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SECTION ONE
Definitions and Perspectives of Learning

Importance of Learning
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Nature of Principles and Theories
Advantages of Theories
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A Perspective on Theories and Principles
Applying Principles and Theories to Instructional Practice
Overview of the Book
Summary

When my son Alex was in kindergarten, his teacher asked me please to do something about his shoes. I had been sending Alex off to school every morning with his shoelaces carefully and lovingly tied, yet by the time he arrived at his classroom door, the laces were untied and flopping every which way—a state to which they invariably returned within 10 minutes of his teacher's retying them. I tried a series of shoe-tying lessons with Alex, but with little success. As an alternative, I proposed that we double-knot the laces when we tied them each morning, but Alex rejected my suggestion as being too babyish. I purchased a couple of pairs of shoes that had Velcro straps instead of laces, but Alex gave the shoes such a workout that the Velcro quickly separated itself from the leather. By March, the teacher, justifiably irritated that she had to tie Alex's shoes so many times each day, insisted that Alex learn to tie them himself. So I sat down with my son and demonstrated, for the umpteenth time, how to put two laces together to make a presentable bow. This time, however, I accompanied my explanation with a magical statement: "Alex, when you learn to tie your shoes, I will give you a quarter." Alex had shoe tying perfected in five minutes, and we haven't had a complaint from school since—at least not about his shoes.

When my daughter Tina was in fourth grade, she experienced considerable difficulty with a series of homework assignments in subtraction. She had never learned the basic subtraction facts, despite my continual nagging her to do so, with the result being that she could not solve two- and three-digit subtraction problems successfully. One night, after her typical half-hour tantrum about "these stupid problems," my husband explained to Tina that subtraction was nothing more than reversed addition and that her knowledge of addition facts could help her with subtraction. Something must have clicked in Tina's head.

Taken from Human Learning, Third Edition by Ormrod.
because we weren’t subjected to any more tantrums about subtraction. Multiplication, yes, but not subtraction.

Human learning takes many different forms, some of which are easily seen and some of which are not. Some instances of learning are readily observable, such as when a child learns to tie shoes. But other instances of learning are more subtle, such as when a child gains a new understanding of mathematical principles. And people learn for many different reasons. Some learn for the rewards their achievements bring—for example, for good grades, recognition, or money (consider my mercenary son). But others learn for less obvious reasons—perhaps for a sense of accomplishment or simply to make life easier.

In this text, I will describe human learning from the various perspectives that have evolved in psychological theory throughout the twentieth century. As you will soon discover, learning is a complicated process, and psychologists disagree even about such basic issues as what learning is, how it occurs, and which factors are necessary for it to occur at all.

**IMPORTANCE OF LEARNING**

Many species have things easy compared with humans, or at least so it would seem. Birds, for example, are born with a wealth of knowledge that we humans must learn. Birds instinctively know how to build their houses; we either have to be taught something about framing, roofing, and drywalling or else have to hire someone to do these things for us. Birds know, without being told, exactly when to fly south and how to get there; we have to look at our calendars and road maps. Birds instinctively know how to care for their young; meanwhile, we attend prenatal classes, read child-care books, and watch others demonstrate how to change diapers.

On the other hand, it is the humans, not the birds, who are getting ahead in this world. Over the years, human beings have learned to make increasingly stronger and more comfortable homes for themselves, while birds are still making the same flimsy, drafty nests they have been living in for thousands of years. Humans have developed fast, dependable modes of transportation for themselves and their goods, while birds are still winging it. And humans are learning how better to feed and care for themselves and their young, so that each generation grows taller, stronger, and healthier than the previous one. Birds, meanwhile, are still eating worms.

The learning process allows the human race a greater degree of flexibility and adaptability than is true for any other species on the planet. Because so little of our behavior is instinctive and so much of it is learned, we are able to benefit from our experiences. We know which actions are likely to lead to successful outcomes and which are not, and we modify our behavior accordingly. And as adults pass on to children the wisdom gleaned from their ancestors and from their own experiences, each generation is just that much more capable of behaving intelligently. Let’s face it: We can get from New York to Miami in two hours, but how long does it take the birds?

**DEFINING LEARNING**

My son Alex’s learning to tie his shoes and my daughter Tina’s learning how subtraction relates to addition are both examples of learning. Consider these instances of learning as well:

- The mother of a five-year-old boy insists that her son assume some household chores, for which he earns a small weekly allowance. The allowance, when saved for two or three weeks, enables the boy to purchase small toys of his own choosing. As a result, he develops an appreciation for the value of money.
• A college freshman from a small town is, for the first time, exposed to political viewpoints different from her own. After engaging in heated political debates with her classmates, she evaluates and modifies her own political philosophy.

• A toddler is overly affectionate with a neighborhood dog, and the dog responds by biting the boy’s hand. After that, the child cries and runs quickly to his mother every time he sees a dog.

Learning is the means through which we acquire not only skills and knowledge but values, attitudes, and emotional reactions as well.

Just what do we mean by the term learning? Different psychologists conceptualize and define learning differently. Here are two definitions that reflect two common, yet quite different, conceptions of learning:

1. Learning is a relatively permanent change in behavior due to experience.
2. Learning is a relatively permanent change in mental associations due to experience.

What things do these definitions have in common? Both speak of learning as involving a ‘relatively permanent’ change—a change that will last for some time, although not necessarily forever. And both definitions attribute that change to experience; in other words, learning takes place as a result of one or more events in the learner’s life. Other changes, such as those due to maturational changes in the body, organic damage, or temporary body states (e.g., fatigue or drugs), are not attributable to experience and so do not reflect learning.

The two definitions I have just given you differ primarily in terms of what changes when learning occurs. The first definition refers to a change in behavior—an external change that we can observe—and reflects the perspective of a group of theories collectively known as behaviorism. Behaviorist theories focus on the learning of tangible, observable behaviors or responses, such as tying shoes, solving a subtraction problem correctly, or complaining about a stomachache to avoid going to school.

In contrast, the second definition focuses on a change in mental associations—an internal change that we cannot observe—reflecting the perspective of a group of theories collectively known as cognitivism. Cognitive theories focus not on behavioral outcomes but on the thought processes (sometimes called mental events) involved in human learning. Examples of such processes include finding relationships between addition and subtraction facts, using memory gimmicks to remember French vocabulary words, or deriving idiosyncratic and highly personalized meanings from classic works of literature.

In this text, I will describe both the behaviorist and cognitive views of learning in considerable detail. I will also describe perspectives that lie somewhere between the two extremes. Most psychologists tend to align themselves with one perspective or the other, and I, whose graduate training and research program have been rooted firmly in cognitive traditions, am no exception. Yet I firmly believe that both the behaviorist and cognitive perspectives have something important to say about human learning and that both provide useful suggestions for helping people learn more effectively.
A behavior that is followed by a satisfying state of affairs (a reward) is more likely to be learned than a behavior not followed by such a reward. In this principle, a particular factor (a reward that follows a behavior) is identified as having a particular effect on learning (an increase in the frequency of the behavior). The principle can be observed in many different situations, including the following:

- A pigeon is given a small pellet of food every time it turns its body in a complete circle. It begins turning more and more frequently.
- Dolphins who are given fish for “speaking” in Dolphinese quickly become quite chatty.
- A boy who completes a perfect spelling paper and is praised for it by a favorite teacher works diligently for future success in spelling assignments.
- A high school girl who receives compliments on her new hairstyle continues to style her hair in the same way.

Principles are most useful when they can be applied to a wide variety of situations. The reward principle is an example of such broad applicability: it applies to both animals and humans and holds true for different types of learning and for different rewards. When a principle such as this one is observed over and over again—when it stands the test of time—it is sometimes called a law.

Theories of learning provide explanations about the underlying mechanisms involved in the learning process. Whereas principles tell us what factors are important for learning, theories tell us why these factors are important. For example, consider one aspect of social learning theory:

People learn what they pay attention to. Reward increases learning when it makes people pay attention to the information to be learned.

Here we have one possible explanation of why a reward affects learning. Attention is identified as the underlying process responsible for the observed effect of reward on learning.

Advantages of Theories

Theories have several advantages over principles. First, theories allow us to summarize the results of many research studies and integrate numerous principles of learning. In that sense, theories are often very concise (psychologists use the term parsimonious).

Second, theories provide starting points for conducting new research; they suggest research questions worthy of study. For example, the theory that attention is more important than reward leads to the following prediction:

When instruction draws an individual’s attention to the information to be learned, learning occurs in the absence of a reward.

In fact, this prediction has frequently been supported by research (e.g., Faust & Anderson, 1967; Hyde & Jenkins, 1969).

Third, theories help us to make sense of research findings. Research conducted outside of the context of a particular theoretical perspective frequently yields results that are trivial and nongeneralizable. Interpreted from a theoretical perspective, however, those same results become significant. For example, consider an experiment by Seligman and Maier (1967). In this classic study, dogs were placed in individual cages and given a number of painful and unpredictable shocks. Some dogs were able to escape the shocks by pressing a panel in the cage, whereas others were unable to escape. The following day, the dogs were placed in different cages, and again shocks were administered. This time, however, each shock was preceded by a signal (a tone) that the shock was coming, and the dogs could escape the shocks by jumping over a barrier as soon as they heard the tone. The dogs that had been able to escape the shocks on the preceding day learned to escape in this new situation, but the dogs that had been unable to escape previously did not learn to escape the shocks now that they could do so. On the surface, this experiment, although interesting,
might not seem especially relevant to human learning. Yet Seligman and his colleagues used this and other experiments to develop their theory of learned helplessness: People who learn that they have no control over unpleasant or painful events in one situation are unlikely, in later situations, to try to escape or avoid those aversive events even when it is possible for them to do so.

Theories have a fourth advantage as well: By giving us ideas about the mechanisms that underlie human learning and performance, theories can ultimately help us to design learning environments that facilitate human learning to the greatest possible degree. For example, consider the teacher who is familiar with the theory that attention is an essential ingredient in the learning process. That teacher may identify and use a variety of approaches—perhaps providing interesting reading materials, presenting intriguing problems, and praising good performance—that are likely to increase students’ attention to academic subject matter. In contrast, consider the teacher who is familiar only with the principle that rewarded behaviors are learned. That teacher may use certain rewards—perhaps small toys or trinkets—that are counterproductive because they distract students’ attention from the academic tasks at hand.

Disadvantages of Theories

Despite their advantages, theories also have at least two disadvantages. First, no single theory explains everything that researchers have discovered about learning. Current theories of learning tend to focus on specific aspects of learning. Behaviorist theories, for example, limit themselves to situations in which learning involves a behavior change. Cognitive theories tend to focus instead on how people organize and remember the information they receive. Observed phenomena that do not fit comfortably within a particular theoretical perspective are usually excluded from that perspective.

Second, theories affect what new information is published, therefore biasing the knowledge that we have about learning. For example, imagine that several researchers propose a particular theory of learning and conduct a research study to support their idea. However, the results of their research are exactly the opposite of what they had expected and so cast doubt on their theory. If these researchers are fully committed to demonstrating that their theory is correct, they are unlikely to publish results that will indicate otherwise. In this way, theories may sometimes impede progress toward a truly accurate understanding of the learning process.

A Perspective on Theories and Principles

You should probably think of the learning theories I describe in this text as dynamic, changing models of the learning process. Each theory is based on several decades of research results, and each has some validity. However, as research continues in the decades ahead, our theories of learning will undoubtedly be revised to account for the new evidence that emerges. In this sense, no single theory can be considered a fact.

At the same time, you might think of learning principles as relatively enduring conclusions about cause-effect relationships in the learning process. Principles generally maintain their validity longer than theories do. The reward principle was introduced by Edward Thorndike in 1898 and has remained with us in one form or another ever since. Thorndike’s theory of why reward affects learning, however, has been largely replaced by other explanations.

