain activities to have direct or indirect benefits.

Be careful that you don't equate Step 4 in the internalization sequence—*integrated motivation*—with *intrinsic motivation*. Certainly they're both associated with a high degree of autonomy, and they can ultimately have similar effects on behavior and learning, such as greater persistence and more effective learning strategies (Assor, Vansteenkiste, & Kaplan, 2009; La Guardia, 2009; Ratelle, Guay, Vallerand, Larose, & Senécal, 2007). However, intrinsic motivation comes from within the individual or is inherent in the task being performed, whereas integrated motivation has its roots in social and cultural messages about what things are important and valuable (Deci & Moller, 2005; Reeve, Deci, & Ryan, 2004; Stefanou, Perencevich, DiCintio, & Turner, 2004). Oftentimes identified or integrated motivation (Steps 3 and 4 in the sequence) may actually be preferable to intrinsic motivation because they tend to be more stable and long-lasting, such that learners will sustain their efforts even after an activity's intrinsic appeal has worn thin (Otis, Grouzet, & Pelletier, 2005; Reeve et al., 2004; Walls & Little, 2005).

Researchers have identified several conditions that seem to promote the development of internalized motivation—conditions that in one way or another address a learner's needs for competence, autonomy, and relatedness:

- *The learner perceives an activity to be important for long-term success.* Motivated by a need for competence, the learner wants to acquire knowledge and skills essential for successful performance in society.
- *The learner operates within the context of a warm, responsive, and supportive environment.* The learner feels a sense of relatedness to and regard for important people in his or her environment.
- *The learner has some autonomy.* The people who are largely directing the learner's behavior (e.g., parents, teachers) exert no more control than necessary, as a way of maximizing the extent to which the learner maintains a sense of autonomy. Over time, those people gradually relinquish control to the learner.
- *The learner operates within a certain degree of structure.* The environment provides information about expected behaviors and why they're important. Response–consequence contingencies are clearly identified. (Deci & Moller, 2005; La Guardia, 2009; R. M. Ryan et al., 1992; Soenens, Sierens, Vansteenkiste, Dochy, & Goossens, 2012; Wentzel & Wigfield, 1998)

Fostering the development of internalized motivation, then, involves a delicate balancing act between (a) giving the learner sufficient opportunities for experiencing autonomy and (b) providing some guidance about how the learner should behave. Accordingly, more experienced individuals (e.g., parents and teachers) should scaffold desired behaviors at first, gradually reducing the scaffolding as the learner exhibits the behaviors more easily and frequently.

ENCOURAGING MOTIVATING COGNITIONS

In this chapter we've considered several cognitive factors that influence motivation, including interests, expectancies, values, goals, and attributions. With these factors and the benefits of self-regulation and internalized motivation in mind, I offer some general principles that can guide

teachers' efforts to enhance students' motivation—and consequently also students' learning and achievement—in classroom settings.

♦ *Students learn more when they find classroom material interesting as well as informative.* Almost all students learn more when a topic is interesting. Yet students often report that they find little of interest in classroom subject matter, especially once they reach the middle school and high school grades (Dotterer, McHale, & Crouter, 2009; Gentry, Gable, & Rizza, 2002; Larson, 2000; Mac Iver, Reuman, & Main, 1995).

Certainly teachers should capitalize on students' personal interests whenever possible. But situational interest factors—especially of the “hold” rather than “catch” variety—can also be incorporated into classroom topics and activities. For example, students typically enjoy opportunities to respond actively during a learning activity—perhaps by manipulating and experimenting with physical objects, creating new products, discussing controversial issues, or teaching something they've learned to their peers (Andre & Windschitl, 2003; Brophy, 2004; Hidi, Weiss, Berndorff, & Nolan, 1998). As an illustration, here's how a fifth-grader named Cathy revealed the interest-enhancing value of experimenting with physical objects:

I think science is really fun because we always do experiments and I really like doing experiments. Whenever we have science, I always get really excited because I wonder what we are going to do [in] this lesson. I hope it's another experiment! Whenever we have science, we always learn something new. (MacCallum, & Pressick-Kilborn, 2011, p. 163)

