Preface

What’s New in This Edition?

The first developmental textbook written specifically for helping professionals, *The Life Span: Human Development for Helping Professionals* is now in its fourth edition. The following are just a few of the improvements and additions to this revision:

- Good empirical research about culture and ethnicity is increasingly available and has been fully integrated into this edition.
- Updated biological and neuropsychological underpinnings of development are presented in keeping with recent cutting edge advances in the developmental sciences.
- Expanded attention has been given to the effects of poverty and other adverse childhood experiences on development relative to cognitive, emotional, and health-related outcomes.
- New figures and tables give students efficient means for accessing a great deal of information. For example, Chapter 1 presents a timeline that gives the student an historical context for contemporary research within the field of developmental psychology.
- Linkages have been made between research in early and late-life cognition, in particular with regard to executive functioning.
- New boxes provide in-depth exploration of current developmental issues, such as the special challenges facing the children of immigrant families.
- Research and applications to practice are updated in all chapters.

The Conceptual Framework of This Book

The study of human development over the life span reveals the fascinating story of human beings and how they change over time. The story is both universal and uniquely personal, because it speaks to us about ourselves and the people who are important in our lives. Besides being intrinsically interesting, knowledge about development has obvious relevance for professionals engaged in psychology, counseling, education, social work, and other helping and health-related fields. We believe that in order to understand the strengths and challenges of our clients or students, we must see them in context. One important context is developmental history. As helping professionals, we must take into account the threads of continuity and change in people’s lives that bring them to their present point in development. This text provides the background and the tools to enable professionals to view their clients from a developmental perspective.

This text also reflects the contemporary view that life span development is a process deeply embedded within and inseparable from the context of family, social network, and culture. People do not progress through life in isolation; rather, their developmental course influences and is influenced by other people and systems. Some of these forces are related to the cultural differences that exist in a world of increasing diversity. We recognize the importance of these factors in understanding human development and emphasize cultural and systemic influences on human growth and change throughout the book.

We would also be remiss if we neglected to emphasize the rapidly growing body of knowledge from neuroscience that is refining our appreciation of how
biology and context interact. The marriage of “nature and nurture” and our greater awareness of how they interrelate contribute significantly to a more fully informed understanding of how people change over the life course. This emphasis, which has been strengthened in this new edition, provides an overarching template for practitioners to use in understanding development and in applying developmental knowledge to their work. Research and applications within the field of human development are becoming more and more interdisciplinary with expanding links to health, social processes, well-being, and so forth. This can make it exceptionally difficult to summarize this dynamic field. Presumably, every author of a book of this nature needs to make some choices about what to include. This particular text is configured to emphasize selected theories and research that have useful applications for helping professionals. A main purpose of this book is to provide students in the helping professions with information that can be translated into professional “best practice” applications. To this end, we have tried to use the most current research available to summarize domains of knowledge that remain, essentially, fields “under investigation.” Science by its very nature continually evolves in its efforts to reveal the nature of human experience. Thus, one of the assumptions we continue to emphasize in this edition is the importance of reflective practice for helping professionals.

Reflective practice involves “active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further conclusions to which it leads” (Dewey, 1933/1998, p. 9). Our primary vehicle for accomplishing this goal is twofold: (1) encouraging the reader to reflect on personal experience and assumptions about development, and (2) communicating the value of research-based knowledge as a means of understanding human development. Our particular orientation intentionally emphasizes the significance of developmental research to the work of the professional helper. We attempt to integrate various lines of developmental research into a useful whole that has practical value for helpers in applied settings. This book bears witness to the enormous amount of work done by developmental researchers, particularly in the last several decades. Without their groundbreaking contributions, helping professionals’ efforts to improve people’s lives would be greatly impoverished. It has been a challenge and an honor to record their contributions in this book.

Coverage and Organization

The opening chapters establish the theme of the text and introduce broad issues in development. Chapter 1 begins with an examination of the role of developmental knowledge in reflective practice. Students are introduced to classic and contemporary theoretical models and to issues that appear and reappear throughout the text. They are encouraged to reflect on their own theoretical assumptions about development and on the impact those assumptions could have in practice. Students are introduced to developmental psychopathology in a focus feature, and they can learn about prevention science and its connection to developmental research in a box feature.

Chapter 2 takes a close look at the coaction of genetic and environmental factors in the development of all aspects of the human organism. Students are introduced to genetic mechanisms in the context of epigenesis, the control of genetic expression by forces beyond the genes themselves. Sections on atypical early developments and on early brain development highlight the coaction of many genetic and environmental factors in prenatal and early postnatal development. Students are also introduced to the concept of development as adaptation and to the critical stress and adaptation system. Students emerge with an understanding of how biology and experience together craft this system and determine healthy and unhealthy outcomes.
The remaining chapters follow a chronological sequence, covering a full range of critical topics in physical, cognitive, social, and emotional development. In Chapters 3 through 5, the infancy and preschool periods are the focus. Among the topics covered are the many aspects of early cognitive growth, such as the development of representational thought and memory, executive functions, early "theory of mind" or naive psychology, the early understanding of symbols and of language, and more. Coverage of early social development includes the emergence of emotions, emotion regulation, attachment processes, early self-development, temperament, and the role of parental disciplinary style in the growth of self-regulation.

Chapters 6, 7, and 8 examine important developments in middle childhood and in the transition to adolescence, including the growth of logical thinking, the expanding capacity to process and remember information, perspective-taking skills and friendship development, influences on cognitive functioning, such as formal schooling, influences on the developing self-concept, developments in moral thinking, influences on the emergence of prosocial and antisocial behavior, sex-role development, and peer relationships. The impact of culture and context for many of these developments, such as self-concept, are considered.

Adolescence is the subject of Chapters 9 and 10, covering pubertal change, advances in logical and metacognitive skill, changes to the brain and stress system, identity development, sexual orientation, risk taking, and the influences of biology, peers, parents, school, media, and culture on adolescent behavior. Chapters 11 and 12 describe the young adult period, or what has been called "emerging adulthood," and include a close look at the way thinking changes as adulthood looms and at the progress of work, career, and intimate relationships.

Chapters 13, 14, and 15 describe developmental processes in middle and late adulthood. Chapter 13 focuses on changes in physical, cognitive, and social functioning during the middle adult years. Chapter 14 considers the questions that all middle adults face: What constitutes a well-lived life, and how do normally functioning adults cope with the enormous demands, progress, and setbacks that adult life brings? Finally, Chapter 15 reviews the challenges and developmental processes involved in late adulthood and end-of-life experiences. These chapters examine the many kinds of change that adults experience and the maintenance of well-being in the face of loss. Among the key developmental tasks discussed are marriage and its discontents, the experience of child rearing, spirituality, coping and health, the role of wisdom, stereotypes about aging, facing death and bereavement, and many more.

Features and Highlights

- **Depth of coverage:** Because the book is designed for graduate students, most topics, especially those that have special relevance to helping professionals, are covered in greater depth than in a typical life span text. The expanded coverage of research in specific areas will enhance students’ understanding of the scientific basis for applications.

- **Applications:** Blending empirically supported information about treatments with the issues covered in each chapter, these revised sections offer more extensive discussion of how developmental science can inform practice. Applications sections include new and expanded topics such as adolescent health and well-being, new interventions for promoting secure infant attachments, encouraging learning through play, helping parents avoid corporal punishment, and mindfulness-based practices, among many others.

- **Focus on Developmental Psychopathology:** In many chapters, sections on psychopathology trace the developmental roots of disorders such as autism, disorganized attachment, conduct problems, depression, eating disorders, and PTSD. These specific disorders were selected because each represents an example of how developmental processes interact to produce psychopathology.
Linkages between normal and abnormal pathways of development are explained. A review of basic concepts of developmental psychopathology and prevention science is also included.

- **Boxed features:** In many chapters, boxes highlight special topics and provide opportunities for in-depth coverage of research. These may be the biographies of influential theorists or detailed examinations of issues such as how adversity alters child outcomes, children’s credibility as eyewitnesses, children of immigrant families, the effects of divorce on children, the criminal culpability of juveniles, identity processes in multiracial individuals, gay and lesbian couples and their families, leadership development in women and men, the burden of caring for elderly relatives, cross-cultural differences in funeral rituals, and many others.

- **Culture and gender:** In every chapter, cross-cultural and cross-gender issues are discussed wherever relevant developmental research is available. Several new tables that examine cultural differences, such as in parenting and in coping, add to the increased coverage of culture in this edition.

- **Chapter summaries:** Every chapter ends with a summary of the major topics covered in that chapter, providing yet another study tool for students and a planning tool for instructors.

- **Case studies and case study discussion questions:** Case studies and questions at the end of each chapter are another set of pedagogical tools for helping students think about the clinical implications of the developmental facts and theories they have learned.

- **Journal questions:** Journal questions at the end of each chapter help students reflect on the issues they have read about, encouraging them to consider the relevance of these issues in their own development.

- **Key concepts:** Throughout the text, new or technical terms are printed in **bold** and defined. At the end of each chapter, a list of these key terms is provided as a study tool.

- **Glossary:** A glossary at the end of the text provides students with a handy reference for key terms.

- **Appendix:** An appendix helps students understand how developmental processes are studied scientifically and how scientifically established information can be useful in practice.

- **Writing style:** The writing style is conversational in tone and is aimed at making even complex material accessible. To avoid sexist language use and yet still have the luxury of using the singular pronouns “she” and “he,” we use the feminine pronoun in odd-numbered chapters and the masculine pronoun in even-numbered chapters.

## Supplemental Materials

Two online supplements are available for instructors at [www.pearsonhighered.com/educator](http://www.pearsonhighered.com/educator). Simply enter the author, title, or ISBN and select this textbook. Click on the “Resources” tab to view and download the available supplements.

- **Online Instructor’s Manual and Test Bank:** A new Online Instructor’s Manual and Test Bank (ISBN: 0-13-294297-6) has been developed with an average of 30 multiple-choice test items and 3 to 5 essay-style questions per chapter. Carefully scrutinized for accuracy, the multiple-choice questions in the Test Bank include both lower-level and higher-level questions. The lower-level questions expect students to access content knowledge and comprehension; the higher-level questions assess students’ ability to synthesize, compare and contrast, and apply their knowledge to problem solving.
• **Online PowerPoint® Slides:** The Online PowerPoint® slides (ISBN: 0-13-294298-4) include key concept summaries, outlines, and other graphic aids to enhance learning. These slides are designed to help students understand, organize, and remember concepts and developmental theories.
Organizing Themes in Development

What importance do difficulties in getting along with others have for a 6-year-old youngster? Is she just “passing through a stage”? How do parenting practices affect a child’s developing self-concept? How much freedom should be given to adolescents? Does the experience of sex discrimination affect a teenage girl’s identity formation? What implications do social problems with friends and coworkers suggest for a 22-year-old male? Does stereotype threat (such as expecting to be judged on the basis of race) alter the course of development? How significant is it for a married couple to experience increased conflicts following the births of their children? Does divorce cause lasting emotional damage to the children involved in a family breakup? What kind of day care experience is best for young children? Do we normally lose many intellectual abilities as we age? What factors enable a person to overcome early unfavorable circumstances and become a successful, healthy adult?

These intriguing questions represent a sampling of the kinds of topics that developmental scientists tackle. Their goal is to understand life span development: human behavioral change from conception to death. “Behavioral” change refers broadly to change in both observable activity (e.g., from crawling to walking) and mental activity (e.g., from disorganized to logical thinking). More specifically, developmental science seeks to

- describe people’s behavioral characteristics at different ages,
- identify how people are likely to respond to life’s experiences at different ages,
- formulate theories that explain how and why we see the typical characteristics and responses that we do, and
- understand what factors contribute to developmental differences from one person to another.

Using an array of scientific tools designed to obtain objective (unbiased) information, developmentalists make careful observations and measurements, and they test theoretical explanations empirically. See the Appendix for A Practitioner’s Guide to the Methods of Developmental Science.

Developmental science is not a remote or esoteric body of knowledge. Rather, it has much to offer the helping professional both professionally and personally.
As you study developmental science, you will build a knowledge base of information about age-related behaviors and about causal theories that help organize and make sense of these behaviors. These tools will help you better understand client concerns that are rooted in shared human experience. And when you think about clients' problems from a developmental perspective, you will increase the range of problem solving strategies that you can offer. Finally, studying development can facilitate personal growth by providing a foundation for reflecting on your own life.

**REFLECTION AND ACTION**

Despite strong support for a comprehensive academic grounding in scientific developmental knowledge for helping professionals (e.g., Van Hesteren & Ivey, 1990), there has been a somewhat uneasy alliance between practitioners, such as mental health professionals, and those with a more empirical bent, such as behavioral scientists. The clinical fields have depended on research from developmental psychology to inform their practice. Yet in the past, overreliance on traditional experimental methodologies sometimes resulted in researchers' neglect of important issues that could not be studied using these rigorous methods (Hetherington, 1998). Consequently, there was a tendency for clinicians to perceive some behavioral science literature as irrelevant to real-world concerns (Turner, 1986). Clearly, the gap between science and practice is not unique to the mental health professions. Medicine, education, and law have all struggled with the problems involved in preparing students to grapple with the complex demands of the workplace. Contemporary debate on this issue has led to the development of serious alternative paradigms for the training of practitioners.

One of the most promising of these alternatives for helping professionals is the concept of *reflective practice*. The idea of “reflectivity” derives from Dewey’s (1933/1998) view of education, which emphasized careful consideration of one’s beliefs and forms of knowledge as a precursor to practice. Donald Schon (1987), a modern pioneer in the field of reflective practice, describes the problem this way:

> In the varied topography of professional practice, there is a high, hard ground overlooking a swamp. On the high ground, manageable problems lend themselves to solution through the application of research-based theory and technique. In the swampy lowland, messy confusing problems defy technical solutions. The irony of this situation is that the problems of the high ground tend to be relatively unimportant to individuals or society at large, however great their technical interest may be, while in the swamp lie the problems of greatest human concern. (p. 3)

**The Gap Between Science and Practice**

Traditionally, the modern, university-based educational process has been driven by the belief that problems can be solved best by applying objective, technical, or scientific information amassed from laboratory investigations. Implicit in this assumption is that human nature operates according to universal principles that, if known and understood, will enable us to predict behavior. For example, if I understand the principles of conditioning and reinforcement, I can apply a contingency contract to modify my client’s inappropriate behavior. Postmodern critics have pointed out the many difficulties associated with this approach. Sometimes a “problem” behavior is related to, or maintained by, neurological, systemic, or cultural conditions. Sometimes the very existence of a problem may be a cultural construction. Unless a problem is viewed within its larger context, a problem-solving strategy may prove ineffective.

Most of the situations helpers face are confusing, complex, ill-defined, and often unresponsive to the application of a simple, specific set of scientific principles. Thus, the training of helping professionals often involves a “dual curriculum.”
The first is more formal and may be presented as a conglomeration of research-based facts, whereas the second, often learned in a practicum, field placement or first job, covers the curriculum of “what is really done” when working with clients. The antidote to this dichotomous pedagogy, Schon (1987) and his followers suggest, is reflective practice. This is a creative method of thinking about practice in which the helper masters the knowledge and skills base pertinent to the profession but is encouraged to go beyond rote technical applications to generate new kinds of understanding and strategies of action. Rather than relying solely on objective technical applications to determine ways of operating in a given situation, the reflective practitioner constructs solutions to problems by engaging in personal hypothesis generating and hypothesis testing.