Both principles and theories provide a means to predict the conditions under which learning is likely to occur. To the extent that principles and theories are useful in this way, we are better off with them—imperfect and temporary as they may be—than without them.
A great deal of learning takes place in a classroom context, and most of it is undoubtedly beneficial. For example, it is in the classroom that most students learn how to read and how to subtract one number from another. Unfortunately, students may also learn things at school that are not in their best interest over the long run. For example, although students may learn to read, they may also learn that the ‘best’ way to remember what they read is to memorize it, word for word, without necessarily trying to understand it. And although students may learn their subtraction facts, they may also learn that mathematics is a boring and often frustrating endeavor.

The learning that takes place in our schools cannot be left to chance. The better we understand the factors that influence learning (principles) and the processes that underlie it (theories), the more effectively we can promote the kinds of learning that will facilitate students’ long-term success rather than the kinds of learning that might actually interfere with it.

The theories I have included in the sections ahead portray human learning from different perspectives; sometimes they even contradict one another. Yet I hope you will take an eclectic perspective as you read the text, resisting the temptation to choose one theory over others as being the ‘right’ one. Different theories are applicable in different situations, depending on the environmental factors under consideration, the specific content being learned, and the objectives of instruction. At the same time, each theory provides unique insights into how and why human beings learn and how instruction might be designed to enhance student learning (e.g., see Catania, 1985; Epstein, 1991; Reynolds, Sinatra, & Jetton, 1996). It is probably more helpful to think of theories in terms of their usefulness than in terms of their correctness.

As theories of learning continue to be revised and refined in the years to come, so, too, will instructional practices be revised and refined. In the meantime, we can use current theories to help people of all ages learn more effectively and less painfully than they seem to be learning now.
Periods of Development

PERIODS OF DEVELOPMENT

For ease of discussion, the life span is usually divided into three major developmental periods: child development, adolescent development, and adult development. The first and last of these two are divided into subdivisions. Child development includes the prenatal period, infancy, early childhood, and middle childhood. Adolescence includes early and late adolescence. Adult development includes early adulthood, middle adulthood, and late adulthood. The age ranges within specific periods differ slightly, particularly during adulthood, depending on the preferences of the individual psychologist.

Prenatal Period

The prenatal period includes the developmental process from conception through birth, during which time the human organism grows from a fertilized cell to billions of cells. During this period, the basic body structure and organs are formed. Both heredity and environment influence development. During the early months, the organism is more vulnerable to negative environmental influences than during any other period of growth.

Infancy

Infancy, which extends from childbirth through toddlerhood—usually the second year of life—is a period of tremendous changes. Infants grow in motor ability and coordination, develop sensory skills and an ability to use language. They form attachments to family members and other caregivers, learn to trust or distrust, and to express or withhold love and affection. They learn to express basic feelings and emotions and develop some sense of self and independence. Already, they evidence considerable differences in personality and temperament.

Taken from Human Development: A Lifespan Approach, Fourth Edition by Rice.
Childhood
During the **early childhood** preschool years (from ages 3 to 5), children continue their rapid physical, cognitive, and linguistic growth. They are better able to care for themselves, begin to develop a concept of self and of gender identities and roles, and become very interested in play with other children. The quality of parent-child relationships is important in the socialization process that is taking place.

During **middle childhood**, (6 to 11 years), children make significant advances in their ability to read, write, and do arithmetic; to understand their world; and to think logically. Achievement becomes vitally important, as does successful adjustment with parents. Both psychosocial and moral development proceed at a rapid rate. The quality of family relationships continues to exert a major influence on emotional and social adjustments.

Adolescence
Adolescence is the period of transition between childhood and adulthood. During early adolescence (12 to 14 years), sexual maturation takes place, and formal operational thinking begins. As adolescents seek greater independence from parents, they also want increased contact and a closer sense of belonging and companionship with peers.

The formation of a positive identity is an important psychosocial task. The late adolescent (15 to 19 years) begins to make career choices, to seek to complete his or her education, and to enter the world of work. Heterosexual relationships are developed, along with the ability to relate in friendly and intimate ways to others.

Adulthood
Achieving intimacy, making career choices, and attaining vocational success are important challenges of **early adulthood**. Young adults face other decisions, such as whether to marry, the selection of a mate, and whether to become parents. Some face the prospects of divorce and remarriage, which can result in a reconstituted family. Many of the decisions made during this period set the stage for later life.

During **middle adulthood**, many people begin to feel a time squeeze as their social and biological clocks tick away. This stimulates a midlife crisis in some, during which they reexamine many facets of their lives. For those parents who have launched their children, the middle years may be a time of increased freedom, because the parents can now pursue their own interests. This is a period during which many people achieve maximum personal and social responsibility and vocational success. However, adjustments need to be made to changing bodies and changing emotional, social, and job situations.

**Late adulthood** is a time of adjustment, particularly to changing physical capacities, personal and social situations, and relationships. Increasing attention to health care is needed to maintain physical vigor and well-being. The persistence of verbal abilities allows some to continue to grow in knowledge and cognitive skills. Relationships with adult children, grandchildren, and other relatives take on a new meaning, especially for the widowed. Maintaining and establishing meaningful friendships with peers is especially important to well-being. Many people in this stage of life report a high degree of happiness and life satisfaction, and little fear of death.

---

A PHILOSOPHY OF LIFE-SPAN DEVELOPMENT

Some Important Questions

Since the study of human development covers the entire life span, the subject is very involved. Because of this complexity and of the importance of the subject, a large number of questions are asked in understanding the whole process. Some of these questions are as fol-
What factors influence human development? How do these factors exert themselves, and can development be stopped, retarded, speeded up, or terminated? Do we have any control over either our own development or that of others? What aspects of control might we reasonably expect to exert, and what other factors might we expect not to have control over? Do we have any control over particular characteristics? For example, if parents hope to have a blonde daughter, what can they do to influence this process other than to get the right hair color? What can we do to avoid the development of traits or characteristics; how is development influenced by particular cultural, ethnic, or racial characteristics; and why do some persons develop faster than others? Are all aspects of development taking place at the same time, or is there a differential time table so that some aspects of development take place before others? When certain characteristics develop, are these stable, or do they change sometime during the life span itself? Is there a relationship between various aspects of development? For example, how is physical development influenced by emotional development, or how might cognitive development be influenced by social development?

The science of life-span development has slowly evolved over the years as longevity has increased and people begin to realize the importance of every age period of life. A large body of research has also evolved that sheds increasing light on the developmental process. Gradually, there has emerged a philosophy of life-span development that reflects this increasing knowledge (Baltes, 1987). The most important elements of this philosophy are discussed here.

Development Is Multidimensional and Interdisciplinary

Human development is a complex process that may be divided into four basic dimensions: physical, cognitive, emotional, and social development. These four dimensions are discussed in this text under each of the major age periods. Though each dimension emphasizes a particular aspect of development, there is considerable interdependency among the areas. Cognitive skills, for example, may depend on physical and emotional health and social experience. The child who is in good physical and emotional health and exposed to a variety of social experiences learns more than does the child who is in the opposite situation.

Social development is influenced by biological maturation, cognitive understanding, and emotional reactions. In effect, each dimension reflects the others. Figure 1–1 outlines the four dimensions.

In describing all four of these areas, life-span development has become a multidisciplinary science, borrowing from biology, physiology, medicine, education, psychology, sociology, and anthropology (Baltes, 1987; McCall, Groark, Strauss, & Johnson, 1995). The most

<table>
<thead>
<tr>
<th>Physical Development</th>
<th>Cognitive Development</th>
<th>Emotional Development</th>
<th>Social Development</th>
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<tbody>
<tr>
<td>Physical development includes genetic foundations for development; the physical growth of all the components of the body; changes in motor development, the senses, and bodily systems; plus related subjects such as health care, nutrition, sleep, drug abuse, and sexual functioning.</td>
<td>Cognitive development includes all changes in the intellectual processes of thinking, learning, remembering, judging, problem solving, and communicating. It includes both heredity and environmental influences in the developmental process.</td>
<td>Emotional development refers to the development of the processes of attachment, trust, security, love, and affection; and a variety of emotions, feelings, and temperaments. It includes development of concepts of self and autonomy, and a discussion of stress, emotional disturbances, and acting-out behavior.</td>
<td>Social development emphasizes the socialization process, moral development, and relationships with peers and family members. It discusses marriage, parenthood, work, and vocational roles and employment.</td>
</tr>
</tbody>
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Figure 1–1
The dimensions of human development.
Development Continues Through the Life Span

For years, psychologists accepted what now seems an incredible notion: that development starts prenatally and stops with adolescence. In the past, it was assumed that most aspects of development (physical, cognitive, emotional, and social) reached their zenith in late adolescence and somehow magically stopped after that point. Although some aspects of physical growth stop, development in terms of change and adaptation continues throughout life (Data, Rodeheaver, & Hughes, 1987). Even in the physical sense, persons who were sickly during childhood and adolescence may become healthy adults. Emotional maturation continues, as does the socialization process. Some measures of intelligence indicate that cognitive development continues past age 60. Some findings suggest that even scores on tests of performance-type tasks requiring speed and motor coordination can be improved with practice during late adulthood. The notion that adults cannot or will not learn is a fallacy. As the life span increases, it becomes more important that adults continue learning for years to prepare themselves for new and changing challenges.

Both Heredity and Environment Influence Development

For years, psychologists have tried to sort out the influences of heredity and environment on development (Himelstein, Graham, & Weinier, 1991). Actually, both nature (heredity) and nurture (environment) exert important influences. Some aspects of development seem to be influenced more by heredity; others by environment (Coll, 1990). Most are influenced by both. Children inherit their physical constitutions that enable them to stand, walk, and play as maturation proceeds. Poor diet, illness, drugs, and physical restriction can retard the process. Because some children are not very strong or well-coordinated, they have poor athletic ability; but practice may overcome these deficiencies. Children are born with the capacity to love but must learn how to express it.

The critical question is not which factor—heredity or environment—is responsible for our behavior, but how these two factors interact and how they may be controlled so that optimum development takes place. Both nature and nurture are essential to development.

Development Reflects Both Continuity and Discontinuity

Some developmental psychologists emphasize that development is a gradual, continuous process of growth and change. Physical growth and language development, or other aspects of development, show smooth, incremental changes. Other developmental psychologists describe development as a series of distinct stages, each preceded by abrupt changes that occur from one phase to another.

Psychologists who emphasize continuous development tend to emphasize the importance of environmental influences and social learning in the growth process. Psychologists who emphasize discontinuous development or stage theories of development tend to stress the role of heredity (nature) and maturation in the growth sequence.

Today, many psychologists do not ally themselves with either extreme point of view. They recognize that some aspects of development are continuous, whereas others show stage-like characteristics. Environment continuously affects people, but because people grow and develop from within, in stages, they can in turn influence their environment. (The nurture–nature issue is discussed later.) Several psychologists have combined the two points of view by emphasizing the way that individuals experience and negotiate the various stages (Neugarten & Neugarten, 1987); Rosenfeld & Stark, 1987).

Much attention has also been given in developmental theory to the problem of how continuities arise across generations. One research study compared the social and cognitive development of young mothers when they were children with the social and cogni-
Development Is Cumulative

We all recognize that our lives today are affected by what has happened before. Psychoanalysts especially emphasize the influence of early childhood experiences on later adjustment. Block, Block, and Keyes (1988) were able to show that girls who were undercontrolled by parents during their nursery school years—that is, raised in unstructured, laissez-faire homes—were more likely to use drugs during adolescence than those whose parents exerted more control. Such studies emphasized the influence of early childhood experiences on later life.

Other studies propose a link between early family experiences and depression or other psychological problems in adulthood (Amato, 1991). Depressed individuals typically recall more rejecting and coercive behavior on the part of parents than do nondepressed individuals. Those who recall their parents' marriage as unhappy report lower life satisfaction and more psychological distress than those who remember their parents' marriage as happy.

One interview survey conducted with a representative sample of 367 elderly community residents, ages 65 to 74, showed that early experiences with parents had an impact on the well-being of these elderly persons (Andersson and Stevens, 1993).