In addition, students enjoy subject matter to which they can relate on a personal level—for instance, math lessons that involve favorite foods, works of literature featuring characters with whom they can readily identify, or history lessons that portray historical figures as real people with distinctly human qualities (Anand & Ross, 1987; M. Davison, 2011; Levstik, 1993; Pugh & Bergin, 2006). They're often curious about things that are new and different and about events that are surprising and puzzling (M. Hofer, 2010; Lepper & Hodell, 1989). They like to engage in fantasy and make-believe—for example, playing out the roles of key figures in historical events or imagining what it must be like to be weightless in space (Brophy, 2004; Urdan & Turner, 2005). And they may eagerly seek out answers to questions they themselves have posed about a new topic (Brophy, Alleman, & Knighton, 2009; Hidi & Renninger, 2006).

♦ *Students tend to be more optimistic about their chances of success when they have environmental support for their efforts.* In Chapters 5 and 14 we identified a number of strategies for enhancing students' self-efficacy and general sense of competence for accomplishing classroom tasks. But as we discovered in our earlier discussion of expectancies, learners' expectations for success depend not only on their own perceived abilities but also on the availability of people who can guide them and resources that can make some parts of a task easier. Hence, we see that appropriate scaffolding is apt to promote motivation as well as learning and development. Not only does ongoing teacher support and scaffolding enhance students' expectancies for success, but it can also enhance their interest in school subject matter and help them meet their need for relatedness (Brophy, 2004; Hidi & Renninger, 2006; Patrick, Kaplan, & Ryan, 2011; Rolland, 2012).

♦ *Students are more motivated to learn classroom subject matter when they believe it has value for them personally.* Some classroom activities will be naturally fun, interesting, or in some other way intrinsically motivating for students. But other activities—perhaps occasional drill and practice to promote automaticity of basic skills, or perhaps intensive study of dry but essential topics—may

have little obvious appeal. Teachers can do many things to help students find value in school activities. For example, they can help students discover how the things they learn at school can better enable them to address their present concerns and long-term goals (Beland, Kim, & Hannafin, 2013; Simons et al., 2004; Woolley, Rose, Orthner, Akos, & Jones-Sanpei, 2013). Teachers can also demonstrate how they themselves value academic activities—for example, by sharing their fascination with certain topics, modeling critical evaluation of new ideas, and describing how they use the things they themselves once learned in school (L. H. Anderman, Freeman, & Mueller, 2007; Brophy, 2004; D. Kuhn, 2006). And teachers should refrain from asking students to engage in activities with little long-term benefit—for instance, memorizing trivial facts for no good reason or reading material that's clearly beyond students' comprehension level (Brophy, 1987, 2008).

Other factors that promote the development of internalized motivation—a responsive and supportive environment, age-appropriate autonomy, and a reasonable amount of structure—should also help learners acquire values that other people believe are important for long-term well-being. And in general, teachers should help students discover for themselves that studying school subject matter isn't just a means to concrete ends (a better job, higher salary, etc.) but in fact has many intangible rewards, such as better understanding of world events, more informed decision making, and increased ability to “make a difference” in human society (Brophy, 2004, 2008; Finke & Bettel, 1996; Yeager et al., 2012). One Taiwanese high school student expressed such a sentiment about the intangible rewards of studying history:

History itself can help us understand the background of us and others. The influence of history is profound and it shapes the economic, cultural, and political aspects of our current world. History can help us understand the relationship between our country and others. (Hsiao, 2011)

Ideally, then, students should come to value learning for its own sake.

♦ *In general, mastery goals lead to better learning than performance goals.* To some degree, performance goals (e.g., earning high grades and test scores) are inevitable in today's schools and in society at large. Furthermore, children and adolescents will invariably look to their peers' performance as one means of evaluating their *own* performance, and many aspects of the adult world (gaining college admission, seeking employment, playing professional sports, etc.) are inherently competitive in nature. But ultimately, mastery goals are the ones most likely to promote effective learning and achievement over the long run. Mastery goals are especially motivating when they're specific (“I want to learn how to ride a bicycle”), challenging (“Writing a limerick looks difficult, but I'm sure I can do it”), and short-term (“I'm going to learn to count to 100 in French by the end of the month”) (Alderman, 1990; Belland et al., 2013; K. R. Harris, Graham, Brindle, & Sandmel, 2009; Mac Iver et al., 1995; S. D. Miller & Meece, 1997).