How can one use the knowledge of developmental science in a meaningful and reflective way? What place does it have in the process of reflective construction? Consideration of another important line of research, namely, that of characteristics of expert problem solvers, will help us answer this question. Research studies on expert–novice differences in many areas such as teaching, science, and athletics all support the contention that experts have a great store of knowledge and skill in a particular area. Expertise is domain specific. When compared to novices in any given field, experts possess well-organized and integrated stores of information that they draw on, almost automatically, when faced with novel challenges. Because this knowledge is well practiced, truly a “working body” of information, retrieval is relatively easy (Lewandowsky & Thomas, 2009). Progress in problem solving is closely self-monitored. Problems are analyzed and broken down into smaller units, which can be handled more efficiently.

If we apply this information to the reflective practice model, we can see some connections. One core condition of reflective practice is that practitioners use theory as a “partial lens through which to consider a problem” (Nelson & Neufelt, 1998). Practitioners also use another partial lens: their professional and other life experience. In reflective practice, theory-driven hypotheses about client and system problems are generated and tested for goodness of fit. A rich supply of problem-solving strategies depends on a deep understanding of and thorough grounding in fundamental knowledge germane to the field. Notice that there is a sequence to reflective practice. Schon (1987), for example, argues against putting the cart before the horse. He states that true reflectivity depends on the ability to “recognize and apply standard rules, facts and operations; then to reason from general rules to problematic cases in ways characteristic of the profession; and only then to develop and test new forms of understanding and action where familiar categories and ways of thinking fail” (p. 40). In other words, background knowledge is important, but it is most useful in a dynamic interaction with contextual applications (Hoshman & Polkinghorne, 1992). A working knowledge of human development supplies the helping professional with a firm base from which to proceed.

Given the relevance of background knowledge to expertise in helping and to reflective practice, we hope we have made a sufficiently convincing case for the study of developmental science. However, it is obvious that students approaching this study are not “blank slates.” You already have many ideas and theories about the ways that people grow and change. These implicit theories have been constructed over time, partly from personal experience, observation, and your own cultural “take” on situations. Dweck and her colleagues have demonstrated that reliably different interpretations of situations can be predicted based on individual differences in people’s implicit beliefs about certain human attributes, such as intelligence or personality (see Dweck & Elliott-Moskwa, 2010). Take the case of intelligence. If you happen to hold the implicit belief that a person’s intellectual capacity can change and improve over time, you might be more inclined to take a skill-building approach to some presenting problem involving knowledge or ability. However, if you espouse the belief that a person’s intelligence is fixed and not amenable to incremental improvement, possibly because of genetic inheritance, you might be
more likely to encourage a client to cope with and adjust to cognitive limitations. For helping professionals, the implicit theoretical lens that shapes their worldview can have important implications for their clients.

We are often reluctant to give up our personal theories even in the face of evidence that these theories are incorrect (Gardner, 1991; Kuhn, 2005). The best antidote to misapplication of our personal views is self-monitoring: being aware of what our theories are and recognizing that they are only one of a set of possibilities. (See Chapter 11 for a more extensive discussion of this issue.) Before we discuss some specific beliefs about the nature of development, take a few minutes to consider what you think about the questions posed in Box 1.1.

**Box 1.1: Questionnaire**

*Examine Your Beliefs About Development*

*Rate yourself using the forced-choice format for each of the following items.*

1. Physical characteristics such as eye color, height, and weight are primarily inherited.
   - [ ] Strongly Disagree
   - [ ] Moderately Disagree
   - [ ] Moderately Agree
   - [ ] Strongly Agree

2. Intelligence is primarily inherited.
   - [ ] Strongly Disagree
   - [ ] Moderately Disagree
   - [ ] Moderately Agree
   - [ ] Strongly Agree

3. Personality is primarily inherited.
   - [ ] Strongly Disagree
   - [ ] Moderately Disagree
   - [ ] Moderately Agree
   - [ ] Strongly Agree

4. Events in the first 3 years of life have permanent effects on a person's psychological development.
   - [ ] Strongly Disagree
   - [ ] Moderately Disagree
   - [ ] Moderately Agree
   - [ ] Strongly Agree

5. People's personalities do not change very much over their lifetimes.
   - [ ] Strongly Disagree
   - [ ] Moderately Disagree
   - [ ] Moderately Agree
   - [ ] Strongly Agree

6. People all go through the same stages in their lives.
   - [ ] Strongly Disagree
   - [ ] Moderately Disagree
   - [ ] Moderately Agree
   - [ ] Strongly Agree

7. Parents have a somewhat limited impact on their children's development.
   - [ ] Strongly Disagree
   - [ ] Moderately Disagree
   - [ ] Moderately Agree
   - [ ] Strongly Agree

8. The cultural context in which the individual lives has a primary effect upon the psychological development of that person.
   - [ ] Strongly Disagree
   - [ ] Moderately Disagree
   - [ ] Moderately Agree
   - [ ] Strongly Agree

9. Common sense is a better guide to child rearing than is scientific knowledge.
   - [ ] Strongly Disagree
   - [ ] Moderately Disagree
   - [ ] Moderately Agree
   - [ ] Strongly Agree
A HISTORICAL PERSPECTIVE ON DEVELOPMENTAL THEORIES

Now that you have examined some of your own developmental assumptions, let’s consider the theoretical views that influence developmentalists, with special attention to how these views have evolved through the history of developmental science. Later, we will examine how different theoretical approaches might affect the helping process.

Like you, developmental scientists bring to their studies theoretical assumptions that help to structure their understanding of known facts. These assumptions also guide their research and shape how they interpret new findings. Scientists tend to develop theories that are consistent with their own cultural background and experience; no one operates in a vacuum. A core value of Western scientific method is a pursuit of objectivity, so that scientists are committed to continuously evaluating their theories in light of evidence. As a consequence, scientific theories change over time.

Throughout this text, you will be introduced to many developmental theories. Some are broad and sweeping in their coverage of whole areas of development, such as Freud’s theory of personality development (see Chapters 7 and 8) or Piaget’s theory of cognitive development (see Chapters 3, 6, and 9); some are narrower in scope, focusing on a particular issue, such as Vygotsky’s theory of the enculturation of knowledge (see Chapter 3) or Bowlby’s attachment theory (see Chapters 4 and 12). You will see that newer theories usually incorporate empirically verified ideas from older theories, but they also reflect changing cultural needs, such as the need to understand successful aging in a longer-lived population. Newer theories also draw from advances in many disciplines, such as biology. Scientific theories of human development began to emerge in Europe and America in the 19th century. They had their roots in philosophical inquiry, in the emergence of biological science, and in the growth of mass education that accompanied industrialization. Through medieval times in European societies, children and adults of all ages seem to have been viewed and treated in very similar ways (Aries, 1960). Only infants and preschoolers were free of adult responsibilities, although they were not always given the special protections and nurture that they are today. At age 6 or 7, children took on adult roles, doing farmwork or learning a trade, often leaving their families to become apprentices. As the Industrial Revolution advanced, children worked beside adults in mines and factories. People generally seemed “indifferent to children’s special characteristics” (Crain, 2005, p. 2), and there was no real study of children or how they change.

The notion that children only gradually develop the cognitive and personality structures that will characterize them as adults first appeared in the writings of 17th- and 18th-century philosophers, such as John Locke in Great Britain and Jean-Jacques Rousseau in France. In the 19th century, Charles Darwin’s theory of the evolution of species and the growth of biological science helped to foster scholarly interest in children. The assumption grew that a close examination of how children change might help advance our understanding of the human species. Darwin himself introduced an early approach to child study, the “baby biography,” writing a richly detailed account of his young son’s daily changes in language and behavior. By the 18th and 19th centuries, the Industrial Revolution led to the growth of “middle-class” occupations (e.g., merchandizing) that required an academic education: training in reading, writing, and math. The need to educate large numbers of children sharpened the public’s interest in understanding how children change with age.

The first academic departments devoted to child study began to appear on American college campuses in the late 19th and early 20th centuries. The idea that development continues even in adulthood was a 20th-century concept and a natural outgrowth of the study of children. If children’s mental and behavioral processes change over time, perhaps such processes continue to evolve beyond childhood. Interest in adult development was also piqued by dramatic increases in life expectancy in the 19th and 20th centuries, as well as cultural changes in how people live. Instead of single households combining three or four generations of family members,
grandparents and other relatives began to live apart from “nuclear families,” so that understanding the special needs and experiences of each age group took on greater importance. As you will see in the following discussion of classic developmental theories, in the 1950s Erik Erikson first proposed that personality development is a lifelong process, and by the 1960s cognitive theorists began to argue that adult thinking also changes systematically over time.

Most classic developmental theories emerged during the early and middle decades of the twentieth century. After you learn about some of the classic developmental theories, you will be introduced to contemporary theories. You will see that the newest theories integrate ideas from many classic theories, as well as from disciplines ranging from modern genetics, neuroscience, cognitive science, and psycholinguistics, to social and cultural psychology and anthropology. They acknowledge that human development is a complex synthesis of diverse processes at multiple levels of functioning. Because they embrace complexity, contemporary developmental theories can be especially useful to helping professionals. See the Timeline in Figure 1.1 for a graphic summary of some of the key theories and ideas in the history of developmental science.

**FIGURE 1.1** Timeline of selected influences on developmental science with dates of representative works.
Emphasizing Discontinuity: Classic Stage Theories

Some of the most influential early theories of development described human change as occurring in stages. Imagine a girl when she is 4 months old and then again when she is 4 years old. If your sense is that these two versions of the same child are fundamentally different in kind, with different intellectual capacities, different emotional structures, or different ways of perceiving others, you are thinking like a stage theorist. A stage is a period of time, perhaps several years, during which a person’s activities (at least in one broad domain) have certain characteristics in common. For example, we could say that in language development, the 4-month-old girl is in a preverbal stage. Among other things, her communications share in common the fact that they do not include talking. As a person moves to a different stage, the common characteristics of behavior change. In other words, a person’s activities have similar qualities within stages but different qualities across stages. Also, after long periods of stability, qualitative shifts in behavior seem to happen relatively quickly. For example, the change from not talking to talking seems abrupt or discontinuous. It tends to happen between 12 and 18 months of age, and once it starts, language use seems to advance very rapidly. A 4-year-old is someone who communicates primarily by talking; she is clearly in a verbal stage.

The preverbal to verbal example illustrates two features of stage theories. First, they describe development as qualitative or transformational change, like the emergence of a tree from a seed. At each new stage, new forms of behavioral organization are both different from and more complex than the ones at previous stages. Increasing complexity suggests that development has “directionality.” There is a kind of unfolding or emergence of behavioral organization.

Second, they imply periods of relative stability (within stages) and periods of rapid transition (between stages). Metaphorically, development is a staircase. Each new stage lifts a person to a new plateau for some period of time, and then there is another steep rise to another plateau. There seems to be discontinuity in these changes rather than change being a gradual, incremental process. One person might progress through a stage more quickly or slowly than another, but the sequence of stages is usually seen as the same across cultures and contexts, that is, universal. Also, despite the emphasis on qualitative discontinuities between stages, stage theorists argue for functional continuities across stages. That is, the same processes drive the shifts from stage to stage, such as brain maturation and social experience.

Sigmund Freud’s theory of personality development began to have an influence on developmental science in the early 1900s and was among the first to include a description of stages (e.g., Freud, 1905/1989, 1949/1969). Freud’s theory no longer takes center stage in the interpretations favored by most helpers or by developmental scientists. First, there is little evidence for some of the specific proposals in Freud’s theory (Loevinger, 1976). Second, his theory has been criticized for incorporating the gender biases of early 20th-century Austrian culture. Yet, some of Freud’s broad insights are routinely accepted and incorporated into other theories, such as his emphasis on the importance of early family relationships to infants’ emotional life, his notion that some behavior is unconsciously motivated, and his view that internal conflicts can play a primary role in social functioning. Several currently influential theories, like those of Erik Erikson and John Bowlby, incorporated some aspects of Freud’s theories or were developed to contrast with Freud’s ideas. For these reasons, it is important to understand Freud’s theory. Also, his ideas have permeated popular culture, and they influence many of our assumptions about the

Helping professionals need to understand the needs of clients of different ages.
development of behavior. If we are to make our own implicit assumptions about development explicit, we must understand where they originated and how well the theories that spawned them stand up in the light of scientific investigation.

**Freud’s Personality Theory**

Sigmund Freud’s *psychoanalytic theory* both describes the complex functioning of the adult personality and offers an explanation of the processes and progress of its development throughout childhood. To understand any given stage it helps to understand Freud’s view of the fully developed adult.

**Id, Ego, and Superego.** According to Freud, the adult personality functions as if there were actually three personalities, or aspects of personality, all potentially in conflict with one another. The first, the *id*, is the biological self, the source of all psychic energy. Babies are born with an id; the other two aspects of personality develop later. The id blindly pursues the fulfillment of physical needs or “instincts,” such as the hunger drive and the sex drive. It is irrational, driven by the *pleasure principle*, that is, by the pursuit of gratification. Its function is to keep the individual, and the species, alive, although Freud also proposed that there are inborn aggressive, destructive instincts served by the id.

The *ego* begins to develop as cognitive and physical skills emerge. In Freud’s view, some psychic energy is invested in these skills, and a rational, realistic self begins to take shape. The id still presses for fulfillment of bodily needs, but the rational ego seeks to meet these needs in sensible ways that take into account all aspects of a situation. For example, if you were hungry, and you saw a child with an ice cream cone, your id might press you to grab the cone away from the child—an instance of blind, immediate pleasure seeking. Of course, stealing ice cream from a child could have negative consequences if someone else saw you do it or if the child reported you to authorities. Unlike your id, your ego would operate on the *reality principle*, garnering your understanding of the world and of behavioral consequences to devise a more sensible and self-protective approach, such as waiting until you arrive at the ice cream store yourself and paying for an ice cream cone.

The *superego* is the last of the three aspects of personality to emerge. Psychic energy is invested in this “internalized parent” during the preschool period as children begin to feel guilty if they behave in ways that are inconsistent with parental restrictions. With the superego in place, the ego must now take account not only of instinctual pressures from the id, and of external realities, but also of the superego’s constraints. It must meet the needs of the id without upsetting the superego to avoid the unpleasant anxiety of guilt. In this view, when you choose against stealing a child’s ice cream cone to meet your immediate hunger, your ego is taking account not only of the realistic problems of getting caught but also of the unpleasant feelings that would be generated by the superego.

**The Psychosexual Stages.** In Freud’s view, the complexities of the relationships and conflicts that arise among the id, the ego, and the superego are the result of the individual’s experiences during five developmental stages. Freud called these *psychosexual stages* because he believed that changes in the id and its energy levels initiated each new stage. The term *sexual* here applies to all biological instincts or drives and their satisfaction, and it can be broadly defined as “sensual.”

For each stage, Freud posited that a disproportionate amount of id energy is invested in drives satisfied through one part of the body. As a result, the pleasure experienced through that body part is especially great during that stage. Children’s experiences satisfying the especially strong needs that emerge at a given stage can influence the development of personality characteristics throughout life. Freud also thought that parents typically play a pivotal role in helping children achieve the satisfaction they need. For example, in the *oral stage*, corresponding to the first year of life, Freud argued that the mouth is the body part that provides babies with
the most pleasure. Eating, drinking and even nonnutritive sucking are presumably more satisfying than at other times of life. A baby’s experiences with feeding and other parenting behaviors are likely to affect her oral pleasure, and could influence how much energy she invests in seeking oral pleasure in the future. Suppose that a mother in the early 20th century believed the parenting advice of “experts” who claimed that nonnutritive sucking is bad for babies. To prevent her baby from sucking her thumb, the mother might tie the baby’s hands to the sides of the crib at night—a practice recommended by the same experts! Freudian theory would predict that such extreme denial of oral pleasure could cause an oral fixation: The girl might grow up to need oral pleasures more than most adults, perhaps leading to overeating, to being especially talkative, or to being a chain smoker. The grown woman might also exhibit this fixation in more subtle ways, maintaining behaviors or feelings in adulthood that are particularly characteristic of babies, such as crying easily or experiencing overwhelming feelings of helplessness. According to Freud, fixations at any stage could be the result of either denial of a child’s needs, as in this example, or overindulgence of those needs. Specific defense mechanisms, such as “reaction formation” or “repression,” can also be associated with the conflicts that arise at a particular stage.

