An Invitation

There once was an old man who lived near the ocean. One morning, the man went for a walk on the beach and found the shore covered with starfish, stretching in both directions. A storm had passed the night before, stranding the starfish on the sand.

In the distance, the man noticed a little boy walking along the shoreline. As the boy approached, he paused every so often, bent down to pick up a starfish, and threw it into the sea. When the boy came close enough, the man shouted, "Good morning! May I ask what you are doing?"

The boy stopped, looked up, and replied, "I'm throwing the starfish into the ocean. The storm washed them onto the beach, and they can't return to the sea by themselves. They need my help" (Photo 0.1).

The old man replied, "But there must be thousands of starfish on this beach. I'm afraid you really won't be able to make much of a difference."

The boy bent down, picked up another starfish, and threw it into the water as far as he could. Then, he turned to the man, smiled, and said, "I made a difference to that one!"

PHOTO 0.1 The little boy and the starfish.
iStockPhoto/Nadezhda1906

Like the starfish in the story, many children and adolescents need help. Roughly 20% of all youths experience at least one mental health problem before reaching adulthood. This percentage means that nearly 14,700,000 youths in the United States alone will encounter problems with their behavioral, cognitive, or social–emotional functioning. These problems include developmental disabilities like Down syndrome or autism spectrum disorder, externalizing problems like attention-deficit/hyperactivity disorder or aggressive behavior, internalizing problems like anxiety and depression, and health-related problems such as eating disorders and insomnia. Problems like these are serious; they can adversely affect children's ability to care for themselves and communicate with others, perform well in school, foster relationships with family and friends, and achieve happiness and satisfaction in life.

Children's mental health problems have increased significantly over the past 20 years. Even before the COVID-19 pandemic, the prevalence of autism spectrum disorder, anxiety disorders, depression, and suicidal thoughts and actions were increasing among youths. The pandemic, and the social distancing and economic hardship that followed, caused major disruptions to children's mental health and families' access to services. The prevalence of internalizing disorders like anxiety and depression increased greatly, especially among girls, whereas the number of children referred to treatment for autism, learning disabilities, or suspected child maltreatment plummeted. These data prompted the U.S. Surgeon General (2021; 2024) to issue advisories regarding the mental health status of children and parents.

Equally worrisome is the fact that most children and adolescents who need help receive substandard care or no professional treatment whatsoever. Barriers to effective treatment include poor recognition of children's mental health problems; limited access to high-quality, mental health services, especially among children from socioeconomically and culturally disadvantaged families; and an overall shortage of mental health professionals who are trained in evidence-based care. Only about 5,000 of the more than 100,000 clinical psychologists in the United States have specialized training to work with children and adolescents. School psychologists are also in short supply with each school psychologist supporting approximately 1,211 students, on average. Children sometimes must wait months for

mental health services (Abramson, 2022). The sheer number and severity of children's problems can cause us to become pessimistic, like the old man in the story.

On the other hand, scientific advances in children's mental health give us hope. Recent years have witnessed a remarkable increase in the scientific study of children's mental health problems. New research has advanced the field, enabling us to more fully understand these conditions. Research depends on teams of professionals working together to discover the causes of these disorders across biological, psychological, and social-cultural levels of analysis.

Similarly, we have made great strides in developing evidence-based treatments for children with mental health problems. These treatments include new medications, psychotherapies, and prevention strategies that can be delivered in clinics, hospitals, schools, and the community. Treatments are also being adapted so that they can be delivered online. There is also increased effort to tailor these interventions to meet the needs of children and families from diverse cultural, ethnic, linguistic, and socioeconomic backgrounds.

Now, more than ever, the world needs caring professionals who are willing to dedicate their careers to serving children and families in scientifically informed ways. Even if you do not want to become a mental health professional, it is likely that you will play a significant role in the life of a child (if you haven't already). Not all of us are called to be researchers or clinicians, but everyone can promote the welfare of children in some capacity: as a parent, caregiver, teacher, coach, or mentor. This book is intended to introduce you to this intellectually exciting and personally rewarding field from the perspective of psychological science and evidence-based practice. Welcome!

Developmental Psychopathology

This book is designed for students interested in the scientific study of children's mental health, child psychopathology, children with special needs, or otherwise exceptional children. It adopts a developmental psychopathology approach to understanding youths with behavioral, cognitive, and social–emotional problems. The developmental psychopathology perspective examines the emergence of child and adolescent mental health problems over time, pays special attention to risk and protective factors that influence developmental processes and trajectories, and examines children's mental health problems in the context of typical development and the social–cultural identities and values of families (Cummings et al., 2021).

Developmental psychopathology is a framework that has greatly influenced our understanding of child and adolescent development, the emergence of mental health problems across the lifespan, and evidence-based treatment. It is based on five principles that guide this book.

Principle 1: Children Are Best Understood Across Multiple Levels of Analysis

Many people try to explain children's development, and the emergence of mental health problems, by relying on a single cause. For example, researchers have noticed that the increased prevalence of adolescent depression over the past 20 years correlates with the widespread use of smartphones and social media during this time. Some researchers have attributed this rise in adolescent depression to excessive social media use. Although it is possible that excessive use of social media can cause depression in some adolescents, the overall relationship between social media use and adolescent well-being is modest (Twenge et al., 2022). Instead, an adolescents' likelihood of developing depression depends on many factors across biological, psychological, and social-cultural domains. For example, adolescents' likelihood of depression also depends on their genetic and epigenetic risk, the way they use social media and cope with stress, and their relationships with family and peers (Haidt et al., 2025).

Children's mental health problems are multiply determined and constantly changing. The best understanding of these problems requires us to integrate research from many disciplines and to apply this information to children and families in specific developmental and social–cultural contexts. Beginning students can find this task overwhelming. However, the developmental psychopathology

perspective allows us to appreciate the complexity of children's development over time and across contexts, without oversimplifying the research literature or making the field too daunting for newcomers.

This book will introduce you to the many factors that contribute to children's development and the emergence of psychological problems over time. To organize the research literature, I present each disorder across three broad levels of analysis.

- The *biological level* includes genetic and epigenetic influences on development, brain structure and functioning, neurotransmitters and hormones, and children's physical maturation across development.
- The *psychological level* encompasses the interplay between children's thoughts, feelings, and actions.
- The *social–cultural level* includes children's relationships with family and friends; their ethnic, religious, and cultural backgrounds and identities; their socioeconomic status; and the characteristics of their schools, neighborhoods, and communities.

Children's mental health problems can be analyzed at each of these levels. However, the most complete accounts of child psychopathology usually involve interactions across multiple levels of analysis and across time. I hope this book will help you to see how understanding and promoting children's mental health requires collaboration by professionals across disciplines.

Principle 2: Developmental Differences Can Teach Us About Children's Adaptive and Maladaptive Behavior

Individual differences refer to variations in children's biological, behavioral, cognitive, and social-emotional functioning (Masten et al., 2023). By studying how these differences emerge over time and in different contexts, we can better understand typical development and the emergence of children's mental health problems. For example, most infants and toddlers show a typical progression of behaviors that indicate that they are developing skills in social communication and an understanding of themselves and others. For example, most older infants will look at their caregiver when their name is called, orient their gaze when a caregiver points to an object across the room, and share their excitement about a new toy by showing it to their caregiver while smiling. Some young children do not develop these skills in a developmentally expected fashion. Many of these children are eventually diagnosed with autism (Tanner & Dounavi, 2021). By studying these developmental differences, researchers can identify the psychological processes that differ in children across the autism spectrum and the biological mechanisms that might underlie these differences. An initiative led by researchers at the National Institute of Mental Health (2025) is seeking to identify these essential domains of functioning so that researchers can study the genetic, biological, and psychological processes that explain their development.

An awareness of typical development is also essential to medical and mental health professionals. For example, pediatricians and psychologists must know at what age infants and toddlers typically display various social communication, language, and motor skills to see if a given child might be experiencing a delay compared to other children of the same age. To screen for problems, professionals typically consult charts to see if children are reaching milestones on time. If a delay is seen, professionals will rely on psychological tests or rating scales to measure the degree to which the child's functioning differs from those of his or her peers. This information can also be used to evaluate the effectiveness of treatment (Sheridan & Lord, 2022).

Principle 3: Psychological Science Sheds Light on Children's Mental Health

A key tenet of developmental psychopathology is that our knowledge of children's development, and the emergence of child psychopathology, depends on science. Many people rely on nonscientific

thinking to explain children's mental health problems or to make decisions regarding treatment (Lynn et al., 2023). A quick Internet search for information about autism, dyslexia, ADHD, and other childhood problems will generate a range of explanations for the causes of these conditions and recommendations for treatment. As a result, parents, teachers, and other well-meaning adults have relied on nutritional supplements or special diets to treat autism; colored lenses or eye exercises to improve reading; and computerized brain-training activities to manage ADHD. In some cases, adults have perceived improvements in children's functioning, perhaps because these "treatments" seemed plausible or because they were motivated to see a change in children's behavior.

Rather than rely on anecdotes, expectations, or emotions, science relies on the careful collection of empirical data to understand ourselves, others, and the world around us. In a way, science is a form of arrogance control; it helps us see the world as it is, rather than the way we expect or want it to be.

Accessing and interpreting scientific research can be challenging. Peer-reviewed journal articles are typically written for other experts, scientific studies often use complex mathematical models or statistical techniques, and results are often contradictory. This book is designed to introduce you to some of the methods psychological scientists use to explore children's mental health problems and evaluate the efficacy of treatment. We will focus not only on what researchers have found but also on the limitations of their findings and alternative explanations for their results. In short, we'll explore what we know about children's mental health, how we know it, and what we have yet to learn.

Principle 4: Treatment Must Be Ethical and Evidence-Based

In this book, I hope to provide you with an understanding of evidence-based treatments and evidence-based practice. Evidence-based treatments include psychosocial therapies, medications, and prevention strategies that have been shown to be effective in the scientific research literature. To the extent possible, I provide a detailed description of each form of therapy so that you can appreciate both the theory behind the intervention and how the treatment plays out in clinics, hospitals, and schools. Then, I briefly review the efficacy and effectiveness of each treatment.

Evidence-based practice involves adapting high-quality treatments to meet the needs, preferences, and social–cultural contexts of children and families. Skillful therapy begins with a thorough knowledge of the research literature. However, it also depends on the ability to implement this knowledge in a way that addresses families' immediate concerns, capitalizes on their strengths, and respects their values and traditions.

My goal is not to teach you how to conduct therapy. Instead, I hope that you will be able to make connections between the causes of each mental health problem and the ways clinicians might address it. I also hope that my emphasis on evidence-based therapies will help you become a better consumer of mental health services. Unfortunately, there are too many interventions available to children and families that lack empirical support and too few evidence-based treatments accessible to families most in need. Perhaps this book will help you to discriminate between therapies grounded in science versus well-intentioned treatments that are ineffective or harmful.

Equally as important is the provision of psychological services to families in an ethically mindful manner. Parents and caregivers entrust their children to professionals, hoping that the treatment that they receive will be helpful. Therapists must rely on evidence-based interventions to maximize the likelihood that treatment will be successful and minimize the risk of harm. At the same time, therapists must respect the rights and inherent dignity of families, remain honest and faithful in their professional interactions with others, and promote justice and fairness in their practice and their communities.

Principle 5: Science and Practice Depend on Each Other

Years ago, the psychologist Richard McFall (1991) outlined a *Manifesto for the Science of Clinical Psychology*. He argued that the only legitimate way to practice psychology is to rely on psychological science. The alternative is to practice in an unscientific manner, which is not acceptable to either the clinician or the client. After all, would you want to receive care from a surgeon, dentist, or pharmacist who practiced in an unscientific manner? Why should anyone want to see a therapist who does not use the scientific research literature to guide his or her interventions?

Although effective therapy draws upon existing research, meaningful research is often inspired by clinical practice. Professionals sometimes discover new avenues for research through their observations and interactions with their clients. For example, Leo Kanner opened the first child psychiatry clinic in the United States at Johns Hopkins University. During his practice, he noticed 11 children with several features in common: delays in social communication, restricted interests with a rigid adherence to routines, and delayed speech and language skills. Kanner's (1943) article, *Autistic Disturbances of Affective Contact*, provided the first scientific description of autism which prompted a wave of research that continues today. Similarly, a young pediatrician named Charles Bradley administered a medication called benzedrine to a boy who was referred for headaches. Although the medication was ineffective for headaches, Bradley noticed that the boy's attention and academic performance improved while taking the medication. Bradley (1937) described the effects of the medication on 30 other children with behavior problems and inspired countless other studies on the effects of psychostimulants to treat ADHD in children.

This book highlights the relationship between research and practice in two ways. First, I've included detailed case studies throughout the text which illustrate each condition and show the complex nature of children's problems and their impact on families. I hope that these case studies will not only help you differentiate the various psychological disorders but also draw your attention to the experiences of children, parents, teachers, and other adults who are impacted by these conditions.

You will also find *From Science to Practice* features in this book, which illustrate the way clinicians use research findings to help their clients. Most of these features provide concrete examples of evidence-based therapies. I hope that these features will show how practitioners translate research into real-world settings.

Principle 6: A Scientific Understanding of Children's Mental Health Is Relevant to You and to Society

Finally, I want to show you *why* an understanding of children's mental health and its treatment might be important to you. Most students will not become psychologists or counselors. However, all students have multiple opportunities to influence children's lives. Maybe you will become a physician or nurse, or a speech, occupational, or recreational therapist who works directly with children. Alternatively, you might be studying to become a teacher, special education provider, or other education professional. Perhaps you will volunteer as a coach, tutor, or mentor at a school or in the community. If you don't have children already, it is likely that you will someday be a parent or caregiver and have the primary responsibility of raising the next generation. Although you may not become a mental health professional, you can rely on psychological science and critical thinking to make informed decisions about your family, children, school, neighborhood, and society.

Organization and Key Features

A Developmental Structure

This book is organized developmentally. Mental health problems that typically emerge in infancy and early childhood are presented first, followed by conditions usually first seen in later childhood, adolescence, and emerging adulthood. This book is divided into five parts:

Part I. Evidence-Based Research and Practice

This section introduces you to the scientific study of children's mental health (Chapter 1), explains the developmental psychopathology perspective (Chapter 2), provides an overview of the research methods and designs most often used to study childhood disorders (Chapter 3), and illustrates common approaches to assessing and treating children and families (Chapter 4). These chapters also emphasize the importance of professional ethics in research and clinical settings.

Part II. Developmental Disabilities

This section presents neurodevelopmental disabilities that typically emerge in infancy and early childhood: intellectual disability and developmental disorders (Chapter 5), autism spectrum disorder (Chapter 6), and communication disorders and learning disabilities (Chapter 7).

Part III. Disruptive Disorders and Substance Use Problems

This section includes disruptive behavior problems shown by children and adolescents. These problems include ADHD (Chapter 8) and oppositional defiant disorder, conduct disorder, and intermittent explosive disorder (Chapter 9). This section also includes a chapter on child and adolescent substance use problems (Chapter 10) which sometimes emerge in the context of disruptive behavior.

Part IV. Emotion and Thought Disorders

Most of this section concerns the internalizing disorders: anxiety, obsessive–compulsive disorder, and related problems (Chapter 11); trauma-related disorders and child maltreatment (Chapter 12); depression, suicide, and nonsuicidal self-injury (Chapter 13); and bipolar disorders (Chapter 14). The final chapter in this section also covers pediatric schizophrenia.

Part V. Health-Related Disorders

The last section includes feeding and eating disorders (Chapter 15) and elimination disorders, sleep disorders, and pediatric health problems (Chapter 16). These conditions reflect an array of health conditions that illustrate the connection between physical and mental well-being.

Description, Causes, and Treatment

Most chapters begin with a description of the disorder, including a presentation of the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision* (DSM-5-TR) criteria, prevalence, and associated features. Then, I describe the causes of the disorder from three broad levels of analysis: biological, psychological, and social–cultural. Each chapter ends by describing evidence-based treatments, using criteria established by the Society of Clinical Child and Adolescent Psychology, American Academy of Child and Adolescent Psychiatry, and other professional organizations. Whenever possible, I also summarize information about the efficacy of each treatment. For example, Chapter 6 on autism spectrum disorder is divided into three parts: Description and Epidemiology, Causes, and Identification, Prevention, and Treatment. Each subsection serves as a module that can be assigned and presented independently. Instructors can assign specific subsections on specific days or assign only those subsections they find most relevant to their course. Case studies are scattered throughout each chapter to illustrate disorders and *From Science to Practice* boxes show how clinicians apply research findings to help children and families in an evidence-based manner.

Questions and Answers

Each subsection is organized by questions rather than by headings. For example, Chapter 6, on autism spectrum disorder, includes the following subsections: How Is Autism Spectrum Disorder Identified and Diagnosed? How Can We Use Applied Behavior Analysis to Treat Autism? and How Can We Improve the Communication Skills of Children with Autism? Questions like these serve three purposes:

1. *They focus your reading*. The questions are essentially learning objectives that are placed immediately before their relevant portion of the text. Consequently, they can help you focus on salient topics regarding the description, causes, and treatments for each disorder.
2. *They can motivate you to read*. Interesting, relevant questions can prompt you to read the text and find answers. How common are childhood disorders? How does a child's gender affect her

likelihood of being diagnosed? Is the combination of medication and therapy more effective than either treatment alone? Questions like these spark interest and motivate us to learn more.

3. *They facilitate learning.* Psychologists know that completing practice tests and elaborating on one's reading are two of the most effective strategies to promote learning and memory (Dunlosky & Rawson, 2015). The questions that appear throughout this book can help you prepare for exams as you read and test your learning by comparing your answers with the section summaries. You can also use these summaries to quickly review main points prior to class.

New Features

Like children, this book has developed over the years. With each edition, I've tried to provide the most current scientific information about children's mental health in ways that are accessible and useful to beginning students. The fifth edition offers several special updates:

- **A New Name**

  Long-time readers will notice the title change of this book from *Introduction to Abnormal Child and Adolescent Psychology* to *Introduction to Child and Adolescent Psychopathology*. This change mirrors similar adjustments in the title of professional journals such as *Research on Child and Adolescent Psychopathology* (formerly the *Journal of Abnormal Child Psychology*) and the *Journal of Psychopathology and Clinical Science* (formerly the *Journal of Abnormal Psychology*). The term "abnormal" has become increasingly pejorative. Its use to describe people with mental health problems is problematic. The term suggests that the person is somehow defective, rather than in need of empathic understanding and evidence-based care. The term is especially problematic when applied to children and adolescents because it is potentially stigmatizing. Such a label could elicit feelings of shame or guilt among youths and their caregivers. It could also be an obstacle for families trying to access high quality educational, medical, or mental health services. Perhaps most seriously, youths may internalize such labels and come to view themselves in a negative light (Frick, 2021; MacDonald et al., 2021).

  The new title reframes this book in the context of psychological science and evidence-based practice. I am not entirely comfortable with the term "psychopathology," which can imply a medical approach to conceptualizing and treating mental health problems. However, I use this title because it is commonly used by researchers, clinicians, and teachers. I've tried to adopt a tone in this book that acknowledges the distress and impairment experienced by children and families with mental health problems but also provides hope and encourages change. Instead of blaming or stigmatizing youths and families, I hope this new title will encourage readers to view mental health problems as serious conditions that merit empathic, evidence-based treatment.

- **DSM-5-TR Update**

  This book has been revised to reflect the publication of DSM-5-TR. As always, the book includes complete diagnostic criteria for each disorder. It has also been updated to reflect changes provided in DSM-5-TR regarding the description, conceptualization, epidemiology, risk factors, and differential diagnoses for each condition. These changes also reflect the DSM-5-TR's increased focus on the way social-cultural factors might affect the presentation of each condition, changes to the language of the criteria as they apply to children and adolescents, and the various changes in terminology and coding for conditions such as social anxiety disorder, suicide, and nonsuicidal self-injury (American Psychiatric Association, 2025).

- **Children's Mental Health Before, During, and After the Pandemic**

  This book has been updated to reflect children's mental health in light of the COVID-19 pandemic. Even before the pandemic, the prevalence of mental health problems was

increasing, prompting several experts to describe the situation as a pediatric mental health crisis. The pandemic placed social and economic stress on children and families resulting in a dramatic uptick in anxiety, depression, suicidal ideation, and self-injury, especially among girls and socioeconomically disadvantaged youths. At the same time, social distancing, school closings, and limited access to in-person medical and mental health services were associated with a marked reduction in children identified with autism, learning disabilities, and possible maltreatment. Although children's mental health and access to services improved slightly after the pandemic, the prevalence of these problems remains high. Moreover, we still do not know the long-term impact of social distancing and school closings on children with developmental and learning disabilities, or children exposed to trauma, who may have been delayed treatment during critical years of their development. The current edition of this book explores what we currently know about the pandemic's impact on children and families and what we must examine in the future.