Some theorists have proposed that different kinds of mastery goals may be more useful at different points in learning, especially when learners are trying to learn a skill of some sort (e.g., writing a good paragraph or effectively shooting a basketball into a basket). Initially, learners may want to work toward a **process goal**, perfecting the form or procedure that the skill involves without regard to the final outcome. As the desired form or procedure becomes more automatized, they may then want to shift their attention to a **product goal**, striving for a certain standard of performance (e.g., writing a clear topic sentence, getting a certain percentage of balls in the basket) (Schunk & Swartz, 1993; Schunk & Zimmerman, 1997; Zimmerman & Kitsantas, 1997, 1999). On the surface, such goals might look like performance goals. However, the focus of both process and product goals is on *mastery* of a skill, not on how one's performance appears to others.

Teachers can do many things to encourage students to focus more on mastery goals than performance goals. For example, they can suggest that students look to their peers not as a comparison group for evaluating their own performance but rather as sources of information and support (Ciani, Middleton, Summers, & Sheldon, 2010; Urdan, Ryan, Anderman, & Gheen, 2002). They can communicate the idea that mistakes are an inevitable part of mastering new and complex tasks (N. E. Perry & Winne, 2004; Steuer & Dresel, 2011). They can provide mechanisms and criteria through which students may easily record and assess their academic progress (Paris & Paris, 2001; Spaulding, 1992). And rather than simply reporting test scores or letter grades, teachers can give specific feedback about how students might improve (R. Butler, 1987; Shute, 2008; M.-T. Wang & Holcombe, 2010).

♦ *Students learn more effectively when they set goals for themselves.* When we discussed instructional goals and objectives in Chapter 4, we were primarily talking about goals that teachers set for their students. But it's equally important that students set their *own* goals regarding what they want to accomplish at school. Not only are self-chosen goals an important part of self-regulated learning but they can also help students make productive choices, direct students' efforts as they work in the classroom, and contribute to students' sense of autonomy. And ultimately, students are more likely to work toward—and thus more likely to accomplish—goals they've set for themselves rather than those they've had imposed on them (Reeve, 2009; Schunk & Pajares, 2005; Wentzel, 1999).

Although teachers should certainly encourage students to develop long-term goals for themselves—perhaps to go to college or become an environmental scientist—such goals are often too general and abstract to guide students' immediate behaviors (Bandura, 1997; Husman & Freeman, 1999). Many students (younger ones especially) initially respond more favorably to fairly specific, concrete, short-term goals—perhaps learning a certain number of spelling words or solving a certain number of mathematics problems. By setting and working for a series of short-term goals—sometimes known as **proximal goals**—students get regular feedback about the progress they're making, develop

Focusing students' attention on performance goals—especially unrealistic and seemingly meaningless ones—is unlikely to foster intrinsic motivation.



a greater sense of self-efficacy that they can master school subject matter, and achieve at higher levels (Belland et al., 2013; R. B. Miller & Brickman, 2004; Page-Voth & Graham, 1999; Schunk & Pajares, 2005; Wolters, 2003a). Some computer and smartphone applications (e.g., iProcrastinate) can help students break down a complex goal—for instance, writing a 20-page term paper—into several simpler and more immediate ones.

It's important to note that when students set specific goals for their learning and achievement, their epistemic beliefs about the nature of knowledge—in particular, its certainty, simplicity, and structure—will affect the particular goals they identify and the learning strategies in which they engage (Buehl & Alexander, 2006; Muis & Foy, 2010; Muis & Franco, 2009). For example, if students believe that “knowledge” simply means accumulating a bunch of isolated, indisputable facts about a topic, they're likely to set performance goals and engage in rote learning (e.g., memorizing word-for-word definitions). If, instead, they realize both that (a) genuine knowledge about a topic involves understanding interrelationships among ideas and (b) even experts in the field don't totally agree about certain issues, they're more likely to set mastery goals and engage in meaningful and elaborative learning.

♦ *Classroom activities are more effective when they enable students to meet several goals at once.* As we've seen, students are more productive when they can accomplish multiple goals simultaneously. For instance, students might work toward mastery goals by learning and practicing new skills within the context of group projects (thus meeting their social goals) and with evaluation criteria that allow for risk taking and mistakes (thus not interfering with performance goals). Students are unlikely to strive for mastery goals when assignments ask little of them (thereby not enhancing their sense of competence), when they must compete with one another for resources or high test scores (possibly thwarting attainment of social goals), and when any single failure has a significant impact on final grades (impeding progress toward performance goals).