In Table 1.1, you will find a summary of the basic characteristics of Freud’s five psychosexual stages. Some of these stages will be described in more detail in later chapters. Freud’s stages have many of the properties of critical (or sensitive) periods for personality development. That is, they are time frames during which certain developments must occur. Freud’s third stage, for example, provides an opportunity for sex typing and moral processes to emerge (see Table 1.1). Notice that Freud assumed that much of personality development occurs before age 5, during the first three stages. This is one of the many ideas from Freud’s theory that has made its way into popular culture, even though modern research clearly does not support this position.

By the mid-1900s, two other major stage theories began to significantly impact the progress of developmental science. The first, by Erik Erikson, was focused on

<table>
<thead>
<tr>
<th>STAGE</th>
<th>APPROXIMATE AGE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>Birth to 1 year</td>
<td>Infants develop special relationships with caregivers. Mouth is the source of greatest pleasure. Too much or too little oral satisfaction can cause an “oral fixation,” leading to traits that actively (smoking) or symbolically (overdependency) are oral or infantile.</td>
</tr>
<tr>
<td>Anal</td>
<td>1 to 3 years</td>
<td>Anal area is the source of greatest pleasure. Harsh or overly indulgent toilet training can cause an “anal fixation,” leading to later adult traits that recall this stage, such as being greedy or messy.</td>
</tr>
<tr>
<td>Phallic</td>
<td>3 to 5 or 6 years</td>
<td>Genitalia are the source of greatest pleasure. Sexual desire directed toward the opposite-sex parent makes the same-sex parent a rival. Fear of angering the same-sex parent is resolved by identifying with that parent, which explains how children acquire both sex-typed behaviors and moral values. If a child has trouble resolving the emotional upheaval of this stage through identification, sex role development may be deviant or moral character may be weak.</td>
</tr>
<tr>
<td>Latency</td>
<td>6 years to puberty</td>
<td>Relatively quiescent period of personality development. Sexual desires are repressed after the turmoil of the last stage. Energy is directed into work and play. There is continued consolidation of traits laid down in the first three stages.</td>
</tr>
<tr>
<td>Genital</td>
<td>Puberty through adulthood</td>
<td>At puberty, adult sexual needs become the most important motivators of behavior. The individual seeks to fulfill needs and expend energy in socially acceptable activities, such as work, and through marriage with a partner who will substitute for the early object of desire, the opposite-sex parent.</td>
</tr>
</tbody>
</table>
personality development, reshaping some of Freud’s ideas. The second, by Jean Piaget, proposed that there are stagelike changes in cognitive processes during childhood and adolescence, especially in rational thinking and problem solving.

**Erikson’s Personality Theory**

Erik Erikson studied psychoanalytic theory with Anna Freud, Sigmund’s daughter, and later proposed his own theory of personality development (e.g., Erikson, 1950/1963). Like many “neo-Freudians,” Erikson deemphasized the id as the driving force behind all behavior, and he emphasized the more rational processes of the ego. His theory is focused on explaining the psychosocial aspects of behavior: attitudes and feelings toward the self and toward others. Erikson described eight psychosocial stages. The first five correspond to the age periods laid out in Freud’s psychosexual stages, but the last three are adult life stages, reflecting Erikson’s view that personal identity and interpersonal attitudes are continually evolving from birth to death.

The “Eight Stages of Man.” In each stage, the individual faces a different “crisis” or developmental task (see Chapter 9 for a detailed discussion of Erikson’s concept of crisis). The crisis is initiated, on one hand, by changing characteristics of the person—biological maturation or decline, cognitive changes, advancing (or deteriorating) motor skills—and, on the other hand, by corresponding changes in others’ attitudes, behaviors, and expectations. As in all stage theories, people qualitatively change from stage to stage, and so do the crises or tasks that they confront. In the first stage, infants must resolve the crisis of trust versus mistrust (see Chapter 4). Infants, in their relative helplessness, are “incorporative.” They “take in” what is offered, including not only nourishment but also stimulation, information, affection, and attention. If infants’ needs for such input are met by responsive caregivers, babies begin to trust others, to feel valued and valuable, and to view the world as a safe place. If caregivers are not consistently responsive, infants will fail to establish basic trust or to feel valuable, carrying mistrust with them into the next stage of development, when the 1- to 3-year-old toddler faces the crisis of autonomy versus shame and doubt. Mistrust in others and self will make it more difficult to successfully achieve a sense of autonomy.

The new stage is initiated by the child’s maturing muscular control and emerging cognitive and language skills. Unlike helpless infants, toddlers can learn not only to control their elimination but also to feed and dress themselves, to express their desires with some precision, and to move around the environment without help. The new capacities bring a strong need to practice and perfect the skills that make children feel in control of their own destinies. Caregivers must be sensitive to the child’s need for independence and yet must exercise enough control to keep the child safe and to help the child learn self-control. Failure to strike the right balance may rob children of feelings of autonomy—a sense that “I can do it myself”—and can promote instead either shame or self-doubt.

These first two stages illustrate features of all of Erikson’s stages (see Table 1.2 for a description of all eight stages). First, others’ sensitivity and responsiveness to the individual’s needs create a context for positive psychosocial development. Second, attitudes toward self and toward others emerge together. For example, developing trust in others also means valuing (or trusting) the self. Third, every psychosocial crisis or task involves finding the right balance between positive and negative feelings, with the positive outweighing the negative. Finally, the successful resolution of a crisis at one stage helps smooth the way for successful resolutions of future crises. Unsuccessful resolution at an earlier stage may stall progress and make maladaptive behavior more likely.

Erikson’s personality theory is often more appealing to helping professionals than Freud’s theory. Erikson’s emphasis on the psychosocial aspects of personality focuses attention on precisely the issues that helpers feel they are most often called
TABLE 1.2 Erikson’s Psychosocial Stages of Development

<table>
<thead>
<tr>
<th>STAGE OR PSYCHOSOCIAL “CRISIS”</th>
<th>APPROXIMATE AGE</th>
<th>SIGNIFICANT EVENTS</th>
<th>POSITIVE OUTCOME OR VIRTUE DEVELOPED</th>
<th>NEGATIVE OUTCOME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust vs. Mistrust</td>
<td>Birth to 1 year</td>
<td>Child develops a sense that the world is a safe and reliable place because of sensitive caregiving.</td>
<td>Hope</td>
<td>Fear and mistrust of others</td>
</tr>
<tr>
<td>Autonomy vs. Shame &amp; Doubt</td>
<td>1 to 3 years</td>
<td>Child develops a sense of independence tied to use of new mental and motor skills.</td>
<td>Willpower</td>
<td>Self-doubt</td>
</tr>
<tr>
<td>Initiative vs. Guilt</td>
<td>3 to 5 or 6 years</td>
<td>Child tries to behave in ways that involve more “grown-up” responsibility and experiments with grown-up roles.</td>
<td>Purpose</td>
<td>Guilt over thought and action</td>
</tr>
<tr>
<td>Industry vs. Inferiority</td>
<td>6 to 12 years</td>
<td>Child needs to learn important academic skills and compare favorably with peers in school.</td>
<td>Competence</td>
<td>Lack of competence</td>
</tr>
<tr>
<td>Identity vs. Role Confusion</td>
<td>12 to 20 years</td>
<td>Adolescent must move toward adulthood by making choices about values, vocational goals, etc.</td>
<td>Fidelity</td>
<td>Inability to establish sense of self</td>
</tr>
<tr>
<td>Intimacy vs. Isolation</td>
<td>Young adulthood</td>
<td>Adult becomes willing to share identity with others and to commit to affiliations and partnerships.</td>
<td>Love</td>
<td>Fear of intimacy, distancing</td>
</tr>
<tr>
<td>Generativity vs. Stagnation</td>
<td>Middle adulthood</td>
<td>Adult wishes to make a contribution to the next generation, to produce, mentor, create something of lasting value, as in the rearing of children or community services or expert work.</td>
<td>Care</td>
<td>Self-absorption</td>
</tr>
<tr>
<td>Ego Integrity vs. Despair</td>
<td>Late adulthood</td>
<td>Adult comes to terms with life’s successes, failures, and missed opportunities and realizes the dignity of own life.</td>
<td>Wisdom</td>
<td>Regret</td>
</tr>
</tbody>
</table>

on to address: feelings and attitudes about self and about others. Also, Erikson assumed that the child or adult is an active, self-organizing individual who needs only the right social context to move in a positive direction. Further, Erikson was himself an optimistic therapist who believed that poorly resolved crises could be resolved more adequately in later stages if the right conditions prevailed. Erikson was sensitive to cultural differences in behavioral development. Finally, developmental researchers frequently find Eriksonian interpretations of behavior useful. Studies of attachment, self-concept, self-esteem, and adolescent identity, among other topics addressed in subsequent chapters, have produced results compatible with some of Erikson’s ideas. (See Chapter 4, Box 4.2 for a biographical sketch of Erikson.)

Piaget’s Cognitive Development Theory

In Jean Piaget’s cognitive development theory, we see the influence of 18th-century philosopher Jean-Jacques Rousseau (e.g., 1762/1948), who argued that children’s reasoning and understanding emerges naturally in stages and that parents and educators can help most by allowing children freedom to explore their environments and by giving them learning experiences that are consistent with their level of ability. Similarly, Piaget outlined stages in the development of cognition, especially logical thinking which he referred to as operational thought (e.g., Inhelder & Piaget, 1955/1958, 1964; Piaget, 1952, 1954). He assumed that normal adults are capable of thinking logically about both concrete and abstract contents but that this capacity evolves in four stages
through childhood. Briefly, the first **sensorimotor stage**, lasting for about 2 years, is characterized by an absence of representational thought (see Chapter 3). Although babies are busy taking in the sensory world, organizing it on the basis of inborn reflexes or patterns, and then responding to their sensations, Piaget believed that they cannot yet symbolically represent their experiences, and so they cannot really reflect on them. This means that young infants do not form mental images or store memories symbolically, and they do not plan their behavior or intentionally act. These capacities emerge between 18 and 24 months, launching the next stage.

Piaget's second, third, and fourth stages roughly correspond to the preschool, elementary school, and the adolescent-adult years. These stages are named for the kinds of thinking that Piaget believed possible for these age groups. Table 1.3 summarizes each stage briefly, and we will describe the stages more fully in subsequent chapters.

Piaget's theory is another classic stage model. First, cognitive abilities are qualitatively similar within stages. If we know how a child approaches one kind of task, we should be able to predict her approaches to other kinds of tasks as well. Piaget acknowledged that children might be advanced in one cognitive domain or lag behind in another. For example, an adolescent might show more abstract reasoning about math than about interpersonal matters. These within-stage variations he called **décalages**. But generally, Piaget expected that a child's thinking would be organized in similar ways across most domains. Second, even though progress through the stages could move more or less quickly depending on many individual and contextual factors, the stages unfold in an invariant sequence, regardless of context or culture. The simpler patterns of physical or mental activity at one stage become integrated into more complex organizational systems at the next stage (**hierarchical integration**). Finally, despite the qualitative differences across stages, there are functional similarities or continuities from stage to stage in the ways in which children's cognitive development proceeds. According to Piaget, developmental progress depends on children's active engagement with the environment. This active process, which will be described in more detail in Chapter 3, suggests that children (and adults) build knowledge and understanding in a **self-organizing** way. They interpret new experiences and information in ways that fit their current ways of understanding even as they make some adjustments to their ways of understanding in the process. Children do not just passively receive information from without and store it “as is.” And, knowledge does not just emerge from within as though preformed. Instead, children actively build their knowledge, using both existing knowledge and new information. This is a **constructivist** view of development.

### TABLE 1.3 Piaget's Cognitive Stages of Development

<table>
<thead>
<tr>
<th>STAGE</th>
<th>APPROXIMATE AGE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensorimotor</td>
<td>Birth to 2 years</td>
<td>Through six substages, the source of infants' organized actions gradually shifts. At first, all organized behavior is reflexive—automatically triggered by particular stimuli. By the end of this stage, behavior is guided more by representational thought.</td>
</tr>
<tr>
<td>Preoperational</td>
<td>2 to 6 or 7 years</td>
<td>Early representational thought tends to be slow. Thought is “centered,” usually focused on one salient piece of information, or aspect of an event, at a time. As a result, thinking is usually not yet logical.</td>
</tr>
<tr>
<td>Concrete operational</td>
<td>7 to 11 or 12 years</td>
<td>Thinking has gradually become more rapid and efficient, allowing children to now “decenter,” or think about more than one thing at a time. This also allows them to discover logical relationships between/among pieces of information. Their logical thinking is best about information that can be demonstrated in the concrete world.</td>
</tr>
<tr>
<td>Formal operational</td>
<td>12 years through adulthood</td>
<td>Logical thinking extends now to “formal” or abstract material. Young adolescents can think logically about hypothetical situations, for example.</td>
</tr>
</tbody>
</table>
Piaget’s ideas about cognitive development were first translated into English in the 1960s, and they swept American developmental researchers off their feet. His theory filled the need for an explanation that acknowledged complex qualitative changes in children’s abilities over time, and it launched an era of unprecedented research on all aspects of children’s intellectual functioning that continues today. Although some of the specifics of Piaget’s theory have been challenged by research findings, many researchers, educators, and other helping professionals still find the broad outlines of this theory very useful for organizing their thinking about the kinds of understandings that children of different ages can bring to a problem or social situation. Piaget’s theory also inspired some modern views of cognitive change in adulthood. As you will see in Chapter 11, post-Piagetians have proposed additional stages in the development of logical thinking, hypothesizing that the abstract thinking of the adolescent is transformed during adulthood into a more relativistic kind of logical thinking, partly as a function of adults’ practical experience with the complexity of real-world problems.

**Emphasizing Continuity: Incremental Change**

Unlike stage theories, some theoretical approaches characterize development as a more continuous process. Change tends to be incremental, metaphorically resembling not a staircase but a steadily rising mountainside. Again, picture a 4-month-old girl, and the same girl when she is 4 years old. If you tend to “see” her evolving in small steps from a smiling, attentive infant to a smiling, eager toddler, to a smiling, mischievous preschooler, always noting in your observations threads of sameness as well as differences, your own theoretical assumptions about development may be more compatible with one of these incremental models. Like stage models, they can be very different in the types and breadth of behaviors they attempt to explain. They also differ in the kinds of processes they assume to underlie psychological change, such as the kinds of processes involved in learning. But they all agree that developmental change is not marked by major, sweeping reorganizations that affect many behaviors at once, as in stage theories. Rather, change is steady and specific to particular behaviors or behavioral domains. Incremental theorists, like stage theorists, tend to see “change for the better” as a key feature of development. So, adding words to your vocabulary over time would be a typical developmental change, but forgetting previously learned information might not. Social learning theory and most information processing theories are among the many incremental models available to explain development.