One longitudinal study of 75 white, middle-class children from infancy to adolescence revealed that children who were excessively aggressive and hostile and who showed negative emotional states (anxiety, depression, or rejection) in early childhood showed poorer emotional and social adjustment as adolescents (Lerner, Hertzog, Hooker, Hassibi, & Thomas, 1988). The researchers were able to predict adolescent adjustment through emotional behavior in early childhood. They also suggested that early intervention might ameliorate later behavior and adjustment problems. This study is consistent with others that show that early temperamental patterns are predictive of later social behavior (Calkins & Fox, 1992).

Does this finding mean that if we have an unhappy childhood, we are condemned to maladjustment and unhappiness as adults? A traumatic incident or abusive childhood may have serious consequences, but neither is 100% predictive of later adjustment. Countless people have emerged from dysfunctional family backgrounds and found nurturing environments that enable them to lead productive, meaningful lives.

Development Is Both Controllable and Beyond Our Control

Heckhausen (1997) makes the distinction between primary and secondary control over our lives. Primary control pertains to attempts to change the external world so that it fits the needs and desires of the individual. Secondary control, by contrast, targets the internal world of the individual in efforts to 'fit in with the world.' The theory of secondary control would say, 'If you don't like the way the world looks, change the way you look at the
world. "Primary control would say, however, 'If you don't like your job, change jobs;' or, 'If you don't like the community you live in, move.' On the other hand, secondary control would say: 'You don't need to change your job, you simply need to change how you adjust to the job that you're doing, or you need to learn to fit into the community in which you are residing; moving won't necessarily solve all your problems.'

Development Reflects Both Stability and Change

We have already suggested that the study of human development investigates the changes that occur over the life span (Sroufe, Egeland, & Kruetz, 1990). The question arises: "Are there elements of personality that remain stable? If a person manifests certain personality characteristics during childhood, will these persist into adolescence or adulthood?"

Psychologists are not in agreement as to how much personality change can take place and how much remains stable. Will the child who is shy and quiet ever become an outgoing, extroverted adult? Sometimes this transformation happens. Will the child who is a mediocre student become a brilliant scholar in college? Sometimes this outcome happens. The adolescent who earns a reputation for being wild and irresponsible can sometimes settle down to become a responsible, productive adult. Not all students who are voted "most likely to succeed" actually make it. Some who are overlooked capture top honors later in life. All we can say for certain is that there is evidence for personality stability in some people, and change of personality in others. Sometimes external events of a traumatic nature completely change the course of a person's life. For this reason, developmental trajectories are not always predictable.

One longitudinal study (a study of the same group over a period of years) of IQ scores of children from 4 to 13 years of age showed that high risk factors such as stressful life events, disadvantaged minority status, mother's poor mental health, low educational attainment, or little family support in the lives of some children explained one-third to one-half of the variance in IQ at 4 and 15 years of age (Sameroff, Seifer, Baldwin, & Baldwin, 1993). Results obtained from two longitudinal studies of adults (referred to as the JESMA studies), ages 46 to 83 at the time of data collection, conducted over a period of 17 years, revealed considerable consistency of personality traits over that period of time. There were, however, wide individual differences and unaccounted for variances indicating changes in some persons (Shanan, 1991).

Another longitudinal study, a 22-year sequential study of psychosocial development of adults, ages 20 to 42, revealed increasing ability of these adults to solve the psychosocial tasks of each stage of life. The authors concluded that culturally based environmental effects could have a marked effect on the development of some adults (Whitbourne, Elliot, Zuschlag, & Waterman, 1992). It appears the stability-versus-change controversy is far from settled. There are many variables affecting both.

One of the reasons for these inconsistencies is the fact that early childhood experiences have declining effects as people get older. For example, family disruption, mental conflicts, and disengaged child relations increase antisocial behavior in childhood. But these effects do not generally persist into early adulthood. The results of research indicate that the decline in family effects are due to adaptation and maturational processes, so that people are able to adjust better as they get older (Sim & Buchinich, 1996).

Development Is Variable

Growth is uneven. Not all dimensions of the personality grow at the same rate. A child may be exceptionally bright, but lags in physical growth and development. Most adolescents become physically mature before they are emotionally mature or socially responsible. An adolescent boy who is physically mature with the body of a man, may be childish and immature in behavior and actions, leading his parents to ask: "When is he going to grow up?" Similarly, an adolescent girl who develops early may have the body of a woman, the social
interests of an adult, but the emotions of a child. Her parents may feel very confused about her behavior because she acts childish in some ways and adultlike in other ways.

Development Is Sometimes Cyclical and Repetitive
There may be some repetition during anyone’s life. A person may face an identity crisis during adolescence, and another at middle age. Adolescents may go through a period of value conflict, and as adults, may go through another years later. Entering the 30s may involve reevaluating one’s life, but so does entering the 40s (Levinson, 1977). Likewise, vocational adjustments are necessary when one enters or retires from employment.

In addition to repetition in an individual life, there may be a repetition of similar phases occurring at different times in the life cycle of other individuals. Different persons may experience similar stages of life, but with individual and cultural differences. Different influences shape each life, producing alternate routes (one may marry, and another may remain single). A variety of factors speed up and slow down the timetable, or even stop the development process altogether. But where similarities in developmental phases do exist, we can learn from the experiences of others. This fact makes a life-span approach meaningful.

Development Reflects Individual Differences
Whereas there is some repetition of developmental sequences from one person to another, there is also a wide range of individual differences. Many of these differences are present at birth. Different infants show different amounts of time spent asleep, awake, feeding, fussing, and crying. Also, day-to-day fluctuations are found in the same infant. Developmental changes also affect infant waking, fussing, crying, feeding, and sleeping. (St. James-Roberts & Plewis, 1996). Individuals differ in timing and rates of development; in such factors as height, weight, body build, physical abilities, and health; and in cognitive characteristics, emotional reactions, and personality characteristics. They differ in social abilities, leisure-time preferences, relationships with friends, vocational interests, job competence, marriage and family situations, and lifestyles.

There are also inconsistencies within individuals. Developmental psychologists measure consistencies or homogeneity across individuals. However, they must also try to account for heterogeneity or inconsistencies within individuals (Bibace, Sagarin, & Dyl, 1998).

Development Reflects Gender Differences
There are obviously a good number of differences due to gender. Physical differences between boys and girls are most evident. If and when differences in temperament and personality exist, are these due to inherited genetic differences, or are they due to other factors in relation to the way boys and girls are raised or in the attitudes of society towards boys and girls? The development of temperament may be a function of both sex-differentiated maternal child-rearing attitudes as well as constitutional behavior factors.

A random sample of 586 6-year-old children were studied over a 9-year period (Katainen, Raikkonen, & Keltikangas-Jarvinen, 1998). Childhood temperament dimensions (activity, sociability, and negative emotionality) and the mother’s child-rearing attitudes were measured at age 6 and at age 9 on the basis of the mother’s report. Self-reports of adolescent temperament were attained at age 15. There were some gender differences in maternal disciplinary style, and these, in turn, had a differential effect on children, depending on whether the child was a girl or boy. A mother’s low level of strict disciplinary style at childhood predicted a low level of negative emotionality in girls, and a high level of strict disciplinary style predicted low sociability and a high negative emotionality in boys. This study reflects the fact that parents often raise boys and girls differently. In general, parents are less strict in the discipline of girls than of boys, and girls seem to maintain a lower level of negative emotionality than boys. Since parents are more strict with their sons, the sons are more likely to have lower sociability and higher negative emotionality as a consequence.
We must be very careful, however, in ascribing differences to gender. Many differences that were formerly thought to be a result of inheritance and of gender have been found to be a result of the differential treatment that boys and girls receive.

**Development Reflects Cultural and Class Differences**

Cultural and class differences also exert a profound influence on human development. (Julian, McKenry, & McKelvey, 1994) This is the case because both culture and socioeconomic status influence parental beliefs regarding desirable and undesirable long-term socialization goals and child behavior (Stevenson-Hinde, 1998) The society and the class in which mother and father are brought up influence their values, and these parental belief systems, in turn, are taught to subsequent generations and influence social development (Harwood, Schoelmerich, Ventura-Cook, Schultz, & Wilson, 1996).

Numerous researchers have broadly characterized the United States culture as ‘individualistic.’ In particular, Anglo-American culture generally stresses values associated with individualism, such as self-confidence, individual achievement, and independence. The individualism of American culture has been contrasted to a cultural perspective variously termed ‘sociocentric,’ ‘interdependent,’ ‘holistic,’ and ‘collective.’ In this perspective, the self is assumed to be an integral part of the social context rather than an autonomous unit moving within it. This sociocentrism emphasizes the interdependence between people whose aim is to belong and to maintain harmony. Both this individualism and sociocentrism will have different expressions in different sociocultural groups (Markus and Kitayama, 1991).

One comparison of Anglo mothers compared with Puerto Rican mothers found that Anglo mothers evaluated their child’s behavior in terms of the construct of self-maximization, whereas Puerto Rican mothers were more likely to hold socialization goals and to evaluate child behavior in terms of the construct of proper demeanor (Harwood, Schoelmerich, Ventura-Cook, Schulze, & Wilson, 1996). The Anglo and the Puerto Rican mothers evaluated their toddler’s behavior as desirable or undesirable according to their different cultural belief systems and reacted differently to specific behaviors that were viewed as consonant or not with these goals and values. Thus, Anglo mothers used active play as a sign of qualities that were contained within the self-maximization construct (independence, boldness, curiosity) but also perceived such behaviors to be relatively more desirable than did the Puerto Rican mothers. In contrast, the Puerto Rican mothers not only viewed waiting for permission before playing with toys in a public setting as a sign of qualities that were contained within the proper demeanor construct (respectfulness, quietness, attentiveness) but also perceived such behavior to be relatively more desirable than did the Anglo mothers.

A common cause of sociocultural differences in parental beliefs is socioeconomic status. Typically, studies have found middle-class parents to be more likely to view their children as active processors of information rather than as passive recipients of direct instruction and to emphasize self-direction and initiative over conformity to authority. These class differences are generally held to facilitate greater social competence among middle-class compared with lower-class children. In this case, it is differences in socioeconomic status that account for differences in social development and social competence.

Comparisons of Asian cultures with Western cultures also emphasize some of the same differences in values. Asian cultures often reflect traditions that emphasize the group over the individual, and cooperation over competition and dominance. Western cultures place greater emphasis on attending to the self. A comparison of Japanese and United States preschool students’ responses to conflict and distress highlighted these differences. U.S. children showed more anger, more aggressive behavior and language, and underregulation of emotion than did Japanese children. U.S. mothers were more likely to encourage children's
emotional expression, whereas Japanese mothers emphasized psychological discipline, through reasoning and guilt and anxiety induction. These findings suggest that at a very early age, children from Japanese and U.S. cultures have different scripts for responding to interpersonal dilemmas (Zahn-Waxler, Friedman, Cole, Mizuta, & Hiruma, 1996).

Cross-cultural differences exist also in social time clocks. A girl may be betrothed at age 13 in a primitive society, be a mother at 14, and be a widow at 30 or 35, whereas these events usually come at later ages in industrial societies. Each society prescribes an ideal time for assuming various responsibilities and for the bestowal of privileges, but these ages differ from one culture to another. During adulthood, age has become a poor predictor of the timing of life events: pregnancy, family status, health, work status, interests, and activities. Cultural variations are more determinative than chronological age (Neugarten & Neugarten, 1987).

Developmental Influences Are Reciprocal

Psychologists used to emphasize the influence of adults and environment on children. Now the emphasis is also on how the difference in children can influence caregivers (Scarr, 1992). Rather than being passive recipients of care, infants and children are active, influential partners in their interactions with the people around them. A placid, pleasant, easy-to-care-for child may have a very positive influence on parents, encouraging them to act in a friendly, warm, and loving manner; but an overactive, temperamental, hard-to-care-for child who is easily upset may stimulate parents to be hostile, short-tempered, and rejecting. From this point of view, children—however involuntarily—are partly responsible for creating their own environments. And because of individual differences, different people, at different developmental stages, interpret and act on their environments in differing ways that create different experiences for each person.
Theories of Development

THE ROLES OF THEORIES

One of our human characteristics is that we seek logical explanations of things that happen. We ask "What happened?" or "How did it happen?" or "Why did it happen?" Last summer a house in our neighborhood caught fire. The owner, an elderly gentleman who lived alone, was found dead in his chair in the living room. Apparently he had been asleep and had been overcome by smoke inhalation before he could wake up and get out of the house. Everyone in our neighborhood sought an explanation of what happened, and how and why it did happen. Investigators were called in to make an official report.