♦ *Optimistic teacher attributions and expectations regarding students' achievement boost students' actual achievement.* As you learned in Chapter 8, people often draw from their existing knowledge and beliefs to form expectations about what they're likely to see and hear. These expectations, in turn, influence what people *do* see and hear, or at least what they *think* they see and hear. Expectations are especially influential when an event is ambiguous—that is, when it can be interpreted in multiple ways.

Many of students' day-to-day behaviors in the classroom lend themselves to a variety of interpretations. What teachers conclude from these behaviors—including the attributions they make about students' successes and failures—depends on how they've previously sized up different students' motivation levels, abilities, and other characteristics. For example, imagine that a student, Linda, fails to finish a class assignment on time. Her teacher, Mr. Jones, might possibly conclude that Linda (a) didn't try very hard, (b) used her time poorly, or (c) wasn't capable of doing the task. Which conclusion Mr. Jones draws will depend on his prior beliefs about Linda—for instance, whether he thinks she (a) is lazy and unmotivated, (b) is both motivated and capable of doing the work but hasn't yet acquired effective self-regulation skills, or (c) has little innate capacity for learning (reflecting an entity view of intelligence).

Teachers' attributions for students' current behaviors affect their expectations for students' future performance. Their expectations, in turn, affect their future attributions regarding why students do or don't do something (Weiner, 2000). And their attributions and expectations both affect the teaching strategies they use with particular students. For example, if Mr. Jones thinks Linda is “unmotivated,” he might use some sort of incentive—perhaps offering some free time at the end of the day—to entice her into completing assignments on time. If, instead, he thinks Linda lacks

the necessary self-regulation skills for independent work, he might strive to teach her such skills—perhaps instructing her in the self-monitoring described in Chapter 5. But if he thinks Linda has insufficient intelligence to master classroom topics, he may do little or nothing to help her along.

When teachers form optimistic attributions and expectations for students—for instance, when they believe that students can perform at high levels if conditions are right—they create a warm classroom climate, interact frequently with students, provide numerous opportunities for students to respond, and give positive and specific feedback; they also present challenging tasks and topics. In contrast, when teachers have low expectations for certain students—for instance, when they believe they can do little to change students’ seemingly “low intelligence” or “poor motivation”—they offer few opportunities for speaking in class, ask easy questions, give little feedback about students’ responses, present few (if any) challenging assignments, and overlook good performance when it occurs (Babad, 1993; Good & Brophy, 1994; Graham, 1990, 1991; R. Rosenthal, 1994, 2002).

Most children and adolescents are well aware of their teachers’ differential treatment of individual students, and they use such treatment to draw logical inferences about their own abilities (R. Butler, 1994; Good & Nichols, 2001; R. S. Weinstein, 2002). Furthermore, their behaviors may begin to mirror their self-perceptions. For instance, when teachers repeatedly communicate low-ability messages, students may exert little effort on academic tasks, or they may frequently misbehave in class (Marachi, Friedel, & Midgley, 2001; Murdock, 1999). In some cases, then, teachers’ attributions and expectations can lead to a self-fulfilling prophecy: What teachers expect students to achieve becomes what students actually *do* achieve. (We’ll call this *Self-Fulfilling Prophecy #2*.) Teacher attributions and expectations appear to have a greater influence in the early elementary school years (grades 1 and 2), in the first year of secondary school, and, more generally, within the first few weeks of school—in other words, at times when students are entering new and unfamiliar school environments (de Boer, Bosker, & van der Werf, 2010; Hattie, 2009; Hinnant, O’Brien, & Ghazarian, 2009; Kuklinski & Weinstein, 2001; Raudenbush, 1984; R. Rosenthal, 1994, 2002; Sorhagen, 2013).