**Learning Theories**

Learning theories, in what is called the behaviorist tradition, have a distinguished history in American psychology, having been the most widely accepted class of theories through much of the 20th century, influenced by many thinkers from John B. Watson (e.g., 1913) to B. F. Skinner (e.g., 1938) to Albert Bandura (e.g., 1974). These theories trace their philosophical roots from ancient Greece and the writings of Aristotle through John Locke and the British empiricists of the 17th and 18th centuries. In this philosophical tradition, knowledge and skill are thought to accumulate as the result of each person’s individual experiences. The environment gradually leaves its imprint on one’s behavior and mind, a mind that in infancy is like a blank slate. Locke described several simple processes—association, repetition, imitation, reward, and punishment—by which the environment can have an impact. Many of the processes Locke described were incorporated into behaviorist approaches to development.

Some learning theories explain behavioral change as a function of chains of specific environmental events, such as those that occur in classical and operant conditioning. In these processes, change in behavior takes place because environmental events (stimuli) are paired with certain behaviors. Let’s begin with classical conditioning, also called respondent conditioning (Vargas, 2009). A respondent
is an automatic response to a stimulus. For example, when you hear an unexpected loud noise you will automatically produce a startle response. This stimulus/response association is unconditioned, built-in to your biological system. But the response can be conditioned to a new, neutral stimulus. Suppose a child calmly watches a dog approach her. For now, sight of the dog is a neutral stimulus. But the dog suddenly barks loudly, causing the child to automatically startle and pull back. Suppose that the next time the child sees the dog, it does not bark. Even so, just the sight of the dog triggers the same response as loud barking would: The child automatically startles and pulls back. The child has learned a new response, because the formerly neutral event (sight of dog) has been paired with an event (loud barking) that automatically causes a startle. Perhaps the startle reaction is also accompanied by feelings of fear. If so, the child has learned to fear this dog and will likely generalize that fear to other, similar dogs. When a neutral event or stimulus is associated with a stimulus that causes an automatic response, the neutral stimulus can become a **conditioned stimulus**, meaning that it can cause the person to make the same automatic response in the future, called a **conditioned response**. This is classical conditioning.

Operant conditioning is different. First, a person performs some behavior. The behavior is an **operant**, any act with potential to lead to consequences in the environment (that is, to “operate” on the environment). Immediately after the operant occurs, there is a “reinforcing event,” or **reinforcement**, something that is experienced by the person as pleasurable or rewarding. For example, suppose that a young child happens to babble “da” just as a dog appears in the child’s line of sight, and the child’s mother excitedly claps and kisses the child. (The mother has mistakenly assumed that the child has tried to say “dog.”) The mother’s reaction serves as a reinforcement for the child, who will repeat the “da” sound the next time a dog comes into view. In operant conditioning, the child learns to produce a spontaneous behavior or operant (e.g., “da”) in response to a cue (e.g., the appearance of a dog) because the behavior was previously reinforced in that situation. A reinforcement is a consequence of the operant behavior that maintains or increases the likelihood of that behavior when the cue occurs again (Sparzo, 2011). The mother’s approving reaction is an example of a **positive reinforcement**: Something pleasurable is presented after the operant occurs. There are also rewarding consequences that are called **negative reinforcements**: An aversive experience stops or is removed after the operant occurs. If your brother releases you from a painful hammer-hold when you yell “Uncle,” you have been negatively reinforced for saying “Uncle” (the operant) in that situation.

**Social learning theories**, which have focused specifically on how children acquire personality characteristics and social skills, consider conditioning processes part of the story, but they also emphasize “observational learning,” or **modeling**. In this kind of learning, one person (the learner) observes another (the model) performing some behavior, and just from close observation, learns to do it too. The observer may or may not imitate the modeled behavior, immediately or in the future, depending on many factors, such as whether the observer expects a reward for the behavior, whether the model is perceived as nurturing or competent, and even whether the observer believes that the performance will meet the observer’s own performance standards. Current versions of social learning theory emphasize many similar cognitive, self-regulated determiners of performance and suggest that they too are often learned from models (e.g., Bandura, 1974, 1999).

Whatever the learning processes that are emphasized in a particular learning theory, the story of development is one in which behaviors or beliefs or feelings change in response to specific experiences, one experience at a time. Broader changes can occur by **generalization**. If new events are experienced that are very similar to events in the original learning context, the learned behaviors may be extended to these new events. For example, the child who learns to say “da” when a particular dog appears may do the same when other dogs appear, or even in the presence of other four-legged animals. Or a child who observes a model sharing candy with a friend may later share toys with a sibling. But these extensions of
learned activities are narrow in scope compared to the sweeping changes hypothesized by stage theorists. While these processes explain changes in discrete behaviors or patterns of behavior, learning theories do not explain developmental reorganizations and adaptations in the ways that classic stage theories do.

**Information Processing Theories**

Since the introduction of computing technologies in the middle of the 20th century, some theorists have likened human cognitive functioning to computer processing of information. Not all information processing theories can be strictly classified as incremental theories, but many can. Like learning theories, these do not hypothesize broad stages, but emphasize incremental changes in narrow domains of behavior or thought. The mind works on information—attending to it, holding it in a temporary store or “working memory,” putting it into long-term storage, using strategies to organize it or to draw conclusions from it, and so on. How the information is processed depends on general characteristics of the human computer, such as how much information can be accessed, or made available for our attention, at one time. These characteristics can change to some degree over time. For example, children’s attentional capacity increases gradually with age. Yet most changes with age are quite specific to particular domains of knowledge, such as changes in the strategies children use to solve certain kinds of problems.

Furthermore, processing changes are not stagelike; they do not extend beyond the particular situation or problem space in which they occur. For example, Siegler and his colleagues (e.g., Siegler, 1996, 2007; Siegler & Svetina, 2006) describe changes in the ways that children do arithmetic, read, solve problems of various kinds, and perform many other tasks and skills. Siegler analyzes very particular changes in the kinds of strategies that children use when they attempt these tasks. Although there can be similarities across tasks in the ways that strategies change (e.g., they become more automatic with practice, they generalize to similar problems, etc.), usually the specific strategies used in one kind of task fail to apply to another, and changes are not coordinated across tasks. To illustrate, a kindergartner trying to solve an addition problem might use the strategy of "counting from one". "[T]his typically involves putting up fingers on one hand to represent the first addend, putting up fingers on the other hand to represent the second addend, and then counting the raised fingers on both hands" (Siegler, 1998, p. 93). This strategy is characteristic of early addition efforts, but would play no role in tasks such as reading or spelling. Overall, then, cognitive development in this kind of model is like social development in social learning theories: It results from the accrual of independent changes in many different domains of thought and skill. Development involves change for the better, but it does not lead to major organizational shifts across domains.

**Classic Theories and the Major Issues They Raise**

Classic theories of development have typically addressed a set of core issues. In our brief review you have been introduced to just a few of these. Is developmental change qualitative (e.g., stagelike) or quantitative (e.g., incremental)? Are some developments restricted to certain critical periods in the life cycle or are changes in brain and behavior possible at any time given the appropriate opportunities? Are there important continuities across the life span (in characteristics or change processes) or is everything in flux? Are people actively influencing the course and nature of their own development (self-organizing), or are they passive products of other forces? Which is more important in causing developmental change, nature (heredity) or nurture (environment)? Are there universal developmental trajectories, processes, and changes that are the same in all cultures and historical periods, or is development more specific to place and time?

Classic theorists usually took a stand on one side or the other of these issues, framing them as "either-or" possibilities. However, taking an extreme position does
not fit the data we now have available. Contemporary theorists propose that human development is best described by a synthesis of the extremes. The best answer to all of the questions just posed appears to be “Both.”

**CONTEMPORARY MULTIDIMENSIONAL OR SYSTEMS THEORIES: EMBRACING THE COMPLEXITY OF DEVELOPMENT**

Throughout this text you will find evidence that development is the result of the relationships among many causal components, interacting in complex ways. Modern developmental theories, which we refer to as *multidimensional* or *systems theories*, explain and describe the enormous complexity of interrelated causal processes in development. They generally assume that in all behavioral domains, from cognition to personality, there are layers, or levels, of interacting causes for change: physical/molecular, biological, psychological, social, and cultural. What happens at one level both causes and is caused by what happens at other levels. That is, the relationships among causes are reciprocal or *bidirectional processes*. For example, increased testosterone levels at puberty (biological change) might help influence a boy to pursue an aggressive sport, like wrestling. The boy’s success at wrestling may cause his status and social dominance to rise among his male friends (social change), and this social change can reciprocally influence his biological functioning. Specifically, it can lead to additional increases in his testosterone levels (Cacioppo & Berntson, 1992).

These theories acknowledge and incorporate many kinds of change: qualitative, transforming changes, both great (stagelike) and small (such as strategy changes within a particular problem-solving domain), as well as continuous, incremental variations that can even be reversible, such as learning and then forgetting new information (e.g., Overton, 1990). This is one example of how contemporary theories integrate features of many classic theories of development.

Think again about a girl who is 4 months old, and then later 4 years old. Do you perceive so many changes that she is transformed into a different sort of creature, and yet, at the same time, do you see enduring qualities that characterize her at both ages? Does your sense of the forces that have changed her include influences such as her family, community, and culture? Do you also recognize that she has played a significant role in her own change and in modifying those other forces? If so, your implicit assumptions about development may be more consistent with multidimensional models than with either stage or incremental theories alone.

Multidimensional theories portray the developing person metaphorically as a vine growing through a thick forest (Kagan, 1994). In doing so, the vine is propelled by its own inner processes, but its path, even its form, is in part created by the forest it inhabits. There is continuous growth, but there are changes in structure too—in its form and direction—as the vine wends its way through the forest. Finally, its presence in the forest changes the forest itself, affecting the growth of the trees and other plants, which reciprocally influence the growth of the vine.

Many multidimensional theories have been proposed, but they are remarkably similar in their fundamental assumptions and characteristics. They are typically different in which aspects of development they provide most detail about. They include transactional theory (e.g., Sameroff & Chandler, 1975), relational theory (e.g., Lerner, 1998), dialectical theory (e.g., Sameroff, 2012), bioecological theory (e.g., Bronfenbrenner & Ceci, 1994), bio-social-ecological theory (e.g., Cole & Packer, 2011), epigenetic theory (e.g., Gottlieb, 1992), life course theory (Elder & Shanahan, 2006), life span developmental theory (e.g., Baltes, 1997; Baltes, Lindenberger, & Staudinger, 2006), dynamic systems theory (e.g., Thelen & Smith, 1998), and several others. Figure 1.2 provides one illustration of the multiple, interacting forces that
FIGURE 1.2 A multidimensional (systems) model of development. This figure illustrates the external influences described in Bronfenbrenner’s bioecological theory along with internal influences on the developing child over time. Two-way arrows show bidirectional causality between all adjacent levels and between different parts of the same level. Proximal processes occur at the interface between the child and her microsystems. 

these theories identify. Two examples of multidimensional models will help flesh out the typical characteristics of many of these theories.

**Bronfenbrenner’s Biocological Theory**

In Urie Bronfenbrenner’s biocological theory, he and his colleagues (e.g., Bronfenbrenner & Ceci, 1994; Bronfenbrenner & Morris, 1998, 2006) described all developments—including personality and cognitive change—as a function of proximal processes. These are reciprocal interactions between an “active, evolving biopsychological human organism and the persons, objects and symbols in its immediate external environment” (Bronfenbrenner & Morris, 1998, p. 996). In other words, proximal processes refer to a person’s immediate interactions with people or with the physical environment or with informational sources (such as books or movies). These proximal processes are modified by more distal processes. Some of these are within the organism—such as genes. Others are outside the immediate environment—such as features of the educational system or of the broader culture. Proximal processes are truly interactive: The organism both influences and is influenced by the immediate environment.

The quality and effectiveness of the immediate environment—its responsiveness to the individual’s particular needs and characteristics and the opportunities it provides—depend on the larger context. For example, parental monitoring of children’s homework benefits children’s academic performance. But monitoring is more effective if parents are knowledgeable about the child’s work. A parent who insists that his child do her algebra homework may have less effect if the parent cannot be a resource who guides and explains the work. Thus, the parent’s own educational background affects the usefulness of the monitoring (Bronfenbrenner & Ceci, 1994).

An individual’s characteristics also influence the effectiveness of the environment. For example, motivations affect the impact of learning opportunities in a given context. A man interested in gambling may learn to reason in very complex ways about horses and their relative probability of winning at the track, but he may not display such complex reasoning in other contexts (Ceci & Liker, 1986). Other important individual qualities include demand characteristics, behavioral tendencies that often either encourage or discourage certain kinds of reactions from others. A child who is shy and inhibited, a trait that appears to have some biological roots (Kagan & Fox, 2006), may often fail to elicit attention from others, and may receive less support when she needs it, than a child who is open and outgoing (Bell & Chapman, 1986; see also Chapters 4 and 5).

Changes in the organism can be emergent, stagelike, qualitative changes, such as a shift from preoperational to concrete operational thought (see Table 1.3), or they can be more continuous, graded changes, such as shifts in academic interest or involvement in athletics. Both kinds of change are the result of proximal processes, influenced by more distal internal and external causes. Once changes occur, the individual brings new resources to these proximal processes. For example, when a child begins to demonstrate concrete operational thought, she will be given different tasks to do at home or at school than before, and she will learn things from those experiences that she would not have learned earlier. This is a good example of the bidirectionality of proximal processes: Change in the child fosters change in the environment leading to more change in the child and so on.

In earlier versions of his theory, Bronfenbrenner characterized in detail the many levels of environment that influence a person’s development. He referred to the immediate environment, where proximal processes are played out, as the microsystem. Babies interact primarily with family members, but as children get older, other microsystems, such as the school, the neighborhood, or a local playground and its inhabitants, become part of their lives. Relations among these microsystems—referred to as the mesosystem—modify each of them. For example, a child’s interactions with teachers affect interactions with parents. The next level of the environment, the exosystem, includes settings that children may not directly interact with but that influence the child nonetheless. For example, a teacher’s family
life will influence the teacher and thereby the child. Or a child’s socioeconomic status influences where her family lives, affecting the school the child will attend, and thus affecting the kinds of experiences the child has with teachers. Finally, there is the **macrosystem**, including the customs and character of the larger culture that help shape the Microsystems. For example, cultural attitudes and laws regarding the education of exceptional students influence the operation of a school and therefore a child’s interactions with teachers.

The environment, then, is like “a set of nested structures, each inside the next, like a set of Russian dolls” (Bronfenbrenner, 1979). In newer versions of his theory, Bronfenbrenner gives equal attention to the nested internal levels of the organism. As we have seen, a person brings to proximal processes a set of dispositions, resources (preexisting abilities, experiences, knowledge, and skills), and demand characteristics. These, in turn, are influenced by biological and physical levels of functioning that include the genes. Bronfenbrenner also emphasizes, as other multidimensional theorists do, the bidirectional effects of each level on the adjacent levels. For example, proximal psychological processes playing out in the immediate context are both influenced by, and influencing, physiological processes (Bronfenbrenner & Morris, 1998, 2006; Ceci, Rosenblum, de Bruyn, & Lee, 1997). Finally, these interactions continue and change across time.