We all seem to have been born with a natural curiosity and with logical minds that seek to make sense out of events. Most of us have said at one time or another, "I have a theory about that."—meaning, "I think I have a logical explanation." Human development theories are really one expression of the human tendency to want to explain things. As we've seen, the scientific method involves formulating a problem, developing a hypothesis, testing it, and then drawing conclusions that are stated in the form of a theory. A theory organizes the data, ideas, and hypotheses, and states them in coherent, interrelated, general propositions, principles, or laws. These propositions, principles, or laws are useful in explaining and predicting phenomena, now and in the future. Theories are particularly useful because they look beyond detailed data and give broad, comprehensive views of things.

A human development theory may focus on only one aspect of development, such as cognitive development, or may emphasize development of the total self. A theory may focus on only one time period: adolescence, for example, or it may cover the entire life span.

In this section, we will examine some of the major theories that researchers have developed to explain human development. The theories may be arranged into five categories: psychoanalytic theories, learning theories, humanistic theories, cognitive theories, and ethological theories.

PSYCHOANALYTIC THEORIES

Freud: Psychoanalytical Theory

Sigmund Freud (1856–1939) was the originator of psychoanalytical theory (Freud, 1917). This theory emphasizes the importance of early childhood experiences and unconscious motivations in influencing behavior. Many instinctual urges and memories of traumatic experiences are repressed early in life. They are driven out of conscious awareness into the unconscious mind, where they continue to cause anxiety and conflict and to influence behavior.

Freud was a Viennese physician in the Victorian era. He became interested in neurology, the study of the brain, and nervous disorders. At first, he used hypnosis in treating these nervous disorders, but later he became interested in delving further into his patients’ thoughts to uncover the causes of emotional disturbances. In a method he called free association, he asked patients to lie down on a couch and talk about anything that came to mind. Freud sat behind his patients so that they couldn’t see his facial reactions. His patients would gradually reveal repressed thoughts and urges that were the causes of their conflicts. Freud also used dream interpretation to delve into the unconscious.

Freud felt that sexual urges and aggressive instincts and drives were the primary determinants of behavior. The individual was motivated by the pleasure principle, the desire to achieve maximum pleasure and to avoid pain. However, sexual and aggressive instincts put people in direct conflict with social mores, especially during the Victorian era, when prudishness and social convention were emphasized. The conflict within the individual between these instinctual urges and societal expectations was the primary cause of emotional disturbances and illnesses.

In outlining his theory, Freud developed an explanation of the basic structure of personality. His theory states that personality is composed of three components: the id, ego, and superego. The id is present from birth and consists of the basic instincts and urges that seek immediate gratification, regardless of the consequences. Left unchecked, the id places the individual in deep conflict with other people and society.

The second element of personality structure is the ego, which begins to develop during the first year of life. The ego consists of mental processes, the powers of reasoning and common sense, that seek to help the id find expression without getting into trouble. The ego operates according to a reality principle.

The third element of personality structure is the superego, which develops from a culmination of maturation, parental identification and modeling, and societal teaching. It represents those social values that are incorporated into the personality structure of the child. It becomes the conscience that seeks to influence behavior to conform to social expectations. The id and superego are often in conflict, causing guilt, anxiety, and disturbances. The ego strives to minimize the conflict by keeping the instinctual urges and societal prohibitions in balance.

According to Freud, one of the ways in which people relieve anxiety and conflict is by employing defense mechanisms, which are mental devices that distort reality to minimize psychic pain. Defense mechanisms are employed unconsciously and become pathological only when used in excess to impair effective functioning. The defense mechanisms include the following (Clark, 1991):

- **Repression**—dealing with unacceptable impulses by pushing them down into the unconscious mind, where they continue to cause conflict and exert powerful influences over our behavior.

- **Regression**—reverting to earlier, childish forms of behavior when confronted with anxiety. For example, an older child reverts to bed-wetting or to thumb-sucking.

- **Sublimation**—replacing distasteful, unacceptable behavior with behavior that is socially acceptable. For example, a man filled with anger and hostility and aggression participates in competitive sports, lest he explode into violence (Kohn, 1988).
• **Displacement**—transferring strong emotions from a source of frustration and venting them on another object or person who becomes the scapegoat. An example would be a child who becomes angry at her parents and takes out her hostile feelings on a pet dog.

• **Reaction formation**—acting completely opposite of the way that one feels to hide unacceptable feelings or tendencies. A person might crusade against child sexual abuse (pedophilia) because he or she has such tendencies.

• **Denial**—protecting oneself from anxiety by refusing to acknowledge that a situation exists. One example might be to refuse to acknowledge that a child is mentally retarded.

• **Rationalization**—making up excuses for behavior that would otherwise be unacceptable.

Freud also taught that boys experience *castration anxiety* and that girls develop *penis envy* because of the lack of a phallus. Freud said that penis envy in girls becomes a major source of what he termed women's sense of inferiority. Also, during this period, boys develop an *Oedipal complex* and fall in love with their mother, becoming jealous of their father as they compete for their mother's love and affection (Thomas, 1991). Gradually, they repress their incestuous feelings and begin to identify with their father during the next stage of development. Meanwhile, during this period, girls develop an *Electra complex* and fall in love with their father, becoming jealous of their mother as they compete for their father's love and affection. They also blame their mother for the fact that they have no penis. They are ready for the next stage when they are able to repress their incestuous feelings for their father and identify with their mother.

Freud said that if children receive too much or too little gratification at any given stage, they become *fixated* at that stage, so that their psychosexual development is incomplete. Thus, if children receive too little oral gratification during that stage, they may continue to try to find oral gratification later in life through smoking, eating, kissing, drinking, or chewing. Children who become fixated at the latency stage seek to repress sexual feelings and continue to identify with the same-sex parent, never moving on to make mature heterosexual adjustments (Emde, 1992).
**Erikson: Psychosocial Theory**

Erik Erikson (1902–1994) studied under a Freudian group in Germany before coming to the United States in 1933. He became a U.S. citizen and taught at Harvard University. While leaving Freud’s theory intact, Erikson disagreed with Freud on several points. For example, he felt that Freud placed too much emphasis on the sexual basis for behavior. In contrast to Freud, Erikson concluded in his psychosocial theory that there are other psychosocial motivations and needs that become the driving forces in human development and behavior. Erikson accepted Freud’s emphasis on early experiences and the importance of unconscious motivation, but he rejected Freud’s neglect of the adult years (Erikson, 1982). Also, Erikson rejected Freud’s cynical view of human nature and his belief that humans are unable to deal with their problems. Erikson said that humans can resolve their difficulties and conflicts as they arise.

Erikson divided human development into eight stages and said that the individual has a psychosocial task to master during each stage. The confrontation with each task produces conflict with two possible outcomes. If the task during each stage is mastered, a positive quality is built into the personality and further development takes place. If the task is not mastered and the conflict is unsatisfactorily resolved, the ego is damaged because a negative quality is incorporated in it. The overall task of the individual is to acquire a positive identity as he or she moves from one stage to the next.

The positive solution of each task and its negative counterpart are shown in Figure 1–2 for each period. The stages are as follows:

<table>
<thead>
<tr>
<th>Stage</th>
<th>Age</th>
<th>Task</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Late Adulthood</td>
<td>60 years and over</td>
<td>Integrity vs. Despair</td>
<td></td>
</tr>
<tr>
<td>Middle Adulthood</td>
<td>40s, 50s</td>
<td>Generativity vs. Stagnation</td>
<td></td>
</tr>
<tr>
<td>Young Adulthood</td>
<td>20s, 30s</td>
<td>Intimacy vs. Isolation</td>
<td></td>
</tr>
<tr>
<td>Adolescence</td>
<td>12–19 years</td>
<td>Identity vs. Role confusion</td>
<td></td>
</tr>
<tr>
<td>Middle Childhood</td>
<td>6–11 years</td>
<td>Industry vs. Inferiority</td>
<td></td>
</tr>
<tr>
<td>Early Childhood</td>
<td>3–5 years</td>
<td>Initiative vs. Guilt</td>
<td></td>
</tr>
<tr>
<td>Infancy</td>
<td>1–2 years</td>
<td>Autonomy vs. Shame and Doubt</td>
<td></td>
</tr>
<tr>
<td>Infancy</td>
<td>0–1 year</td>
<td>Trust vs. Distrust</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1–2**

Erikson’s eight developmental stages.
• **Trust versus distrust** (0 to 1 year). Infants learn that they can trust caregivers for sustenance, protection, comfort, and affection, or they develop a distrust because their needs are not met.

• **Autonomy versus shame and doubt** (1 to 2 years). Children gain control over eliminative functions, learn to feed themselves, are allowed to play alone and to explore the world (within safe limits), and develop some degree of independence, or if too restricted by caregivers, they develop a sense of shame and doubt about their own abilities.

• **Initiative versus guilt** (3 to 5 years). Children's motor and intellectual abilities continue to increase; they continue to explore the environment and to experience many new things, assuming more responsibility for initiating and carrying out plans. Caregivers who cannot accept children's developing initiative instill a feeling of guilt over misbehavior.

• **Industry versus inferiority** (6 to 11 years). Children learn to meet the demands of home and school, and develop a feeling of self-worth through accomplishment and interaction with others, or they come to feel inferior in relation to others.

• **Identity versus role confusion** (12 years to 19 years). Adolescents develop a strong sense of self, or they become confused about their identity and their roles in life.

• **Intimacy versus isolation** (young adulthood: 20s and 30s). Young adults develop close relationships with others, or they remain isolated from meaningful relationships with others.

• **Generativity versus stagnation** (middle adulthood: 40s and 50s). Middle adults assume responsible, adult roles in the community, at work, and in teaching and guiding the next generation, or they become personally impoverished, self-centered, and stagnant (McAdams & St. Aubin, 1992).

• **Integrity versus despair** (late adulthood: 60 and over). Late adults evaluate their lives, and accept them for what they are, or they despair because they cannot find meaning in their lives.

Table 1–1 shows a comparison between Freud's and Erikson's stages of development.

<table>
<thead>
<tr>
<th>Approximate Age</th>
<th>Freud</th>
<th>Erikson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth–1 year</td>
<td>Oral Stage</td>
<td>Trust vs. Distrust</td>
</tr>
<tr>
<td>1–2 years</td>
<td>Anal Stage</td>
<td>Autonomy vs. Shame and Doubt</td>
</tr>
<tr>
<td>3–5 years</td>
<td>Phallic Stage</td>
<td>Initiative vs. Guilt</td>
</tr>
<tr>
<td>6–11 years</td>
<td>Latency Stage</td>
<td>Industry vs. Inferiority</td>
</tr>
<tr>
<td>12–Young Adulthood</td>
<td>Genital Stage</td>
<td>Identity vs. Role Confusion</td>
</tr>
<tr>
<td>Early Adulthood</td>
<td>Genital Stage</td>
<td>Intimacy vs. Isolation</td>
</tr>
<tr>
<td>Middle Adulthood</td>
<td>Genital Stage</td>
<td>Generativity vs. Stagnation</td>
</tr>
<tr>
<td>Late Adulthood</td>
<td>Genital Stage</td>
<td>Industry vs. Despair</td>
</tr>
</tbody>
</table>

**Evaluation of Psychoanalytical Theories**

Freud's psychoanalytical theory is an influential one. His emphasis on unconscious motivations and ego defense mechanisms has been particularly valuable for psychotherapists in gaining insight into either the mental health or the illnesses of their clients. Freud's method of treatment, which was unique, became the foundation for subsequent development of a variety of treatment techniques. Freud also made parents and professionals realize how important the experiences of the early years can be. His emphasis on environmental influences placed the responsibility for development directly into the hands of all caregivers of children.
Freud's psychosexual theory of development is limited in scope, with an overemphasis (according to some) on sexual motivations as the basis of behavior and the resolution of psychosexual conflict as the key to healthy behavior. Because Freud developed his theory on the basis of treatment of adult patients, the theory was not tested on children. In fact, much of Freud's ideas are not easily tested by research. Freud also had a very cynical view of human nature that certainly does not explain the motivations of countless millions who act out of genuine care and concern.