Obviously, then, teachers are most effective when they have optimistic attributions and expectations regarding students’ performance. Following are several strategies teachers can use to acquire and maintain such optimism:

- *Look for strengths in every student.* Sometimes students’ weaknesses are all too evident. But it’s essential that teachers also look for the many unique qualities and strengths that students inevitably bring to the classroom—perhaps exceptional leadership skills in working with classmates or considerable creativity in story telling (Carrasco, 1981; Hale-Benson, 1986; R. J. Sternberg, 2005).
- *Learn more about students’ backgrounds and home environments.* Teachers are most likely to have low expectations for students’ performance when they hold rigid stereotypes about students from certain ethnic or socioeconomic groups, often as a result of ignorance about students’ cultures and home environments (Kincheloe, 2009; McLoyd, 1998; Snow, Corno, & Jackson, 1996). When teachers have a clear picture of their students’ activities, habits, values, and families, they’re far more likely to think of their students as *individuals* than as stereotypical members of a particular group.
- *Assume that ability can and often does improve with time, practice, and high-quality instructional practices.* In other words, teachers should take an incremental view, rather than an entity view, of students’ intelligence and other abilities (Dweck & Molden, 2005; Rattan et al., 2012).
- *Assess students’ progress objectively and frequently.* Because expectations for students’ performance often color teachers’ informal estimates of how well students are progressing, teachers need to identify objective ways of assessing learning and achievement

(Goldenberg, 1992). Here I'm not talking about the high-stakes tests of which I've previously spoken in Chapters 4 and 14 (such tests yield only global measures of achievement), but rather about teacher-constructed assessments that can provide concrete information about what students have and haven't learned.

- *Remember that teachers can definitely make a difference.* Teachers are more likely to have high expectations for students when they're confident in their own ability to promote learning and academic success (Brophy, 2006; J. A. Langer, 2000; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998; R. S. Weinstein, Madison, & Kuklinski, 1995).

Also, in daily interactions with students, teachers must take pains to *communicate* optimistic attributions about students' performance. For instance, when a student succeeds at a task, a teacher might attribute the success to a combination of natural ability, effort, and good strategies (e.g., "Obviously you're good at this, and you've been working very hard to apply the new writing techniques you learned"). And when a student has difficulty with a task, attributions to controllable factors such as effort and strategies are most beneficial (e.g., "Perhaps you need to study a little more next time, and here are some suggestions on how you might study a little differently . . ."). Equally important is to communicate that ability in particular domains can improve over time, especially with hard work and practice—thus conveying an incremental view of intelligence (Blackwell et al., 2007; Dweck & Molden, 2005; Yeager & Dweck, 2012).

- ♦ *Systematic attempts to change students' attributions can lead to more productive ones.* For example, students might be asked to engage in an activity that's been intentionally designed to lead to frequent successes but occasional failures; as students engage in this activity, an adult interprets each success in terms of high effort or good strategies and each failure in terms of insufficient effort or ineffective strategies. Even more effective is teaching children to explicitly attribute their own successes and failures to amount of effort or specific strategies (S. Ellis, Mendel, & Nir, 2006; J. W. Fowler & Peterson, 1981; N. C. Hall et al., 2007; J. S. Robertson, 2000). In addition, specific instruction about the human brain's ongoing capacity for change and growth—for instance, explaining how human beings can become smarter by forming and strengthening new connections among neurons—can lead to more incremental attributions and enhanced school achievement (Yeager & Dweck, 2012).

Teachers must keep in mind that students' views of themselves and their abilities aren't likely to change dramatically overnight (Hilt, 2005; Meece, 1994). Thus, efforts to help students acquire productive attributions must be an ongoing endeavor rather than a one-shot intervention.

- ♦ *Most of the time, and for most students, noncompetitive activities are more motivating than competitive ones.* Many learners can be motivated by competition if they believe they have a reasonable chance of winning (Deci & Moller, 2005; S. M. Garcia & Tor, 2009; D. W. Johnson & Johnson, 2009a). For example, the *good behavior game* described in Chapter 4, in which two groups of students compete for privileges based on good behavior, leads to marked improvements in students' classroom behavior. Although this situation has an element of competition, both teams can win if their behavior warrants it. But when competition requires that only some people can win and others must lose, several undesirable side effects can result:

- *Competition promotes performance goals rather than mastery goals.* When the key to success is doing better than everyone else, learners inevitably focus their attention on the quality of their performance rather than on the quality of their learning (C. Ames, 1984; Nicholls, 1984; Stipek, 1996).
- *Competition promotes attributions to ability rather than to effort.* Learners who lose in competitive situations even with a great deal of effort quite logically reach the conclusion

that effort isn't enough—that their failure must be the result of insufficient natural ability (C. Ames, 1984; Nicholls, 1984; Thorndike-Christ, 2008).