- **Digital Media and Kids**

  The increased prevalence of children's mental health problems also correlates with the widespread use of smartphones and social media by adolescents. However, correlational data do not necessarily imply a causal relationship. This edition of the book examines the prevalence of digital media use by children and adolescents and the way maladaptive social media use and videogaming might affect youths' mental health. It also examines the differential effects of digital media on youths who are especially vulnerable to cyberbullying, Internet gaming disorder, or body image problems.

- **Increased Focus on Social-Cultural Factors**

  Each chapter has been revised to integrate information about the way social–cultural factors affect the presentation, prevalence, course, and treatment of each disorder. For example, chapters provide expanded coverage of the way children's gender, ethnicity, language, religion, acculturation, migration experiences, or socioeconomic status might influence their development. Introductory chapters also include topics like culturally informed assessment practices and social–ecological models of development.

- **Revised Chapters**

  Several chapters have been completely revised based on DSM-5-TR content and advances in the research literature or current evidence-based practice. Chapter 1 has been reorganized to include new information about the prevalence of children's mental health problems over the past 20 years, especially during and immediately following the pandemic. Chapter 3 has been revised to reflect new child assessment measures that have been published since that last edition of this book. Chapter 6 has been completely revised to reflect the most recent information about the prevalence, causes, and treatment of autism. Chapter 8 has been revised and updated based on contemporary models of ADHD and recent advances in the pharmacological and behavioral treatment of ADHD across home and school settings.

- **Updates Based on Recent Research**

  Of course, each chapter has been updated to reflect current scientific research and recommended clinical practice. Changes are especially evident in the prevalence and causes of several neurodevelopmental disorders, the prevalence and treatment of adolescent substance use problems, and new information regarding the causes and treatment of internalizing disorders, especially in girls. Advances have also been made regarding risk and protective factors for nearly each disorder, and new guidelines or practice parameters have been published regarding recommendations for assessment and treatment. A complete list of all updates is not possible in this summary. However, the text includes hundreds of new references, published in the past four years. The fifth edition is not merely an "updated" version of the previous editions; it expands upon its predecessors by presenting emerging topics and new research.

Cautions and Caveats

This book addresses topics relevant to the study of children's psychological problems and their treatment. These topics include anxiety, depression, eating disorders, maltreatment, nonsuicidal self-injury, substance use problems, suicidal ideation and behavior, safety planning, and violence. These topics are presented in the form of case studies involving children, adolescents, and families and as scientific information presented in the text. They are presented in a manner that respects the dignity of each child and family. However, exposure to these topics may be distressing to some readers. It is important for you to consider your readiness to engage topics like these before reading this book or participating in a course on children's mental health. It is an indication of self-awareness and maturity to delay exposure to such topics until you are ready. If you are unsure, you might talk with your instructor and/or a mental healthcare professional who can help you determine your readiness to engage this subject matter.

The content of this book is for educational purposes only and is not intended to diagnose, prevent, or treat any condition or to provide specific guidance regarding your mental health or that of a loved one. Although this book can help you evaluate the research literature and make informed decisions regarding children's mental health, it is not a substitute for consultation with a licensed practitioner. Please consult with your own licensed medical or mental healthcare professional regarding the information provided in this book to determine how it might be applied to you or to your family.

If you have concerns about your child or you would like a referral to a mental healthcare provider, an excellent place to start is with your child's pediatrician. To find a licensed psychologist in your area, you can visit the American Psychological Association's Psychologist Locator (locator.apa.org) or the National Register of Health Service Psychologists (nationalregister.org). The professional organizations described in Chapter 1 provide similar directories to other licensed professionals such as counselors and social workers. You can contact the school psychologist in your local school district if you have questions about your child's academic achievement, learning or well-being at school. Depending on your location, you can also contact the behavioral health department of a university-affiliated children's hospital. These hospitals typically offer a wide range of evidence-based services for children and families in need.

Special Resources for Students and Instructors

Students have access to case studies, flashcards, and links to online resources for each chapter. Instructors have access to password-protected ancillary materials to facilitate lectures, class discussion, and the creation of exams. Materials include the following:

- PowerPoint slides for each chapter
- A test bank that includes multiple-choice, true/false, and essay questions
- Case studies with questions that correspond to material in the textbook
- Case study answers for instructors

I hope that these materials will allow instructors greater time and flexibility to engage students in the classroom rather than to worry about the "nuts and bolts" of their courses. Students and faculty can access these materials at collegepublishing.sagepub.com.

Additional Case Studies to Accompany the Text

The Sage student website provides a free collection of case studies designed to accompany each chapter of this textbook. Each brief vignette (about one page) presents a child or adolescent illustrating a concept, theory, or mental health problem presented in the text. Each case is followed by a series of

discussion questions that also corresponds to material presented in the text. Questions invite students to critically evaluate or apply principles of developmental psychopathology, describe key diagnostic features for each disorder, identify potential causes for children's problems from multiple levels of analysis, and/or formulate treatment plans based on empirical evidence.

The password-protected Sage instructor site provides instructors with each child's DSM-5-TR diagnosis and answers to the discussion questions. The corresponding student material omits this information to challenge students to answer questions on their own. Instructors can use these case studies in several ways:

As In-Class Activities

Because the vignettes are written briefly, instructors can present a case to their entire class at the beginning of the class session. Then, after presenting material relevant to that vignette, instructors can ask their students to apply what they have learned at the end of the session.

For Presentations

Alternatively, instructors can assign cases to groups of students ahead of time. Each group might be responsible for presenting their case to the rest of the class and/or addressing the discussion questions the instructor wants to emphasize. Oral presentations can be relatively brief (i.e., 5–10 minutes each) and might be given periodically during the semester or as an end-of-semester project.

As Writing Assignments or Exam Questions

Each case study could be presented either as a writing assignment or test question. As writing assignments, cases give students opportunities to review, evaluate, and apply information from the text. As exam questions, they allow instructors to assess students' mastery of material at a deeper level of processing than most short-answer or multiple-choice questions.

Perhaps most importantly, these vignettes help students to focus on children and families, rather than on disorders. I hope that these case studies give instructors greater freedom to engage and challenge students in new and creative ways.

Chapter 1

Supporting Children's Mental Health

iStockPhoto/PeopleImages

Learning Objectives

1.1 Describe how children's mental health exists on a continuum and depends on each child's developmental and situational context.

1.2 Evaluate the DSM-5-TR conceptualization of mental disorders and the benefits and limitations of diagnosing children and adolescents.

1.3 Explain how social and cultural factors influence our understanding of children's mental health.

1.4 Describe the prevalence of mental health problems and how it varies as a function of children's age, gender, socioeconomic status, and cultural background.

1.5 Explain how the COVID-19 pandemic affected children's mental health.

1.6 Identify barriers to treating children's mental health problems and ways they might be overcome.

1.7 Describe the characteristics of evidence-based practice and the types of professionals who help children and families in need.

1.8 Explain the importance of the 4 Cs of professional ethics: competence, consent, confidentiality, and conflicts of interest.

Sure enough, along the path had sprung countless wildflowers of all varieties, while in other areas, the land was barren.

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There once was a girl who used all her skill to create a wonderful clay pot. She shaped the pot with her own hands and baked it into an elegant form. The girl glazed and decorated the pot, using colors and designs that were unique and expressive. When it was finished, the girl carried the pot to a nearby well to fetch water for her home. To her surprise, she discovered the pot had a crack from the kiln, which caused water to leak from the bottom. At first, the crack was small, but over time it became larger and more noticeable. The girl's friend said, "That pot has a crack. By the time you get home, you've lost half of your water. It makes your work so much harder. Why don't you make a new one?" The girl paused, turned to her friend, and replied, "Yes, it's true that this pot leaks. But each day it waters the flowers on the path from the well to my home. Each day it makes my hard journey beautiful." Sure enough, along the path had sprung countless wildflowers of all varieties, while in other areas, the land was barren. The girl's friend nodded her head in approval[1].

The story of the broken pot illustrates each person's dignity and value. Everyone has unique gifts and talents, although sometimes they are hard to recognize. When studying children with psychological problems, it's easy to focus on limitations and to lose sight of the children themselves. Many of these youths face significant challenges performing everyday activities like bathing, dressing, or speaking. Other children struggle at school or when interacting with peers. Others have difficulty controlling their actions and emotions.

Regardless of their challenges, each child has intrinsic worth. One of my clients, Will, was born with Down syndrome. Although he struggled with reading and math, he taught his classmates to be patient, to act with empathy, and to respect others who are different. Another client, Camden, had attention-deficit/hyperactivity disorder (ADHD). Even with medication and therapy, he had problems staying focused in class; however, he also had an excellent sense of humor and loved to play soccer with his friends. Another client, Chloe, struggled with anxiety and depression, but family therapy helped to improve her relationship with her parents and her connection with others in her community.

If you're reading this book, it's likely that you enjoy interacting with children and helping others in need. I hope that this book will introduce you to the ways we can use psychological science and evidence-based strategies to help children and families. Students like you often find themselves on the front lines of treatment. You might work in a residential treatment facility or group home for children who have experienced maltreatment or who act disruptively. You might serve as a behavior therapist for children with developmental disabilities. You might tutor children with learning disabilities, volunteer for Big Brothers Big Sisters, or facilitate after-school groups for children in high-risk neighborhoods. There is no shortage of people who want to help children in need; the difficulty is finding individuals who are willing to use scientific principles and evidence-based practices to help them. The field desperately needs bright, empathic students who are willing to devote their time and energy to help others using psychological science. I'm so happy that you are willing to take the first step on this rewarding journey.

[1] Adapted from a story by Kevin Kling.

Identifying Mental Health Problems in Children

How Does Mental Health Exist on a Continuum?

Children's Mental Health

All children have the right to healthy and happy lives. Children's physical health begins with fertilization, gestation, and an uncomplicated delivery as well as an environment that supports the pregnant mother. It depends on children's access to nutritious food, adequate sleep, and a safe and clean environment. Physical health also depends on opportunities for exercise and play, regular immunizations, and access to high-quality childcare and healthcare (Centers for Disease Control and Prevention, 2024a).

Children's mental health depends on other, less tangible but equally important conditions. Children need unconditional love from their family and care that is consistent, sensitive, and responsive to their needs. They need caregivers who provide appropriate guidance and discipline so that they can learn to regulate their actions and feelings. They need teachers who help them develop academic and life skills, a fascination with learning, and a sense of competence and self-efficacy outside the home. They need other adults in their lives like relatives, coaches, and mentors, who show them how to solve problems, persevere in the face of adversity, and develop their identity, interests, and goals. They need interactions with peers so that they can learn how to make and keep friends, handle conflicts with other people in effective ways, and build relationships based on closeness and mutual respect. They need safe communities with organizations that teach social-cultural values and responsibilities (Masten et al., 2024).

Mental health refers to the ability to use one's thoughts, feelings, and actions, and the support of others, to flexibly adapt to the demands of one's surroundings. It is an aspirational state toward which we all strive. It is usually accompanied by a sense of mastery, satisfaction, or well-being. Mental health does not depend on the absence of stress or adversity, but rather, on the ability to use one's resources, skills, and relationships to adapt to the environment in flexible and effective ways. Aristotle (1962) used the term *eudaimonia* to describe this optimal state of human flourishing. He saw it as a lifelong process in which we continually identify and strive to fulfill our fullest potentials. This process is not the same for everyone. It depends on our developmental and situational context.

Children's mental health is *developmentally dependent*. At each stage of life, children face unique developmental challenges. Successfully meeting these challenges leads to mastery and well-being (Erikson, 1963). For example, a 2-year-old develops a sense of autonomy when he begins to make decisions independent of his parents. Although he may give his parents grief when he insists on wearing summer clothes on a winter day, his behavior allows him to develop a sense of himself that is separate from his caregivers. Similarly, adolescents often strive to develop an identity separate from their parents. They may question their family's religion, political beliefs, or gender roles to discern their own values. Although identity development can cause conflicts, it reflects a developmentally expected process that can lead to a more mature sense of self (Kroger & Marcia, 2022).

Children's mental health is also *situationally dependent*. Healthy and adaptive behavior can only be understood in terms of the context of children's experiences and surroundings. For example, a boy who is physically abused and neglected may learn to mistrust adults and rely on himself to meet his needs. In the short term, his behavior is adaptive because it keeps him safe. In the long-term, however, his mistrust might interfere with his ability to form close relationships and to see himself as worthy of receiving others' care. Similarly, an adolescent girl who immigrates to the United States may perform poorly in school because she is responsible for watching her younger siblings and performing household chores while her parents work. Her actions are adaptive in the short-term because they express respect for her siblings and parents and provide for the family's immediate needs. In the long-term, however, her actions could lead to academic underachievement (Cicchetti, 2024).

Mental health is not simply the absence of mental health problems. It exists on a continuum. At one end of the continuum are youths who are experiencing challenges that cause serious distress or severely limit their social interactions, academic functioning, or quality of life. At the other end of the continuum are youths who find health and satisfaction in their specific stage of life and unique situation.

Mental health also does not depend on the absence of adversity. Although physical illness, poverty, family violence, and other stressors place children at risk for problems, many youths are resilient; they

can cope with these stressors in flexible and adaptive ways. Viktor Frankl (1959) commented on our ability to cope with adversity when he reflected on his experiences in a Nazi concentration camp. He said, "It did not really matter what we expected from life, but rather what life expected from us. We needed to stop asking about the meaning of life, and instead to think of ourselves as those who were being questioned by life, daily and hourly" (p. 77). No matter what our situation, we all must face the challenges that life puts before us. Our task is to marshal our resources and the support of others to meet these challenges in ways that are adaptive and meaningful.

Children's Mental Health Problems

Because mental health exists on a continuum and is dependent on each child's stage of development and situation, there is no consensus on how to differentiate mental health from a mental health problem. Professionals have proposed three broad criteria that help identify mental health problems in youths: deviation, disability, and distress (Cicchetti, 2020; Dulcan, 2022).

One approach to defining mental health problems is based on *statistical deviation*. Using this approach, problems are defined by their relative infrequency in the general population. For example, transient thoughts about death are common among adolescents. However, recurrent thoughts about killing oneself are less frequent and likely indicate a mental health problem. Psychologists might administer a rating scale to identify youths who show symptoms well beyond the average range, compared to other youths of the same age and gender (Achenbach, 2020).

The primary limitation of the statistical deviation approach to defining mental health problems is that not all infrequent behaviors are indicative of psychopathology. Imagine a child who is tearful, prefers to stay in her room, does not want to play with friends, and is not completing schoolwork. From the statistical deviation perspective, we might diagnose this girl with depression because she shows mood problems that are rare among girls her age. However, if we learn that her grandfather died one month before her assessment, we would likely interpret her behavior as grief, not as an indicator of depression. Although statistical infrequency may be an important component of a definition of a mental health problem, it is insufficient by itself. Statistical deviation alone does not consider children's context.

A second approach to defining mental health problems is based on *disability* or degree of impairment. From this perspective, mental health problems are characterized by thoughts, feelings, or actions that interfere with a child's functioning. For example, an adolescent who feels sad because she broke up with her boyfriend would not be diagnosed with depression if she is able to maintain relationships with other friends, get along with her parents, and perform well in school. On the other hand, her behavior might be considered problematic if she has difficulty in any of these areas.

Defining mental health problems by level of disability has a serious drawback: Many youths with severe problems do not show obvious signs of impairment. For example, 15-year-old Dorothy Dutiel killed herself and a classmate at her high school in Arizona. Dorothy obtained a gun from another classmate who did not know that she was depressed and intended harm. After the incident, first responders found a note in Dorothy's pocket that read, "I would like to clarify that [the student who gave me the gun] and his family are in no way affiliated with my actions. He was under the absolute impression I needed the gun for self-defense. I lied to receive this gun." Dorothy's classmate was unaware that she was depressed because she spent time with friends, earned good grades, and did not appear sad. Not all mental health problems are accompanied by overt disability (Lynch, 2018).

A third approach to defining mental health problems examines a child's degree of emotional *distress*. People can experience distress through depressed mood, irritability, anxiety, worry, panic, confusion, frustration, anger, or other feelings of dysphoria. One limitation with defining mental health problems in terms of distress is that distress is subjective. Although some signs of distress can be observed by others (e.g., crying, flushed face), we usually measure distress by asking children how they feel. Some young children are unable to report their feelings. Instead, they may describe physical symptoms like headaches or stomachaches. Other children have trouble differentiating their feelings. They might not be able to tell the difference between feeling "angry" and "hurt." To complicate things further, there is no objective criterion by which we can evaluate the intensity of children's distress. For example, a child who reports feeling "bad" might be experiencing more distress than another child who reports feeling "terrible."

Another limitation with defining mental health problems based on distress is that many youths with serious behavior problems do not experience negative emotions. For example, some adolescents who engage in aggressive and destructive behavior do not experience anxiety or depression. They may only experience sadness or remorse when they are caught and punished. Similarly, younger children who are oppositional and defiant toward adults rarely experience psychological distress. Instead, their disruptive behavior causes distress in others, like their parents or teachers.

Not all children with mental health problems experience distress. Sometimes, they cause distress in others, such as their parents.

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A Harmful Dysfunction

Jerome Wakefield (1992, 1997) has offered an influential approach to defining mental health problems based on the notion of a **harmful dysfunction**. According to this approach, a behavior is problematic when two criteria are met. First, the person must show a dysfunction—that is, a failure of some evolutionarily selected internal mechanism to work in the correct manner. Second, the dysfunction must cause harm; it must limit the person's life activities or threaten their health and well-being in some way (Widiger & Mullins-Sweatt, 2018).

To understand the two criteria, let's look at an example from the field of medicine. Heart disease is a medical disorder because (1) it involves a dysfunction, or underlying irregularity of the body's circulatory system, and (2) this dysfunction can cause disability or death. Similarly, Wakefield argues that the harmful dysfunction criteria can be used to identify mental health problems. For example, depression is a mental health problem because (1) it involves an inability to effectively regulate one's emotions, and (2) this underlying dysfunction in emotion-regulation can cause impairment, distress, and self-harm (Wakefield et al., 2018). Although some experts have pointed out the shortcomings of identifying mental health problems in terms of a harmful dysfunction, Wakefield's definition has greatly influenced the work of most mental health professionals (Stein et al., 2021).

Review

- Mental health refers to the ability to use one's thoughts, feelings, and actions, and the support of others, to adapt to the demands of one's surroundings. It is an aspirational state characterized by a sense of wellbeing.
- Mental health exists on a continuum ranging from severe distress or disability to flexibly meeting the challenges of everyday life. Children's mental health must be understood in the context of their development and situation.
- Jerome Wakefield defined mental health problems in terms of a harmful dysfunction. A behavior is problematic if it reflects an underlying dysfunction in a biological or psychological system and it causes disability, distress, or risk of harm.

What Is the DSM-5-TR Approach to Identifying Mental Health Problems?

The DSM-5-TR Definition

In the United States, most mental health professionals use the **Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR)** to diagnose mental health problems in children and adults (American Psychiatric Association, 2022). The DSM-5-TR definition of a **mental disorder** reflects Wakefield's notion of harmful dysfunction and emphasizes the role of disability and distress in identifying mental health problems.

> A mental disorder is a syndrome characterized by clinically significant disturbance in an individual's cognition, emotion regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning. Mental disorders are usually associated with significant distress or disability in social, occupational, or other important activities. An

> expectable or culturally approved response to a common stressor or loss, such as the death of a loved one, is not a mental disorder. Socially deviant behavior (e.g., political, religious, sexual) and conflicts that are primarily between the individual and society are not mental disorders unless the deviance or conflict results from a dysfunction in the individual (American Psychiatric Association, 2022, p. 14).

It is worth noting that DSM-5-TR describes people with mental disorders as "usually" experiencing significant disability or distress. They may not always show both characteristics. Some youths experience tremendous emotional pain, but they do not show marked impairment in their social or academic functioning. Other youths drop out of school, misuse alcohol and other drugs, and/or engage in criminal behavior but do not report anxiety, depression, or low self-esteem. Although most youths with mental health problems experience both distress and impairment, only one feature is required for most DSM-5-TR diagnoses.

Limitations of the DSM-5-TR Definition

DSM-5-TR is published by the American Psychiatric Association and reflects a medical approach to identifying mental health problems. According to the DSM-5-TR definition, mental disorders reside within the individual, just like medical illnesses. If someone is diagnosed with smallpox, we know that the illness is caused by a virus that has infected the person's body. The virus causes symptoms (e.g., fatigue, fever, rash) that lead to impairment and risk of death. Similarly, practitioners who adopt the medical model for mental disorders assume that if a child exhibits problems, they are caused by some underlying dysfunction within the child (Stein et al., 2021).