Erikson's theory is much broader than Freud's, focusing on the importance of both maturation and environmental factors in development and on the importance of a variety of psychological motivations for behavior. In addition, Erikson's theory encompasses the entire life span, outlining the stages that occur during each stage of development and the opportunity to achieve a positive and healthy resolution of the identity crisis. In Erikson's view, it is the ego and not the id that is the life force of human development (Hamachek, 1988). Erikson has also been criticized for his antifemale bias and his failure to take into account different social and cultural influences in the lives of men and women. Erikson's descriptions of development are validated by a considerable body of research findings.

LEARNING THEORIES

Behaviorism

The theory of development known as behaviorism emphasizes the role of environmental influences in molding behavior. For the behaviorist, behavior becomes the sum total of learned or conditioned responses to stimuli. Such a view is labeled mechanistic or deterministic. Behaviorism is partially a reaction to psychoanalytical thought.

Behaviorists are not interested in unconscious motives for behavior. Furthermore, they see learning as progressing in a continuous manner, rather than in a sequence of stages, as in psychoanalytical theory. The process of learning, according to behaviorist theory, is called conditioning. There are two types of conditioning: classical conditioning and operant conditioning.

Pavlov: Classical Conditioning

The Russian physiologist Ivan Pavlov (1849–1936) first discovered the link between stimulus and response. He was doing research on salivation in dogs and noticed that a dog would begin to salivate not only at the sight of food, but also at the sound of the approaching attendant. The dog began to associate the sound of the approaching attendant with being fed.

Pavlov then began a series of experiments to test what was happening. He presented a clicking metronome to the dog, then blew a small amount of meat powder into the dog's mouth to elicit salivation. Eventually, after some repetition, he found that the sound of the metronome alone elicited salivation. The dog began to associate the sound of the metronome with the subsequent presentation of food. The best results were obtained when the metronome preceded the food powder by about half a second. This type of learning through association has been called classical conditioning.

Learning through classical conditioning always involves a series of stimuli and responses: an unconditioned stimulus (UCS), an unconditioned response (UCR), a conditioned stimulus (CS), and a conditioned response (CR). In the case of Pavlov and his dogs, the stimuli and responses were as follows:

- Unconditioned stimulus (UCS)—was the meat powder in the dog's mouth that elicited the response of salivation without any learning.
• **Unconditioned response (UCR)**—was salivation in response to meat powder in the mouth, an inborn reaction.

• **Conditioned stimulus (CS)**—was the metronome, which, when associated with the meat powder, acquired the ability to elicit a response.

• **Conditioned response (CR)**—was salivation in response to the metronome alone.

Classical conditioning is a form of learning because an old behavior can be elicited by a new stimulus.

Some years later in the United States, John Watson (1878–1958) and his associate Rosalie Rayner tested this idea by teaching fear to a young child named Albert. Albert was first allowed to play with a white laboratory rat and was not in the least afraid of it. Then Watson began striking a steel bar with a hammer just behind Albert’s head as he played with the rat. The loud noise made Albert cry. After seven such pairings, Albert showed fear of the rat when it was placed near him. He had been conditioned to fear it. Furthermore, his fear responses became generalized; that is, Albert became afraid of other white, furry objects as well. The conduct of this experiment raises some serious ethical issues about research with children, and such an experiment would not be permitted today (Watson & Raynor, 1920). Watson made no effort to extinguish Albert’s fears after the experiment was over. Nevertheless, this example illustrates how a series of responses may be conditioned in children.

As a result of his experiments, Watson came to feel that conditioning was the sole process responsible for development. He felt that experience and the environment were the factors that shaped the human behavioral repertoire (Horowitz, 1992). Human behavior was a result of learning.

**Skinner: Operant Conditioning**

The second type of conditioning is **operant conditioning**, which is learning from the consequences of behavior. According to B.F. Skinner (1904–1990), who originated the term, our behavior operates on the environment to produce consequences: either desirable or undesirable. The nature of the consequences determines the probability of the behavior’s recurrence. Put very simply, if our behavior results in something positive (**positive reinforcement**), the probability that the behavior will recur is increased. If our behavior results in undesirable happenings, the consequence decreases the probability that the behavior will recur. In summary, operant conditioning is learning in which the consequences of behavior lead to changes in the probability of that behavior’s occurrence. This principle has numerous applications in child-rearing and in adult learning (Skinner, 1953).

In a classic study in the 1960s, a group of preschool teachers decided to help a young girl overcome her shyness with other children (Allen, Hart, Buell, Harris, & Wolf, 1964). The teachers were concerned that the girl spent too little time playing with other children and too much time with adults, so they decided to give her praise only when she was playing with another child. When she was doing anything else, they paid very little attention to her. As a result of the positive reinforcement of the praise and attention, the little girl’s frequency of playing with other children increased considerably.

Many kinds of behavior can be encouraged with positive reinforcement. Even pain can be a learned response. After minor surgery at the Johns Hopkins Children’s Center, 2-year-old Adam was wobbly but ready to go home. The surgeon told his mother: ‘Be cheerful and optimistic, compliment him when he moves around without whimpering or crying. Don’t ask him if it hurts. Give him a baby aspirin only if he really complains about pain. But he won’t.’

After a full night’s sleep Adam toddled downstairs for breakfast—slowly, but without complaints of pain (Rodgers, 1988, p. 26).
Bandura: Social Cognitive and Learning Theory

Social learning theorists accept the view of behaviorists that behavior is learned and that development is influenced by the environment, but they reject the mechanistic view that altered behavior is a mindless response to stimuli. Social cognitive and learning theory emphasizes the role of both cognition and environmental influences in development. We are all thinking creatures with some powers of self-determination, not just robots that show B response when A stimulus is introduced. We can think about what is happening, evaluate it, and alter our responses accordingly.

Albert Bandura (1977, 1986), Stanford University psychologist, is one of the most important contemporary exponents of social learning theory. Bandura says that children learn by observing the behavior of others and imitating and modeling their behavior (Grusec, 1992). Thus, a child may watch another play baseball: how to hold the bat and swing it, how to run the bases, how to catch and throw a ball. The child learns the fundamentals of the game through watching others. When given the opportunity, he or she then tries to imitate or model, what was seen. Children are great imitators. They imitate parents caring for the baby; imitate them mowing the lawn; or imitate them in learning how to eat, talk, walk, or dress.

In his classic study, Bandura let children observe a film in which an adult kicked, hit, and sat on a blow-up Bobo doll (Bandura, Ross, & Ross, 1963). When the children were placed in a playroom with a Bobo doll, they were significantly more aggressive toward the Bobo doll than a group of children who had not seen the film. They learned to act more aggressively through modeling.

Once modeled, behavior can be strengthened through reinforcement. Behavior can also be influenced by seeing others rewarded or punished. Suppose, for example, the children had seen the adult rewarded for hitting the Bobo doll. Their own aggressive behavior would be increased through vicarious reinforcement. Thus, children learn to behave both by modeling and by observing the consequences of their own behavior and the behavior of others.

In recent years, Bandura has expanded his social learning theory to include the role of cognition (Bandura, 1989). Rather than describing individuals as determined strictly by environmental influences, Bandura emphasized that they influence their own destiny by choosing their future environments as well as other goals they wish to pursue. Social-cognitive theorists emphasize that individuals, rather than accepting passively whatever the environment provides, partially control the environment by the way they react to it. For example, a placid, pleasant, easy-to-care-for adolescent may have a very positive influence on parents, encouraging them to act in a warm, friendly, and loving manner. However, an overactive, temperamental, hard-to-care-for adolescent who is easily upset may stimulate parents to be hostile, short-tempered, and rejecting. From this point of view, children, however consciously, are partly responsible for creating their own environment. Because of individual differences, different people at different developmental stages, interpret and act on their environment in different ways that create different experiences for each person (Bandura, 1989).

Evaluation of Learning Theories

Learning theorists have contributed much to the understanding of human development. Their emphasis on the role of environmental influences in shaping behavior patterns has put the responsibility for creating positive environments for child development directly in the hands of parents, teachers, and other caregivers. The principles of social learning through modeling and reinforcement have also made adults very aware of the example that they set in teaching children and youth. When psychologists concluded that much behavior is caused and learned, they began to develop many behavioral modification programs to eliminate problem behaviors such as phobias, explosive tempers, compulsions, or drug addiction. Behaviorist approaches to treating problem behaviors are among the most successful of the treatment approaches. They are based on a very optimistic view of the ability to control and change behavior.
Social learning theories have been criticized for leaving out the role of unconscious, psychodynamic factors and of underlying feelings in influencing behavior. They also neglect the role of biology and maturation in development. In spite of these criticisms, learning theories have contributed much to the overall understanding of human development.

**HUMANISTIC THEORIES**

**Humanistic theory** has been described as the third force in modern psychology. It rejects both the Freudian determinism of instincts and the environmental determinism of learning theory. Humanists have a very positive, optimistic view of human nature. The humanistic view states that humans are free agents with superior ability to use symbols and to think in abstract terms. Thus, people are able to make intelligent choices, to be responsible for their actions, and to realize their full potential as self-actualized persons. Humanists hold a holistic view of human development, which sees each person as a whole and unique being of independent worth. In the holistic view, a person is more than a collection of drives, instincts, and learned experiences. Three of the most famous leaders of humanistic psychology were Charlotte Buhler (1893–1974), Abraham Maslow (1908–1970), and Carl Rogers (1902–1987).

**Buhler: Developmental Phase Theory**

Charlotte Buhler, a Viennese psychologist, was the first president of the Association of Humanistic Psychology. Buhler rejected the contention of psychoanalysts that restoring psychological homeostasis (equilibrium) through release of tensions is the goal of human beings. According to Buhler’s theory, the real goal of human beings is the fulfillment they can attain by accomplishment in themselves and in the world (Buhler, 1935). The basic human tendency is self-actualization, or self-realization, so that the peak experiences of life come through creativity. Buhler emphasized the active role that humans play through their own initiative in fulfilling goals. Table 1–2 illustrates the phases outlined by Buhler (1935). In the last phase of life, most human beings evaluate their total existence in terms of fulfillment or failure.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase One: 0 to 15 Years</td>
<td>Progressive biological growth; child at home; life centers around narrow interest, school, family</td>
</tr>
<tr>
<td>Phase Two: 16 to 27 Years</td>
<td>Continued biological growth, sexual maturity; expansion of activities, self-determination; leaves family, enters into independent activities and personal relations</td>
</tr>
<tr>
<td>Phase Three: 28 to 47 Years</td>
<td>Biological stability; culmination period; most fruitful period of professional and creative work; most personal and social relationships</td>
</tr>
<tr>
<td>Phase Four: 48 to 62 Years</td>
<td>Loss of reproductive functions, decline in abilities; decrease in activities; personal, family, economic losses; transition to this phase marked by psychological crises; period of introspection</td>
</tr>
<tr>
<td>Phase Five: 63 Years and Over</td>
<td>Biological decline, increased sickness; retirement from profession; decrease in socialization, but increase in hobbies, individual pursuits; period of retrospection; feeling of fulfillment or failure</td>
</tr>
</tbody>
</table>

Maslow: Hierarchy of Needs Theory

Abraham Maslow was one of the most influential leaders in humanistic psychology. Born into an Orthodox Jewish family in New York, he earned his Ph.D. in psychology from Columbia University in 1934. According to him, human behavior can be explained as motivation to satisfy needs. Maslow arranged human needs into five categories: physiological needs, safety needs, love and belongingness needs, esteem needs, and self-actualization needs (Maslow, 1970). Figure 1–3 shows the hierarchy of needs as arranged by Maslow.