- *For the losers, competition fosters a low sense of competence and diminishes self-worth.* When learners define success as mastery of a task or improvement in an activity over time, success is likely to come frequently and thus will enhance self-efficacy. But when learners instead define success as coming out on top, most must inevitably be losers. In the face of such “failure,” they may understandably begin to believe themselves to be incompetent, experience unpleasant affect, and may possibly engage in self-handicapping as a way of protecting their sense of self-worth (C. Ames, 1984; Covington & Müeller, 2001; S.-I. Kim, Lee, Chung, & Bong, 2010; A. J. Martin, Marsh, Williamson, & Debus, 2003).

As a result of such factors, competitive classroom environments typically lead to lower achievement for most students. Not only do students earn lower grades but they also develop more negative attitudes toward school and may cheat on assignments in order to get high grades (L. H. Anderman et al., 2007; Covington, 1992; Graham & Golen, 1991; Krampen, 1987; M.-T. Wang & Holcombe, 2010). Competitive classroom environments can be especially detrimental to female students (Catsambis, 2005; Inglehart, Brown, & Vida, 1994).

Teachers can take a variety of steps to minimize comparison and competition among students. For example, they can keep students' performance on classroom tasks private and confidential, minimizing the degree to which students are even aware of classmates' performance levels. At any one time, they can have different students doing different tasks. They can assess students' performance independently of how well classmates are doing and encourage students to assess their own performance in a similar manner. When using short competitive activities (e.g., debates, team math games) to liven up a lesson, teachers can make sure that all students or teams have a reasonable (and, if possible, equal) chance of winning and not make a big deal about who the ultimate winners are (Brophy, 2004; Linnenbrink, 2005; Stipek, 2002).

- ♦ *Age- and ability-appropriate challenges heighten motivation and minimize boredom.* In Chapter 14, I mentioned that success on challenging tasks can enhance learners' sense of competence. Challenges have other benefits as well. For one thing, they tend to stimulate interest. Learners typically become bored with easy tasks yet are frustrated by tasks at which they always seem to fail. Challenges provide a happy medium: They have those unexpected little twists and turns that maintain interest, but success is possible with persistence and the right strategies (Fredricks et al., 2010; Hidi & Renninger, 2006; Pekrun, Goetz, Daniels, Stupnisky, & Perry, 2010; Shernoff & Csikszentmihalyi, 2009).

Another beneficial outcome of challenges is that they promote productive attributions. When learners succeed at a very easy task—one on which they've exerted very little effort—they're likely to attribute their success to the fact that, hey, anybody can do it. When learners succeed at an *extremely* difficult task—something they thought themselves incapable of doing—they might attribute their success to good luck or somebody else's assistance. However, when they succeed at a reasonably challenging task—one they know they can do if they try long and hard enough—they can't explain their success as being the result of task ease, and they have little reason to attribute their performance to luck or assistance. Their best alternative is to attribute their hard-won success to their own efforts and clever strategies. Such an attribution should bolster their self-efficacy and sense of competence and, perhaps, their overall sense of self-worth (Clifford, 1990; Eisenberger, 1992; Lan, Repman, Bradley, & Weller, 1994; C. Peterson, 1990; J. W. Thomas et al., 1993).

As we've seen in earlier chapters, challenging tasks are important not only for motivation but also for learning and cognitive development (see the discussions of Vygotsky's theory in

Chapter 11 and metacognition in Chapter 12). When are learners most likely to take on new risks and challenges? Theorists suggest that conditions such as these are optimal:

- Standards for success are realistic for each individual.
- Scaffolding is sufficient to make success possible.
- There are few, if any, penalties for errors.
- Rewards can't be obtained by engaging in easier tasks, *or* rewards are greater for challenging tasks than they are for easy ones.
- Learners believe that success will probably be the result of their own knowledge, skills, efforts, and strategies (i.e., learners have internal attributions).
- Learners have a sense of competence and a sense of autonomy. (E. M. Anderman & Dawson, 2011; Brophy & Alleman, 1992; Clifford, 1990; Corno & Rohrkemper, 1985; Deci & Ryan, 1985; Dweck & Elliott, 1983; Lan et al., 1994; N. E. Perry, VandeKamp, Mercer, & Nordby, 2002; Stipek, 2002)

I've previously mentioned that success on challenging tasks promotes feelings of competence. But the last of the conditions just listed indicates that the reverse is also true: Competence increases the challenges that learners willingly undertake. In other words, we have a happily "vicious" cycle here: Challenge promotes competence, and competence promotes a desire for more challenge.