There are at least three limitations with the DSM-5-TR medical conceptualization of mental disorders, especially when it is applied to children. First, we often do not know the underlying cause for children's psychological problems. When physicians first described smallpox in the 15th century, they diagnosed the illness based on its symptoms: small blisters or pox on the skin. Many years later, researchers discovered that smallpox is caused by a viral infection, not the blisters themselves. Similarly, when a mental health professional diagnoses a child with ADHD, they are describing the child's symptoms (i.e., hyperactivity and/or inattention), not the underlying cause of the disorder. Although researchers have identified several risk factors for ADHD, a single underlying cause for the disorder remains elusive (Sonuga-Barke et al., 2023).

Second, many childhood disorders are relational in nature, that is, they occur between people rather than within an individual. For example, young children with oppositional and defiant disorder argue with adults, refuse to comply with requests, and throw tantrums when they do not get their way. Their defiant behavior is often directed at some adults (e.g., parents) but not others (e.g., teachers). Therefore, the disorder seems to be dependent on the relationship between the child and specific people; it does not reside solely within the child. Relationships may be especially important to mental disorders in children, who are highly dependent on other people for their well-being (Heyman & Slep, 2020).

Third, the DSM-5-TR definition of a mental disorder may not pay sufficient attention to children's social-cultural surroundings. Behaviors that people would consider "dysfunctional" in one context might be adaptive in a different setting. Consider a girl named Nia who lives with her parents on a military base in California. Upon hearing that her mother will soon be deployed to a combat area, Nia becomes clingy with both parents, has problems eating and sleeping, and refuses to go to school. According to the harmful dysfunction criteria, Nia would likely be diagnosed with an anxiety disorder because (1) she has problems regulating her emotions and (2) these problems limit her functioning. However, her anxiety might be justified given her immediate social context, that is, the imminent deployment of her mother. Behavior is best understood in the context of children's social–cultural surroundings, never in isolation (Achenbach, 2019).

Categorical Classification

DSM-5-TR uses categorical classification to differentiate individuals with and without mental disorders. **Categorical classification** involves dividing individuals into mutually exclusive groups, or categories, based on the presence of specific features. Individuals who show these features are diagnosed whereas others are not (First, 2024).

Categorical classification is used in the fields of biology and medicine. For example, an animal is classified as a mammal if it (1) has vertebrae, (2) hair, and (3) feeds its young with mother's milk. An animal that does not possess these essential features is not a mammal. Similarly, a person is diagnosed with COVID-19 if she tests positive for the SARS-CoV-2 virus. A person who does not have the virus

would not be diagnosed with COVID-19 (Sadhu & Walkup, 2022). In the same way, each mental disorder is defined by the presence of essential diagnostic criteria listed in DSM-5-TR. A person who does not meet all criteria would not be diagnosed.

To illustrate the diagnostic approach used in DSM-5-TR, consider the diagnostic criteria for major depressive disorder (Figure 1.1). Depression is characterized by a discrete period, lasting at least 2 weeks, in which someone experiences a marked disturbance in mood. Children with depression typically experience sad, hopeless, or irritable moods most of the day and no longer engage in activities they previously enjoyed, such as spending time with family, playing games with friends, or engaging in hobbies and sports. Children with depression can also show a range of other cognitive, emotional, and physical problems. Depression is associated with distress or leads to impairment at school, at home, or with peers (American Psychiatric Association, 2022).

You can see the categorical approach to classification in the DSM-5-TR criteria for depression. It has five essential features (labeled A through E). All five are required for the diagnosis.

Figure 1.1 ▪ The DSM-5-TR Diagnostic Approach

Major Depressive Disorder Diagnostic Criteria

A. Five (or more) of the following symptoms have been present during the same 2-week period and represent a change from previous functioning; at least one of the symptoms is either (1) depressed mood or (2) loss of interest or pleasure.

   Note: Do not include symptoms that are clearly attributable to another medical condition.

   1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful). (Note: In children and adolescents, can be irritable mood.)
   2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation).
   3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. (Note: In children, consider failure to make expected weight gain.)
   4. Insomnia or hypersomnia nearly every day.
   5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down) .
   6. Fatigue or loss of energy nearly every day.
   7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).
   8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).
   9. Recurrent thoughts of death (not just fear of dying); recurrent suicidal ideation without a specific plan; a specific suicide plan; or a suicide attempt.

B. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The episode is not attributable to the physiological effects of a substance or another medical condition.

   Note: Criteria A-C represent a major depressive episode.

   Note: Responses to a significant loss (e.g., bereavement, financial ruin, losses from a natural disaster, a serious medical illness or disability) may include the feelings of intense sadness, rumination about the loss, insomnia, poor appetite, and weight loss noted in Criterion A, which may resemble a depressive episode. Although such symptoms may be understandable or considered appropriate to the loss, the presence of a major depressive episode in addition to the normal response to a significant loss should also be carefully considered. This decision inevitably requires the exercise of clinical judgment based on the individual's history and the cultural norms for the expression of distress in the context of loss.

D. At least one major depressive episode is not better explained by schizoaffective disorder and is not superimposed on schizophrenia, schizophreniform disorder, delusional disorder, or other specified and unspecified schizophrenia spectrum and other psychotic disorders.

E. There has never been a manic episode or a hypomanic episode.

   Note: This exclusion does not apply if all of the manic-like or hypomanic-like episodes are substance-induced or are attributable to the physiological effects of another medical condition.

Signs and Symptoms

Each DSM-5-TR disorder is defined by a minimum number of signs and symptoms. A **sign** is an overt feature of a disorder that other people can notice. A **symptom** is a subjective experience associated with a disorder that must be reported by the person. For example, a sign of depression is weight loss or slow movement that is observable by others. A symptom of depression is a subjective lack of appetite or low energy that is experienced by the individual.

The DSM-5-TR approach to classification focuses on syndromes, not individual signs and symptoms (First, 2024). A **syndrome** is a cluster of signs and symptoms that tends to occur together in a meaningful way. They often have a common cause, course, or response to treatment. In the field of medicine, physicians have identified a cluster of signs and symptoms that are experienced by some people after they have recovered from COVID-19. People with post-COVID syndrome often experience fatigue, respiratory problems, fever, difficulty thinking, headaches, and other neurological problems (Oronsky et al., 2023). Post-COVID syndrome is diagnosed when the person shows many of these signs and symptoms together.

Similarly, DSM-5-TR focuses on syndromes. Each diagnosis is characterized by a specific cluster of signs and symptoms. The diagnosis is usually not made based on the presence of a single sign or symptom, nor are all possible signs and symptoms required for the diagnosis. In this way, DSM-5-TR permits some variability in the way people manifest each condition.

You can see the DSM-5-TR's focus on syndromes in the criteria for depression (Figure 1.1). The nine signs and symptoms that tend to occur together are shown in criterion A. Children can manifest the signs and symptoms of depression in many ways. Some depressed children experience cognitive difficulties, such as problems concentrating on their schoolwork, beliefs that they are worthless or that their family does not love them, or recurrent thoughts about death. Other children with depression experience physical problems, such as decreased appetite, insomnia, and fatigue. Only five signs or symptoms are required for the diagnosis.

Subtypes and Specifiers

Some DSM-5-TR disorders allow clinicians to use subtypes or specifiers to provide more specific information about children's behavior. A **subtype** defines a mutually exclusive and exhaustive group of individuals who share similar diagnostic features. After diagnosing a child, the clinician might indicate which subtype of that diagnosis best describes the child's presentation. For example, some children with ADHD have difficulty paying attention, whereas other children with ADHD fidget, talk excessively, and interrupt others. A clinician might diagnose a child in the first group with ADHD predominantly inattentive presentation and diagnose a child in the second group with ADHD predominantly hyperactive/impulsive presentation. If a child has both inattentive and hyperactive-impulsive symptoms, the clinician might diagnose the child with ADHD combined presentation. Children with ADHD are classified into one, and only one of these mutually exclusive subtypes based on their current presentation (Tobin & House, 2021).

A **specifier** describes the presence of a particular sign or symptom. Specifiers are not mutually exclusive or exhaustive; consequently, people can be assigned multiple specifiers. After diagnosing a child, the clinician might assign specifiers to provide a more detailed description of the child. For example, a clinician might diagnose a child with autism spectrum disorder. Because the functioning of children with autism varies, the clinician might attach the specifier "with intellectual impairment" to indicate that the child has low intellectual functioning. The clinician could also assign the specifier "with language impairment" if the child has problems with language, too. Multiple specifiers can be assigned to the same child to provide a better picture of the child's functioning (Tobin & House, 2021).

Review

- According to DSM-5-TR, a mental disorder reflects a biological, developmental, or psychological dysfunction that causes disability or distress in the individual. This definition borrows from Wakefield's notion of a harmful dysfunction.
- DSM-5-TR uses a categorical approach to classification. Children must meet all criteria to be diagnosed with a disorder. Youths who do not meet all criteria are not diagnosed.

- DSM-5-TR diagnoses focus on syndromes, that is, clusters of signs and symptoms. Children usually must show a certain number of signs or symptoms to meet diagnostic criteria.
- Clinicians can use subtypes to classify children with a diagnosis into mutually exclusive and exhaustive categories. Clinicians can also add specifiers to a diagnosis to communicate more information about children's functioning.

What Are the Advantages and Disadvantages of Diagnosing Children?

Possible Benefits

Perhaps the most obvious benefit to diagnostic classification is *parsimony*. Imagine that you are a psychologist who assessed a 3-year-old child with suspected developmental delays. The child shows pervasive problems with social communication and repetitive behavior. Instead of describing each of these features, you can simply use the appropriate diagnostic label: autism spectrum disorder.

A second advantage to diagnosis is that it can aid in *professional communication*. Another mental health professional who sees your diagnosis knows that your client exhibits the signs and symptoms of autism described in DSM-5-TR. The second professional does not need to conduct her own assessment to know something about the child's functioning.

A third advantage is that a diagnosis can aid in *prediction*. If you know that your client has autism, you can use the research literature to determine the child's prognosis or likely outcome. For example, most children with autism show chronic impairment in social and communicative functioning; however, prognosis is best among children with higher cognitive abilities and better developed language skills. The research literature also indicates that children who participate in treatment before age 4 years often have the best developmental outcomes. You might share this information with the child's parents so they can make informed decisions regarding their child (Pijl et al., 2019).

A fourth and closely related benefit of diagnostic classification is that it can help *to plan treatment*. If you know that your client has autism, you can also use the research literature to plan an intervention. For example, early and intensive behavioral interventions can be effective in improving the social and communication skills of young children with autism. Other forms of treatment, such as art and music therapy, have less empirical support (Kevelson et al., 2022).

Fifth, diagnostic classification can help individuals *obtain social or educational services*. For example, the Individuals with Disabilities Education Improvement Act (IDEIA) is a federal law that entitles children with autism to special education because of their developmental disability. Special education might involve enrollment in a developmental preschool, early intensive behavioral training paid by the school district, provision of a classroom aide or tutor, academic accommodations, occupational skills training, and other services (Dragoo & Lomax, 2020).

Sixth, diagnostic classification can be *helpful to caregivers*. Although no parent is happy when his child is diagnosed, many parents feel relieved when their child's disorder is finally identified. After hearing that her 3-year-old child had autism, one parent said, "Well, I finally know what's wrong. I always suspected it, and now I know. I suppose we can move forward." Diagnostic labels can also facilitate communication between caregivers of children with similar disorders to share information and support one another (Rabba et al., 2019).

Finally, diagnostic classification can *facilitate scientific discovery*. Researchers who conduct studies on the causes and treatment of autism can compare the results of their investigations with the findings of others. Indeed, many studies are conducted by teams of researchers across multiple locations. If researchers use the same diagnostic criteria and procedures to classify children, results can be combined to generate a more thorough understanding of the disorder.

Potential Drawbacks

The DSM-5-TR classification system also has some disadvantages and potential risks. One drawback is that it often gains parsimony at the expense of detailed information. Although a diagnostic label can convey considerable information to others, it cannot provide the same amount of information as a thorough description of

the child. As we have seen, children assigned the same diagnosis can display different patterns of behavior and degrees of impairment. We must not overlook the unique abilities and challenges of each child (First, 2024).

A second criticism of the DSM-5-TR diagnostic system is that it may not adequately reflect the child's environmental context. Mental health professionals seek to understand children's problems in the context of their development and surroundings. Many problematic behaviors exhibited by children can be seen as attempts to adapt to stressful environments at specific points in time. For example, some physically abused children attempt to cope with their maltreatment by becoming defensive and mistrusting others. Although these coping strategies can psychologically protect them when they are experiencing abuse, they may interfere with the development of interpersonal relationships later in life (Cicchetti & Doyle, 2016).

A third drawback of the DSM-5-TR lies in its focus on individuals. DSM-5-TR conceptualizes psychopathology as something that exists within the person. However, childhood disorders are often relational in nature. For example, youths with oppositional defiant disorder show patterns of noncompliant and defiant behavior toward adults. Research indicates that the quality of parent–child interactions plays an important role in the development of oppositional defiant disorder. Furthermore, treatment for this disorder relies heavily on parental involvement. However, in the DSM-5-TR system, oppositional defiant disorder is diagnosed in the child not the family. The DSM-5-TR approach to diagnosis can overlook the role caregivers, other family members, and peers play in the development and maintenance of children's problems.

A final criticism of the DSM-5-TR system is that distinctions between children who do and do not meet diagnostic criteria are often unclear or arbitrary. In the categorical approach used by DSM-5-TR, individuals either have a disorder or they do not. For example, to be diagnosed with ADHD, a child needs to show at least six symptoms of inattention or hyperactivity-impulsivity. If the child displays only five of the required six symptoms, he will not qualify for the ADHD diagnosis even though he experiences many symptoms. Although this lack of diagnosis might seem like a good thing, it could mean that he does not receive the treatment or support services that he needs.

Dimensional Classification

An alternative approach to categorical classification is dimensional classification. **Dimensional classification** assumes that children's mental health problems fall on a continuum of severity ranging from slight to severe. Clinicians who use dimensional classification describe or rate the severity of the child's distress and/or disability on this continuum. One advantage of dimensional classification is that it conveys more information than categorical classification. For example, rather than merely diagnosing a child with autism, a clinician can describe the child as having mild impairment in social communication (e.g., maintaining eye contact, taking turns during conversations) but severe impairment in repetitive behavior (e.g., rocking or swaying, difficulty adjusting to changes in routine). Another advantage of the dimensional approach to classification is that it allows clinicians to monitor changes in children's functioning across time. For example, a child may continue to meet diagnostic criteria for autism after several years of behavior therapy; however, her repetitive behavior might improve from "severe" to "mild."

Previous versions of the DSM were criticized for their exclusive reliance on categorical classification. Consequently, the developers of DSM-5-TR included aspects of dimensional classification into the manual (American Psychiatric Association, 2022). Dimensional classification is most easily seen in the DSM-5-TR Cross-Cutting Symptom Measure for Children, a rating scale that can be used to evaluate the severity of children's signs and symptoms. The rating scale allows clinicians to describe the child across 12 broad domains including somatic symptoms and sleep problems, anxiety and depression, anger and irritability, and mania and thought problems. The severity of children's symptoms on each domain can be described on a five-point continuum ranging from "none/not at all" to "severe/nearly every day."

Figure 1.2 shows an example of a clinician's ratings of an adolescent using the Cross-Cutting Symptom Measure for Children. These ratings show that the adolescent is experiencing moderate to severe problems with sleep, depressed mood, and a lack of pleasure in life activities. The ratings provide additional data, above and beyond the adolescent's diagnosis, and can be used as a baseline from which to assess the youth's progress in treatment.

Figure 1.2 ▪ DSM-5-TR Cross-Cutting Symptom Measure for Children

During the past **TWO (2) WEEKS,** how much (or how often) has the child....	**None** Not at all	**Slight** Rare, less than a day or two	**Mild** Several days	**Moderate** More than half the days	**Severe** Nearly every day
Complained of stomachaches, headaches, or other aches and pains?	(0)	1	2	3	4
Said he/she was worried about his/her health or about getting sick?	(0)	1	2	3	4
Had problems sleeping—that is, trouble falling asleep, staying asleep, or waking up too early?	0	1	2	3	(4)
Had problems paying attention when he/she was in class or doing his/her homework or reading a book or playing a game?	(0)	1	2	3	4
Had less fun doing things than he/she used to?	0	1	2	(3)	4
Seemed sad or depressed for several hours?	0	1	2	3	(4)

Review

- A diagnosis is parsimonious, it allows professionals to communicate clearly with each other, and it can be helpful in predicting outcomes and planning treatment. A diagnosis can also help children gain access to educational or psychological services, help caregivers understand their child's behavior, and facilitate research.
- A diagnosis may not provide a detailed description of the child's functioning, may not reflect the child's developmental or environmental context, and may focus too much on the child rather than on important people in her life.
- Dimensional classification is an alternative approach to describing children's functioning in terms of the frequency or severity of each problem. It provides more information than categorical classification and can be used to monitor treatment.

How Else Can Professionals Classify Children's Mental Health Problems?

International Classification of Diseases

The World Health Organization (2019) has developed an alternative method for classifying health problems called the **International Classification of Diseases 11th Revision (ICD-11)**. The ICD was first created so that governments could classify individuals based on their causes of death and keep records about the prevalence of disease. Today, ICD-11 contains descriptions of 17,000 illnesses. Each condition is assigned a unique code that can be used to track its prevalence in the population. ICD-11 is available online, it is free to use, and it will eventually be translated into 30 different languages.

Most of ICD-11 describes medical conditions; only one of its 27 chapters describes mental disorders. Whereas professionals in the United States use DSM-5-TR to diagnose mental health problems, most clinicians in other countries use ICD-11. There is considerable overlap in the number and

description of mental health problems listed in ICD-11 and DSM-5-TR. More than 80% of mental health problems are identical or have only minor differences across the two manuals (First et al., 2021).

When a child in the United States is diagnosed with a mental health problem, he is usually assigned a DSM-5-TR diagnosis and an ICD-10 code. DSM-5-TR uses ICD-10 codes because ICD-11 did not become effective until after DSM-5-TR was published. Each diagnosis has its own code that corresponds to its nearest match in ICD-10. Hospitals, clinics, and government agencies can use these codes to determine the prevalence of mental health problems, and insurance companies use these codes to reimburse mental health providers (American Psychiatric Association, 2024).

Research Domain Criteria

The **Research Domain Criteria (RDoC)** framework is another approach to classifying mental health problems (Insel, 2014). Scientists at the National Institute of Mental Health (NIMH) were dissatisfied with the DSM approach to classification that described individuals based on their signs and symptoms, rather than on the causes for their disorders. For example, diagnosing an adolescent with major depressive disorder merely describes her signs and symptoms. She might be sad, lack energy, feel hopeless, and have trouble eating and sleeping. The diagnosis of depression does not tell us anything about the cause of these signs and symptoms. From this perspective, diagnosing an adolescent with major depressive disorder is analogous to diagnosing a child who has COVID-19 with "fever disorder" or a child who has food poisoning with "stomachache disorder." The diagnostic label is descriptive; it does not explain why the adolescent is depressed (Cuthbert, 2022).

The RDoC were created to help researchers identify the underlying causes of mental health problems and to develop treatments that are targeted to each cause. The RDoC framework is transdiagnostic, that is, it focuses on the underlying systems of behavioral and mental functioning that cut across diagnostic categories. The RDoC framework is also dimensional; it views each system as running along a continuum from adaptive to maladaptive (Dalgleish et al., 2020).

There are six broad systems that can be used to describe a person's functioning:

The *negative valence system* underlies the person's response to threatening situations. It includes the person's reactions to immediate threats (i.e., fear), future misfortune (i.e., worry), stress, loss, and frustration.

The *positive valence system* underlies the person's response to pleasant situations and potential rewards. It includes how motivated the person is to obtain rewards, how much they alter their behavior to achieve rewards, and their ability to evaluate the risks and benefits of their actions.

The *cognitive system* underlies mental activities such as the person's capacity for attention, memory, and language. It also reflects the ability to regulate one's thoughts and feelings to identify and achieve long-term goals.

The *social process system* underlies the person's ability to form connections with others and to understand oneself. It includes the ability to form attachments with caregivers and friendships with peers, the capacity for social communication, and one's ability to understand oneself and others.

The *arousal/regulatory system* underlies the person's degree of alertness, the quality of sleep, and the regulation of the sleep-wake cycle.

The *sensorimotor system* underlies movement, especially as it is involved in learning and practicing new skills.

Each system is associated with different brain regions, neural pathways, or physiological processes. For example, the negative valence system depends on a brain region called the amygdala and a biological pathway called the hypothalamus-pituitary-adrenal axis. Dysfunction in this region or pathway could lead to excessive anxiety or fear. The cognitive control system depends on a brain region called the prefrontal cortex and a brain pathway that is rich in the neurotransmitters dopamine and norepinephrine. Dysfunction in this region or pathway could lead to impulsivity and risky behaviors.