Figure 1–3
Maslow’s hierarchy of needs.

In Maslow’s view, our first concern as human beings is to satisfy basic needs for survival: food, water, protection from harm. Only when these needs are satisfied can we direct our energy to more exclusively human needs: for love, acceptance, and belonging. The satisfaction of these needs makes possible our concern about self-esteem: We need to gain recognition, approval, and competence. And finally, if we grow up well-fed, safe, loved, and respected, we are more likely to become self-actualized persons who have fulfilled our potential. According to Maslow, self-actualization is the highest need, and the culmination of life.

Like other humanists, Maslow was very optimistic about human potential: “Healthy children enjoy growing up and moving forward, gaining new skills, capacities, and powers. . . . In the normal development of the healthy child . . . if he is given a full choice, he will choose what is good for his growth” (Maslow, 1968).

Rogers: Personal Growth Theory

Carl Rogers was raised in a very religious family in the midwest and became a Protestant minister, graduating from Union Theological Seminary in New York (Rogers, 1961). During his career as a minister, Rogers became more and more interested in counseling and therapy as a means of ministering to people with problems, for whom he developed a specialized form of therapy called client-centered therapy (Rogers, 1951). His theory is based on the humanistic principle that if people are given freedom and emotional support to grow,
they can develop into fully functioning human beings. Without criticism or direction, but encouraged by the accepting and understanding environment of the therapeutic situation, people will solve their own problems and develop into the kind of individuals they wish to become.

Rogers said that each of us has two selves: the self that we perceive ourselves to be (the ‘I’ or ‘me’ that is our perception of our real self), and our ideal self (which we would like to be). Rogers (1961) taught that each of us is a victim of conditional positive regard that others show us. We can’t have the love and approval of parents or others unless we conform to rigid parental and social standards. We are told what we must do and think. We are criticized, called names, rejected, or punished when we don’t live up to the standards of others. Too often we fail, with the result that we develop low self-esteem, devalue our true self, and lose sight of who we really are.

Rogers said that when we have a very poor self-image or are behaving badly, we need the love, approval, companionship, and support of others even more. We need unconditional positive regard, not because we deserve it, but because we are human beings of worth and dignity. With it, we can find self-worth and the ability to achieve our ideal self. Without unconditional positive regard, we cannot overcome our faults and become fully functioning persons (Rogers, 1980).

Rogers taught that the healthy individual, the fully functioning person, is one who has achieved a congruence between the real self and ideal self, a situation that results in freedom from internal conflict and anxiety. When there is a merger between what people perceive themselves to be and what they want to be, they are able to accept themselves, be themselves, and live as themselves without conflict.

Evaluation of Humanistic Theories

Humanists teach people to believe in themselves and to assume responsibility for developing their full potential. They also emphasize that people have very real human needs that must be met for growth and development. Adults are also taught to respect the uniqueness of each child. This places an obligation to meet these needs on those who are responsible for directing the development of growing children.

Humanists are sometimes criticized for having a view of human nature that is too optimistic. Children don’t always choose what is best for them. They need some direction and guidance. Nevertheless, humanism has exerted a very positive influence on the whole mental health movement, especially in relation to counseling and therapy.

COGNITIVE THEORIES

Cognition is the act or process of knowing. There are three basic approaches to understanding cognition. One is the psychometric approach, which measures quantitative changes in intelligence as people mature. The second approach is the Piagetian approach, which emphasizes the qualitative changes in the way people think as they develop. The third approach is the information-processing view, which examines the progressive steps, actions, and operations that take place when people receive, perceive, remember, think about, and use information. The Piagetian and information-processing approaches are discussed here in relation to developmental theory.

Piaget: Cognitive Development

Jean Piaget (1896–1980) was a Swiss developmental psychologist who became interested in the growth of human cognitive capacities. He began working in Alfred Binet’s Paris laboratory, where modern intelligence testing originated. Piaget began to explore how children grow and develop in their thinking abilities. He became more interested in how children
Piaget taught that cognitive development is the combined result of maturation of the brain and nervous system and adaptation to our environment. He used five terms to describe the dynamics of development. A schema represents a mental structure, the pattern of thinking that a person uses for dealing with a specific situation in the environment. For example, infants see an object they want, so they learn to grasp what they see. They form a schema that is appropriate to the situation.

Adaptation is the process by which children adjust their thinking to include new information that furthers their understanding. Piaget (1954) said that children adapt in two ways: assimilation and accommodation. Assimilation means acquiring new information and incorporating it into current schemas in response to new environmental stimuli. Accommodation involves adjusting to new information by creating new schemas when the old ones won’t do. Children may see dogs for the first time (assimilation), but then learn that some dogs are safe to pet and others aren’t (accommodation). As children acquire more and more information, they construct their understanding of the world differently.

When a balance between assimilation and accommodation has been accomplished, a state of equilibrium exists. Equilibrium is the harmony between sensory information and accumulated knowledge. As new sensory information—in the form of questions, problems, and ideas—disturbs existing, incomplete, or incorrect knowledge, the equilibrium is thrown into a new disequilibrium, and a new assimilation-accommodation process begins. As these questions, problems, or ideas are taken into the existing mental structure (assimilation) and the existing structure grows, changes, and expands in the process (accommodation), a new, higher-level equilibrium is attained. The accommodation of new experiences produces modifications in the structure and the schema, which means that the child has gained something that allows him or her to make more sophisticated observations, to solve more difficult problems, or to advance higher-level conceptions. Thus, the theory allows for continuous progressive cognitive development. Assimilating and accommodating environmental experiences lead slowly but steadily to cognitive growth. Piaget views children as active participants in their own development.

The concept of equilibrium is essential in Piaget’s definition of intelligence as a “form of equilibration . . . toward which all functions lead” (Piaget, 1962: 120). Equilibration is defined as a compensation for an external disturbance. Intellectual development becomes a continuous progression moving from one structural disequilibrium to a new, higher structural equilibrium.

Piaget outlined four stages of cognitive development (Beilin, 1992).

During the sensorimotor stage (birth to 2 years), children learn to coordinate sensory experiences with physical, motor actions. Infants’ senses of vision, touch, taste, hearing, and smell bring them into contact with things with various properties. They learn how far to reach to touch a ball, to move their eyes and head to follow a moving object, to move their hand and arm to pick up an object. Elkind (1970) labels the principal cognitive task during this period the conquest of the object.

Through the preoperational stage (2 to 7 years), children acquire language, and learn that they can manipulate these symbols that represent the environment. Preoperational children can deal with the world symbolically but still cannot perform mental operations that are reversible. That is why Piaget (1967a) called this stage the preoperational stage of thought. Elkind (1970) labels the principal cognitive task during this period the conquest of the symbol.

Children in the concrete operational stage (7 to 11 years) show a greater capacity for logical reasoning, though this is limited to things actually experienced. They can perform a number of mental operations. They can arrange objects into hierarchical classifications; they can understand class inclusion relationships, serialization (grouping objects by size or alphabetical order), and the principles of symmetry and reciprocity (two brothers are...
brothers to each other). They understand the principle of *conservation*, that you can pour a liquid from a tall to a flat dish without altering the total quantity of the liquid. Elkind (1970) calls the major cognitive task of this period *mastering classes, relations, and quantities*.

In the **formal operational stage** (11 years and up), adolescents move beyond concrete, actual experiences to think in more abstract, logical terms. They are able to use *systematic, propositional logic* in solving hypothetical problems and drawing conclusions. They are able to use *inductive reasoning* to systemize their ideas and to construct theories about them. They are able to use *deductive reasoning* to play the role of scientist in constructing and testing theories. They can use *metaphorical speech and algebraic symbols* as symbols for symbols. They can move from what is real to what is possible, and they can think about what might be, projecting themselves into the future and planning for it.

**Information Processing**

The *information-processing approach* to cognition emphasizes the progressive steps, actions, and operations that take place when the person receives, perceives, remembers, thinks about, and uses information. The steps in information processing are illustrated in Figure 1–4 The diagram shows the information flowing in one direction, but there also may be some flow backward. A person may take information in and out of memory to think about it for a time before making a decision. Nevertheless, the steps shown help us to understand the total process.

![Figure 1–4](image)

Steps in information processing.

The process begins with our being bombarded with stimuli that are received through our senses. Because we are interested in some happenings more than others, we select that which is of value to us. However, the information is not just photocopied by our mind; it is interpreted and evaluated according to our perception of it, which, in turn, depends partly on our past experience. If information seems of value, it is then stored in our memory for future use. When needed, the information is retrieved from memory stores. We think about it, seek to relate it to our own present situation, and use it as a basis for solving our problems. In subsequent discussions in this text, we talk about the development of information-processing skills during various phases of the life span (Rice, 1990).

**Evaluation of Cognitive Theories**

Piaget has exerted more influence on cognitive theory and applications than any other person. He has revolutionized developmental psychology by focusing attention on mental processes and their role in behavior. He has made us aware that children think differently than adults and that children can do only what they can understand at different stages. Piaget has helped educators, parents, and researchers understand the capabilities of children at different stages. Many school curricula have been redesigned on the basis of Piagetian findings.

Piaget has been criticized for several points. He underestimated the role of the school and home in fostering cognitive development, because he stressed biological maturation rather than environmental influences. However, he did teach that children influence the course of their development through their exploratory activities and that they should be given learning materials appropriate to each stage of growth. A major criticism of Piaget is
the lack of evidence for comprehensive stages across domains. Piaget’s depiction of stages as universal is not always true. Many persons never reach the higher stages of development. In fact, formal operational thinking may have limited usefulness in adult life. For example, a carpenter needs the ability to do concrete operational thinking, whereas an architect needs formal operational abilities. Furthermore, people may advance to a certain cognitive level in one aspect of their lives, but not in others. The separation of stages is not always distinct. Growth, then, is uneven.

The information-processing approach has stimulated much research on learning, memory, and problem solving. It is a useful concept in describing mental processes. However, both the Piagetian and information-processing approaches ignore the role of unconscious emotions and emotional conflict as causes of behavior.

**ETHOLOGICAL THEORIES**

**Lorenz: Imprinting**

Ethology emphasizes that behavior is a product of evolution and is biologically determined. Each species learns what adaptations are necessary for survival, and through the process of natural selection, the fittest live to pass on their traits to their offspring.

Konrad Lorenz (1903–1989), a Nobel–Prize-winning ethologist, studied the behavior patterns of graylag geese and found that goslings were born with an instinct to follow their mothers (Lorenz, 1965). This behavior was present from birth and was part of their instinct for survival. Lorenz also found that if goslings were hatched in an incubator, they would follow the first moving object that they saw, believing that object to be their mother. Lorenz stood by when the lid of one incubator was lifted. He was the first person whom the goslings saw, so from that point on, they followed Lorenz as they would their mother. The goslings would even follow him when he went swimming.

Lorenz called this process *imprinting*, which involved rapidly developing an attachment for the first object seen. Lorenz found that there was a critical period, shortly after hatching, during which imprinting would take place.

**Bonding and Attachment Theories**

Efforts have been made to apply the principles of ethology to human beings. Although there is no human equivalent to imprinting, bonding shows some similarities. There is some evidence to show that parent-infant contacts during the early hours and days of life are important to later parent-child relationships (Klaus & Kennel, 1982). Studies at Case-Western Reserve University in Cleveland confirmed the maternal feeling that the emotional bonds between mother and infant are strengthened by intimate contact during the first hours of life (Klaus & Kennel, 1982). One group of mothers was allowed sixteen extra hours of intimacy during the first three days of life—an hour after birth and five hours each afternoon. When the babies were one month of age and when they were a year old, these mothers were compared with a control group that had gone through the usual hospital routine. The mothers who had had more time with their babies fondled them more, sought close eye contact, and responded to their cries. The researchers concluded that keeping the mother and baby together during the first hours after birth strengthened a mother’s “maternal sensitivities” and that prolonged infant-mother separation during the first few days would have negative effects.