**Life Span Developmental Theory**

In **life span developmental theories**, the same developmental processes that produce the transformation of infants into children, and children into adults, are thought to continue throughout adulthood until death. Developmental change is part of what it means to be alive. Adaptation continues from conception to death, with proximal interactions between the organism and the immediate context modified by more distal processes both within the individual and in the environment. Life span theorists like Paul Baltes (e.g., 1997; Baltes, Lindenberger, & Staudinger, 2006) refer to the interacting web of influences on development as the “architecture” of biological and cultural supports. Baltes proposes that successful adaptation is benefited more by biological supports in childhood than in adulthood. Cultural supports are important in childhood, but if not optimal, most children have biological supports (we could think of them as a complex of biological protective factors) that have evolved to optimize development in most environments. For adults, successful adaptation is more heavily dependent on cultural supports or protective factors. “The older individuals are, the more they are in need of culture-based resources (material, social, economic, psychological) to generate and maintain high levels of functioning” (Baltes, Lindenberger, & Staudinger, 1998, p. 1038). We will have more to say about life span developmental theories in Chapter 13.

**Applying Theory to Practice**

We have described both classic theoretical approaches to development and the more integrative and complex multidimensional theories that contemporary developmentalists favor. Preferring one of these paradigms can influence the way helping professionals assess and interpret client concerns. Let’s consider how various theoretical orientations to development might apply to a counseling situation:

Juliana is a 26-year-old Latina female who was raised in an intact, middle-class family. Her father was a teacher and her mother a housewife who occasionally worked in a neighborhood preschool as a teacher’s aide. Juliana was the second child in the family, which included an older brother and a younger sister. She attended parochial schools from kindergarten through 12th grade, where she worked very hard to achieve average and sometimes above-average grades. During her early years in school, Juliana had reading difficulties and received remedial instruction. At home, her parents stressed the value of education and kept a close watch on the children. The children were well behaved, respectful, and devoted to the family.
Most of their spare time was spent with their close relatives, who lived nearby. Despite Juliana's interest in dating during high school, her parents did not permit her to spend time with boyfriends. They told her that she needed to concentrate on her schoolwork so that she could be a nurse when she grew up. After graduation, Juliana entered a small local college and enrolled in a program designed to prepare her for a career in nursing. She lived at home and commuted to school on a daily basis. Life proceeded as it had for most of her high school years. Her coursework, however, became increasingly more difficult for her. She also felt isolated from most of her classmates, many of whom were working and living on their own. She tried to participate in some of the college's social events, but without much satisfaction or success. To pass her science courses, Juliana had to spend most of her time studying.

By the middle of her academic program, it was clear that she was in danger of failing. She felt frustrated and angry. At this point, she became romantically involved with Bill, a young White man who worked at the college. She dropped out of school and moved in with him, hoping their relationship would lead to marriage. Her family was shocked and upset with her decision and put pressure on her to come home. Eventually, the relationship with Bill ended, and Juliana, unwilling to return home, moved in with a group of young students who were looking for someone to share the rent. She found a low-wage job, changed her style of dress to look more like the younger students, and quickly became involved in a series of other romantic relationships. Juliana grew increasingly despondent about her inability to maintain a relationship that would lead to marriage and a family. In addition, she felt some distress about not completing her college degree. She enrolled in a night-school program at a local community college to retake her science courses. Once again, she experienced confusion, problems fitting in, and academic difficulty. She went to the college counseling center to ask for help.

Take a minute to think about how you would respond to Juliana. Do any of your views about development enter into your appraisal of her situation? If you tend to be a stage theorist, you might consider Juliana's problems to be based on Erikson's crisis of intimacy in early adulthood (see Table 1.2). She does seem to have difficulties with intimacy, and she is just at the age when these issues are supposed to become central to psychosocial development. But a rigid assumption of age-stage correspondence could prevent you from considering other possibilities, such as an unresolved identity crisis.

If you tend to be an incremental theorist, perhaps favoring social learning explanations, you might perceive Juliana's situation quite differently. You may see Juliana as having problems in her intimate relationships that are similar to her difficulties with school. In both domains she is apparently "delayed," perhaps because she has had insufficient opportunities to learn social and academic skills or perhaps because she has been reinforced for behaviors that are ineffective in more challenging contexts. Although this may be a useful way of construing Juliana's dilemma, any stage issues contributing to her distress may be missed. Also, there could be factors in her social environment, such as cultural expectations, that might not be considered.

If you take a more multidimensional approach, as we do, you will try to remain alert to multiple influences, both proximal and distal, on Juliana's development. The roles of her biological status, her individual capabilities, her stage of development, her earlier experiences, her family, and her culture will all be considered as possible influences and points of intervention. One disadvantage could be that the complexity of the interacting factors is so great that you may find it difficult to sort out the most effective place to begin. Another disadvantage is that macrosystem influences, such as cultural expectations about appropriate roles for women, may be quite resistant to intervention. However, one of the advantages of a multidimensional view is that it does highlight many possible avenues of intervention, and if you can identify one or a few that are amenable to change, you may have a positive influence on Juliana's future.
Helping professionals with different developmental assumptions would be likely to choose different approaches and strategies in working with Juliana. In a sense, any set of theoretical biases is like a set of blinders. It will focus your attention on some aspects of the situation and reduce the visibility of other aspects. Taking a multidimensional or systems view has the advantage of minimizing the constraints of those blinders. In any case, knowing your own biases can help you avoid the pitfalls of overreliance on one way of viewing development.

A NEW LOOK AT THREE DEVELOPMENTAL ISSUES

In the following sections, we examine three classic developmental issues that have garnered a great deal of attention in recent years. As you read about these issues from the viewpoint of contemporary research, you will begin to see why modern developmental theories take a multidimensional approach. Notice whether any of the new information causes you to reexamine your own assumptions about development.

Nature and Nurture

How did you respond to the first three items of the questionnaire in Box 1.1? Did you say that physical traits are primarily inherited? Did you say that intelligence or personality is inherited? Your opinions on these matters are likely to be influenced by your cultural background. For example, North Americans have traditionally seen intelligence as mostly hereditary, but Japanese tend to disregard the notion of “native ability” and to consider intellectual achievements as a function of opportunity and hard work (Stevenson, Chen, & Lee, 1993). Alternatively, North Americans usually view personality and social adjustment as a result of environmental experiences, especially parents’ nurturance and socialization practices, but Japanese traditionally see these qualities as mostly unalterable, native traits.

Developmental researchers acknowledge that both nature and nurture influence most behavioral outcomes, but in the past they have often focused primarily on one or the other, partly because a research enterprise that examines multiple causes at the same time tends to be a massive undertaking. So, based on personal interest, theoretical bias, and practical limitations, developmental researchers have often systematically investigated one kind of cause, setting aside examination of other causes of behavior. Interestingly, what these limited research approaches have accomplished is to establish impressive bodies of evidence, both for the importance of genes and for the importance of the environment!

What theorists and researchers face now is the difficult task of specifying how the two sets of causes work together: Do they have separate effects that “add up,” for example, or do they qualitatively modify each other, creating together, in unique combinations, unique outcomes? Modern multidimensional theories make the latter assumption and evidence is quickly accumulating to support this view. Heredity and environment are interdependent: The same genes operate differently in different environments, and the same environments are experienced differently by individuals with different genetic characteristics. Developmental outcomes are always a function of interplay between genes and environment, and the operation of one cannot even be described adequately without reference to the other. The study of epigenetics, the alteration of gene expression by the environment, has led to a radically new understanding of some mechanisms of gene-environment interaction. Epigenetic changes have long-term, important effects on development, and some epigenetic changes can even be transmitted transgenerationally (Skinner, 2011). In Chapter 2 you will find many examples of this complex interdependence.
Neuroplasticity and Critical (Sensitive) Periods

**Neuroplasticity** refers to changes in the brain that occur as a result of some practice or experience. Neurons, the basic cells of the nervous system, get reorganized as a result of such practice, resulting in new learning and memory. The realization that our brains continue to change throughout life has revolutionized the way scientists regard the brain. Not only do these changes primarily occur in infancy and early childhood, as had been proposed in the past. Contemporary neuroscientists recognize that “there is no period when the brain and its functions are static; changes are continuous throughout the lifespan. The nature, extent and the rates of change vary by region and function assessed and are influenced by genetic as well as environmental factors” (Pascual-Leone & Taylor, 2011, p. 183). As we have seen, modern multidisciplinary theories incorporate descriptions of relative life-long plasticity.

The time-related “variation by region and function” noted above is at the heart of the classic question about critical (sensitive) periods. Although the brain exhibits plasticity throughout life, do some changes, such as first language learning, occur more easily and more effectively at certain ages and stages? Or, is the organism able to develop or learn any new skill at any time with the right opportunities? There is little doubt that there are some behavioral developments that usually take place within a particular period. In many ways, language acquisition is nearly complete by the age of 5 or 6, for example. But is it possible to acquire a language at another point in the life cycle if this usual time is somehow “missed”? Pinker (1994) reviewed several findings that led him to conclude that although language can be learned at other times, it is never learned as well or as effortlessly as it would have been in the critical period from about 1 to 5 years. One interesting example from Pinker’s review concerns the learning of sign language by deaf individuals. American Sign Language (ASL) is a “real” symbolic language, with a complex grammar. Often, however, American deaf children are not given the opportunity to learn ASL in their early years, sometimes because of a belief that deaf children should learn to read lips and speak English (the “oralist” tradition). As a result, many deaf children simply do not learn any language. When these individuals are introduced to ASL in late childhood or adolescence, they often fail to acquire the same degree of facility with the grammar that children who learn ASL as preschoolers achieve.

If findings like these mean that a sensitive period has been missed, what could be the cause of such time-dependent learning? It is usually assumed that the end of a sensitive period is due to brain changes that make learning more difficult after the change. The environmental conditions that are likely to support the new learning may also be less favorable at certain times. As we have seen, the explanation is likely to be complex. For example, total immersion in a language may be just the right arrangement for a preschooler who knows no other communicative system. Older learners, even deaf children or adults who have learned no formal language early in life, may always filter a new language through previously established communication methods, such as an idiosyncratic set of hand signals. If so, for an older child or adult, total immersion may be less effective than a learning environment that can make correspondences between the new language and the old one. In later chapters, we will examine this issue as it relates to several developments, such as the emergence of sexual identity (Chapter 8) and the formation of bonds between mothers and infants (Chapter 4). In each case, the evidence indicates that time-dependent, region-specific windows of opportunity for rapid neural reorganization exist alongside continuing plasticity.

Universality and Specificity: The Role of Culture

Developmental science is concerned with explaining the nature and characteristics of change. Are developmental changes universal, having the same qualities across ethnic, racial, or socioeconomic status groups, between genders, and from one historical period to another? Or does development depend entirely on the specific
group or time within which it occurs? Many classic developmental theories have pos-
tioned basic similarities in development across different groups and historical periods. Stage theories, like Freud's theory in particular, often specify invariant sequences in personality or cognitive outcomes that are thought to apply to everyone, regardless of culture, group, or historical time. Yet even classic stage theories do incorporate sociocultural influences.

In Erikson's psychosocial stage theory, for example, all adolescents confront the task of formulating an adult identity. But the nature of that identity will certainly differ across groups. How complex and arduous a struggle the adolescent might face in forming an identity could vary dramatically depending on her context. Erikson's studies of identity development in two Native American groups, the Sioux in South Dakota and the Yurok on the Pacific coast, and of mainstream White culture revealed different struggles and different outcomes in each (Erikson, 1950/1963).

Some sociocultural theories, which trace their roots to the work of Lev Vygotsky (e.g., 1934, 1978; see Chapter 3), argue that cognitive developments may be qualitatively different in different cultures (e.g., Rogoff, 1998, 2003; Sternberg, 2004). For example, in Western cultures, classifying objects by functional associations (birds with nests) is a trademark of preschoolers' sorting behavior. Hierarchically organized taxonomic classification (e.g., collies and dachshunds grouped as kinds of dogs, dogs and birds grouped as animals) is more typical of elementary-school-age children. Piaget regarded taxonomic sorting to be an indicator of the logical thinking that emerges in middle childhood. But in some ethnic groups, such as the African Kpelle tribe, even adults do not sort objects taxonomically. They use functionally based schemes, perhaps because these are more meaningful in their everyday lives, and they would probably consider such schemes more sophisticated than a taxono-
mic one (Cole, 1998). Bronfenbrenner (1979) explained how culture could influence behavior through proximal processes, the daily give and take with others in one's social networks that he considered the primary engines of development. Other early pioneers, such as anthropologist Margaret Mead, began the process of growing a multicultural knowledge base (see Mead, 1928; Whiting & Whiting, 1975).

In general, however, the bulk of social science research has been done on a relatively narrow sample of WEIRD (Western, Educated, Industrialized, Rich, and Democratic) people (Henrich, Heine, & Norenzayan, 2010) and developmental re-
search is no exception (Fernald, 2010). Researchers are now acutely aware of the need to discover how developmental processes play out among other groups both within and outside North America to answer questions about universal versus specific developmental trajectories. To this end, culture, race and ethnicity have greater prominence in research than in the past, even though these constructs have proven somewhat difficult to define (Corbie-Smith et al., 2008).

Formerly, differences among racial groups, like Blacks, Whites, and Asians, were considered to be due to heredity, identifiable by variations in hair, skin color, bone structure, or other physiological markers. But apparent differences among racial groups are not greater than the range of differences within groups, and genetic indicators of race have not been found (Bamshad & Olson, 2003). Racial groupings may be no more than a social construction, founded on shifting and superficial characteristics, so reliance on this term may be misleading (Afshari, Bhopal & Afshari, 2002). Ethnicity is sometimes used interchangeably with race, although this too is problematic. Shared ancestry, language, a common place of origin and a sense of belonging to the group are elements commonly used to describe membership in an ethnic group.

Adding to the complexity, culture, which can also include shared values, rituals, psychological processes, behavioral norms and practices (Fiske, Kitayama, Markus, & Nisbett, 1998) is frequently used as a proxy for ethnicity. Early studies often represented culture as a kind of “social address” (Bronfenbrenner, 1979) with gender, race, religion, age, language, ethnic heritage and socioeconomic status as
labels signifying some cultural group membership. Think of your own status in relation to the items on this list. Then consider the status of another person you know. How similar or different from you is this other person? Is there one category that stands out for you when you try to describe her social/cultural address? For someone you consider to be culturally similar to you, do all the labels overlap? Just a little reflection gives you a taste of the dizzying complexity of such distinctions.

Some research demonstrates that shared values might not be the most reliable indicator of culture. For example, a recent study of values drawn from approximately 169,000 participants from 6 continents revealed broad agreement in values, contrary to what one might expect. Autonomy, relatedness, and competence were highly ranked across all cultures although some differences were observed for the value of conformity (Fischer & Schwartz, 2011). This finding questions the assumption that cultures are reliably different in their value systems. People in the same cultural group may be too diverse to justify painting with a broad brush. Some individuals may even have multiple ethnic/cultural identities (Sedikides & Brewer, 2001), so these terms are among the hardest for social scientists to define. Currently, there is a tendency to move away from static conceptualizations of what constitutes ethnic/cultural group membership toward more dynamic, process-oriented definitions for these important variables (Brubaker, 2009).

In particular, researchers are concerned about disaggregating social class, or socioeconomic status (SES), from race and ethnic/cultural distinctions. Socioeconomic status is based on social standing or power, and is defined by characteristics of the adults in a household, including educational background, income, and occupation. Frequently, variables of race/ethnicity and SES are conflated in research, leading to questionable findings. A good example of why disaggregation is important comes from a study of preschool children’s everyday activities in four cultural communities (Black and White in the United States, Luo in Kenya, and European descent in Porto Allegre, Brazil). Tudge and his colleagues (2006) observed everyday behaviors of preschool children, hypothesizing that each culture provides its young with the kinds of opportunities (e.g., school or work-related activities) deemed important for successful participation in their culture. Equal numbers of high and low SES children within each culture were included to study the intersection of culture and class. The Brazilian children engaged in fewer academic activities compared to White and Kenyan groups. Nonetheless, middle class Brazilian children were involved in more academic lessons than their working class counterparts. Kenyan children participated in significantly more work-related activities than all other groups. However, the working class Kenyan children engaged in twice as much work as those from all other groups, including middle-class Kenyan children.