The RDoC might be helpful in identifying the systems that underlie children's disorders (Garvey et al., 2016). For example, children with disruptive mood dysregulation disorder show chronic irritability. They

are touchy, easily upset by minor frustrations, and prone to angry and aggressive outbursts. Interestingly, these children are at risk for developing depression later in life. It is likely that the negative valence system explains the continuity of these two disorders over time. Instead of viewing a child as having two different disorders, we might think of her as experiencing underlying problems with irritability caused by a disruption to the negative valence system that manifests differently across childhood and adolescence (Pacheco et al., 2022). Similarly, some youths develop ADHD symptoms in early childhood, oppositional-defiant behavior toward adults in middle childhood, and more serious conduct and substance use problems in adolescence. Research indicates that impulsivity underlies all these behavior problems. Rather than view these problems as separate disorders, dysregulation of the cognitive control system might act as a common thread in all these problems from early childhood to late adolescence (Beauchaine & Hinshaw, 2020).

The RDoC is not meant to replace the DSM-5-TR or ICD-11. Instead, it is designed to facilitate research by identifying the underlying causes of mental health problems. Nevertheless, the RDoC has its critics. Some experts have suggested that the RDoC places too much emphasis on the genetic and biological causes of psychopathology and too little emphasis on the psychological, social, and cultural context in which problems arise (Garber & Bradshaw, 2020). Other critics point to the relative lack of attention the RDoC gives to child development (Conradt et al., 2021). Defenders of the RDoC approach point out that the RDoC framework acknowledges the importance of both the person's environmental context and development, and research on these topics has only just begun (Morris et al., 2022).

Review

- DSM-5-TR is used in the United States to classify individuals with mental health problems; ICD-11 is used by clinicians in most other countries.
- A DSM-5-TR diagnosis describes the signs and symptoms of each disorder; the RDoC framework classifies individuals based on underlying causes.
- There are six systems that can be used to describe different domains of children's functioning. The systems reflect children's positive and negative emotions, thoughts, social behavior, sleep and arousal, and motor activities.

How Do Social–Cultural Factors Affect Our Understanding of Mental Health?

Culture, Race, and Ethnicity

Children's mental health problems must be understood in the context of their cultural background and experiences. **Culture** refers to the values, knowledge, and practices that people derive from their membership in social groups. It reflects their history, developmental experiences, and current social contexts that shape their perspective. Aspects of one's culture include their geographic origin, migration status, language, religion, disability status, sexual orientation, and identity. Culture is highly influenced by people's social network—that is, their family, friends, and members of their community (Comas-Diaz & Brown, 2018).

Race is a culturally constructed category that can be used to divide people into groups based on superficial traits. Race is used by the U.S. Census Bureau for demographic purposes, and racial identification can influence people's values, beliefs, and actions (English et al., 2020).

Ethnicity is a culturally constructed identity that is used to define groups of people and communities. A child's ethnicity can be rooted in a common history, geographic location, language, religion, or shared experience that distinguishes one group from others. For example, an adolescent might identify as Latino because he was born in Latin America. He might be White, Black, Indigenous American, or Mestizo. Another adolescent might identify as Hispanic because she speaks Spanish. She might have been born in Barcelona, Buenos Aires, or Baltimore. A third adolescent might identify as a Honduran American immigrant. Although he was born in Latin America and speaks Spanish, his experiences immigrating to the United States with his family are most important to his identity (Comas-Diaz & Brown, 2018).

The United States Census Bureau (2024) recently updated the way the government collects demographic data. Instead of reporting race and ethnicity separately, racial and ethnic categories are now

included together, and people can select multiple categories. These categories include American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Middle Eastern or North African, Native Hawaiian or Pacific Islander, and White.

Mental health professionals must differentiate symptoms of a mental disorder from behaviors and psychological states that are sanctioned in the person's culture. For example, a 3-year-old named Joseph insists on sleeping with his parents at night. Although Joseph's refusal to go to bed by himself may indicate a sleep disorder, it might also reflect his family's social–cultural beliefs and values. In many societies, requiring young children to sleep alone is considered cruel and detrimental to their social and emotional development. If Joseph's sleeping is culturally appropriate, it does not concern his parents, and it does not limit his family's activities, it would not be classified as a mental health problem. Differentiating symptoms from culturally sanctioned behavior is especially challenging when clinicians are asked to assess youths from other cultures (Causadias et al., 2019). Consider Valentina, a Puerto Rican adolescent with depression.

From Science to Practice

Culture Matters

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Valentina was a 15-year-old Puerto Rican girl who was referred to a therapist by her aunt and uncle who have cared for her since she was little. They worried that Valentina was abusing drugs, like her biological mother. They noticed that Valentina was irritable, isolated herself from her family, and showed a sudden drop in her grades. After interviewing Valentina, the therapist suggested that she might be depressed.

Valentina pushed back. She did not think that she had a mental health problem. She said she was only having trouble with her family. She said that she wanted to spend more time with her biological mother, but her aunt and uncle would not allow her because they thought her mother was a bad influence on her.

Psychologists have tried to help adolescents like Valentina by adapting evidence-based treatments to the cultural backgrounds and values of youths and families (Mishu et al., 2023). Culturally-adapted interventions are 4.7 times more likely than regular interventions to lead to a clinically significant reduction in symptoms (Hall et al., 2016). Bernal and colleagues (2020) have adapted evidenced-based psychotherapies for adolescents with depression to suit Puerto Rican youths. These adaptations involve changing the way clinicians assess the symptoms of depression, the way they describe its causes, and the way they involve families in treatment.

For example, clinicians use the language and terms that are best understood by youths in that culture. One symptom of depression is feeling worthless. Instead of asking *Yo soy una nulidad* (i.e., I feel worthless), they ask, *No sirvo para nada* (i.e., I am not worth anything), which is easier for adolescents to understand. They also emphasize cultural values such as *respeto* and *familism. Respeto* is a traditional Latino value that refers to respect or deference for parents and

others in authority. *Familism* is another traditional value in which people place a high regard for family relationships over their own self-interests.

The therapist suggested that Valentina is depressed because she wants to respect her aunt and uncle's wishes and develop a relationship with her mother. The therapist might help her see this tension as a reason for her irritability and withdrawal. They might practice ways that Valentina could communicate her wishes to her aunt and uncle more in a respectful manner. The therapist might also see if Valentina would like to invite her aunt and uncle to attend one or two therapy sessions so that they can develop a plan that might be agreeable to everyone.

Children's culture, race, and ethnicity can affect the diagnostic process in at least four ways. First, members of diverse groups living in the United States often have *different cultural values* that affect their views of children, beliefs about child-rearing, and behaviors they consider problematic. For example, non-Latino White parents often place great value on fostering children's social–emotional development and encouraging child autonomy. These parents often provide warm and responsive behavior during parent–child interactions. In contrast, many African American parents place relatively greater value on children's compliance; consequently, they may have high expectations for their children and adopt less permissive parenting strategies. Clinicians need to be aware of cultural differences in socialization goals and parents' ideas about appropriate and inappropriate child behavior (Comas-Diaz & Brown, 2018).

Second, recent immigrants living in the United States often encounter psychosocial stressors associated with *acculturation*. Acculturation stressors can include assimilation into the mainstream culture, separation from extended family and friends, language differences, limited educational and employment opportunities, and prejudice. Some immigrants do not share the same legal status as members of the dominant culture. For these reasons, the sheer number of psychosocial stressors encountered by these families is greater than those encountered by families who are members of the dominant culture (Vu et al., 2019).

Third, *language differences* can cause problems in the assessment and diagnosis of diverse youths. The assessment and diagnostic process was designed predominantly for English-speaking individuals living in the United States and other Western societies. The words that describe some psychological symptoms are not easily translated into other languages. Conversely, many symptoms reported by individuals from other cultures do not readily map onto DSM-5-TR diagnostic criteria. Psychological tests are almost always developed with English-speaking respondents in mind. Psychologists must be aware of differences in language and cultural knowledge when interpreting test results (Benisz et al., 2018).

Fourth, ethnic minority youths are often *underrepresented in research*. Over the past two decades, researchers have made considerable gains in understanding the causes of and treatment for a wide range of childhood disorders. However, researchers know less about how differences in children's ethnicity and cultural backgrounds might place them at greater risk for certain disorders or affect treatment. Furthermore, researchers have only started to create treatment programs designed specifically for ethnically diverse youths. For example, special therapies have been developed to help Latino children cope with traumatic events using culturally relevant support. Youths meet in groups to learn mindfulness techniques and other coping strategies that are consistent with their social–cultural attitudes and values. Clearly, more research needs to be done to investigate the interplay between psychopathology and culture (Hoskins et al., 2018).

Review

- Children's development and functioning must be understood in relation to their culture, race, ethnicity, and values.
- Professionals must differentiate symptoms of a mental disorder from thoughts, feelings, and actions that are sanctioned in a given culture.
- Mental health professionals should be especially sensitive to (1) the way social and cultural factors affect families' expectations for their children and ideas about child-rearing, (2) families' immigration history and degree of acculturation, (3) the way language can influence how families describe their children's behavior, and (4) the degree to which diverse families are underrepresented in mental health research.

The Prevalence of Children's Mental Health Problems

How Common Are Mental Health Problems in Children?

Prevalence and Incidence

Researchers conduct epidemiological studies to estimate the prevalence of mental disorders (Rothman et al., 2025). **Prevalence** refers to the percentage of individuals in a population who have a medical or psychological condition. To estimate the prevalence of mental disorders among children and adolescents, epidemiologists gather information from parents, teachers, and mental health professionals. Sometimes, epidemiologists also collect data from children and adolescents themselves, especially when questions deal with actions, thoughts, or feelings that might be hidden from parents, such as alcohol use or thoughts of suicide. Epidemiologists can use this information to determine *point prevalence*, the percentage of youths with mental disorders at a given point in time, and *lifetime prevalence*, the percentage of youths with a mental disorder at any point in their lifetime.

Incidence refers to the percentage of new mental health problems in a discrete period—usually one year. Because incidence only refers to new mental health problems, it is typically a much smaller number than prevalence. For example, the lifetime prevalence of autism is approximately 3.22%; that is, roughly 3.22% of youths in the United States have been diagnosed with autism. However, the incidence of autism is approximately 0.35%; that is, in any given year, approximately 0.35% of children will be diagnosed with autism for the first time (Shaw et al., 2025).

Determining the prevalence of children's mental health problems is challenging for several reasons (Bitsko et al., 2023). First, there is no single government agency that tracks mental health problems in children and adolescents. Instead, prevalence must be estimated using data collected by different research teams at various hospitals, clinics, schools, and government agencies.

Second, epidemiological studies use different methods to collect data, yielding slightly different results. For example, the National Health Interview Survey (NHIS) estimates the prevalence of childhood disorders by interviewing 12,000 parents each year. In contrast, the National Youth Risk Behavior Survey estimates behavior and substance use problems in adolescents by administering questionnaires to 16,000 high school students annually. These different research methods (e.g., interviewing parents vs. administering questionnaires to teens) can yield different findings. Parents are very good at reporting the severity of children's disruptive behavior but are less accurate in estimating children's depression or use of alcohol. In contrast, adolescents may be more accurate reporters of their own mood and substance use but may underestimate the severity of their behavior problems (Frick et al., 2021).

Third, it is difficult to gather high-quality data. Many people do not want to participate in lengthy surveys, others do not understand the questions asked of them, and others provide inaccurate information. Conducting large-scale interviews or surveys is also costly and time consuming.

The Centers for Disease Control and Prevention have sponsored several large epidemiological studies designed to estimate the prevalence of childhood mental health problems. These studies include data from tens of thousands of children and their caregivers, using a variety of methods. Altogether, these data indicate that approximately 15% of youths have experienced a mental disorder in the past year. Approximately 21% of youths have experienced at least one mental disorder at some point in their lifetime. As many as 40% of youths will experience at least one mental disorder before reaching adulthood (Shim et al., 2022).

Table 1.1 shows the prevalence of specific mental health problems among children and adolescents in the United States. ADHD is the most common problem. Almost 10% of youths have been diagnosed with this disorder. Anxiety disorders, such as separation anxiety disorder or social anxiety disorder, are almost as common as ADHD. Certain conditions, such as autism, are more common than previously thought. Approximately 1 in 31 children will develop this condition (Shaw et al., 2025). Other problems, such as eating disorders and schizophrenia are relatively rare in children.

Table 1.1 ▪ Prevalence of Mental Health Problems in Children and Adolescents

Diagnosis	Past 12 Months	Lifetime
Any disorder	15.1%	21.2%
ADHD	8.7%	9.8%
Anxiety disorders	7.8%	9.4%
Conduct problems	7.0%	8.9%
Depression	3.4%	4.4%
Substance use disorders	1.6%	4.1%
Autism spectrum disorder	1.6%	3.2%
Eating disorders	0.2%	0.7%
Bipolar spectrum disorders	0.2%	0.3%
Tics/Tourette disorder	0.2%	0.3%
Schizophrenia	<0.1%	0.1%

Note: This table shows the median percentage of youths with each disorder from the following datasets: Adolescent Brain and Cognitive Development Study; Autism and Developmental Disabilities Monitoring Network; Centers for Disease Control and Prevention, Marketscan Commercial Research Database, National Comorbidity Survey Replication–Adolescent Supplement; National Health Interview Survey; National Health and Nutrition Examination Survey; National Survey of Children's Health; National Survey on Drug Use and Health; and the Youth Risk Behavior Survey. Autism was assessed at age 8 years. Substance use disorders were assessed in youths 19 years (Bitsko et al., 2023; Lebrun-Harris et al., 2022; Maenner et al., 2024; Olfson et al., 2023; Shaw et al., 2025; Tkacz & Brady, 2021).

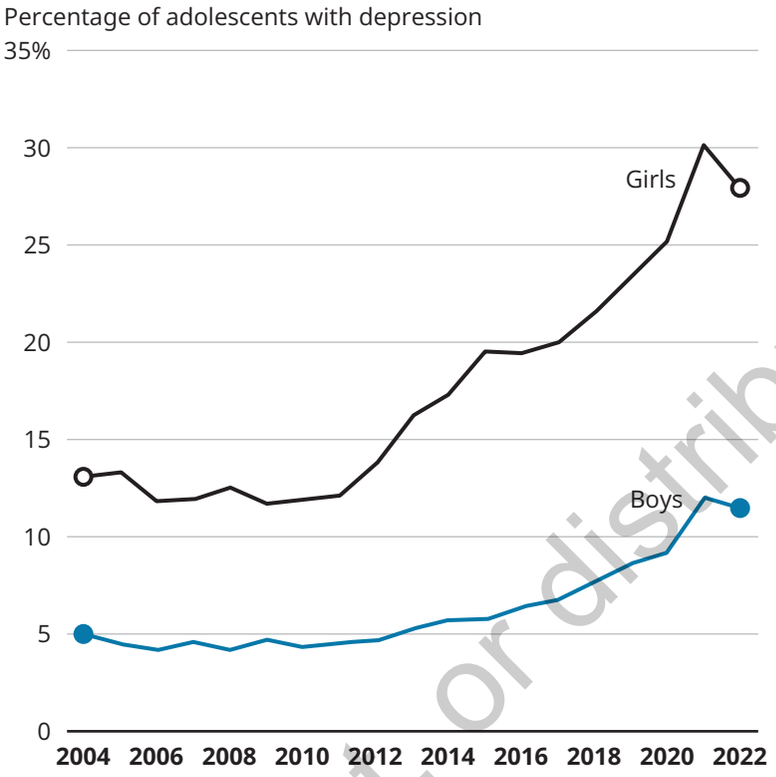
Prevalence Has Increased Over Time

Children's mental health problems have increased over the past two decades. For example, the Substance Abuse and Mental Health Services Administration (SAMHSA) has measured the annual prevalence of major depressive disorder among adolescents in the United States (Figure 1.3). Since 2004, the prevalence of depression among girls has risen 114% while the prevalence among boys has risen 130% (Haidt et al., 2025). Similar data collected over multiple years show an increased prevalence of childhood anxiety disorders (Lebrun-Harris et al., 2022), persistent feelings of sadness and hopelessness (Centers for Disease Control and Prevention, 2024a), and eating disorders (Tkacz & Brady, 2021).

Perhaps most concerning, the prevalence of pediatric emergency department visits of self-injuries has shown a dramatic rise over time (Haidt et al., 2025). For children and younger adolescents, emergency visits for nonfatal self-harm increased 289% among girls and 158% among boys. For older adolescents, visits increased 72% for girls and 40% for boys (Figure 1.4). Similar increases have been seen in suicide rates among children and adolescents (Centers for Disease Control and Prevention, 2024a).

Researchers have offered several explanations for why children's mental health problems have increased in recent years. For example, Jean Twenge (2017) argues that the widespread adoption of smartphones and use of social media has jeopardized the social and emotional well-being of youths, especially adolescent girls. She noted that the rapid rise in mental health problems among American and UK youths occurred between 2009 and 2012, about the time when most adolescents in those countries started owning smartphones. About this same time, social media platforms added features such as "like" buttons, notifications, and personalized algorithms feeding desired content, which encouraged repeated and prolonged use (Twenge et al., 2020; 2022). In a recent survey (Figure 1.5), 65% of parents and 39% of adolescents identified technology, especially social media, as one of the main reasons it is harder to be a teen today than one generation ago (Faverio et al., 2024). In Chapter 13, we will examine

Figure 1.3 ▪ The Prevalence of Depression Has Increased Over Time



Note: The prevalence of depression has increased 114% among adolescent girls and 130% in adolescent boys in one generation. The largest increase in depression occurred after 2012, about the same time that social media became widely used by adolescents in the United States. Based on Haidt et al. (2025).

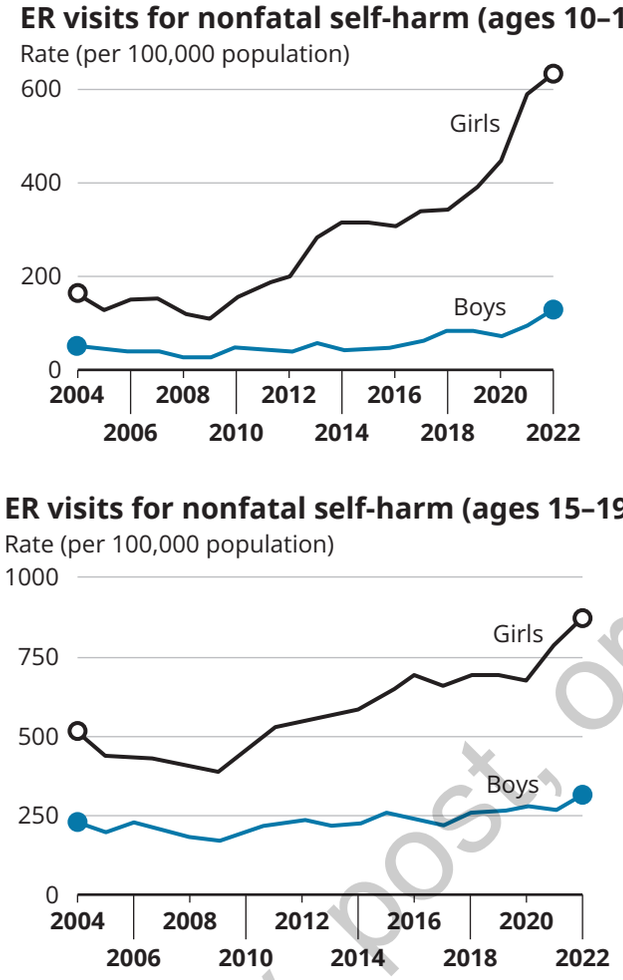
the research for and against the notion that social media places youth at risk for mental health problems like depression and suicidal ideation (Lee et al., 2025; Yue et al., 2025).

Lukianoff and Haidt (2019) argue that children's academic futures are more uncertain today, than in the past, because of economic factors such as the rise of artificial intelligence, globalization, automation, and wage stagnation. Consequently, adolescents face enormous pressure to perform well academically and excel in extracurricular activities so that they can gain admission to universities and earn high-paying jobs. Instead of engaging in enjoyable and unstructured play, their activities are carefully scripted and organized by parents and other adults. At the same time, they experience pressure from peers on social media. Although youth today have it physically easier than their parents and grandparents, they experience different stressors not faced by previous generations.

Some researchers have questioned whether children's mental health problems are increasing and whether social and economic factors are to blame (Ferguson et al., 2025; Vuorre et al., 2021). It is possible that clinicians, researchers, and parents are more aware of mental health problems experienced by youths today, compared to one generation ago, leading to an increase in diagnoses. Children and families also may be more willing to report mental health problems than in the past. Although mental health problems in youths may be increasing, they may not be doing so at such a rate to warrant a moral panic (Przybylski et al., 2020).

Not all the news regarding the prevalence of children's mental health problems is bad. A recent study examined changes in the treatment of mental health problems over the past decade among adolescents using a large, representative sample. Like the results of other studies, the researchers found a significant increase in adolescents receiving treatment for anxiety, depression, and suicidal thoughts. However, the percentage of adolescents receiving treatment for conduct problems or relationship

Figure 1.4 ▪ The Rate of Pediatric Self-Injuries Has Increased Over Time



Note: Emergency visits for self-injuries have increased significantly, especially among younger girls. Based on Haidt et al. (2025).

difficulties significantly decreased over time. The percentage of adolescents receiving treatment for school-related problems remained stable (Mojtabai & Olfson, 2025).