Although early parent-infant contact is important, other studies fail to confirm Klaus and Kennel’s finding that there is a critical period during which bonding must take place, and that if it does not, harmful effects will be felt and lasting. In contrast, Egeland and Vaughn (1981) found no greater incidence of neglect, abuse, illness, or adjustment problems among
infants who had been separated from their mothers for a time after birth. The point is that
the importance of a few crucial hours immediately after birth has not yet been conclu-
sively established.

It is evident, however, that there must be a powerful genetic predisposition in the
child that encourages the formation of a relationship. However, no emotional bond ties the
infant to its mother immediately at birth. Infants taken from their mother can form a bond
with another person. However, Schaffer (1984) pointed out that the infant has certain bio-
logical biases and tendencies that facilitate the development of a bond with someone.

John Bowlby (1969) shed a great deal of light on the subject in his discussion of attach-
ment theory (Bretherton, 1992). Infants are not born with attachment to anyone: mother,
father, or others. However, since the infant’s survival depends on a loving caregiver, the infant
needs to develop attachments. Bowlby suggested that during the first six months, infants’
attachments are quite broad. Infants become attached to people in general, so they seem
to have no particular preference for who cares for them. However, from six months on,
attachments become more specific. The child may develop multiple attachments, but these
are with individuals—the mother, the father, a baby-sitter—so that the child is upset when
left with an unfamiliar caregiver.

**Hinde: Sensitive Periods of Development**

Ethologist Robert Hinde (1983), professor of psychology at Cambridge University, England,
prefers the term *sensitive period* to “critical period” in reference to certain times of life
when the organism is more affected by particular kinds of experiences. The term *sensitive
period*, which was originally used by Maria Montessori, seems broader and is a more flexi-
bile concept than the narrow concept of critical period. With human children, there seem
to be particularly sensitive periods for development of language, emotional attachments, or
social relationships (Bornstein, 1987). When deficits occur during these sensitive periods,
the question remains whether they can be made up during subsequent periods of devel-
opment. Much depends on the extent of the early deprivation and the degree to which later
environmental influences meet important needs (Werner & Smith, 1982).

**Evaluation of Ethological Theories**

Ethological theories have emphasized the role of evolution and biology in human devel-
opment and behavior; an emphasis that deserves serious attention. Although ethological
emphasis on critical periods of development is too rigid and narrow, the principle of sen-
sitive periods of development is a helpful one. Even then, the theories overlook the impor-
tance of positive environmental influences in overcoming the deficits of early deprivation.
Biology has a marked influence on behavior, but it is not destiny. People are more than a
combination of genes and chromosomes; they are developing human beings, influenced
by a wide variety of environmental experiences over many years.

**AN ECLECTIC THEORETICAL ORIENTATION**

The point of view of this text is that no one theory completely explains human devel-
opmental processes or behavior. The theories represent different and enlightened percep-
tions, all of which are worthy of consideration. For this reason, the text presents an *eclectic*
theoretical orientation. This presentation means that no one point of view has a monopoly
on the truth, and that each theory has contributed an element of understanding to the
total, complex process of human development over the life span.
Moral Development

MORAL DEVELOPMENT
Social development includes the development of values and ethical principles as guides of behavior. Social development includes being able to make moral judgments of right or wrong and having a strong sense and desire to do what is considered right and helpful. It also means developing strong moral inhibitions against doing what is wrong and showing higher moral motives and strengths in doing what is right. One aspect of moral development is cultivating moral judgment, which will be discussed in the next section.

Moral Judgment
The process by which children develop moral judgment is extremely interesting (Walker & Taylor, 1991). The most important early research on the development of moral judgment in children is that of Piaget (1948), (Piaget & Inhelder, 1969). Piaget emphasized the development of moral judgment as a gradual cognitive process, stimulated by increasing social relationships of children as they get older.

Piaget's (1948) work is reported in four sections. The first section discusses the attitudes of children to the rules of the game when playing marbles. The second and third sections report the results of telling children stories that require them to make moral judgments on the basis of the information given. The last section reviews his findings in relation to social psychology, particularly to the work of Durkheim (1960), who argues that the sanctions of society are the only source of morality.

In studying children's attitudes to the rules of the game, Piaget concluded that there is, first of all, a morality of constraint. In the early stages of moral development, children are constrained by the rules of the game. These rules are coercive because children regard them as inviolable and because they reflect parental authority. Rules constitute a given order of existence and, like parents, must be obeyed without question. (In actual practice, children's attitudes and behavior don't always coincide, however.) Later, according to Piaget, children learn from social interaction a morality of cooperation, that rules are not absolute but can be altered by social consensus (Gabennesch, 1990; Helwig, Tsuk, & Turid, 1990). Rules are no longer external laws to be considered sacred because they are laid down by

adults rather are but social creations arrived at through a process of free decision and thus deserving of mutual respect and consent. Children move from heteronomy to autonomy in making moral judgments (Piaget, 1948). Piaget also discusses the motives or reasons for judgments. He says there are, first, judgments based solely on the consequences of wrongdoing (objective judgments) and, second, judgments that take into account intention or motive (subjective judgments). Piaget (1948) equates this with a growing pattern of operational thinking, with children moving from objective to subjective responsibility as they grow older. Piaget would insist that although the two processes overlap, the second gradually supersedes the first. The first stage is superseded when children deem motive or intention more important than consequences.

Piaget (1948) claims there is a growing pattern of operational thinking, with children moving from objective to subjective responsibility as they grow older. Piaget would insist that although the two processes overlap, the second gradually supersedes the first. The first stage is superseded when children deem motive or intention more important than consequences.

Piaget (1948) is careful to note that obedience and cooperation are not always successive stages but nevertheless are formative processes that broadly follow one another: “The first of these processes is the moral constraint of the adult, a constraint which leads to heteronomy and consequentially to moral realism. The second is cooperation which leads to autonomy” (p. 195). By moral realism Piaget means submitting meekly to the demands of law.

Before moral judgment moves from the heteronomous to the autonomous stage, the self-accepted rules must be internalized. This process happens when, in a reciprocal relationship and out of mutual respect, people begin to feel from within the desire to treat others as they themselves would wish to be treated. They pass from preoperational to operational thinking, from premoral to moral judgment as they internalize the rules that they want to follow.

In the third section of his report, Piaget discusses the child’s concept of justice as the child moves from moral restraint to moral cooperation. Two concepts of punishment emerge. The first results from the transgression of an externally imposed regulation; this Piaget calls expiatory punishment, which goes hand in hand with constraint and the rules of authority. The second is self-imposed punishment, which comes into operation when the individual, in violation of his or her own conscience, is denied normal social relations and is isolated from the group by his or her own actions. Piaget (1948) calls this the punishment of reciprocity, which accompanies cooperation. An ethic of mutual respect, of good as opposed to duty, leads to improved social relationships that are basic to any concept of real equality and reciprocity.

In the last section of his work, Piaget (1948), following Durkheim, asserts that “society is the only source of morality” (p. 326). Morality, to Piaget, consists of a system of rules, but such rules require a sociological context for their development. Thus, “whether the child’s moral judgments are heteronomous or autonomous, accepted under pressure or worked out in freedom, this morality is social, and on this point, Durkheim was unquestionably right” (p. 344).

One of the important implications of Piaget’s views is that the changes in the moral judgments of children are related to their cognitive growth and to the changes in their social relationships. At first children judge the severity of transgressions by their visible damage or harm. They also develop the concept of imminent justice: the child’s belief that immoral behavior inevitably brings pain or punishment as a natural consequence of the transgression (Jose, 1990). “If you do wrong, you will certainly be punished.” Furthermore, children judge the appropriateness of this punishment by its severity rather than by its relevance to the transgression. Only as children get older are they likely to recommend that the transgressor make restitution or that punishment be tailored to fit the wrong done.

As an example, if 6-year-olds are told the story of a little boy who has accidentally dropped a sweet roll into the lake, they are likely to respond: “That’s too bad. But it’s his own fault...”
for being so clumsy. He shouldn’t get another. For them, the punishment implies a crime, and losing a roll in the lake is clearly a punishment in their eyes. They are incapable of taking extenuating circumstances into account. Adolescents, however, make moral judgments on the basis of what Piaget calls equity, assigning punishments in accordance with the transgressors’ abilities to take responsibility for their crimes.

Another important implication of Piaget’s view is that changes in judgments of children must be related to the changes in their social relationships. As peer-group activity and cooperation increase and as adult constraint decreases, the child becomes more truly an autonomous, cooperative, moral person (Kalish, 1998).

Moral Behavior

So far we have discussed the development of moral judgment. Moral judgment is the knowledge of right or wrong. It is quite evident from experience that knowing the right thing to do and doing it are two different things. The discussion of moral development profits from a clear separation of moral judgment and moral motivation. Moral motivation is the strength of desire to do right, the intensity of feelings in relationship to doing right. Another facet, moral inhibition, as it is manifested in a strong conscience, is the strength of desire or feelings not to do wrong. Moral behavior depends on both positive moral motivation and the strength of inhibitions against doing wrong. One study showed that the higher that moral motive strength and temperamental inhibitions were, the greater the possibility of moral behavior (Asendorpf & Nunner-Winkler, 1992). The study showed through group analysis of children low or high in moral motivation and inhibition that cheating or noncheating could be predicted with a rate of about 90% accuracy. Moral behavior in this study was defined as behavior that did not transgress rules that children clearly knew to be valid. In this study, when the effects of inhibition and moral motive strength were combined, the prediction of immoral behavior became particularly powerful.

Another study investigated children’s concepts, standards, and evaluative reactivity to lying or telling the truth about misdeeds (Bussey, 1992). Children in this study were preschool and second- and fifth-graders. The study produced clear evidence of the development of moral standards associated with lying and storytelling in all children. Children were more disapproving of lies than of truthfulness about misdeeds. All children evaluated lies about misdeeds significantly more negatively than the misdeeds themselves. Truthful statements were, however, not evaluated by preschoolers more favorably than misdeeds. Although young children appreciated the naughtiness of lying, it was more difficult for them to appreciate the value of truthfulness about misdeeds. Older children were able to appreciate the value of truthfulness.

Punishment affected the moral judgment of the preschoolers but not of the older children. Preschoolers placed more value on statements that led to punishment for the misdeed than they did on statements that did not lead to punishment. This finding agrees with social cognitive theory in which observable physical consequences are predicted to be major determinants of preschoolers’ judgments of lies and truthful statements.

The study demonstrated two important developmental changes. First, children react initially with censure for lying but, over time, learn to react with feelings of pride for truthfulness. As a result, eventually children’s reactions to lies are negative; with truthful statements, reactions are positive. Second, there’s a change from children’s reliance on punishment as a basis for their moral judgments to a greater reliance on internal evaluative reactions. This greater reliance on internal rather than external factors, with increasing cognitive maturity and social experience, is consistent with the development of self-regulation. Self-evaluative reactions are expected to promote congruence between moral standards and moral conduct. Ideally, if socialization is successful, there is a transfer from external forms of control to more internal controls, so that there is less reliance on external factors such as punishment (Kochanska, Tchekes, & Forman, 1998).

There are important implications in these ideas. Young children whose conduct is not regulated to the same extent as older children by internal evaluative reactions,
particularly positive evaluative reactions, are helped by adults' actively encouraging and rewarding truthfulness. If children anticipate punishment for admitting to a misdeed, there's little incentive for them to tell the truth. Parents and other caregivers need to encourage children to accept responsibility for misdeeds and simultaneously feel proud of their truthfulness. Furthermore, adults can promote the development of self-evaluative feelings that unite children's thought and action through the use of reasoning techniques. Punishment may teach fear of doing something wrong, but reasoning can help children to want to do right by feeling good about themselves (Bussey, 1992).

Conscience Development

Much of the child's development of moral judgment and moral behavior depends on the development of conscience. Conscience development has been described as the process of internalization of values. Experts underscore the importance of age 3 as a developmental landmark in the emergence of the “moral self” (Kochanska et al., 1994). The data also indicate that for some signs of early conscience, the important developmental transitions may occur even earlier. Confession and reparation have been described in children as young as 2. For these behaviors, the significant shifts may take place in the second year, paralleling the emergence of self and sensitivity to standards.