Yet the school day shouldn't necessarily be one challenge after another. Such a state of affairs would be absolutely exhausting, and probably quite discouraging as well. Instead, teachers should probably strike a balance between easy tasks—those that will boost students' self-confidence over the short run—and the challenging tasks so critical for a long-term sense of competence and self-efficacy (Spaulding, 1992; Stipek, 2002).

A TARGETS Mnemonic for Motivational Strategies

Many effective motivational strategies can be summed up by the mnemonic TARGETS: task, autonomy, recognition, grouping, evaluation, time, and social support (L. H. Anderman & Anderman, 2009; J. L. Epstein, 1989; Maehr & Anderman, 1993).¹² This multifaceted approach to enhancing learners' motivation is presented in Table 15.3. If you look closely at the entries in the table, you'll find that they reflect many of the concepts we've addressed in our two chapters on motivation and affect, including intrinsic and extrinsic motivation, competence and self-worth, autonomy, relatedness, *hot* cognition, interests, expectancies, values, expectations, goals, and attributions. And especially if you look at Column 2, you'll be convinced, as I am, that teachers clearly *can* make a difference—in fact, a very sizable one—not only in promoting students' learning but in enhancing their motivation as well.¹³

¹²Traditionally, the "A" in the mnemonic has represented *authority*, meaning that *students* are given the authority to make some choices and decisions. However, the word *autonomy* captures the same idea and is more consistent with the terminology used in Chapter 14.

¹³An alternative mnemonic gaining popularity is MUSIC (B. D. Jones & Wilkins, 2013). In particular, students should (a) feel *eMpowered* to make some decisions regarding their learning, (b) believe that the academic curriculum is *Useful* for their short-term and long-term goals, (c) believe that they can *Succeed* with a reasonable amount of effort, (d) find topics and lessons *Interesting*, and (e) perceive their teachers and classmates as *Caring* about both their academic progress and their general well-being.

Table 15.3

Seven TARGETS principles of motivation.

Principle	Examples of Classroom Practices
Classroom tasks affect motivation.	• Present new topics through tasks that students find interesting, engaging, and perhaps emotionally charged. • Encourage genuine understanding rather than rote learning. • Relate activities to students' lives and goals. • Provide sufficient support to enable students to be successful.
The amount of autonomy students have affects motivation, especially intrinsic motivation.	• Give students some choice about what and how they learn. • Teach self-regulation strategies. • Solicit students' opinions about classroom practices and policies. • Have students take leadership roles in some activities.
The amount and nature of the recognition students receive affect motivation.	• Acknowledge not only academic successes but also personal and social successes. • Commend students for improvement as well as for mastery. • Provide concrete reinforcers for achievement only when students aren't intrinsically motivated to learn. • Show students how their own efforts and strategies are directly responsible for their successes.
Grouping procedures in the classroom affect motivation.	• Provide frequent opportunities for students to interact with one another (e.g., cooperative learning activities, peer tutoring). • Plan small-group activities in which all students can make significant contributions. • Teach the social skills that students need to interact effectively with peers.
Forms of evaluation in the classroom affect motivation.	• Make evaluation criteria clear; specify them in advance. • Minimize or eliminate competition for grades (e.g., don't grade on a curve). • Give specific feedback about what students are doing well. • Give concrete suggestions for how students can improve.
How teachers schedule time affects motivation.	• Give students enough time to gain mastery of important topics and skills. • Let students' interests dictate some activities. • Include variety in the school day (e.g., intersperse high-energy activities among more sedentary ones).
The amount of social support students believe they have in the classroom affects motivation.	• Create a general atmosphere of mutual caring, respect, and support among all class members. • Convey affection and respect for every student, along with a genuine eagerness to help every student succeed. • Create situations in which all students feel comfortable participating actively in classroom activities (including students who are excessively shy, students who have limited academic skills, students who have physical disabilities, etc.).