Comorbidity and Costs

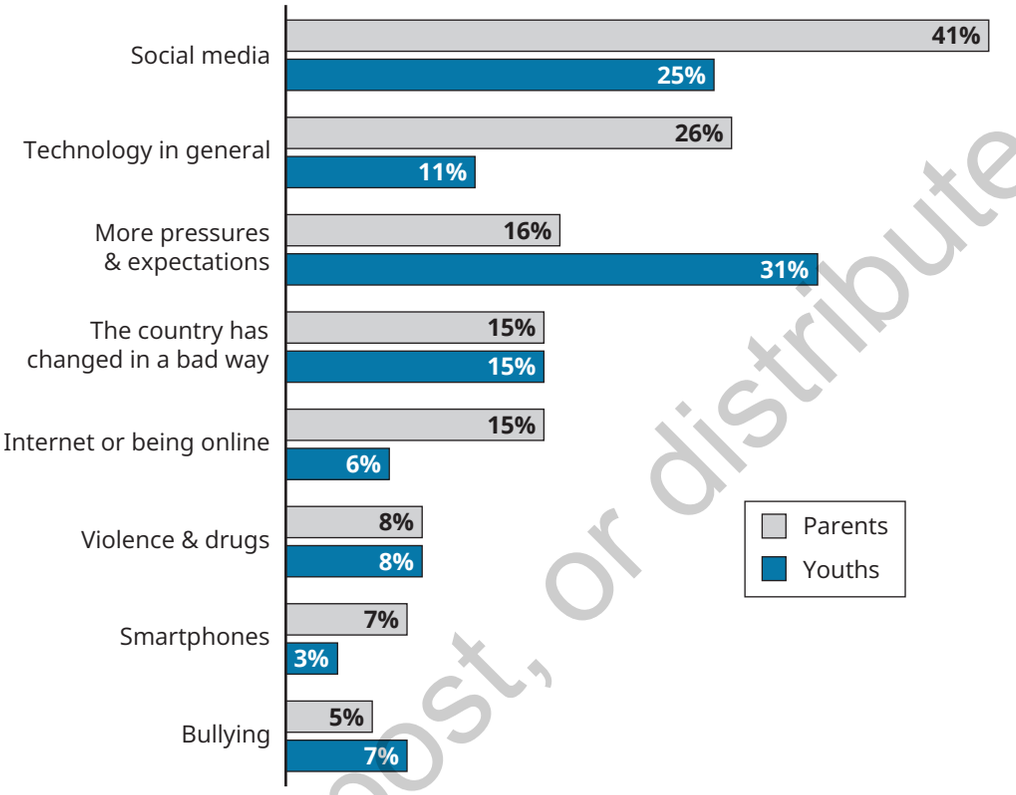
Children's disorders tend to occur together. **Comorbidity** refers to the presentation of two or more conditions in the same person at the same time (Vasileva et al., 2021). On average, approximately 40% of children with one mental disorder have at least one other condition (Merikangas & He, 2014). Certain disorders show high comorbidity in children. For example, 75% of youths with depression also experience an anxiety disorder that interferes with their daily functioning (Cummings et al., 2014). Approximately 50% of young children with ADHD also exhibit conduct problems, such as oppositional defiant disorder (Pliszka, 2016). Comorbidity is the rule, rather than the exception, in children.

The cost of caring for a child with a mental disorder is nearly triple the cost of caring for a child without a mental health problem (Tkacz & Brady, 2021). In the United States, families of children with mental health needs spend $31 billion annually on direct child costs and $59 billion in additional household spending. These costs have risen almost 31% in the past five years (Loo et al., 2024).

Why is the cost so high? Children with mental health problems need evidence-based interventions, such as counseling and/or medication, to improve their functioning. Children's mental health

Figure 1.5 ▪ Why Is It Harder for Teens Today?

In one survey, 69% of parents and 44% of adolescents said that it is harder to be a teen today than it was 20 years ago. Researchers coded their reasons why. Interestingly, parents and teens agreed on the top challenges facing teens today.



Based on Faverio et al. (2024).

problems can also compromise their caregivers' well-being, leading to reduced productivity at work and increased tension at home. The cost to communities is also enormous. Societal costs include rehabilitation for youths with conduct problems, drug and alcohol counseling for youths with substance use disorders, and family supervision and reunification services for youths who experience maltreatment. School districts must pay for special education services for children with cognitive, learning, and behavior problems that interfere with their ability to benefit from traditional education. Preventing childhood disorders would spare families suffering and save communities money. Unfortunately, prevention remains an underutilized approach to dealing with child psychopathology in the United States (Kalmin et al., 2023).

Review

- Prevalence refers to the percentage of children in a population with a disorder. Incidence refers to the percentage of new cases of a disorder in a discrete period.
- Approximately 15% of youth have experienced a mental disorder in the past year. Approximately 21% have experienced at least one mental disorder in their lifetime. Approximately 40% of youths with one disorder have another (comorbid) disorder.
- The prevalence of mental health problems has risen significantly in the past two decades, especially among adolescent girls. Internalizing disorders (e.g., anxiety, depression, suicidal ideation) have shown the greatest increase in prevalence.

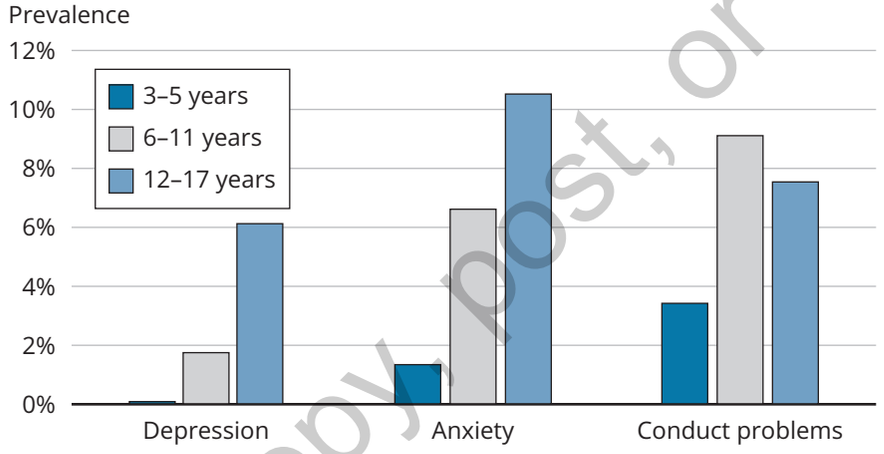
What Factors Influence Prevalence?

Age

The prevalence of mental health problems varies with age (Figure 1.6). The best data that we have regarding the prevalence of mental health problems as a function of age comes from the National Survey of Children's Health. This survey examined the prevalence of depression, anxiety, and conduct problems among children aged 3 to 17 years. The results showed relatively low levels of depression and anxiety among preschoolers, with a significant rise in these conditions in adolescence. The relationship between conduct problems and age was different. School-age children were more likely than preschoolers and adolescents to show conduct problems (Centers for Disease Control and Prevention, 2024a).

On average, the prevalence of most mental health problems increases with age. However, some conditions are more common among younger children than among older children and adolescents. For example, autism, separation anxiety disorder, and ADHD are most common among preschoolers and young school-age children. In contrast, other anxiety disorders, depression, bipolar disorders, and eating disorders are more common among older children and adolescents. Some conditions, such as panic disorder and substance use problems typically emerge in adolescence and are relatively rare among prepubescent children (Centers for Disease Control and Prevention, 2024a).

Figure 1.6 ▪ The Prevalence of Mental Health Problems Varies by Age



Note: Older children and adolescents experience depression and anxiety more often than younger children. Conduct problems are most common among children aged 6 to 11 years (Centers for Disease Control and Prevention, 2024a).

Gender and Gender Identity

The prevalence of mental health problems also varies by gender. On average, girls are more likely than boys to experience internalizing problems like anxiety and depression. In contrast, boys are more likely than girls to show disruptive behavior problems like defiance, aggression, and rule-breaking (Centers for Disease Control and Prevention, 2024a).

The prevalence of specific mental health problems depends on both gender and age. In early childhood, many conditions are more common in boys. For example, boys are 4 times more likely than girls to be diagnosed with autism and 3 times more likely than girls to be diagnosed with ADHD. Boys are also more likely than girls to show disruptive behavior problems. The prevalence of other disorders is approximately equal in young boys and girls (Perou et al., 2016).

By adolescence, however, girls are more likely than boys to experience mental health problems. Adolescent boys continue to be at greater risk than adolescent girls for conduct problems and physical aggression. However, adolescent girls are 2 to 3 times more likely than adolescent boys to experience problems with anxiety or depression. Furthermore, adolescent girls are 5 to 10 times more likely than

adolescent boys to be diagnosed with an eating disorder (Centers for Disease Control and Prevention, 2024a).

Researchers have struggled to explain why girls show a dramatic increase in mental health problems during adolescence. They have suggested many causes ranging from biological changes during puberty to unreasonable social–cultural expectations placed on girls and women. Recently, however, researchers have identified two particularly important factors: stressful life events and the way girls think about those events. In one study, researchers followed a large sample of adolescents from late childhood through middle adolescence (Hamilton et al., 2015). Most youths reported increased stress during this time; however, girls were particularly sensitive to interpersonal stressors—that is, stressful events that involved important people or relationships in their lives. For example, girls were especially likely to report difficulties with parents, peers, or romantic partners during their tween and teen years.

Perhaps more importantly, the way girls thought about these interpersonal stressors influenced their mood. For example, adolescents who believed they were responsible for these interpersonal problems (e.g., "It's my fault my mom is angry with me") were more likely to experience depression than adolescents who did not blame themselves (e.g., "My mom is just grouchy after working all day"). Similarly, adolescents who tended to overthink these events (e.g., "I wonder why my friends are mad at me? Was it something I said?"), were also more likely to experience problems with depression than girls who did not dwell on these events. These findings suggest that girls' thoughts about interpersonal problems can influence their well-being.

From Science to Practice

Interpersonal Stress and Gender

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Imagine that you are a middle school student. Some classmates are talking in the hallway. When you say "hi," they ignore you. Why? Did you do something wrong? Did you say something stupid? Did you wear the wrong clothes to school that day?

Researchers found that adolescent girls are especially sensitive to interpersonal situations like these—much more than adolescent boys. When girls interpret these situations negatively (e.g., "They're mad at me"), blame themselves (e.g., "I must have said something wrong"), and ruminate or think about the situation over and over, they can become depressed. In fact, adolescent girls are twice as likely as boys to develop depression.

Cognitive therapy is based on the premise that if adolescents can change the way they think about situations like these, they will feel better. A cognitive therapist would likely ask their client to look for alternative explanations for their classmates' behavior. Is it possible that your classmates didn't hear you say "hi" or they were busy doing something else? Generating alternative explanations for events like these can improve adolescents' mood.

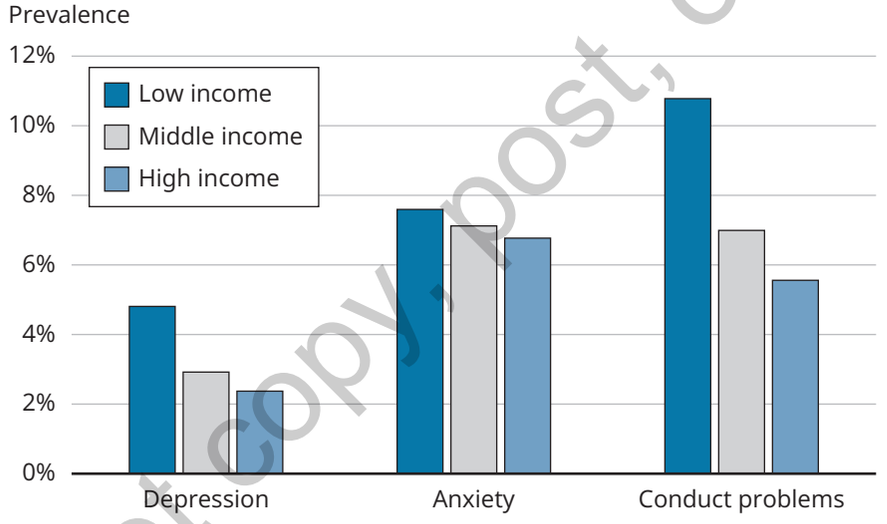
Note: Based on J. L. Hamilton and colleagues (2015).

Youths who identify as LGBTQ are at particular risk for mental health problems. Recent data from the Youth Risk Behavior Survey show that adolescents who identified as LGBTQ were almost twice as likely to report persistent feelings of sadness or hopelessness as adolescents who did not. Youths who identified as LGBTQ were also more than twice as likely as other youths to report poor mental health in the past month, three times more likely than other adolescents to report current suicidal ideation, and seven times more likely than other youths to be injured in a suicide attempt (Centers for Disease Control and Prevention, 2024a).

Socioeconomic Status

Socioeconomic status (SES) is a variable that reflects three aspects of a child's environment: (1) their parents' levels of education, (2) their parents' employment, and (3) their family income. These three variables are correlated; parents with greater educational attainment tend to work more complex, higher-paying jobs. Overall, children from lower-SES families are at greater risk for developing mental health problems than children from middle- or high-SES families (Figure 1.7). For example, researchers compared the prevalence of common mental health problems among children and adolescents below the federal poverty level to those living more than 200% above the poverty level. The prevalence of most problems was significantly higher among children living in low-income families compared to higher-income families (Bitsko et al., 2023; Centers for Disease Control and Prevention, 2024).

Figure 1.7 ▪ The Prevalence of Mental Health Problems Varies by SES



Note: On average, children from low-income families and single-parent families are most likely to experience mental health problems (Centers for Disease Control and Prevention, 2024a).

There are at least two explanations for the association between SES and risk for psychological problems. First, higher-SES parents may be less likely to experience psychological problems themselves. Higher-SES parents may pass on genes conducive to better mental health to their children. Second, higher-SES parents may be better able to provide environments for their children that protect them from psychological problems. For example, parents with higher incomes may be able to afford better quality healthcare, nutrition, or schooling for their children. These early experiences, in turn, can protect their children from the emergence of mental health problems (Avinun, 2020).

Genetic and environmental factors often interact to place children at risk for mental health problems. For example, in one large study, researchers examined the prevalence of ADHD in children from low- and high-income families (Rowland et al., 2019). Children from low-income families were 6 times more likely than children from high-income families to have ADHD if neither parent had the disorder. However, if one parent also had ADHD, low-income children were 10 times more likely than

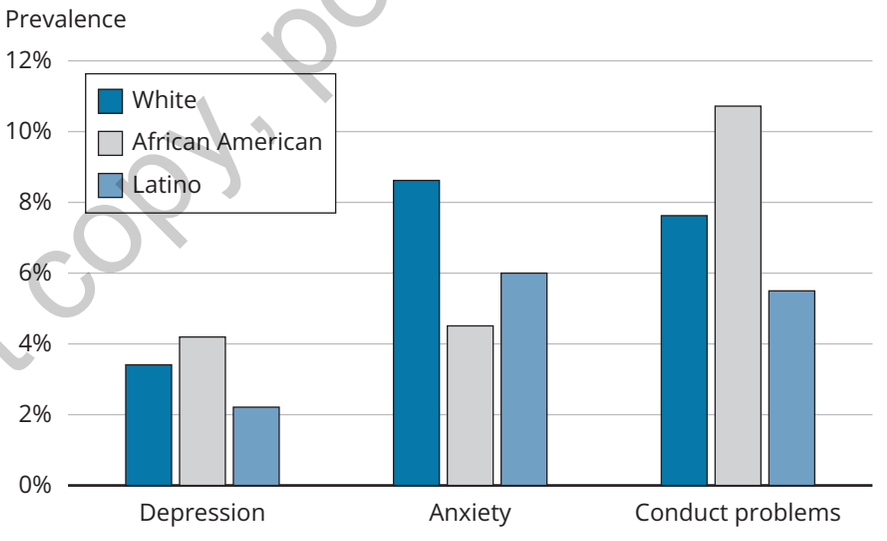
high-income children to have the disorder. These findings suggest that both genetic risk and environmental quality affect prevalence.

A related predictor of children's mental health is family composition. Recent research indicates that youths living with only one parent are 50% more likely to develop an anxiety disorder, 100% more likely to develop depression, and 125% more likely to develop conduct problems as youths living with two parents (Ghandour et al., 2020). Adolescents living in single-parent homes may be 6 times more likely to develop a behavior or substance use disorder as youths living in a two-parent household (Kessler et al., 2012). The association between single-parent families and increased mental health problems is partially explained by SES; single parents often earn lower family incomes than two-parent families. However, children living with two unmarried parents are twice as likely to develop conduct problems (10.2%) than children living with two married parents (5.1%; Ghandour et al., 2020). It is likely that other factors, such as parental stress or the quality of their relationship with each other also influences their ability to care for their children and support their mental health.

Race and Ethnicity

The prevalence of mental health problems also varies as a function of race and ethnicity (Figure 1.8). However, the relationship between prevalence and race/ethnicity is complex. For some conditions, prevalence is highest among non-Latino, White youths. For example, non-Latino, White children are more likely to be diagnosed with an anxiety disorder than Latino or African-American youths (Centers for Disease Control and Prevention, 2024a). For other conditions, non-Latino White children are least likely to be diagnosed. For example, the prevalence of autism is slightly lower among non-Latino, White children (2.43%) than among African American (2.93%) or Latino (3.16%) children (Maenner et al., 2024).

Figure 1.8 ▪ The Prevalence of Mental Health Problems Varies by Race and Ethnicity



Note: Anxiety disorders are most common among White youths whereas conduct problems are most common among African American youths. Researchers are trying to determine why prevalence varies as a function of race and ethnicity for some disorders but not others (Centers for Disease Control and Prevention, 2024a).

The prevalence of many externalizing behavior problems is highest among African American youths. For example, the prevalence of ADHD is higher among African American children (12.0%) than among non-Latino, White (10.9%), Latino (7.5%), or Asian American (2.6%) children. African American children are also more likely to show conduct problems, like aggression and rule-breaking, than non-Latino, White children or Latino children. In contrast, African American adolescents are less likely to develop substance use problems (3.3%) than non-Latino, White (4.2%) or Latino (4.5%)

adolescents. American Indian youths are more likely to experience suicidal thoughts (34.7%) and attempt suicide (11.5%) than youths from any other racial or ethnic background.

SES partially explains these differences in mental health problems across ethnicities. Members of many racial and ethnically diverse groups in the United States disproportionately come from lower-SES families (Kuo et al., 2020). Consequently, diverse families often face many of the same risks confronted by low-SES families: reduced access to high-quality healthcare and nutrition, less optimal childcare, impoverished educational experiences, and higher family stress. Immigrant families can also face special risks, such as stress associated with language differences and acculturation (Bekteshi & Kang, 2020).

It is also possible that children's racial or ethnic background might partially determine the likelihood that their conditions are identified and treated. For example, African American and Latino children tend to be diagnosed with autism much later than non-Latino, White children (Ratto et al., 2015). Research indicates that racial and ethnically diverse parents are often less likely to recognize the early signs of autism; consequently, their children's disorder may remain undiagnosed and untreated (Tromans et al., 2021). Similarly, recent research has found that many Latino parents regard the hyperactive–impulsive symptoms of ADHD to be developmentally normative. Consequently, they may be less likely to view their children's symptoms as problematic and less likely to seek treatment (Gerdes et al., 2014).

A third possibility is that these differences in prevalence reflect cultural values across racial and ethnic groups. Recall that African American adolescents are much less likely to develop substance use problems than non-Latino, White adolescents. Several studies have shown that certain aspects of African American culture might protect youths from developing alcohol and other drug use problems. For example, African American youths who are involved in church or family activities, are much less likely than other adolescents to develop substance use problems Furthermore, the more African American adolescents endorsed the values of their church or family, the more likely they were to avoid substance use problems (Nawi et al., 2021).

Review

- On average, the prevalence of mental health problems is higher among adolescents than among younger children. Although the prevalence of anxiety and depression increases during adolescence, the prevalence of conduct problems begins to decline during that time.
- On average, girls are more likely to experience mental health problems than boys. The gap between girls and boys widens in adolescence.
- SES reflects parents' education, employment status, and income. Children from low-SES families are at increased risk for most mental health problems.
- Certain conditions, like anxiety disorders, are most often diagnosed in non-Latino, White children. Other disorders, like conduct problems, are most often diagnosed in children from other racial or ethnic backgrounds. These differences may reflect family SES, cultural factors that affect help-seeking, or actual differences in prevalence.

How Did the COVID-19 Pandemic Affect Children's Mental Health?