Let’s examine some other ways of looking at the effects of culture on development. From a process-oriented perspective, individuals participate in modes of interacting (such as scripted interchanges) that differ from one cultural group to another (Cole, 1996). One promising approach to understanding the role of culture in development is to ask whether exposure to such systematic cultural differences affects individual development. If so, are the effects only at a superficial level (e.g., learning different behaviors, manners, customs), or are there effects on more fundamental processes, such as information processing and developing brain structures (Fiske, 2009; Kitayama & Park, 2010)? This is precisely the kind of question that experimenters in the field of cultural psychology have taken on (Miller, 1999).

Consider, for example, the often-cited distinction between the holistic (interdependent) modes of interacting in cultures of the Eastern hemisphere and the analytic (independent) modes in cultures of the Western hemisphere. A body of research now supports the existence of reliable differences beyond just superficial behavioral ones. First, differences have been identified in information processing (attention, understanding cause and effect, memory, and categorization) between people from Eastern and Western cultures (Nisbett & Masuda, 2003). Some analysts
have speculated that the historical-cultural antecedents of these processing differences may be ancient ways of viewing the world common to Chinese and Greek societies respectively (Nisbett, Peng, Choi, & Norenzayan, 2001). In turn, each of these ways may have been shaped by the respective economies of those societies (large-scale farming vs. hunting and trading) along with their different physical environments (open plain vs. seaside mountains). Freed from the interdependence required for massive farming and irrigation projects, ancient Greeks, the forebears of Western societies, came to view the world by focusing on central objects. In other words, the ancient Greeks inhabited a world where objects were typically perceived as relatively unchanging and detached from their context. The objects’ features (size, shape, color, etc.) were investigated so as to understand their operating rules and to predict and control their operations. Logic and scientific empiricism are related to this perspective on the world.

Needing to pay attention to the larger context in order to thrive, members of Eastern societies such as China focused more holistically on interrelationships, paying as much attention to the field wherein objects existed as to the objects themselves. Understanding the world from this perspective was more likely to incorporate figure-ground relationships and to hold the dialectic of opposing points of view in balance (Nisbett & Masuda, 2003). It could be that these fundamental differences in Greek and Chinese social organization and cognition, based upon geographical constraints and the exigencies of survival, continued to affect the development of people and societies that followed in their wake.

Any study of cultural differences embodies a fundamental wish to see the world as others do. Imagine that you could literally see what people pay attention to as a way of gaining knowledge about their perspective. Seeing the world through the eyes of people who live in the Eastern and Western regions of the globe could be a fruitful place to start because any differences that evolved from long histories of practice might be more obvious. Recent studies of attention and visual processing comparing these two cultural groups, made possible by the development of eye-movement tracking technology, have indeed proved fruitful.

Results of many studies have demonstrated a greater tendency among Eastern participants to attend to context when compared to Western participants who are more likely to attend to central objects (e.g., in photos of animals in complex environments; Boduroglu, Shah, & Nisbett, 2009; Kitayama, Duffy, Kawamura, & Larsen, 2003; Masuda & Nisbett, 2001, 2006). Eastern research subjects also process groups of items in relationship to each other rather than by category (e.g., linking a cow and grass instead of a cow and chicken; Chiu, 1972; Ji, Zhang, & Nisbett, 2004). The Eastern emphasis on field also extends to making causal attributions for events. When Westerners were asked to explain the reasons for outcomes in athletic competitions or the causes of criminal events, they emphasized internal traits as causal, whereas Easterners gave more contextualized explanations for outcomes (Choi, Nisbett, & Norenzayan, 1999).

In an ingenious study demonstrating the interrelated effects of culture, development, and neuroplasticity, Goh et al. (2007) show that what you pay attention to makes a subtle yet enduring difference in your brain over time. Repeated practice results in changes in the brain that become our preferred modes of thought and action. The cultural shaping of visual processing in the brain was explored in groups of young and old North Americans and East Asians from Singapore. Researchers studied the visual ventral cortex, a complex of brain structures responsible for identifying what is being processed visually (Farah, Rabinowitz, & Quinn, 2000). Some parts of this complex process object information and other parts process background information (see Park & Huang, 2010). The inclusion of older individuals in this study allowed researchers to analyze whether sustained cultural experience with analytic (central object) versus holistic (background/context) processing
sculpted the brain in unique ways over time. During experimental sessions utilizing an adapted functional magnetic resonance imaging (fMR-A) paradigm (see Chapter 2), which shows which parts of the brain are in use during different tasks, all participants viewed pictures of objects in scenes. As you can see in Figure 1.3, young Westerners’ and Easterners’ brains were similar in where and to what extent they processed objects versus backgrounds. Older participants from both cultures showed reduced processing of objects relative to backgrounds compared to younger participants. But there was an East/West difference in the older participants: The older Asian participants showed much more of a reduction than older Western participants in object processing. These older Asians did not lose their ability to focus on central objects, but they needed to be prompted to do so. For them, holistic processing had become the default mode, suggesting a lifetime cultural habit of attention to context.

**FIGURE 1.3** East/West differences in visual processing of younger and older individuals. Colored areas show brain areas that are active when processing central objects (blue) and background (orange) visual information. Younger Easterners and Westerners show brain activity for visual processing in both central object and background areas. Older Western participants show activity for visual processing of background and reduced processing for central objects. Older Eastern participants show activity in background processing areas but no activity in central object processing areas.

APPLICATIONS

In this chapter, we have discussed the importance of the study of development and introduced you to some of the worldviews and issues central to the field. The value of developmental knowledge to practitioners of the helping professions cannot be underestimated, as is underscored by a consensus growing out of a number of different theoretical orientations (e.g., Fisher & Lerner, 1994; Noam, 1992, 1998).

These developmental approaches to counseling and therapy, for the most part, have encouraged clinicians to take into account the developmental features of client functioning as a critical part of assessing and treating problems. These approaches share a number of commonalities: a sensitivity to the fact that persons grow and change over time and that their capacities and concerns also shift over the life course; an appreciation for the knowledge that scientific studies of developmental change can provide for clinicians, and a commitment to the application of this knowledge to improving the lives of individuals, families, and society as a whole. Instead of asking clinicians to choose a therapeutic approach from a set of treatment modalities, each with its own bounded theoretical tradition, Noam (1998) argues for a developmental viewpoint in training programs, which can help new clinicians organize the vast amount of information they need to master. “Developmental psychology and developmental psychopathology need to become ‘basic sciences’ for the mental health field” (Rolf, Masten, Cicchetti, Neuchterlein, & Weintraub, 1990). We would add to this list of basic requirements a working knowledge of biologically based and culturally relevant information. Use of such broadened developmental knowledge as a kind of metatheory helps clinicians integrate the problems presented by the “person-in-situation” and can help reduce the confusion often felt by helpers exposed to a heterogeneous array of treatments for isolated problems.

Efforts are underway to make diagnostic taxonomies like the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) and the International Classification of Diseases-11 (ICD-11) more developmentally and culturally sensitive (Kupfer, Regier, & Kuhl, 2008). Because good treatment begins with an in-depth understanding of causes, current diagnostic systems need to move beyond superficial descriptions of symptoms. Instead of providing just a “book of names,” Jensen and Hoagwood (1997) argue that diagnostic classification systems need to include a comprehensive understanding of the way people grow and adapt, for better or for worse, to their changing circumstances. One system, proposed by Sadler and Hugl (1994), would incorporate three levels of symptom assessment into treatment planning. Examples of these three levels include syndromes related to personal history (such as early parental deprivation), syndromes related to interpersonal environments (such as victimization or divorce), and syndromes related to extrapersonal environments (such as job loss or systemic discrimination). What these approaches share is the desire to shift the prevailing theoretical paradigm from a model of pathology “within the individual” to a more integrative model that incorporates critical developmental principles such as the importance of contextual features. Sophisticated advances in biologically based research in mental health allow professionals to integrate knowledge about syndromes with clearer understanding of causal mechanisms (Cannon & Keller, 2006).

Integrative approaches to mental health treatment emphasize the importance of cultural differences. Culturally competent practice is now considered the standard for performance across many helping professions. These changes are not only intended to keep clinicians abreast of current research about cultural variations. They are grounded in the ethical responsibility to provide just and empathic care for all. Early advocates pioneered a set of guidelines that addressed cultural awareness, knowledge, and skills (Arredondo & Perez, 2006; Sue, Arredondo, & McDavis, 1992), and now many helping fields, including medicine, psychology, social work, education, nursing, and so on, have incorporated similar aspects within their professional practice guidelines. Table 1.4 shows standards from psychology, nursing and social work (American Psychological Association, 2003; Douglas et al., 2011; National Association of Social Workers, 2000). Notice the general level of agreement in what constitutes good practice.

Knowledge of developmental science helps clinicians in other ways as well. The helper must be able to distinguish normal developmental perturbations from real deviations in development to intervene wisely. A prime example of this occurs in adolescence, which Freud described as a period of “normal psychopathology.” Understanding some of the issues typical of this time of life can inform a clinician’s guidance, advocacy, and support. Moreover, using a developmental focus can allow the helper to consider ways to support developmental transitions (Lerner, 1996) to later life stages by taking steps to promote a caring network.

Some Rules of Thumb

In this chapter, we have introduced you to some of the classic paradigms and issues in the field of human development and have specified ways in which knowledge of development is fundamental to practitioners. We now suggest a few general guidelines for the application of developmental research to the work of the helping professional.

1. Keep abreast of new and reliable developments in the field. It is important to sort out the worthwhile information in this ever-expanding field of study to help clients more effectively.

2. Take a multidimensional view of developmental processes. Awareness of the interacting contributions of genetics and environment can allow helpers to take a more reasoned and accurate view of problems. The competent helper understands that biologically based research contributes to understanding development, personality, and psychopathology by clarifying the complex mechanisms underlying these processes, ultimately setting...
### TABLE 1.4 Standards for Cultural Competence Across Three Helping Professions

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<tr>
<th>CATEGORY</th>
<th>PSYCHOLOGY (APA)</th>
<th>NURSING (DOUGLAS ET AL., 2011)</th>
<th>SOCIAL WORK (NASW)</th>
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<tr>
<td>Self-Awareness</td>
<td>Understand that one’s beliefs and values might be different from clients, become aware of personal attitudes, and work to increase contacts with diverse groups.</td>
<td>Critically reflect on personal beliefs and values as they affect practice.</td>
<td>(1) Recognize how personal values might conflict with needs of diverse clients in professional practice. (2) Develop understanding of personal values and beliefs.</td>
</tr>
<tr>
<td>Sensitivity to/Gaining Knowledge About Other Cultures</td>
<td>Increase knowledge about others’ worldviews, including the effects of stigmatization. Become knowledgeable about social policies that affect other cultures.</td>
<td>Recognize and gain knowledge about the specifics of other cultures.</td>
<td>Continue to develop knowledge about cultural differences.</td>
</tr>
<tr>
<td>Professional Training</td>
<td>Infuse multicultural information into professional training and include it in coursework in psychology in general.</td>
<td>(1) Work toward a multicultural workforce through education, retention and recruitment policies. (2) Provide training and continuing education in culturally congruent care and global health issues.</td>
<td>(1) Participate in training and continuing education in cultural competence. (2) Support and advocate for professional diversity through recruitment, admissions and hiring, and retention efforts.</td>
</tr>
<tr>
<td>Research</td>
<td>Conduct culturally sensitive, ethical research. Ethnic, racial, and linguistic differences should be considered in research design, analysis, interpretation, and assessment.</td>
<td>(1) Engage in culturally competent practice. (2) Employ culturally relevant verbal and nonverbal communication skills. (3) Base interventions on those with evidence to support effectiveness with diverse groups.</td>
<td></td>
</tr>
<tr>
<td>Skills for Practice</td>
<td>Apply culturally appropriate clinical skills in practice by focusing on the client within his or her cultural context, using culturally appropriate assessment tools, and having a broad repertoire of interventions.</td>
<td>(1) Utilize culturally appropriate skills and techniques and understand what role culture plays in the helping process. (2) Develop understanding of community and societal resources to make appropriate referrals. (3) Advocate for language-appropriate materials and services.</td>
<td></td>
</tr>
<tr>
<td>Operations of Organizations and Systems; Social Justice Advocacy</td>
<td>Apply culturally informed organizational practices and expand professional role to change agent.</td>
<td>(1) Ensure that health care organizations provide the structure and resources necessary to evaluate and meet the cultural and language needs of their diverse clients. (2) Advocate for inclusion of patient’s cultural beliefs in all aspects of health care. (3) Advocate for social justice and develop leadership skills to support social justice. (4) Demonstrate leadership to influence individuals, groups, and systems to achieve outcomes of culturally competent care. (5) Advocate for culturally competent care through establishment of policies for professional organizations.</td>
<td>(1) Be aware of the effect of social policies and programs on diverse client populations and advocate for them wherever appropriate. (2) Demonstrate leadership in communicating information about diverse groups to others.</td>
</tr>
</tbody>
</table>

3. The contemporary helper’s tool kit needs to include information about culture. Awareness of ourselves and others as deeply embedded in our own cultural frames can open our eyes to areas of difference. But it can also help professionals strengthen our empathy and allow us to realize the “connection that is attributed to shared humanness” (Browning & Artelt, 2012, p. 227).

4. Interpret stage sequences as guidelines for development. It helps to bear in mind that the various theoretical models or metaphors for developmental growth that we have presented should not be applied rigidly. One size never fits everyone. Nonetheless, views that abandon all sense...
of developmental stage progressions may prove unwieldy for the helper who needs to construct a developmental map of the client. What is the answer? As usual, an informed middle ground may be the best alternative. Stages of psychosocial development are not entirely dependent on chronological age and maturational attainments. However, they are not independent of these achievements, either. The skilled clinician must consider a number of possibilities at the same time and, like the reflective thinker described earlier, work to find the best fit.

5. Keep in mind the scientific meaning of theory. The term theory is often used differently in science than it is in everyday language. In science, a theory frequently represents a synthesis of hypotheses that have been tested and supported by careful research, such as the theory of relativity or evolution. In everyday use, a theory can mean one’s personal opinion, such as one’s opinion about the best way to educate or counsel children or one’s guess about what causes marriages to fail. Scientific theories are not immutable; they can evolve or be disproved with the accumulation of evidence. Although evaluating theories in light of evidence is by no means the only way we think in science, we need a way to accommodate new information as they practice reflection in action.

FOCUS ON DEVELOPMENTAL PSYCHOPATHOLOGY

In several chapters of this text, you will find sections titled Focus on Developmental Psychopathology, which highlight developmental approaches to specific behavioral disorders. These sections emphasize work in the relatively new field of developmental psychopathology, offering clinicians a unique perspective on dysfunctional behavior by integrating work from many disciplines, including developmental, clinical, and abnormal psychology. This field takes a life span perspective on disturbed behavior by assuming that it is an outgrowth of complex but lawful developmental processes (e.g., Rutter & Sroufe, 2000). Unhealthy social, emotional, and behavioral processes, like depression or conduct disorder, emerge in the same way that healthy ones do: as a function of the individual’s attempts to adapt to her environment. Behaviors or coping strategies that are adaptive in one developmental circumstance can be maladaptive in other concurrent contexts or they may establish a trajectory that can result in maladaptive outcomes later.