Before internalization can take place, the child must perceive the parents' message, and this perception must be accurate. Secondly, the child must also accept the perceived message. The accuracy of perception will depend on getting the child's attention and on the clarity or redundancy of the parents' message. Acceptance is seen to depend especially on the warmth of the relationship between parent and child. Warmth affects the occurrence of acceptance, but not necessarily the accuracy of perception. Clarification is necessary if the child's failure to internalize is the result of not having fully heard or understood the parental message. In Figure 1-5, the variables are grouped according to their impact on (a) the extent to which the child perceives parental behavior to be appropriate; (b) the child's motivation, and (c) the degree to which the child sees the value or standard as self-generated. The first group relates to a child's evaluation of the acceptability of the parents' intervention. Acceptance is especially likely to be influenced by the child's judgment that the parents' actions are appropriate to the nature of the misdeed; the parents' intervention has truth and value; and due process has been observed, expected procedures followed, seen as well-intentioned, and fitted to the child's temperament, mood, and developmental status.

The second group deals with the extent to which the child is motivated to accept the parental message. High degrees of empathetic arousal, threats to feelings of security, and the extent to which the value is perceived as important to the parent are important contributors to acceptance here. If the child's desire to identify with a parent is promoted, the desire for reciprocal compliance is promoted, and threats to autonomy minimized, the child is more likely to be willing to accept the message.

The last group of events involves variables that may lead to feelings on the child's part that their value is self-generated with the feeling promoting acceptance. Overall, internalization takes place to the extent that the child not only has an accurate perception of the message but also has accepted that message (Grusce & Goodnow, 1994; Dunn, Brown, & Maguire, 1995).

DEVELOPMENT OF MORAL JUDGMENT

An important part of social development is developing the ability to make moral judgments or decisions. The process by which children and youths develop moral judgment is extremely interesting. Two major theories, those of Lawrence Kohlberg and Carol Gilligan,
are discussed in this section. Both theories emphasize that the development of moral judgment is a gradual cognitive process, stimulated by increasing, changing social relationships of children as they get older (Hayes, 1994). For a newer theory of morality for everyday life, see the discussion by Shelton and McAdams (1990).

**Lawrence Kohlberg**


Initially, Kohlberg (1963) studied 72 boys aged 10, 13, and 16. Boys in the different age groups were all similar in IQ with half of them from upper middle classes. Ten moral dilemmas were presented to each subject. Each dilemma presented a choice of whether to obey authority figures even though the action violated legal-social rules, or to do what was best for the welfare of others and meet human needs. The choices were taped, and the subjects were then questioned about the reasons for their choices. Kohlberg’s technique and material were Piagetian in form. In this study, Kohlberg was concerned not with behavior, but with moral judgment and the process of thought by which the individual made a judgment. There were no wrong or right answers expected; the individual was scored according to modes of reasoning, regardless of the direction of the given response.
Kohlberg (1970) identified three major levels of development of moral judgment, each level with two types of motivation. The levels and subtypes are listed in Table 1–3. Kohlberg found that Level I of premoral thinking declined sharply from the younger to the older age groups. Level II thinking increased until age 13, then stabilized. Level III thinking also increased markedly between 10 and 13 years of age, with some additional increase between ages 13 and 16.

<table>
<thead>
<tr>
<th>Level I. Premoral level</th>
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<tbody>
<tr>
<td><strong>Type 1. Punishment and obedience orientation</strong></td>
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<tr>
<td>(Motivation: to avoid punishment by others)</td>
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</tr>
<tr>
<td><strong>Type 2. Naive instrumental hedonism</strong></td>
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</tr>
<tr>
<td>(Motivation: to gain rewards from others)</td>
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<table>
<thead>
<tr>
<th>Level II. Morality of conventional role conformity</th>
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<tbody>
<tr>
<td><strong>Type 3. Good-person morality of maintaining good relations with and approval of others</strong></td>
<td></td>
</tr>
<tr>
<td>(Motivation: to avoid disapproval of others)</td>
<td></td>
</tr>
<tr>
<td><strong>Type 4. Authority-maintaining morality</strong></td>
<td></td>
</tr>
<tr>
<td>(Motivation: to maintain law and order and to show concern for the community)</td>
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</table>

<table>
<thead>
<tr>
<th>Level III. Morality of democratically accepted laws</th>
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</thead>
<tbody>
<tr>
<td><strong>Type 5. Morality of democratically accepted laws</strong></td>
<td></td>
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<tr>
<td>(Motivation: to gain the respect of an individual community)</td>
<td></td>
</tr>
<tr>
<td><strong>Type 6. Morality of individual principles of conduct</strong></td>
<td></td>
</tr>
<tr>
<td>(Motivation: to avoid self-condemnation for lapses)</td>
<td></td>
</tr>
</tbody>
</table>

Kohlberg cautioned that each type should not be equated with only one age. Individuals of different ages are at different levels of development in their moral thinking; some are advanced, others are retarded. No person fits neatly into any one of the six types. Kohlberg (1970) indicated that moral thought develops gradually as the individual passes through a sequence of increasingly sophisticated moral stages.

At Level I, the premoral level, children respond to the definitions of good and bad provided by parental authority figures. Decisions are made on the basis of self-interest; children interpret acts as good or bad in terms of physical consequences. There are two types under Level I. *Type 1* obeys rules to avoid punishment. *Type 2* conforms to obtain rewards or have favors returned.

Level II, the level of morality of conventional role conformity, comprises type 3 and type 4 and is less egocentric and more sociocentric in orientation, and is based on a desire to justify, support, and maintain the existing social structure (Muuss, 1988b). Type 3 under this level is the good boy–nice girl orientation in which the child conforms to avoid disapproval and dislike by others. *Type 4* conforms because of a desire to maintain law and order or because of concern for the larger community.

Level III, the level of morality of self-accepted moral principles, is made up of individuals who accept democratically recognized principles of universal truths, not because they have to but because they believe in the principles or truths. *Type 5* under this level conforms to maintain mutual respect with another person or group. At this stage, the individual defines moral thinking in terms of general principles such as mutual obligations, contractual agreement, equality, human dignity, and individual rights. Finally, *type 6* conforms
to avoid self-condemnation. The motivation is to uphold universal principles of justice that are valid beyond existing laws, peer mores, or social conditions.

Kohlberg’s stage concept implies sequence: Each child must go through successive levels of moral judgment. Kohlberg also said that the sequence of development of his stages is universal, even under varying cultural conditions. Developing moral judgment is not merely a matter of learning the rules of a particular culture; it reflects a universal process of development. Kohlberg (1966b) tested and validated his theory with boys aged 10, 13, and 16 in a Taiwanese city, in a Malaysian (Atayal) aboriginal tribal village, and in a Turkish village, as well as in the United States, Canada, and Great Britain.

Kohlberg (1966b) found that the sequence of development was similar in all cultures, but that the last two stages of moral thought did not develop clearly in tribal and preliterate communities. Data from the United States showed that the great majority of American adults never reached Level III either, even by age 24. Research has indicated that adolescents can be trained in the process of moral reasoning and in making moral judgments (Santilli & Hudson, 1992).

Kohlberg (1966b) tested his hypothesis with boys and girls of different classes and religions, and with both popular and socially isolated children. The same general stages of development were found among all groups, with middle-class children of all ages in advance of the working-class children. Middle-class children moved faster and farther in development compared with working-class children. Working-class children had less understanding of the broader social order and had less participation in it; thus, their development of moral judgment was retarded. This explanation is further substantiated by the fact that children with extensive social participation advance considerably more quickly through the successive stages of development.

In general, researchers have found an increase in the sophistication of moral reasoning through adolescence due in part to an increase in perspective taking, intelligence, and the ability to think abstractly (Carlo, Eisenberg, & Knight, 1992). However, which moral dilemmas adolescents become most concerned about depends partially on their own individual experiences. Research indicates that early adolescents who are the products of divorce, for example, may not advance as soon as other early adolescents from concern about the family to concern about the peer and social culture (Breen & Crosbie-Burnett, 1995).

Moral judgment also correlates highly with IQ, indicating that it is partly cognitive in nature. Children who participate in social groups lose some of their cognitive naiveté and adopt a more sophisticated view of authority and social relationships (Mason & Gibbs, 1993). They acquire a greater capacity for moral thinking, but whether such knowledge leads to better behavior depends on emotional and social influences in their backgrounds and relationships. The point is, the ability to make moral judgments does not always result in more moral behavior.

Carol Gilligan

Kohlberg conducted his research on moral development on male subjects. His scoring method was developed from male responses, with the average adolescent female attaining a rating corresponding to type 3 (the good boy–nice girl orientation). The average adolescent male was rated as type 4 (the law-and-order orientation).

Carol Gilligan (1977), an associate of Kohlberg, found that females approach moral issues from a different perspective (Linn, 1991). Women emphasize sensitivity to others’ feelings and rights, and show concern and care for others (Skoe & Gooden, 1993). Women emphasize care of human beings rather than obedience to abstract principles. Men emphasize justice—preserving principles, rules, and rights. Thus, women and men speak with two different voices (Gilligan, 1982). In summarizing six studies, including four longitudinal ones, Gilligan (1984) revealed that women rely on an interpersonal network of care orientation, and men rely more heavily on a justice orientation (Musau, 1988a).
As a result of the difference in the way women and men think, Gilligan proposed a female alternative to Kohlberg's stages of moral reasoning. Table 1–4 compares Kohlberg and Gilligan.

At Level I, women are concerned with survival and self-interest. Gradually, they become aware of the differences between what they want (selfishness) and what they ought to do (responsibility). This leads to Level II, in which the need to please others takes precedence over self-interest. Women begin sacrificing their own preferences and become responsible for caring for others. They begin to wonder whether they can remain true to themselves while fulfilling the needs of others. Still, they place others' needs before their own. At Level III, which many never attain, women develop a universal perspective, in which they no longer see themselves as powerless and submissive, but as active in decision making. They become concerned about the consequences for all, including themselves, in making decisions.

Obviously, Gilligan's and Kohlberg's stages are parallel. Gilligan does not contend that her theory should replace Kohlberg's. She insists only that her theory is more applicable to the moral reasoning of females and that the highest form of moral reasoning can interpret, use, and combine the female emphasis on responsibility and care with the male emphasis on rights and justice (Muuss, 1988a).

### Table 1–4 Kohlberg's Versus Gilligan's Understanding of Moral Development

<table>
<thead>
<tr>
<th>Kohlberg's Levels and Stages</th>
<th>Kohlberg's Definition</th>
<th>Gilligan's Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level I. Preconventional morality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1. Punishment orientation</td>
<td>Obey rules to avoid punishment</td>
<td>Level I. Preconventional morality</td>
</tr>
<tr>
<td>Stage 2. Naive reward orientation</td>
<td>Obey rules to get rewards, share in order to get returns</td>
<td>Concern for the self and survival</td>
</tr>
<tr>
<td><strong>Level II. Conventional morality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 3. Good boy—good girl orientation</td>
<td>Conform to rules that are defined by others' approval/dischapproval</td>
<td>Level II. Conventional morality</td>
</tr>
<tr>
<td>Stage 4. Authority orientation</td>
<td>Rigid conformity to society's rules, law-and-order mentality, avoid censure for rule-breaking</td>
<td>Concern for being responsible, caring for others</td>
</tr>
<tr>
<td><strong>Level III. Postconventional morality</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 5. Social-contract orientation</td>
<td>More flexible understanding that we obey rules because they are necessary for social order, but the rules could be changed if there were better alternatives</td>
<td>Level III. Postconventional morality</td>
</tr>
<tr>
<td>Stage 6. Morality of individual principles and conscience</td>
<td>Behavior conforms to internal principles (justice, equality) to avoid self-condemnation, and sometimes may violate society's rules</td>
<td>Concern for self and others as interdependent</td>
</tr>
</tbody>
</table>

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