The Early Pandemic: A National Emergency

The World Health Organization declared COVID-19 a pandemic in March 2020. Government agencies, schools, and businesses began implementing lockdowns to prevent transmission. Nearly all children were required to stay at home. Young children could not attend daycare centers or preschools. Older children and adolescents could not attend in-person schooling or participate in after school activities and sports. Social interactions were limited. In many cases, families could not visit loved ones in nursing homes and hospitals. Many businesses closed or severely restricted workers' hours, placing a financial burden on families. Many parents had to work while taking care of their children at home. Worst of all, 3.4 million people worldwide died from the illness by the end of the first year (World Health Organization, 2024).

Initially, the number of youths referred to mental health professionals plummeted because of government shutdowns (Loo et al., 2024). Beginning in April 2020, however, the prevalence of children's mental

health problems began to rise. Approximately 20% of youths who did not have a mental health problem before the pandemic experienced at least one mental health problem during its first year (Raccanello et al., 2023). The prevalence of anxiety disorders increased to between 17% and 24% whereas the prevalence of depression increased to between 21% and 31% (Racine et al., 2021). The percentage of children and adolescents who were sent to the hospital because of a mental health problem increased 44% during this same time (Leeb et al., 2020). There was also a significant increase in pediatric suicides, resulting in 212 additional deaths in the United States during the first year of the pandemic (Bridge et al., 2023). Similar increases were seen in Australia (Khan et al., 2023) and Europe (Kostev et al., 2023).

These high rates of anxiety, depression, and suicidal behavior, combined with the financial and social-emotional stress that families experienced during the pandemic, prompted the American Academy of Pediatrics, the American Academy of Child and Adolescent Psychiatry, and the Children's Hospital Association (2021) to issue a declaration of a national emergency in child and adolescent mental health. The United States Surgeon General (2021) also issued a public health advisory describing the risks that the pandemic posed to children's well-being.

At the same time, the transition to online learning was associated with a dramatic increase in absenteeism and underenrollment in America's public schools. Chronic absenteeism increased from 15% before the pandemic to 28% during the 2021-2022 academic year. Kindergarten enrollment dropped 9.3% from the previous year. Overall, American public schools saw a total decrease of approximately 1.1 million pupils with an additional 6.5 million students attending school but missing more than 10% of the academic year (Dee, 2024).

This drop in school attendance was associated with a corresponding drop in academic achievement. One large study examined the academic performance of 5.4 million elementary school students. Average Fall 2021 math scores were .20 to .27 standard deviations lower than prepandemic levels, while reading test scores decreased by .09 to .18 standard deviations. This drop in achievement was especially large among students from low-income families (Kuhfeld et al., 2024).

Adolescent girls were most likely to experience mental health problems during the pandemic. In one large study, researchers examined the prevalence of youths diagnosed with a mental health problem before and after the onset of COVID-19. Adolescent girls showed a dramatic increase in anxiety, depression, eating disorders, and ADHD during the first year of the pandemic. Girls aged 6 to 12 years showed a similar rise in prevalence, although the increase was not as pronounced. In contrast, boys did not show a significant increase in anxiety, depression, or ADHD (Straub et al., 2023). One study involving more than 40,000 children in 12 countries also showed adolescent girls to fare the worst. This study was unique because it combined the results of several longitudinal studies, that is, studies that examined the same youths over time. Results showed significant increases in depression across the first two years of the pandemic. Anxiety also increased during this time, although differences between girls and boys were not as pronounced (Madigan et al., 2023).

Several other studies identified specific factors that predicted poorer outcomes during the pandemic. Youths with preexisting mental health problems, children from low-SES families, and youths with more limited living space were at increased risk for poor adjustment during the pandemic. In contrast, children who received more support from family or who adopted a more optimistic attitude appeared to cope better with pandemic-related stress (Ravens-Sieberer et al., 2023).

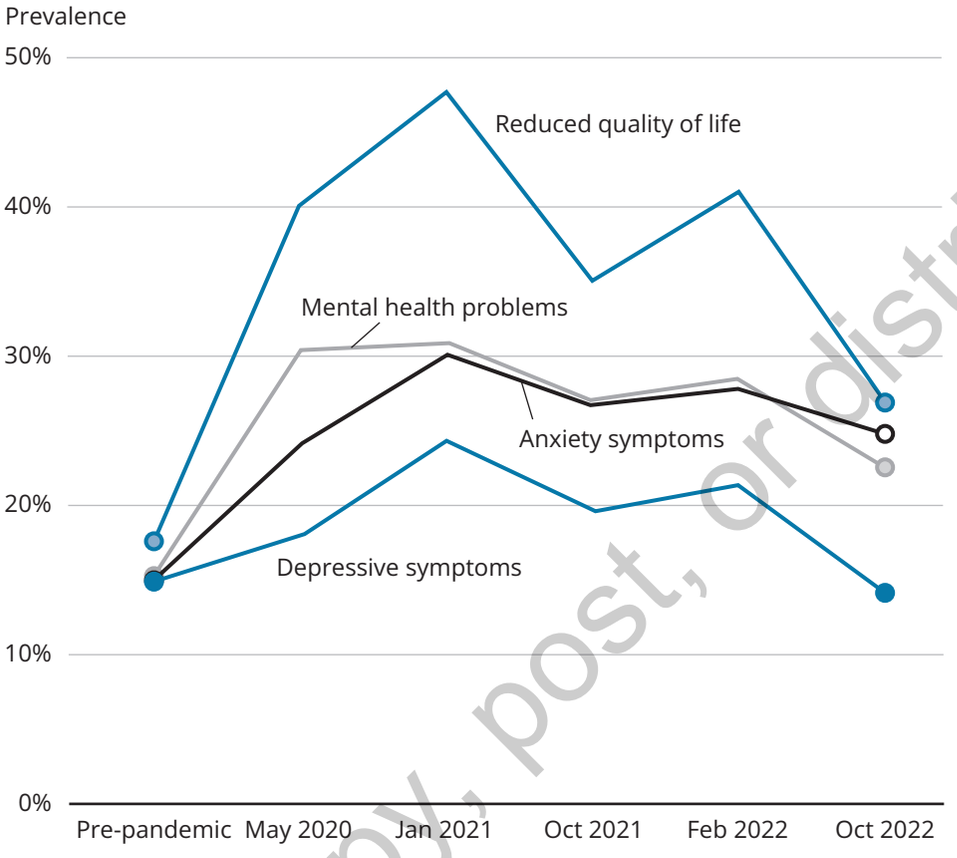
The Later Pandemic: Lingering Problems

The later phase of the pandemic was associated with a modest improvement in children's mental health. Most schools slowly returned to in-person learning in 2021. Restrictions related to social distancing and mask wearing were gradually withdrawn and children began to participate in more extracurricular activities (World Health Organization, 2024). By Fall 2022, there was a 10% to 12% decrease in hospital visits from youths who were experiencing mental health crises. The greatest drop in emergencies was seen among adolescent girls, the demographic group most likely to experience mental health problems during the first year of the pandemic (Anderson et al., 2023).

Another large study examined the prevalence of mental health problems in children from May 2020 to October 2022 (Figure 1.9). Children and adolescents showed a significant increase in mental health problems during 2020. Beginning in Fall 2021, however, the prevalence of these problems

declined and continued to drop slightly until the end of the study. The researchers' optimism about their findings was limited by the fact that the prevalence of most mental health problems was still above prepandemic levels. In addition, many youths continued to report significant physical symptoms like headaches and stomach pains (Ravens-Sieberer et al., 2023).

Figure 1.9 ▪ Children's Mental Health During the COVID-19 Pandemic



Note: Nearly all studies showed a significant increase in mental health problems, especially anxiety and depression, during the first year of the pandemic. By 2022, the prevalence of most problems had decreased but had not yet returned to prepandemic levels (Ravens-Sieberer et al., 2023).

We still do not know the long-term effects of the pandemic on children's mental health. Many children with speech, language, or learning disabilities could not access evidence-based, in-person services during lockdowns. We do not know to what extent these missed services might lead to long-term delays in the development of their communication or academic skills (Dee, 2024). Similarly, there was a sudden drop in the number of children referred for autism assessments during the first year of the pandemic, and waitlists for such assessments thereafter were extremely long. These delays in identifying and treating children with autism might have long-term effects on the development of their social communication skills (Centers for Disease Control and Prevention, 2024b). Perhaps most concerning, there was a dramatic increase in parental stress, parental alcohol abuse, and domestic violence during the pandemic, but a 49% decline in reported child maltreatment during this time (Calvano et al., 2023; Whaling et al., 2023). It is likely that many children experienced abuse and neglect during the pandemic but were never identified and protected. It is possible the effects of the pandemic will continue to be seen in the fabric of family and social life for years to come.

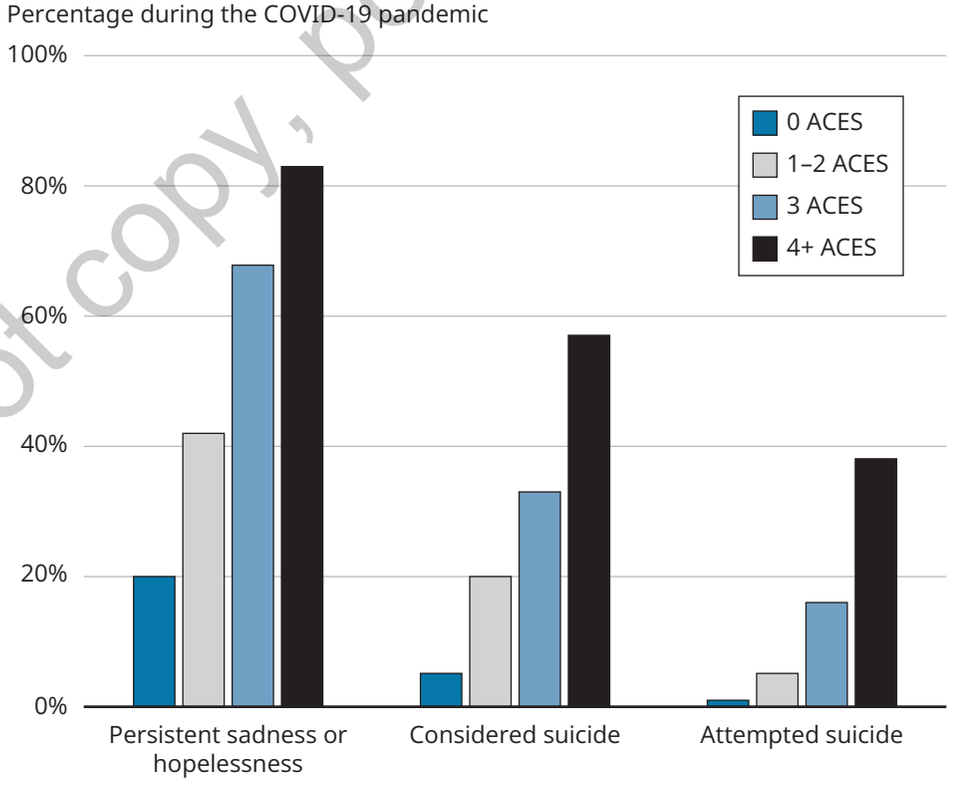
Why was the pandemic associated with increased mental health problems? Experts suggested several possible causes related to social distancing: the closing of schools and the transition to online learning, the suspension of in-person social activities like clubs and sports, and the cancellation of

important events like birthday parties, family celebrations, school formals, and graduation ceremonies. This loss of in-person social activities corresponded to increased screen time and exposure to social media. Together, these experiences may have contributed to feelings of isolation and loneliness (Straub et al., 2023).

More recent research from the Adolescent Brain Cognitive Development (ABCD) Study points to other causes, however. Researchers monitored the mental health of a large, representative sample of older children and adolescents during the first year of the pandemic. The researchers discovered that the transition to remote schooling or the cancellation of in-person activities was not related to youths' mental health. Instead, children's mental health problems were associated with financial stressors placed on their caregivers due to lost wages or unemployment. Caregivers' financial problems during the pandemic was associated with a 205% increase in stress, a 112% increase in sadness, and a 74% increase in worry in their children. The researchers suggested that caregiver stress spilled over to their children, leading to poorer parent-child relationships, depression, and anxiety (Xiao et al., 2024).

A second recent study also showed that caregiver stress likely played a significant role in children's mental health problems during the pandemic (Figure 1.10). In this study, researchers tallied the number of adverse events that children experienced during the pandemic including physical or emotional abuse, exposure to family violence, and family economic pressures caused by a lost job or reduced wages. There was a significant relationship between these adverse experiences and adolescents' likelihood of sadness, hopelessness, and suicide. Adolescents who experienced several adverse events were three times more likely to feel hopeless and 25 times more likely to attempt suicide than adolescents who did not experience any adverse events. Altogether, these findings show the importance of caregiver well-being on children's mental health (Anderson et al., 2024).

Figure 1.10 ▪ Adverse Childhood Experiences (ACEs) Predicted Mental Health Problems During the Pandemic



Note: Youths who experienced maltreatment, domestic violence, or family economic pressures during the pandemic were much more likely to have mental health problems than youths who did not have these adverse experiences. These findings highlight the role caregivers play in children's mental health (Anderson et al., 2024).

Review

- The prevalence of mental health problems, especially anxiety and depression, increased significantly during the first year of the pandemic. Adolescent girls were most likely to experience problems during this time.
- Although the prevalence of mental health problems has declined, the rates of most disorders still exceed prepandemic levels.
- Results of the ABCD Study indicate that pandemic-related financial stressors, but not social distancing practices, were associated with increased mental health problems.

Do Most Children Receive Treatment?

Access to Treatment

Most children who are diagnosed with a mental health problem receive treatment. The best data regarding children's access to mental health treatment come from the results of the National Survey of Children's Health. This survey examined a large, representative sample of caregivers of children between 3 and 17 years of age. Approximately 78% of children with depression, 60% of children with an anxiety disorder, and 54% of children with conduct problems received some form of mental health treatment. Children who experienced more severe emotional or behavioral problems were more likely to receive services than children who experienced less severe problems (Ghandour et al., 2020).

Approximately 13.6% of all youths (with and without disorders) receive some form of mental health treatment. Approximately 10% of youths participate in counseling or psychotherapy, and 8.4% receive medication to treat a mental health problem. Adolescents (16.8%) are more likely than children (10.8%) to receive treatment. Boys (14.8%) are slightly more likely than girls (12.4%) to receive treatment. Non-Latino, White youths (17.7%) are much more likely to receive treatment than African American (8.7%) or Latino (9.2%) youths (Zablotsky & Terlizzi, 2024).

Most youths with mental health problems received treatment in outpatient mental health clinics (61.5%). Almost 49% of youths received services at school, usually from a school psychologist, counselor, or social worker. Approximately 15% received treatment in an outpatient medical facility. Approximately 12% received inpatient mental health services. Only 3% of youths received treatment in a residential treatment facility, a group home, or a therapeutic foster home. Less than 1.5% of youths received treatment in a juvenile justice setting (Mojtabai & Olfson, 2025).

A large percentage of youths received treatment from medical professionals who do not have specialized training in mental health. Approximately 35% of youths received care from their pediatrician, family physician, or primary care provider only. Only 24% received care from a psychiatrist (i.e., a physician who specializes in mental health care), and 15% received care from a psychologist or social worker. Approximately 24% of youths received care from two or more professionals (Anderson et al., 2016).

The Use of Medication

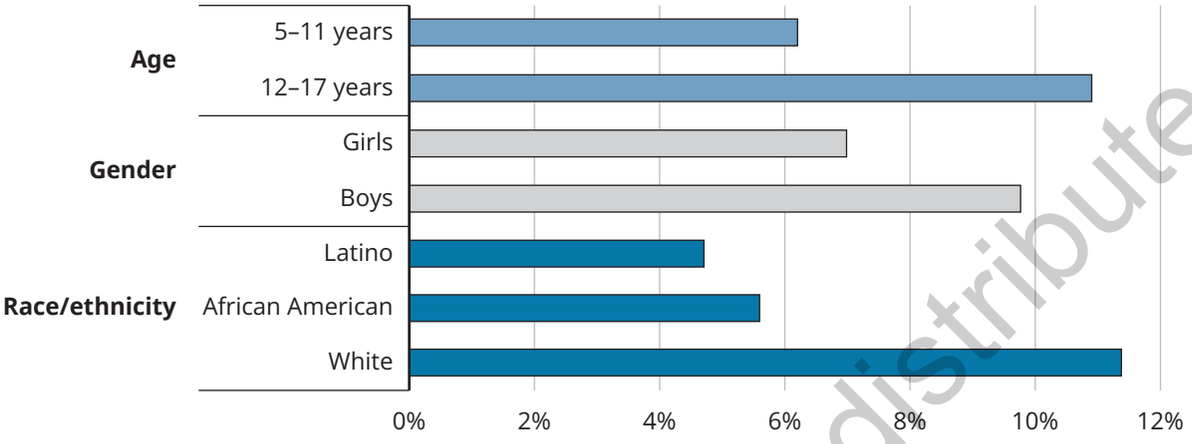
One of the greatest changes in the field of children's mental health in the past 30 years has been the increased use of **psychotropic medication**, that is, prescription medication used to treat behavioral, cognitive, or emotional problems. Approximately 8.4% of youths between the ages of 5 and 17 years take at least one psychotropic medication at any point in time (Zablotsky & Terlizzi, 2024).

Approximately two-thirds of children and adolescents who are referred to a professional for a mental health problem receive psychotropic medication. The most prescribed medications are psychostimulants to treat ADHD (47.3%), selective serotonin reuptake inhibitors to treat anxiety or depression (21.7%), and antipsychotics (12.2%). Interestingly, pediatricians and primary care providers are more likely than psychiatrists to prescribe medications for ADHD, anxiety, and mood disorders (Anderson et al., 2016).

The use of psychotropic medication varies as a function of children's age (Figure 1.11). Medication is more frequently prescribed to adolescents than to younger children. The greater use of psychotropic

medication among adolescents likely reflects the greater overall prevalence of mental health problems in adolescents compared to younger children. Furthermore, adolescents' mental health problems tend to be more severe and, consequently, may be more likely to require medication (Zablotsky & Terlizzi, 2024).

Figure 1.11 ▪ Medication Use by Children and Adolescents



Note: Approximately 8.4% of youths take at least one psychotropic medication. Medication is more common among adolescents than younger children, boys than girls, and non-Latino, White youths than non-white youths (Zablotsky & Terlizzi, 2024).

Medication use also varies by gender. Regardless of age, boys are more likely to receive medication for psychological problems than girls. This gender difference reflects the fact that boys are three times more likely than girls to be diagnosed with ADHD and to receive medication for that condition (Zablotsky & Terlizzi, 2024).

Access to medication varies as a function of race and ethnicity. Non-Latino, White youths are much more likely than African American or Latino youths to receive medication. This disparity in youths' access to medication could reflect more systemic barriers to accessing medical services that are often experienced by families from diverse backgrounds. This difference in medication use might also be explained by the fact that non-Latino, White youths are disproportionately diagnosed with anxiety disorders, conditions that are often treated with medication. In contrast, African American youths are disproportionately diagnosed with conduct problems which are less responsive to medication (Zablotsky & Terlizzi, 2024).

The percentage of youths receiving medication to treat psychological problems has more than doubled over the past 30 years. In contrast, the percentage of children participating in counseling or psychotherapy has remained relatively stable during this time. Two factors seem to be driving the overall rise in the use of psychotropic medication among youths. First, clinicians are getting better at recognizing mental disorders in youths. Second, physicians have more medication options for children now than three decades ago (Bowers et al., 2020).

Many of the psychotropic medications that are prescribed to children are used "off-label," that is, without the approval of the U.S. Food and Drug Administration (FDA). Relatively few psychotropic medications have been approved for children, and those that are approved are authorized only for children of certain ages or with certain disorders. For example, fluoxetine (Prozac) and escitalopram (Lexapro) are the only FDA approved medications to treat pediatric depression. Fluoxetine is approved for children aged 7 and older, whereas escitalopram is approved for adolescents aged 12 and older. Other medications are often prescribed to children with depression, but their efficacy has not been established by carefully conducted studies. Consequently, the FDA has not determined that the potential benefits of these medications outweigh their possible risks (Shahidullah et al., 2024).

Barriers to Treatment

Researchers and policy experts have identified several barriers to families' access to high-quality mental health interventions (Lu et al., 2022; Radez et al., 2021). First, *economic barriers* can limit children's access

to treatment. Psychotherapy, medication, and other forms of treatment can be expensive. Families with private health insurance may be limited in the duration or type of treatment they can receive. Low-income families may face the additional challenge of obtaining treatment from a public social service system that is overburdened and underfunded. Low-income parents also face practical barriers to treatment, such as finding time off work, transportation to and from sessions, and childcare for their other children.