"In contrast to the often dichotomous world of mental disorder/ nondisorder depicted in psychiatry, a developmental psychopathology perspective recognizes that normality often fades into abnormality, adaptive and maladaptive may take on differing definitions depending on whether one’s time referent is immediate circumstances or long-term development, and processes within the individual can be characterized as having shades or degrees of psychopathology" (Cicchetti & Toth, 2006, p. 498).

Developmental psychopathology is largely guided by multidimensional or systems theories of development (e.g., Cicchetti & Sroufe, 2000; Cicchetti & Toth, 2006; Rutter & Sroufe, 2000; Sameroff, 2000; Sameroff & MacKenzie, 2003). Every individual is seen as an active organism, influenced by multiple levels of internal processes, and continuously adapting to multiple embedded contexts. Abnormality results from the same proximal processes that produce more normative patterns: As the individual transacts with the environment, she attempts to meet her needs and to adjust to environmental inputs and demands. She brings both strengths and vulnerabilities to these transactions, and the environment contributes both stressors and supports. Both the individual and the environment are somewhat altered by each transaction, reciprocally influencing each other. That is, the change processes are bidirectional. The individual’s strengths and vulnerabilities as well as environmental stressors and supports are all variables or factors that impact the overall development of the individual. Both healthy and unhealthy outcomes are the result of the interplay of the individual’s characteristics and her experiences across time. “Single factors can be potent in destroying systems . . . a gunshot can destroy a child. But single factors cannot create a child or any other living system” (Sameroff, 2000, p. 37).

The individual’s strengths and the environment’s supports are protective factors, helping to promote healthy outcomes; the individual’s vulnerabilities and the environmental stressors she experiences are risk factors that can interfere with healthy development (see Box 1.2 for a fuller discussion of such factors). Among the individual’s characteristics that may matter are various genetic and other biological factors, temperamental traits, cognitive capacities, social skills, attitudes, beliefs, and so on. Among the environmental factors are socioeconomic status,
safety of the neighborhood, quality of the schools, family history and culture, parental nurturing and monitoring, peer attitudes, friendships, marital and community supports, cultural dynamics including racial and ethnic processes, and so on.

Work in developmental psychopathology has brought into focus the importance of both mediating and moderating relationships between variables or factors in development. Let’s begin with mediating variables. Suppose that one factor appears to be a cause of some behavioral outcome. For example, when a child experiences early, pervasive poverty, she is at higher risk than other children for developing mental health problems and medical diseases in adulthood, from depression to cardiovascular disease to some cancers (Chen, 2004). Even if children’s economic circumstances improve in later childhood or adulthood, the increased risk of adult problems persists. One mediating variable that links early poverty to later health vulnerability is a compromised immune system. Specifically, poor children are more prone to inflammation. Changes in the functioning of certain genes cause this “pro-inflammatory profile,” which lasts into adulthood and can contribute to poor health, including some mental health problems like depression (Chen, Miller, Kobor, & Cole, 2011).

Moderating variables are those that affect the strength of the relationship between other variables (Baron & Kenny, 1986). They interact with causal factors, altering and sometimes even eliminating their effects on outcome variables. For example, researchers have found that not all adults exposed to early poverty are characterized by a “pro-inflammatory profile” (Chen, Miller, Kobor, & Cole, 2011). Adults who suffered chronic early poverty but who report having a warm, supportive relationship with their mothers in childhood often have normal immune system functioning. Warm mothering appears to be a protective factor that moderates the impact of early poverty, a risk factor. See Figure 1.4 for a graphic illustration of both mediating and moderating factors related to early poverty’s effects.

Recent research in psychopathology has focused on the role of endophenotypes as mediators and moderators. Endophenotypes are biobehavioral processes that can be traced to genes. These processes serve as intermediary links between the actual genes that contribute to disorders and their expressed behavioral manifestations. The “pro-inflammatory profile” that serves as a mediator between early childhood poverty and later mental and physical health problems is an example of an endophenotype, because it has been found to result from epigenetic processes (Chen et al., 2011). Lenroot and Giedd (2011) artfully describe endophenotypes as “bridges between molecules and behavior” (p. 429). Study of these intermediary links can help us better understand the processes by which genetic information experts influence on observable behavior (Gottesman & Gould, 2003).

Because so many interacting factors are involved, there is no such thing as perfect prediction of who will have healthy outcomes, who will not, when problems may arise, and how they will evolve. A rough guideline for prediction is that the more risk factors and the fewer protective factors there are, the more likely an individual is to have adjustment problems. Developmental psychopathology also recognizes two axiomatic principles: multifinality and equifinality (e.g., Cicchetti & Rogosch, 1996). The principle of multifinality is that individual pathways of development may result in a wide range of possible outcomes. For example, children exhibiting conduct-disordered behavior in the elementary school years may as adults display one or more of several different disorders, including antisocial personality, depression, substance abuse, and so on. The complementary principle of equifinality specifies that different early developmental pathways can produce similar outcomes. For example, Sroufe (1989) has demonstrated two pathways, one primarily biological and one primarily related to parenting style, that lead to attention deficit hyperactivity disorder (ADHD). Using these ideas from systems theory allows for the study of multiple subgroups and multiple pathways to disorders. Most important, it allows for a more realistic look at the problems people face (Cicchetti & Toth, 1994).

Here again, biobehavioral research is taking us a step closer to making better predictions about who will be affected by disorders and who will have more healthy outcomes. It may also help us unravel the mystery of multifinality. For example, why do some emotionally abused children become depressed as they age while others develop substance abuse disorders? Research on transdiagnostic risk factors (Nolen-Hoeksema & Watson, 2011), which are conceptually similar to endophenotypes, takes a close look at how risk factors other than the target one (e.g., history of emotional abuse) may moderate the effects of the target factor. Assessment of the moderating impact of different risk factors on each other is aimed at explaining

**FIGURE 1.4** Example of mediating and moderating variables. The effects of chronic poverty on adult susceptibility to health problems are mediated by immune system changes and can be moderated by warm mother-child relationships.
“divergent trajectories”: how different disorders evolve from the same target risk factors. Careful explication of these intervening sequences supports the fundamental goals of these new scientific fields.

Two primary goals of developmental psychopathology are to increase the probability of successfully predicting problematic outcomes and to find ways of preventing them. Developmental psychopathology is therefore closely linked to the field of prevention science, which aims at designing and testing prevention and intervention techniques for promoting healthy development in at-risk groups (see Box 1.2). Developmental psychopathologists also emphasize the value of studying individuals at the extremes of disordered behavior, for the purpose of enlightening us about how developmental processes work for everyone. Consider one example: Typically developing children eventually form a coherent and relatively realistic notion of self, so that they distinguish the self from others, they differentiate the real from the imagined, they form integrated memories of what they have done and experienced, and so on (see Chapters 5 and 7). Our understanding of when and how a coherent sense of self emerges in normal development has benefited from studies of maltreated children whose sense of self is often disorganized. In one study comparing maltreated with non-maltreated preschoolers, maltreated children showed substantially more dissociative behaviors, such as talking to imaginary playmates, being forgetful or confused about things the child should know, and lying to deny misbehavior even when the evidence is clear (Macfie, Cicchetti, & Toth, 2001). Note that all of these kinds of behaviors are typical of preschoolers sometimes. But finding that non-maltreated preschoolers are less likely to engage in these behaviors than maltreated youngsters helps substantiate two things: First, relationships with caregivers are important to the development of a coherent self-system, and second, typically developing preschoolers are beginning to form a cohesive self-system even though the process is not complete.

The field of developmental psychopathology has several practical implications for clinical practice. First, interventions and treatments need to be developmentally appropriate to be effective. One approach will not fit all situations or age groups. For example, maltreated preschoolers showing signs of excessive dissociative behavior can be helped to form a more coherent self-system if helpers intervene with primary caregivers to increase their positivity, sensitivity, and responsivity (see Chapters 4 and 5). Interventions with adults who suffer from dissociative behaviors would require other approaches. Second, periods throughout the life span marked by disequilibrium or disorganization with resultant reorganization may be considered points at which individuals might be most receptive to change. Developmental psychopathologists suggest that at these sensitive periods, interventions may be most effective because the individual can incorporate treatment into newly emerging levels of cognitive, emotional, and behavioral organization. Thus, the issue of timing of interventions is one of great interest to this field. In addition, the wide variety of possible pathways and outcomes involved in the development of psychopathology is an argument for the use of multiple means of intervention and treatment. However, interventions should be carefully considered and based on a thoughtful assessment of a person’s developmental level and her quality of adaptation, the contexts that she must function within, as well as the availability of external supports. Because this field is relatively new, much more research is needed to establish these principles with greater certainty. However, this discipline’s ideas and research findings hold out great promise for helpers.

### Box 1.2: Prevention Science

There is a clear connection between developmental knowledge and prevention. Indeed, it is hard to imagine a more compelling reason for studying human growth and development than to be able to use this knowledge to prevent problems from occurring. Thinking developmentally about prevention automatically leads a helper to consider why problems occur, the nature of the forces acting on individuals that lead to certain endpoints, the strengths and weaknesses that are part of personal histories, and the functions that maladaptive behaviors might serve.

The relatively new and evolving discipline of prevention science takes an empirical approach to designing and testing effective intervention strategies for limiting or eliminating mental health problems. It draws on the knowledge and experience of researchers and practitioners in many different disciplines to do this effectively, including developmental science, developmental psychopathology, epidemiology, education, and criminology. The goal is to promote positive outcomes for everyone, especially those most at risk of developing social, emotional, and behavioral problems. Coie and his associates (1993) state that the primary objective of this new field is to “trace the links between generic risk factors and specific clinical disorders and to moderate the pervasive effects of risk factors. If generic risks can be identified and altered in a population, this can have a positive effect on a range of mental health problems, as well as job productivity, and can reduce the need for many health, social, and correctional services” (p. 1014).

To effectively design and test interventions, it is critical for prevention scientists to understand the role of risk factors in the origin and sequencing of disordered outcomes, to understand what protective factors may mitigate such outcomes, and which risk and protective factors can most readily be targeted for intervention. Thus, prevention science is closely allied with the field of developmental psychopathology (see Focus on Developmental Psychopathology, this chapter). Together, they model relationships among risk and protective factors, specify ways to detect early warning signs of disorder, and then construct strategic approaches for disrupting a downward spiral. Scientific testing of the effectiveness of prevention techniques is a key contribution of prevention science to this process (e.g., Botvin & Griffin, 2005). The beauty of this discipline is that it has the potential
to provide a coherent, community-based approach to intervention that is focused, effective, and developmentally appropriate. It draws on the knowledge and experience of researchers and practitioners across many related disciplines (e.g., those in social and psychological services, medicine, law enforcement, and education) and typically addresses problems at multiple levels by encouraging interdisciplinary collaboration to implement and test programs. For the helper who is concerned about best practice, prevention science can help her to select and support effective interventions.

Prevention has been a part of community efforts to improve health and human functioning for over a century in the United States (Spaulding & Balch, 1983). However, the science of preventing mental health problems has only recently been taken seriously. Documented increases in the numbers and kinds of problems affecting children and adolescents over the last several decades (Dryfoos, 1997), combined with advances in our knowledge of effective intervention techniques, have breathed new life into prevention efforts. The current enthusiasm for the promise of prevention is epitomized by the national interdepartmental initiative “Safe Schools/Healthy Students” (SS/HS), launched by the U.S. Departments of Education, Health and Human Services, and Justice in 1999 to fund the implementation and testing of effective programs for preventing violence and drug abuse in schools and communities across the United States.

What might a helping professional need to know about effective prevention and the science that supports it? We have attempted to address that query in a question-and-answer format.

**Q & A About Prevention**

**How Is Prevention Defined?**

Historically, clinicians interested in community-based mental health programs differentiated between primary, secondary, and tertiary prevention. **Primary prevention** is an attempt to forestall the development of problems by promoting health and wellness in the general population through group-oriented interventions. Requiring mandatory vaccinations for children or providing developmental guidance activities in schools might constitute primary prevention activities. **Secondary prevention** is an attempt to reduce the incidence of disorders among those who are at high risk or to provide treatment to forestall the development of more serious psychopathology in cases that are already established. Programs developed to identify students at risk for dropping out of school and to provide them with remedial programs might be examples of secondary-level prevention. In this case, a selected sample, rather than the general population, receives services. **Tertiary prevention** is directed toward rehabilitating persons with established disorders.

Because of the need to distinguish between the concepts of tertiary prevention and treatment, another way of categorizing types of prevention was suggested by the Institute of Medicine report (Institute of Medicine, 1994): universal, selective, and indicated. These three levels of prevention are clearly differentiated from treatment, which in this model is similar to tertiary prevention. **Universal prevention** is directed to the general population. **Selective prevention** targets individuals at some epidemiological risk, such as low-birthweight babies. **Indicated prevention** addresses individuals who show subclinical symptoms of disorders, such as children whose behavioral problems are not yet serious enough to warrant a diagnosis of conduct disorder.

Some debate about how best to define the concept of prevention is focused on whether it should be seen strictly as problem prevention for high-risk individuals, or whether it should be expanded to include promotion of social and intellectual competency in all individuals. The American Psychological Association’s Task Force on Prevention: Promoting Strength, Resilience, and Health in Young People, launched in 1998, took the position that the dual goals of reducing problems and generally enhancing social competence and health could not easily be separated and should both be seen as part of prevention efforts (Weissberg, Kumpfer, & Seligman, 2003).

**What Are Risk and Protective Factors?**

As defined by developmental psychopathology (see Focus on Developmental Psychopathology), **risk factors** are those variables in a person’s life that compromise healthy development, whereas **protective factors** are those things that promote healthy development and/or moderate the negative effects of risk. Both kinds of factors may be internal to the individual, or part of the individual’s developmental history, or part of the individual’s environment. Examples of risk factors include, but are not limited to, certain genes, sensory or organic disabilities, low levels of intelligence, academic failure, family conflict, poverty, emotional undercontrol, and peer rejection. Protective factors include positive temperamental characteristics, intelligence, parental support and monitoring, good schools and community environments, and positive relationships with competent adults.

Risk and protective factors seem to have both cumulative and interactive effects on development. Negative outcomes are affected by a combination of elements: the number of risk factors present in a person’s life, the severity of each, the duration of their effects, and the dearth of protective factors that lessen their ill effects. The presence of several risk factors exponentially increases the probability of a disorder. A good example of this phenomenon was reported by Zagar and his associates in their study of what puts adolescent boys at risk of committing murder (Zagar, Arvit, Sylves, & Busch, 1991). The probability of murdering someone was doubled for boys with the following four risk factors: history of criminal violence in the family, history of being abused, gang membership, and abuse of illegal substances. The chances of committing murder were three times as great if these additional risk factors were present as well: prior arrest, possession and use of a weapon, neurological problems affecting cognition and affect, and school difficulties, including truancy.

You may recognize that many of these risks seem to fit together. As Garbarino (1999) points out, many children “fall victim to the unfortunate synchronicity between the demons inhabiting their own internal world and the corrupting influences of modern American culture” (p. 23). So not only do risks gain power as they accumulate, but they also operate in clusters that serve as “correlated constraints” (Cairns & Cairns, 1994). In other words, they reinforce each other by their redundancy and work together to shape the developmental trajectory. As a result, although altering one or just a few risk factors can have a positive impact on behavior and outcomes, sometimes such limited changes have little effect because the other related risks maintain the status quo.