Sources: L. H. Anderman & Anderman, 2009; L. H. Anderman, Andrzejewski, & Allen, 2011; L. H. Anderman, Patrick, Hruda, & Linnenbrink, 2002; J. L. Epstein, 1989; Maehr & Anderman, 1993; Patrick et al., 1997.

SUMMARY

Cognition plays a significant role in many aspects of human motivation. One influential factor that has both cognitive and affective components is *interest*, which can take either of two forms. *Situational interest* is temporary and evoked by something in the immediate environment. *Personal interest* is more stable and resides within the individual. Learners who are interested in the topic they're studying engage in more effective information processing and so remember the subject matter better over the long run. Teachers can often get students actively engaged in classroom subject matter both by capitalizing on individual personal interests and by evoking situational interest—for instance, by conducting hands-on activities or assigning reading materials to which students can personally relate.

Some motivation theorists have proposed that motivation for performing any particular task depends on two subjective variables. First, learners must have an *expectancy* that they'll be successful; their expectations for success will depend not only on their current ability level but also on such outside factors as the quality of instruction and the availability of resources and support. Second, learners must *value* the task: They must believe that performing it has direct or indirect benefits—perhaps achieving a desired goal, making a good impression on others, or simply having fun. At school, students must believe they'll have the support they need to master something; they must also see how school subject matter is relevant to their present concerns and long-term goals.

Learners have a wide variety of goals that may either contribute to or interfere with learning in instructional settings. Students who have *mastery goals* want to acquire additional knowledge or skills. Those who have *performance goals* either want to look competent in the eyes of others (a *performance-approach goal*) or else not to look incompetent (a *performance-avoidance goal*). These three kinds of achievement goals aren't necessarily mutually exclusive (a person might have two, or even all three), but generally speaking, learners with mastery goals are more likely

to recognize that competence comes only through effort and practice, to choose activities that maximize opportunities for learning, and to use errors constructively to improve future performance. Other common goals include *work-avoidance* and *doing-just-enough goals* (i.e., getting by with minimal effort), *social goals* (i.e., gaining and maintaining relationships with others), and *career goals*. Sometimes people can work toward two or more goals simultaneously; at other times, achieving one goal prevents them from satisfying others. When striving to foster academic learning and achievement, teachers should ideally focus students' attention primarily on mastery goals. Teachers should also encourage students to set some of their own goals, including short-term, concrete ones that will give them a sense of accomplishment and enable them to see the progress they're making.

Attributions—the cause-and-effect explanations that learners construct for things that happen to them—are yet another cognitive factor affecting motivation. Attributions influence many aspects of behavior and cognition, including emotional reactions to success and failure, expectations for future success, expenditure of effort, learning strategies, and future choices and goals. People's attributions emerge from a variety of sources. Their history of successes and failures certainly has an impact on the attributions they form; for example, if people consistently fail no matter what they do, they're apt to attribute this failure to something stable and uncontrollable, such as lack of natural talent. But other factors make a difference as well, including situational cues (e.g., the apparent difficulty of a task), the attributions that other individuals communicate either verbally or nonverbally, the beliefs and worldviews of one's culture, and self-protective biases. As children grow older, and especially as they reach adolescence or adulthood, many develop a general explanatory style, perhaps an I-can-do-it attitude (*mastery orientation*) that promotes effort, persistence, and preference for challenge, or perhaps an I-can't-do-it attitude (*learned helplessness*) that leads them to set easy goals and to give up quickly in the face of

obstacles. Through both what they say and what they do, teachers should communicate attributions that lead students to be optimistic about achieving success on classroom tasks.

Just as successful learners self-regulate their cognitive processes, so, too, do they intentionally try to bring productive motives and emotions to a learning situation—for instance, by setting specific goals for a learning task, devising ways to make boring tasks

more interesting, and trying to put a positive spin on disappointing events. Self-regulation is also reflected in the phenomenon of *internalized motivation*: People gradually begin to value and adopt the behaviors that those around them value and encourage. Teachers and other adults can foster internalized motivation by creating a warm and supportive environment, giving learners some autonomy in what they do and learn, and providing sufficient structure to promote success.