Second, *social-cultural factors* might decrease a family's willingness to participate in therapy. For example, some ethnic minority families may perceive psychological treatment to be ineffective or irrelevant to their immediate concerns. Instead of seeking counseling, these families might consult with physicians, clergy, or elders in their community for treatment, advice, or support. Other parents from culturally diverse backgrounds might view therapies developed primarily for non-Latino, White families as inapplicable to them. Many parents may be unable to find therapists who can communicate in their primary language.

Even if families are able and willing to participate in treatment, they may be *unable to find evidence-based treatment*. As we will see, high quality treatment is not available in many communities. For example, the Early Start Denver Model is an evidenced-based approach to helping children with autism and other developmental disabilities. Therapists who are trained in using this model use reinforcement, imitation, and modeling to teach children social communication skills in real-life settings. This approach to treatment is associated with moderate improvements in children's functioning. However, the demand of families requiring treatment far outweighs the number of clinicians who are trained in this approach (Fuller et al., 2020).

Finally, *stigma* can interfere with children's access to treatment. **Stigma** refers to negative beliefs about individuals with mental disorders that can lead to fear, avoidance, and discrimination by others or shame and low self-worth in oneself (Serchuk et al., 2021). Stigmatization of mental illness comes in many forms. During casual conversation, people use terms like crazy, wacked, nuts, and psycho without giving much thought to the implications these words have for people with mental illness. Children may use these derogatory terms to describe peers who act foolishly. Parents of children with psychological disorders often report discrimination from school and medical personnel because of their child's condition. Some insurance companies discriminate against individuals with mental disorders by not providing equal coverage for mental and physical illnesses. Movies and television unfairly depict people with mental health problems as violent, unpredictable, deranged, or devious. Even children with mental disorders are sometimes portrayed in a negative light (Martinez & Hinshaw, 2016). Stigma may be especially severe among children and families from racially and ethnically diverse backgrounds (DuPont-Reyes et al., 2020).

Stigma can also negatively affect youths and their families in several ways (Taylor et al., 2021). First, it can cause a sense of shame or degradation that decreases self-esteem and lowers self-worth. The negative self-image generated by the social judgments of others, in turn, can exacerbate symptoms or hinder progress in therapy. Second, stigma can lead to self-fulfilling prophecies. Youths may believe that they are flawed because of their diagnostic label. In some cases, children may alter their behavior to fit the diagnostic label or use the diagnosis to excuse their behavior problems. Third, stigmatization can decrease the likelihood that families will seek psychological services. Many youths who show significant behavioral, emotional, and learning problems do not receive treatment because parents do not want them to receive a diagnosis (Eaton et al., 2020).

Review

- Most children with mental health problems receive treatment. Adolescents are more likely to receive treatment than children. Non-Latino, White youths are more likely to receive treatment than racial and ethnically diverse youths.
- Approximately 10% of all youths participate in psychotherapy, and 8.4% of all youths take at least one psychotropic medication. The most common medications are used to treat ADHD and anxiety disorders. Many psychotropic medications prescribed to children are not approved by the FDA.
- Barriers to treatment include financial problems, a lack of high-quality treatment options in the community, a shortage of well-trained clinicians, and stigma.

Integrating Science and Practice

What Is Evidence-Based Practice?

The Importance of Science

Imagine that you have an unusual pain in your stomach that does not go away with the help of over-the-counter medicine. You schedule an appointment with your physician so that she can identify its cause and prescribe an effective treatment. You hope that your physician's assessment, diagnostic, and treatment strategies are evidence-based—that is, that they reflect current, scientific research and best available practice (Rousseau & Gunia, 2016).

Psychologists and other mental health professionals who work with children and families also strive for evidence-based practice (American Psychological Association, 2025). **Evidence-based practice** is "the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences" (APA Presidential Task Force, 2006, p. 293). The purpose of evidence-based practice is to deliver the highest-quality mental health services to children, adolescents, and families and to promote mental health in the community (Hamilton et al., 2015).

Clinicians who adopt an evidence-based approach to their practice consider the following three factors when helping children and families in need:

Scientific research: According to the research literature, what methods of assessment and forms of treatment work best for children with this problem?

Clinical expertise: According to my own professional experience and judgment, what is the best way for me to assess and treat this child?

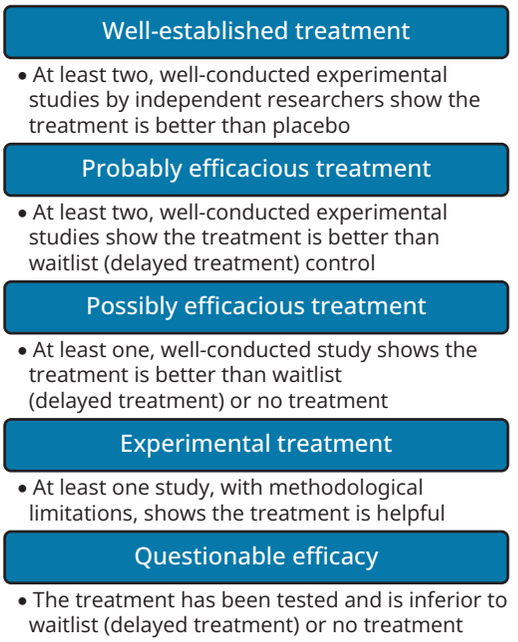
Patient characteristics: How might the child's age, gender, and social–cultural background, or the family's expectations and preferences for treatment, affect the way I help them?

Evidence-based practice, therefore, begins with consideration of the scientific research literature. If parents request treatment for their son with ADHD, which form of treatment is most likely to be helpful?

Fortunately, professional organizations have identified **evidence-based treatments**, that is, psychotherapies and medications that have been shown in several research studies to reduce children's symptoms and improve their functioning. For example, the Society of Clinical Child and Adolescent Psychology (2025) maintains an excellent website, effectivechildtherapy.org, that describes the most empirically-supported psychosocial treatments for childhood disorders. This website is user-friendly and an excellent resource for professionals and families. The American Academy of Child and Adolescent Psychiatry (2025) publishes guidelines to help physicians identify medications and psychosocial treatments that are effective for childhood disorders. You can see their most recent guidelines at www.aacap.org. The American Academy of Pediatrics (2025) offers similar guidelines for treating mental health problems at publications.aap.org. They also offer guidance on how professionals can support specific populations such as families coping with separation and divorce; families facing housing insecurity; immigrant and migrant children, and gender-diverse youths.

Treatments are typically categorized into one of five levels, depending on how well they are supported by research (Figure 1.12). For example, behavioral parent training is a treatment for ADHD in which parents learn to monitor their children's behavior and reinforce appropriate actions. It is considered a well-established treatment for children with ADHD because several high-quality experimental studies, conducted by independent teams of researchers, have shown that it reduces children's ADHD symptoms. Neurofeedback training, on the other hand, is considered possibly efficacious because it has less empirical support. Although one well-designed study suggests that this treatment can help children regulate brain activity and behavior, the study needs to be replicated before it can be considered a first-line treatment. Social skills training has questionable efficacy for treating ADHD. Several studies have shown that it does not significantly decrease symptoms or improve functioning. Most children with ADHD already have adequate social skills and know how to behave in social situations; their main problem is inhibiting their behavior long enough to implement this knowledge (Evans et al., 2014).

Figure 1.12 ▪ Levels of Evidence-Based Treatments



Note: Treatments can be organized hierarchically based on their level of empirical support. Well-established treatments are supported by multiple, well-conducted experiments showing that the treatment is more effective than placebo (Southam-Gerow & Prinstein, 2014).

Evidence-based practice does not simply mean using evidence-based treatments. Clinicians must also apply their knowledge and experience to tailor interventions to meet the social–emotional needs of children and families. Imagine that a mother brings her son with ADHD to his first therapy session. The therapist might initially decide to use behavioral parent training. However, the therapist soon senses that the mother needs time in the initial session to describe her own frustration with her son's behavior and her ex-husband's lack of interest in sharing caregiving responsibilities. The skillful therapist knows that evidence-based treatments must be modified to address these needs. Consequently, the therapist might see her initial goal as providing empathy and support to a mother who feels powerless or isolated as a caregiver (McCabe et al., 2020).

Review

- Evidence-based practice refers to the integration of high-quality research and clinical expertise to promote the welfare of children and families. It considers the child and family's strengths and challenges, their cultural identities and backgrounds, and their preferences for treatment.
- Evidence-based treatments have been shown to reduce children's behavior problems and/or improve their functioning in high-quality, research studies.
- Evidence-based practice is important because it increases the likelihood that clinicians will help their clients and reduces the risk of harm.

What Professionals Help Children and Families?

The Helping Professions

Children's mental health problems are complex. As a result, their treatment often requires coordinated care from professionals with different educational backgrounds and training. In this section, we will learn about the different types of professionals who provide these services. There are so many helping

Treatment for children with mental health problems often requires coordinated care from professionals with diverse educational backgrounds.

professions relevant to children and families, we cannot review all of them here. However, we will examine some of the major fields of study with the hope that it might motivate you to learn more about these fields on your own (Luther & Morgan, 2019; Metz, 2017; Norcross & Sayette, 2023).

Psychologists assess, diagnose, and treat individuals with mental disorders. They hold a doctoral degree (PhD or PsyD) in clinical or counseling psychology. Psychologists are not physicians; consequently, most do not prescribe medication but instead rely on psychotherapy and other nonmedicinal interventions. Child psychologists complete a four- or five-year graduate program and a one-year internship accredited by the American Psychological Association (APA). Many also receive postdoctoral specialization in assessment, therapy, or neuropsychology. They work in hospitals, clinics, residential treatment facilities, private practice, and colleges/universities.

School psychologists assess, diagnose, and treat children with behavioral, cognitive, and social–emotional problems that interfere with their functioning at school. Most specialize in the identification and treatment of developmental and learning disabilities, deliver school-based mental health services, and act as liaisons between children's families and the school. Most have a specialist degree in education (EdS) or a doctoral degree in education or psychology (EdD or PhD) and are accredited by the National Association of School Psychologists or the APA.

Psychiatrists are physicians (MD or DO) who specialize in the assessment, diagnosis, and treatment of mental disorders. They complete medical school and a four-year residency in psychiatry and are certified by the American Board of Psychiatry and Neurology. Child psychiatrists specialize in mental disorders in children and adolescents. Most of their work involves prescribing psychotropic medications and monitoring children's response to treatment.

Pediatricians are physicians (MD or DO) who treat children and adolescents with medical illnesses. They may also prescribe psychotropic medications to children with disorders such as ADHD, anxiety, and depression. They complete medical school and a three-year pediatric residency and are certified by the American Board of Pediatrics. Developmental–behavioral pediatricians have specialization in evaluating and treating children with developmental disorders and behavior problems. They work in hospitals and clinics.

Psychiatric–mental health nurses are nurses who specialize in the treatment of individuals with mental disorders. Psychiatric–mental health nurse practitioners earn either a master's or doctoral degree and, in many states, can practice independently. They tend to work in hospitals, clinics, and residential treatment facilities.

Licensed professional counselors (LPCs) are professionals who treat mental health problems in children, adolescents, adults, and families. Most LPCs have a master's degree and have completed postgraduate supervised clinical work before practicing independently. LPCs often adopt a treatment approach that focuses on clients' strengths and goals, rather than disorders and limitations. LPCs work in community mental health centers and private practice.

Marriage and family therapists are mental health professionals trained in couples and family systems therapy. They are licensed to diagnose and treat mental and emotional disorders within the context of a couple or family. Most have a master's degree and work in outpatient clinics and private practice.

Social workers are professionals who provide counseling and support to individuals and families experiencing psychosocial stress. Most licensed social workers (LSWs) have a bachelor's or master's degree and provide case management services to children and families. Licensed clinical social workers (LCSWs) typically have a master's degree and can also provide therapy. They work in hospitals, clinics, residential treatment facilities, social service agencies, and schools.

Speech–language pathologists assess, diagnose, and treat communication disorders in children, such as language delays, articulation problems, and stuttering. They may also help children who have

language problems because of an injury, developmental disability, or autism. Most have a master's degree and work in schools, clinics, and hospitals.

Occupational therapists treat sick, injured, or disabled children through the therapeutic use of everyday activities and exercises. They help children develop, recover, and improve the skills needed for play, education, and daily living. They typically have a master's degree and work in schools, clinics, and hospitals.

Behavior analysts are professionals who use behavioral principles and techniques (e.g., modeling, prompting, reinforcement) to improve the functioning of children and adults with developmental disabilities such as autism spectrum disorder and intellectual disability. They work in schools, clinics, hospitals, residential facilities, and families' homes. Board certified behavior analysts have graduate-level training and can practice independently. Registered behavioral technicians and board certified assistant behavior analysts typically have high school and undergraduate degrees, respectively, and practice under supervision.

Special education teachers help students with cognitive, emotional, and physical disabilities. They adapt lessons to meet the needs of these students. Some also teach basic communication and daily living skills to students with severe disabilities. They typically have a bachelor's or master's degree in education with a teaching license and work in schools.

School counselors help students develop academic and social skills to succeed in school. Career counselors also assist youths with the process of making career decisions by helping them develop skills or choose a career or educational program. Most have a master's degree in school counseling and work in schools.

Child life experts are professionals who help children and families cope with psychosocial stressors through activities and play. They may help children separated from their families because of trauma or children hospitalized because of illness or injury. Most have a bachelor's degree with a background in child development and family systems. They work in clinics, residential treatment facilities, and hospitals.

Students as Evidence-Based Helpers

Students often find themselves providing services to children and families in need. Students work as aides for people with developmental disabilities; behavior therapists for youths with autism; tutors for children with learning disabilities; or psychological technicians in residential treatment facilities, juvenile detention centers, and hospitals. Students also provide paraprofessional services through volunteer experiences. For example, many students mentor at-risk youths, provide in-services to grade school and high school students, monitor telephone crisis hotlines, and help local community mental health centers.

Do you provide frontline services like these? If so, you can greatly help children, adolescents, and families in need. Although you may not be able to direct interventions, you can approach treatment from the perspective of psychological science. Here are three groups of questions to ask yourself as you help others:

1. What is the evidence for the intervention or service that I am providing? Is there a scientific basis for my work? Are there alternative services that might provide greater benefits to the people I serve?
2. Am I effective? Am I monitoring the effectiveness of the services I provide to determine whether I am helping my clients? Is there any possibility that I might be harming them?
3. During my work, do I respect the rights and dignity of others, conduct myself in a responsible and professional manner, and represent the field of psychology with integrity? Are my activities being supervised by someone who practices in an ethically and scientifically mindful manner?

As you read this book, consider how you might use scientific principles to inform your understanding of child mental health. A scientific approach to helping is not reserved for mental health

professionals. All people who work with youths are called upon to use scientific evidence to help improve the functioning of others.

Review

- Treatment often involves coordinated services from psychologists, physicians, teachers, and other professionals.
- Students can also use the principles of evidence-based practice when they volunteer to help children and families in need.

Why Is Ethical Treatment Important?

The APA Ethics Code

Ethics refers to the standard of behavior that is determined to be acceptable for a given profession. Ethics should not be confused with a person's morality—that is, her personal beliefs in the rightness or wrongness of a given behavior. Ethical behavior is determined by group consensus; morality is determined by one's personal convictions (Knapp et al., 2015). All mental health professionals adhere to a code of ethics that guides their professional practice. Different professional organizations have different ethics codes. These codes include the APA (2017) Ethical Principles of Psychologists and Code of Conduct, the National Association of School Psychologists (2020) Professional Standards, the American Counseling Association (2014) Code of Ethics, and the American School Counselor Association (2022) Ethical Standards for School Counselors. Because the APA Ethics Code is one of the most frequently used systems, we will examine it in greater detail.

The **APA Ethics Code** provides a common set of principles and standards upon which psychologists build their professional and scientific work (APA, 2017). The primary purpose of the APA Ethics Code is to protect the welfare of individuals with whom psychologists work (e.g., clients, research participants, students) and the public. Because the Ethics Code is endorsed by the APA, all APA members and student affiliates are required to be familiar with the code and adhere to its rules. Failure to adhere to the Ethics Code can result in sanctions from the APA, psychology licensing boards, and other professional organizations (Koocher & Campbell, 2018).

The first part of the Ethics Code describes five general **ethical principles**: broad ideals for the professional behavior of psychologists (Fisher, 2022). The ethical principles are aspirational in nature; they are not enforceable rules. Instead, the ethical principles describe the ideal standards of psychological practice toward which all psychologists should strive:

> *Beneficence and nonmaleficence:* Psychologists strive to benefit those with whom they work, and they take care to do no harm.
>
> *Fidelity and responsibility:* Psychologists establish relationships of trust, . . . are aware of their professional and scientific responsibilities, . . . uphold professional standards of conduct, clarify their professional roles and obligations, [and] accept appropriate responsibility for their behavior.
>
> *Integrity:* Psychologists seek to promote accuracy, honesty, and truthfulness in science, teaching, and the practice of psychology.
>
> *Justice:* Psychologists recognize that fairness and justice entitle all persons to access to and benefit from the contributions of psychology.
>
> *Respect for people's rights and dignity:* Psychologists respect the dignity and worth of all people and the rights of individuals to privacy, confidentiality, and self-determination.

The second part of the Ethics Code consists of the **ethical standards**: specific rules that guide professional practice and research. The ethical standards govern all major professional activities, including assessment, therapy, research, and teaching. Although there are too many ethical standards to describe

here, we will examine some of the rules that are most relevant to the treatment of children and adolescents. These rules fall into four categories (Koocher, 2008), sometimes called the Four Cs of ethics: (1) competence, (2) consent, (3) confidentiality, and (4) conflicts of interest.

Competence

According to the APA Ethics Code (2017), "psychologists provide services, teach, and conduct research with populations and in areas only within their boundaries of competence." **Competence** refers to the use of education, training, and professional experience to deliver evidence-based services to individuals and the community. Psychologists achieve and maintain competence in three ways. First, psychologists have the educational background necessary to assess, diagnose, and treat the children, families, and groups with whom they work. Second, psychologists seek additional training and supervised experiences to maintain their awareness of evidence-based practice and, perhaps, expand their clinical work to new populations. Third, psychologists monitor their own mental and physical health and sociocultural awareness to make sure that these factors do not limit their ability to deliver effective care (Knapp & Fingerhut, 2024).

Practicing within the boundaries of competence is important because it protects the welfare of clients. Psychologists who practice outside the boundaries of their competence will likely be less effective and risk harming their clients.

Competence is especially relevant to the assessment and treatment of children and adolescents. There is a shortage of clinicians who have received formal education and training in diagnosing and treating childhood disorders. Some clinicians, whose educational and clinical experiences largely focused on adults, may be tempted to provide care outside their boundaries of competence. Consider the case of Dr. Williams, a psychologist struggling with an ethical issue related to competence.

Case Study

Ethics With Children: Competence

Well-Intentioned Dr. Williams

Dr. Williams is a clinical psychologist who has 15 years of experience treating adults and couples with psychological problems, especially alcohol abuse. In fact, Dr. Williams has gained recognition in her community for her expertise in helping adults with chronic alcohol use problems. One day, she receives a telephone call from a mother who requested an appointment for her 15-year-old son. The son was recently suspended for bringing alcohol to a school athletic event and has been arrested for underage alcohol possession. Should Dr. Williams accept this client?

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Dr. Williams is an expert in treating substance use disorders in adults. However, she lacks specialized training and supervision in the treatment of adolescent substance use disorders. It would likely be unethical for her to offer services to adolescents without first receiving additional training. Ideally, Dr. Williams would participate in some additional coursework on adolescent substance use disorders and receive supervision from a colleague who has expertise in this area.

Competence is also relevant to psychology students. Students often serve on the front lines of mental health treatment for children. For example, some students deliver behavioral interventions to children with autism, others help administer summer treatment programs for youths with ADHD, and still others work in group homes or residential treatment facilities. Because of their status as students, they must receive supervision from psychologists or other licensed mental health professionals who accept responsibility for their work. Students should always feel comfortable with their level of supervision and never feel pressured to accept more responsibility than they have received training to provide. Equally as important, students should never feel embarrassed to ask for help from their supervisor.

Consent

Perhaps the best way to avoid ethical problems is to make sure that children and families know what they are agreeing to before they decide to participate in therapy. The Ethics Code requires psychologists to obtain **consent** from individuals before assessment, treatment, or research. The person must have the ability to understand the facts and consequences of participating in treatment. The person also must voluntarily agree to participate. Consent protects people's right to self-determination (Fisher, 2022).

Informed consent to therapy includes several components. First, individuals are entitled to a description of treatment, its anticipated risks and benefits, and an estimate of its duration and cost. Second, the psychologist must discuss alternative treatments that might be available and review the strengths and weaknesses of the recommended treatment approach. Third, psychologists must remind clients that participation is voluntary and that they are free to refuse treatment or withdraw from therapy at any time. Finally, psychologists should review the limits of confidentiality with their clients (APA, 2017).