(Box 1.2 continued)
Certain risks, as well as certain protections, become more important at different points in development. For example, the protection offered by prosocial peers and the risks associated with exposure to deviant ones are particularly powerful as children approach adolescence but less so in early childhood (Bolger & Patterson, 2003). On the other hand, some protections, such as authoritative parenting, retain their power throughout childhood and adolescence (see Chapters 5 and 10). Some risk factors are common to many disorders. Deficits in perspective taking or problems with peer relationships may be related to the development of conduct disorder or depression.

How Do Risk and Protective Factors Operate to Produce Developmental Outcomes?

Risk and protective factors are conceptualized as independent, not just opposite ends of a risk-protection continuum. In other words, it is possible to have many risk factors as well as many protective factors operating in a person’s life. Researchers are interested in protective factors because they are more closely intertwined with the concept of resilience, that quality that permits developmental success for some individuals despite grave setbacks or early adversity. For example, Hauser (1999), reporting on a retrospective analysis of young adults who had experienced severe trauma in adolescence, found that the ones who made the best adjustment had the highest levels of protection despite their early risks. Those who fared less well in adulthood had less support and greater risk.

Researchers have hypothesized that protective factors can work in two ways. They can improve life-course outcomes directly by their presence so that regardless of whether or not a child is exposed to one or more risks, she will experience some benefit from such a factor. Or, they can operate more indirectly, as moderating variables, altering the effects of risk factors. Gutman, Sameroff, and Eccles (2002) looked at how academic performance by African American adolescents was affected by risk factors that had been identified in other studies. These included maternal depression, low family income, father absence, low parent education, and so on. Participants in their sample ranged from low risk (zero to one or two risk factors) to high risk (seven or more risk factors). They also looked at possible protective factors, like parents’ positive involvement with their children and supportive peers. They found that some factors, like parental school involvement, benefited children directly. For all adolescents, regardless of whether they were exposed to any risks, parental school involvement was associated with better academic performance. But other factors did operate more as moderating variables, specifically changing the impact of risks. Peer support for academics really made a positive difference for the academic achievement of high-risk adolescents, especially in math, but it was not especially important for low-risk kids. More research is needed to identify and explain these relationships with greater precision.

Does Prevention Really Work?

Based on a rapidly growing body of research findings, the answer is yes. Prevention scientists have provided evidence that well-designed and well-implemented preventive programs can reduce the incidence of problem behaviors such as aggressiveness, violence, and drug abuse as well as increase positive outcomes, such as academic achievement and social competence. We include examples of such programs in later chapters (Barrera & Sandler, 2006).

What Kinds of Prevention Efforts Work Best?

There is an increasing consensus among researchers, practitioners, and policy makers about criteria for successful prevention efforts. First, good prevention is based on developmentally appropriate, empirically valid approaches. Ideally, programs should show evidence that the positive effects have been maintained over a period of time before being implemented widely. Obviously, this implies the need for high-quality program evaluation research.

Second, successful programs take a multidimensional approach to problem prevention, enhancing protective factors while reducing risks (Reynolds & Suh-Ruu, 2003; Weissberg et al., 2003). They therefore include components directed to many levels of the system. In other words, clinicians, teachers, parents, health care providers, community leaders, policy makers, and others need to work together to get the job done. The challenge of combining forces given the spectrum of political, cultural, economic, and social diversity that exists in society is formidable indeed. But it can be done. Programs such as the Midwestern Prevention Project (MPP; Johnson et al., 1990; Pentz et al., 1990) have used school-based, parent, and community efforts to reduce substance abuse in young adolescents. This ambitious project combined in-school social skills training exercises, homework assignments to be completed with parents, community intervention such as TV and radio messages, and community policy changes as part of a comprehensive approach. Results after several years of evaluation indicated lower prevalence of substance use for students exposed to the program (see Chapter 10).

Third, good programs are sensitive to cultural differences in the application of strategies and in their delivery of messages. Adapting programs to make them relevant and effective is an increasingly important goal as our cultural landscape becomes ever more diverse. However, the best way to accomplish this is not yet entirely clear. Various methods are possible, including developing unique programs for diverse populations based on established theoretical frameworks, adapting empirically supported programs to make them culturally relevant and engaging for diverse populations, or building programs on the existing practices of indigenous communities (Barrera, Castro, & Holleran-Steiker, 2011).

Adaptations to empirically based prevention programs can be a shared task, with community members, professional researchers and clinicians each bringing a critical skill set to the table. Community members have first-hand knowledge of concerns, and they know what is most important to the health and well-being of the community. Youth, in particular, are experts in their own youth culture. Community members assist in disseminating and evaluating efforts whereas researchers can provide theoretical grounding and research capacity.

One such project, “Keepin’ it real” (Kulis, et al., 2005), used community based participatory research (CBPR; Wallerstein & Duran, 2002)
2. Scientific theories of human development began to emerge in the 19th century, tracing their roots to the writings of 17th- and 18th-century philosophers, and were influenced by Darwin’s theory of evolution and by the growth of universal education. Traditional theories of human development either emphasized discontinuity (stage theories) or continuity (incremental change theories). In stage theories, a person’s activities share some common characteristics during the period called a stage; these characteristics change qualitatively as the person moves from one stage to another. Stages occur in a fixed sequence, though different individuals may progress through the stages at different rates.

3. In Freud’s theory of psychosexual stages, personality develops in childhood through five periods: the oral, the anal, the phallic, the latency, and, finally, the genital stages. A child moves from one stage to another as the biological self, or id, changes. At each stage, the child’s experiences of need fulfillment play a critical role in the formation and further development of the other aspects of personality—the ego and the superego. Although there is little evidence to support Freud’s developmental theory, it has influenced other theories, and Freud’s ideas are so widely known that they are a part of our culture.

4. In Erikson’s eight psychosocial stages of development, personal identity and interpersonal attitudes are expanded and reworked throughout the life span. At each stage, changes in the individual’s needs or abilities or changes in societal expectations create new challenges or crises. As each crisis is faced, a new aspect of
self-concept emerges, along with feelings or attitudes toward others. If others are sensitive and responsive to the individual’s needs during a given stage, positive feelings will result. If the individual’s needs are not adequately met, predominantly negative feelings toward self or others may be the consequence. Erikson’s emphasis on explaining the development of feelings about self and other has been appealing to helping professionals, and many of his ideas are compatible with findings from developmental research on issues such as attachment formation and the development of self-esteem.

5. Piaget’s cognitive developmental theory describes changes in children’s logical thinking skills through four stages. Infants in the sensorimotor stage do not yet have the capacity for representational thought. Children in the stage of preoperational thought, from 2 to 7 years of age, can think, but their thinking is not yet logical. In the concrete operational stage, 7- to 11-year-olds think logically, but they do so most effectively if what they are thinking about can be directly related to the concrete, real world. By the formal operational stage, however, young adolescents begin to be able to think logically about abstract contents. Although many details of Piaget’s theory are no longer considered correct, his general characterizations of children’s abilities at different ages are widely seen as useful descriptions.

6. Incremental theories of development come in many different forms, but they all characterize behavioral change as a gradual, step-by-step process. Learning theories, for example, emphasize that behavior changes as children learn responses through the processes of classical and operant conditioning. Social learning theories stress one more learning process: modeling, or observational learning. All learning theories portray any change in behavior as a result of specific experiences, affecting specific behaviors. Development results from many independent changes in many different behaviors or mental processes.

7. Among incremental models are many information-processing theories. As the mind attends to, analyzes, and stores information, there are gradual changes in the amount of information stored, in the availability of strategies to process information or solve problems, in the links established between or among pieces of information, and perhaps in the size of one’s attentional capacity. Most of these changes are limited to whatever kind of information is being processed, so that, for example, acquiring a new strategy for adding or subtracting numbers does not affect the strategies a child might use in reading. Thus, development involves the accrual of small changes within specific domains of knowledge rather than broad, sweeping changes that affect many domains at once.

8. Classic theories have typically addressed a set of core issues in their attempts to characterize development, such as: Are developmental changes qualitative or quantitative? Contemporary theories of development acknowledge that the answer to any such question is “Both.”

Contemporary Multidimensional or Systems Theories: Embracing the Complexity of Development

9. Contemporary theories incorporate the complexity of interacting and divergent causal processes in development. There are many of these multidimensional or systems theories, but they are quite similar in the assumptions about and descriptions of developmental process. They are broad in scope, explaining both cognitive and social developments. Changes in behavior are the result of causes both within the organism and in the environment. These causes mutually influence one another as well as behavior. In Bronfenbrenner’s bioecological model, for example, all developments are seen as the result of proximal processes—reciprocal interactions between an active organism and its immediate environment. More distal processes modify proximal processes and include aspects of the organism, such as genetic functioning, and aspects of the environment, such as family structure or cultural institutions. Proximal processes, such as a child’s particular interactions with peers or adults, also influence distal processes, such as the child’s internal physiological functioning or the dynamic structure of the child’s family. In life span developmental theories, these same complex processes continue to influence change throughout adulthood.

10. Applying a particular developmental model to the assessment of a client’s needs can help a helping professional organize what she knows about a client and gain insight into how to intervene. But our theories also provide a set of blinders, focusing our attention on some aspects of a situation and reducing the visibility of other aspects. Maintaining an awareness of our own theoretical biases can help us avoid the problems of a narrowed perspective.

A Contemporary Look at Three Developmental Issues

11. Among the core issues that classic developmental theorists often addressed is whether nature (genes) or nurture (environment) is more important in development. Although specific theories often focus attention on the importance of just one type of cause, research has established that for most behavioral developments, genetic and environmental processes interact, mutually affecting each other and the behavior in question. Modern multidimensional theories take into account the complexity of this interdependency.

12. Another core issue addresses the question of whether some behaviors can develop only at certain crucial times in the life span (critical/sensitive periods) or whether the brain and behavior can change at any time (neuroplasticity). Some have argued, for example, that learning language is best accomplished in the preschool years. If critical periods for the development of behaviors like language exist, a further question (which may have
different answers depending on the behavior) concerns whether developmental changes in the brain could be the source of time-limited opportunities for learning or whether favorable environmental conditions are simply more likely to exist in some developmental periods than in others.

13. A third core issue is whether some aspects of development (e.g., cognitive stages) are universal or whether some or all developments are specific to the individual's cultural context. In the past, much of developmental research focused on Western, middle-class samples, based on the assumption that fundamental developmental processes work the same way across all groups. But modern researchers more often investigate cultural, racial, ethnic, gender, and socioeconomic variations in developmental processes and outcomes. Multidimensional theories recognize the importance of context as causal in development, and current research supports the conclusion the effects of factors such as culture are more than skin deep: they can change brain functioning over time.

**CASE STUDY**

Anna is a 9-year-old third-grade student in a public school on the outskirts of a large industrial city. She is the oldest of three children who live in an apartment with their mother, a 29-year-old White woman recently diagnosed with rheumatoid arthritis. Despite her young age, Anna’s past history is complicated. Anna’s biological father, Walter, is a 37-year-old man who emigrated from Eastern Europe when he was in his early 20s. He married Anna’s mother, Karen, when she was 19 years old. The couple married hastily and had a child, Anna, but Walter abandoned the family shortly after Anna’s birth. Walter and Karen had fought constantly about his problems with alcohol. Karen was particularly upset about Walter’s behavior because her own father, now deceased, had suffered from alcoholism and left her mother without sufficient resources to care for herself.

Alone with a child to support and only a high school degree, Karen went to work in the office of a small family-owned business. There she met Frank, one of the drivers who worked sporadically for the company. They married within a few months of meeting and, within another year, had a son named John. Karen, with Frank’s grudging consent, decided not to tell Anna about her biological father. She reasoned that Anna deserved to believe that Frank, who filled the role of father to both children, was her real parent. Anna was developing normally and seemed to be attached to Frank. But, unknown to Karen, Frank had some problems of his own. He had been incarcerated for theft as a young man and had an inconsistent employment history. The family struggled to stay together through many ups and downs. When Anna was 6, Karen became pregnant again. Frank wanted Karen to have an abortion because he didn’t think the family’s finances could support another child. Karen refused, saying that she would take on another job once the new baby was born. Ultimately, the marriage did not survive the many stresses the couple faced, and Karen and Frank were divorced when Anna was 7.

Karen’s situation at work is tenuous because of her medical condition. Her employer balks at making accommodations for her, and she fears she might be let go. After the divorce, Karen filed for child support, and Frank was directed to pay a certain amount each month for the three children, but Frank was outraged that he should have to pay for Anna’s care because she was not his biological child. During a particularly difficult conversation, Frank told Anna the “truth” that he was not her “real” father. Karen, still unable to deal with this issue, insisted to Anna that Frank was her biological parent. Karen could not bring herself to mention Walter, whose existence had never been mentioned to the children before. Karen desperately needed the money for Anna’s support, especially because she had amassed substantial credit card debt. She felt her only pleasure was watching shopping shows on TV and ordering items for her children.

In school, Anna is struggling to keep up with her peers. Her academic performance is a full grade level behind, and her teachers are concerned. The school Anna attends has high academic standards and pressures for achievement are intense. Anna behaves in immature ways with peers and adults, alternating between excessive shyness and overly affectionate behavior. She does not appear to have any friendships within the class.

**Discussion Questions**

1. Consider Anna’s development with regard to the following issues or concepts: contributions of nature; contributions of nurture; interaction of nature and nurture, proximal processes; distal processes.
2. Can you predict outcomes? Consider issues of continuity and change.
3. What are the strengths and weaknesses of each of the family members?
4. What environmental modifications would be helpful to promote healthy developmental outcomes? Be specific about each family member.
JOURNAL QUESTIONS

1. The long-standing debate on the value of empirically based knowledge versus applied knowledge can be applied to a course such as this. Empirically based knowledge is often explanatory, providing explanations that answer the question “Why does this happen?” Applied knowledge provides solutions and answers the question “What should I do about this?” As a helping professional, and as an educated person, what are your views on this debate?

2. What do you hope to gain from this course? What are your specific learning goals?

3. How open are you to revising your assumptions about the way development works? How might this influence your practice?

KEY CONCEPTS

- Life span development (p. 2)
- Reflective practice (p. 3)
- Stage (p. 8)
- Psychoanalytic theory (p. 9)
- Id (p. 9)
- Pleasure principle (p. 9)
- Ego (p. 9)
- Reality principle (p. 9)
- Superego (p. 9)
- Freud’s psychosexual stages (p. 9)
- Oral stage (p. 9)
- Oral fixation (p. 10)
- Critical (sensitive) period (p. 10)
- Anal stage (p. 10)
- Phallic stage (p. 10)
- Latency stage (p. 10)
- Genital stage (p. 10)
- Erikson’s psychosocial stages (p. 11)
- Trust versus mistrust (p. 11)
- Autonomy versus shame and doubt (p. 11)
- Piaget’s cognitive development theory (p. 12)
- Sensorimotor stage (p. 13)
- Décalages (p. 13)
- Hierarchical integration (p. 13)
- Self-organizing (p. 13)
- Constructivist (p. 13)
- Preoperational stage (p. 13)
- Concrete operational stage (p. 13)
- Formal operational stage (p. 13)
- Incremental models (p. 14)
- Behaviorist tradition (p. 14)
- Classical (respondent) conditioning (p. 14)
- Operant conditioning (p. 14)
- Respondent (p. 14)
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- Conditioned response (p. 15)
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- Positive reinforcement (p. 15)
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- Developmental psychopathology (p. 30)
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- Risk factors (p. 30)
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- Principle of equifinality (p. 31)
- Prevention science (p. 32)
- Primary prevention (p. 33)
- Secondary prevention (p. 33)
- Tertiary prevention (p. 33)
- Universal prevention (p. 33)
- Selective prevention (p. 33)
- Indicated prevention (p. 33)
- Resilience (p. 34)