Informed consent is especially important when treating children and adolescents. Children, unlike adults, rarely refer themselves to therapy. Instead, children and adolescents are usually referred to therapy by parents, teachers, other school personnel, pediatricians, or the juvenile court. Although these adults may want the child to participate in treatment, the child's motivation might be low. Consider Rachel, a girl who refuses to participate in therapy.

Case Study

Ethics With Children: Consent

Resentful Rachel

Rachel was an 11-year-old girl referred to our clinic by her guidance counselor for disruptive behavior at school. Rachel had been increasingly moody and recently initiated two loud arguments with teachers. Her parents admitted that Rachel showed similar outbursts at home and has alienated herself from many of her former friends at school and in the neighborhood.

During the first session, Rachel sat quietly between her parents with her arms crossed in a defensive manner. Rachel's mother reported, "Rachel has been touchy. She flies off the handle so easily, snaps at us, and then hides in her room for the rest of the evening." Her father added, "We're hoping you might be able to talk with her and identify the problem." At that point, Rachel uncrossed her arms, stood up, pointed at her parents, and yelled, "I'll tell you what the problem is! Him and her!" She exited the room, slamming the door behind her.

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Children and adolescents, by virtue of their age and legal status as minors, are usually not capable of providing consent. Consent implies that individuals both understand and freely agree to participate. Young children may not fully appreciate the risks and benefits of participation in treatment. Older children and adolescents, like Rachel, may not freely agree to participate because they may feel pressured by others. Instead, consent is obtained from parents or legal guardians. Then, psychologists obtain the assent of children and adolescents before providing services. To obtain **assent**, psychologists typically describe treatment using language that youths can understand, discuss goals for therapy that might be acceptable to the child, and ask the youth for tentative permission to initiate treatment (Flowers & Dawes, 2023). Although Rachel's parents provide consent for therapy, a skillful therapist knows that obtaining Rachel's assent is essential. Assent gives Rachel a voice in the initial stages of therapy and allows her to set goals (and parameters) for therapy that are important to her, not only to her parents and teachers (Knapp et al., 2015).

In rare cases, children can receive treatment without parental consent. For example, clinicians can provide therapy to children who are in crisis, such as those who are actively thinking about killing themselves. Similarly, clinicians can delay obtaining parental consent if youths seek treatment because of suspected abuse, neglect, or endangerment. Mental health professionals who work in clinics and schools may also provide short-term mental health services to youths who are pregnant, experience other sexual health concerns, or require help about similarly sensitive matters. The laws vary depending on one's location.

Confidentiality

Confidentiality refers to the expectation that information that clients provide during treatment will not be disclosed to others. The expectation of confidentiality serves at least two purposes. First, it increases the likelihood that people in need of mental health services will seek treatment. Second, it allows clients to disclose information more freely and facilitates the therapeutic process (Koocher & Campbell, 2018).

In most cases, confidentiality is an ethical and legal right of clients. Therapists who violate a client's right to confidentiality may be sanctioned by professional organizations and held legally liable. Many psychologists consider protecting clients' confidentiality the most important ethical standard (Trachsel et al., 2021).

Although clients have the right to expect confidentiality when discussing information with their therapists, clients should be aware that the information they disclose is not entirely private. There are certain *limits of confidentiality* that therapists must make known to clients, preferably during the first therapy session (DeMers & Siegel, 2018).

First, if the client is an imminent danger to self or others, the therapist is required to break confidentiality to protect the welfare of the client or someone the client threatens. For example, if an adolescent tells his therapist that he plans on killing himself after he leaves the therapy session, the therapist has a duty to notify the adolescent's parents or guardians to protect the adolescent from self-harm. The psychologist's duty to protect the health of the adolescent supersedes the adolescent's right to confidentiality.

Second, if the therapist suspects child abuse or neglect, the therapist is required to break confidentiality to protect the child. For example, if a 12-year-old girl reports being maltreated by her stepfather during therapy, the psychologist would have a duty to inform the girl's mother and the authorities to protect the child.

Third, in exceptional circumstances, a judge can issue a court order requiring the therapist to disclose information provided in therapy. For example, a judge might order a psychologist to provide information about an adolescent client who has been arrested for serious criminal activity.

Fourth, therapists can disclose limited information about clients to obtain payment for services. For example, therapists often need to provide information about clients to insurance companies. This information typically includes the client's name, demographic information, diagnosis, and a plan for treatment.

Fifth, therapists can disclose limited information about clients to colleagues to obtain consultation or supervision. It is usually acceptable for psychologists to describe clients' problems in general terms

to gain advice or recommendations from other professionals. However, therapists only provide information to colleagues that is necessary for them to receive help, and they avoid using names and other identifying information.

Therapists also have a duty to protect children and adolescents from harm when they know youths are engaging in potentially dangerous behaviors. Frequently, ethical dilemmas arise when the therapist's duty to protect children comes into conflict with the therapist's responsibility to protect confidentiality. Consider Renae, a girl who is testing the limits of confidentiality.

Case Study

Ethics With Children: Confidentiality

Risqué Renae

Renae is a 16-year-old high school sophomore who was participating in therapy for long-standing problems with depression. During one session, Renae tells her therapist that her parents are leaving for an overnight trip that weekend and she intends to have sex with her boyfriend while they are gone. She explains that this decision is "huge" because she has never had sex with anyone before.

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Renae's therapist asks questions about Renae's sexual health and access to birth control. She also wants to know if Renae is experiencing any pressure to initiate a sexual relationship. Should Renae's decision to have sex remain confidential, between Renae and her therapist, or do her parents have a right to know her plans?

When therapists face decisions about confidentiality, they must weigh two factors: (1) the frequency, intensity, and duration of the potentially harmful or maladaptive behavior and (2) the importance of maintaining the therapeutic process (Sullivan et al., 2010). In general, therapists are more likely to break confidentiality as the risk of harm increases. For example, if Renae's decision to have sex was made freely and if she was at low risk for pregnancy or illness, most therapists would respect her confidentiality. However, if we learned that Renae's "boyfriend" was a 25-year-old man that she met online, we would need to take steps to protect her from harm. In any case, therapists place considerable importance on maintaining the therapeutic relationship. Would Renae ever trust her therapist (or any other therapist) if the therapist disclosed this information to Renae's parents? What might the implications of disclosure be on Renae's long-term mental health?

According to the Health Insurance Portability and Accountability Act (HIPAA), the right to confidentiality is held by children's parents, not by children themselves. Consequently, parents have the right to the information their children disclose in therapy (Chung et al., 2025). Therapists must balance parents' rights with adolescents' expectations for confidentiality. On one hand, parents have the right to know about the medical and psychological treatment for their children; on the other hand, adolescents are unlikely to fully participate in therapy if their thoughts and feelings are shared with parents without their permission.

Most psychologists raise the issue of confidentiality with parents and teens early in treatment. Here is one strategy:

> Psychotherapy works best when adolescents have confidence in the privacy of their conversations. At the same time, parents want to feel confident about their adolescent's well-being and safety. Since you (parents) were once teenagers, you certainly know that an adolescent may want to use therapy to talk about sex, alcohol, or other activities. Let's discuss about how we can assure your child's confidentiality so she can talk openly about what's on her mind, and at the same time assure you (parents) about your adolescent's safety. (Koocher & Daniel, 2012)

Conflicts of Interest

Usually, when parents seek treatment for their children, they have their children's best interests at heart. Occasionally, however, ethical issues arise when it is unclear whether psychologists are providing services to children or to their parents. The Ethics Code indicates that psychologists must avoid such conflicts of interest—that is, instances in which the psychologist engages in relationships that impair her objectivity, competence, or effectiveness with her client.

Conflicts of interest can arise in child and adolescent therapy in several ways. One conflict occurs when a therapist is in a professional role with the child and then (inadvertently) enters into another role with the child's parent. Consider the case of Margaret, a girl who presents a dilemma to her therapist related to a potential conflict of interest.

Case Study

Ethics With Children: Conflicts of Interest

Margaret's Mournful Mother

Margaret was a 12-year-old girl who was referred to our clinic for oppositional and defiant behavior. Although Margaret was largely compliant at school, she would frequently disrespect her mother and throw tantrums to avoid responsibilities at home.

The therapist met with Margaret's mother to gain additional information. During the conversation, it became clear that Margaret's mother was very depressed and was experiencing considerable marital problems with Margaret's father. She said she was having a hard time caring for Margaret and performing her other responsibilities at home and work. She also admitted to thoughts of suicide.

The therapist believed that Margaret's disruptive behavior was connected to her mother's depressed mood. She offered to counsel Margaret's mother individually, in addition to providing therapy for Margaret's disruptive behavior. Was this a good decision?

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Although well intentioned, the therapist entered into a multiple relationship with Margaret and her mother. A **multiple relationship** occurs when a psychologist, who is in a professional role with a client, enters into another relationship with the same individual or a person closely associated with that individual. Multiple relationships are problematic when they impair the objectivity of services that psychologists provide (Knapp & Fingerhut, 2024). Would the therapist be able to effectively treat Margaret while also simultaneously providing services to her mother? Might it be better for the therapist to refer Margaret's mother to another provider?

Conflicts of interest can also occur in situations of separation and divorce (Shumaker & Medoff, 2013). Imagine that Margaret's family situation goes from bad to worse. Margaret's father decides to divorce Margaret's mother and seek custody of Margaret. Her father requests Margaret's psychological records, which include information about her mother's depressed mood and difficulty caring for Margaret. He intends on using this information to gain custody of his daughter.

The therapist now finds herself serving as a therapist for Margaret, a therapist for her mother, and a potential witness for her father. Clearly, the therapist's objectivity is threatened! At this point, the therapist must make this conflict known to both adults and explain the importance of limiting access to Margaret's records.

Therapists can avoid conflicts of interests by asking this question: Who is my client? In many instances, therapists identify the child or the entire family as their client. In these instances, the therapist does not provide services to other members of the family independently. If parents present goals in therapy that are separate from those of their child or the family, the therapist will acknowledge those goals but refer the parent to another provider to avoid a multiple relationship (Koocher & Campbell, 2018).

Review

- Ethical practice increases the likelihood that a clinician will help her client (i.e., beneficence) and avoid harm (i.e., nonmaleficence).
- The APA Ethics Code consists of broad ethical principles (i.e., aspirational goals) that guide psychologists' professional activities, and specific standards (i.e., rules) they must follow when conducting research, helping clients, or interacting with the public.
- Four ethical standards are especially important when working with children and families: (1) competence, (2) consent, (3) confidentiality, and (4) conflicts of interest. They are sometimes called the Four Cs of professional ethics.

Key Terms

APA Ethics Code
Assent
Categorical classification
Comorbidity
Competence
Confidentiality
Consent
Culture
Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR)
Dimensional classification
Ethical principles
Ethical standards
Ethics
Ethnicity
Evidence-based practice
Evidence-based treatments
Harmful dysfunction
Incidence
International Classification of Diseases 11th Revision (ICD-11)
Mental disorder
Mental health
Multiple relationship
Prevalence
Psychotropic medication
Race
Research Domain Criteria (RDoC)
Sign
Socioeconomic status (SES)
Specifier
Stigma
Subtype
Symptom
Syndrome

Critical Thinking Exercises

1. According to DSM-5-TR, a mental disorder is a pattern of behavior characterized by distress or disability that resides within the individual. What are some limitations to this definition, especially when it is applied to children and adolescents?
2. Approximately 40% of youths in the general population who have a mental disorder have at least one other comorbid condition. However, comorbidity among children referred to mental health clinics is much higher: between 70% and 80%. What might explain this difference?
3. Abdi is a 14-year-old boy who was sent to the emergency department of a hospital following a suicide attempt. Abdi, a recent Somali immigrant, does not speak English. After Abdi was medically stable, the psychologist at the hospital interviewed him through a translator to determine whether he met diagnostic criteria for depression or another mental disorder. If you were the psychologist, what considerations might you keep in mind while interviewing Abdi?
4. Allison is a psychology major who is interested in working with children and families after graduation. Allison does not want to earn a doctoral or medical degree. What are some other career options for her? How might she find more information about those careers?
5. Taylor is a student intern at a community mental health center. During her internship, she suspects that one of her clients, a 9-year-old-boy, may be physically abused by his parents. The boy's parents engage in "rough discipline" such as hard spanking. The boy has never complained and there have never been any marks on his body. What should Taylor do?

Test Yourself and Extend Your Learning

Case studies, flashcards, and links to online resources for this chapter are available to students. Instructors also have access to instructional materials. Please visit collegepublishing.sagepub.com.

Chapter 2

Theories of Development

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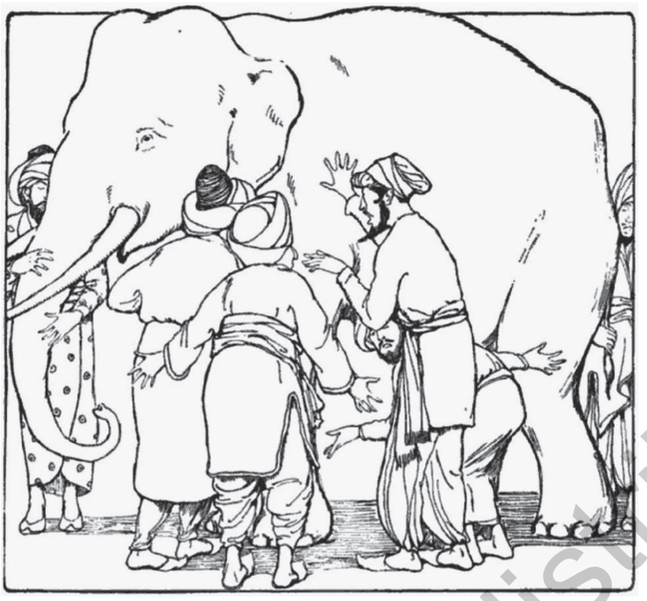
Learning Objectives

- **2.1** Summarize the basic principles of developmental psychopathology as a method to study the emergence of children's behavior problems.
- **2.2** Explain how genetic, epigenetic, and other biological factors can place youths at risk for mental health problems.
- **2.3** Describe the way psychological factors (i.e., thoughts, feelings, and actions) can contribute to the emergence of mental disorders in youths.
- **2.4** Discuss the way social–cultural factors can influence children's development both proximally and distally.

Developmental Psychopathology

Long ago, six blind men came upon an elephant. Each man touched a different part of the beast to determine what it was. The man who felt a leg said the elephant is like a pillar; the man who felt the tail said the elephant is like a rope; the man who felt the ear said the elephant is like a fan, and so on.



The Blind Men and the Elephant

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The men quarreled with each other over the identity of the elephant until the king, who was not blind, approached. The king resolved their dispute by saying, "All of you are right, but only partially. The reason for your disagreement is that each of you is touching a different part of the animal. You must work together to get the complete picture."

Like the men in the story, psychologists try to understand the causes of childhood disorders using a range of approaches. Some psychologists study the biological underpinnings of behavior; others focus on children's actions, thoughts, or emotions; and others investigate the impact of family, friends, and society on development. Although each approach is helpful, it yields only part of the picture (Engel, 1977).

For example, if scientists try to understand autism in terms of genetics or brain abnormalities alone, then they ignore the role that devoted parents and high-quality schools can play in the developmental outcomes of children with that condition. Although biology plays an important role in the emergence of autism, the long-term functioning of these children is shaped by the quality of care they receive from people in their lives.

Similarly, a researcher who believes that eating disorders are caused by unrealistic portrayals of women and girls in the media may overlook the way operant conditioning can be used to explain dangerous behaviors like bingeing and purging. Although television, movies, and other media can contribute to unhealthy eating behavior in teens, other factors can also affect the emergence and maintenance of this disorder over time. Children's psychological problems are complex and multiply determined. They are best understood when we approach them from biological, psychological, and social-cultural perspectives (Cicchetti, 2019).

What Is Developmental Psychopathology?

Development Over Time

Developmental psychopathology is a multidisciplinary approach to understanding human development and the emergence of mental health problems over time (Beauchaine & Cicchetti, 2020; Rutter & Sroufe, 2000). Developmental psychopathologists try to identify the causes of children's disorders across three broad levels of analysis:

1. *Biological*, including children's genes, brain structure and functioning, and physical health and development;
2. *Psychological*, including children's thoughts, feelings, and actions; and
3. *Social–cultural*, including children's family, friends, schools, neighborhoods, and cultural background.

Developmental psychopathologists integrate data from across these three levels to provide the clearest picture of the causes of children's problems and to find the best way to treat them (Hinshaw & Beauchaine, 2015). They use the term **probabilistic epigenesis** to describe the way factors on each level interact to shape children's development over time (Cicchetti, 2016a, 2016b).

To understand the way each level of analysis influences the others, consider Nina, a child with Down syndrome. As you probably know, Down syndrome is a genetic disorder caused by a mutation of the 21st chromosome (Level 1: Biological). This genetic mutation caused Nina's brain and central nervous system to develop in an atypical fashion. She showed structural irregularities in brain regions important for verbal reasoning, memory, and learning.

These biological abnormalities, in turn, affected her psychological functioning during early childhood (Level 2: Psychological). Nina's parents noticed delays in her motor abilities, use of language, and self-care skills. In school, she learned to read, write, and count more slowly than other children.

These psychological characteristics affected the type of care Nina received from parents and teachers (Level 3: Social–Cultural). Nina's mother was understandably very protective, and her teachers offered Nina extra help in school. Nina's cognitive functioning also affected her relationships with peers. Nina preferred to play with younger children rather than her classmates. By the time Nina reached junior high school, she was behind her peers academically. However, Nina was able to spend half the school day in a regular sixth-grade classroom, assisted by an aide. She spent the remainder of the day in a special education class. These extra services offered by her school district enabled Nina to begin a part-time job during high school. Nina's story illustrates the unfolding of development over time. Each level of development affects the one beyond it.

Developmental epigenesis is also a bidirectional process. Genetic and biological factors certainly affect psychological and social–cultural functioning; however, psychological and social–cultural factors can also determine the effects of genes and biology on development. Many experts use the term *transactional* to refer to the way factors across levels affect each other over time (Sameroff, 2000).

To understand the transactional nature of development, consider Anthony, another child with Down syndrome. Anthony's mother, Anita, was initially heartbroken when her obstetrician told her that Anthony had this condition (Level 1: Biological). Rather than despair, Anita decided that she was going to maximize her son's potential by giving him the most enriching early environment that she could provide. Anita spent countless hours talking to Anthony, reading books, listening to music, playing games, and going on outings (Level 3: Social–Cultural).

Anita also learned to capitalize on Anthony's strengths. For example, she noticed that Anthony acquired skills best through hands-on learning rather than through verbal instruction. Although Anthony acquired language and daily living skills slowly, Anita had high expectations for him. She remained patient and provided structure and help so that Anthony might learn these skills independently. Anita enrolled Anthony in a special needs preschool and was heavily involved throughout his education (Level 2: Psychological). Anthony developed good language and daily living skills and was able to graduate with his high school class. Today, Anthony is employed full-time, lives independently, and enjoys bowling and fishing with friends.

Understanding and predicting child development is difficult for two reasons. First, development is influenced by many factors across multiple levels: genes, biology, psychology, family, and society. Second, these factors are constantly changing over time, each interacting with the others. Consequently, no single factor determines children's outcomes. Instead, the unfolding of development is probabilistic; a person's developmental outcome can vary depending on the interplay of many biological, psychological, and social–cultural factors. Developmental psychopathologists use the term *probabilistic* to refer to the complex transaction of factors that shape development over time (Russotti et al., 2021; Rutter & Sroufe, 2000).

Adaptive vs. Maladaptive Behavior

From the perspective of developmental psychopathology, mental health is determined by the degree to which behavior promotes children's competence. **Adaptive behavior** allows children to develop social, emotional, and behavioral competence over time and meet the changing demands of their environment.

Examples of adaptive behavior include toddlers learning to understand other people's emotional states, school-age children learning to think before acting, and adolescents using moral reasoning to solve interpersonal problems. These behaviors are adaptive because they allow children to understand and interact with their environment in an effective and flexible way (Cicchetti, 2019).

Maladaptive behavior interferes with children's social, emotional, and behavioral competence or does not meet the changing demands of the environment. Examples of maladaptive behaviors include toddlers who do not understand others' emotional expressions or withdraw from social interactions, school-age children who impulsively hit others when they are angry, and adolescents who break rules or mistreat peers. These behaviors are considered maladaptive because they indicate a failure to develop competencies and they interfere with children's social–emotional well-being (Cicchetti, 2019).

Adaptive behavior is determined by the child's *developmental context*, this is, it depends on children's age and level of development. Consider a 2-year-old boy who refuses to dress in the morning and tantrums when told that he cannot have cookies for breakfast. Although these oppositional behaviors cause parents grief, they are usually not considered maladaptive in 2-year-olds. In fact, stubbornness can reflect toddlers' developmentally appropriate bids for autonomy. However, the same behaviors shown by a 6-year-old child would likely be considered maladaptive. In the context of his age and level of development, these behaviors likely reflect problems balancing needs for autonomy with respect for parental authority (Burt et al., 2016).

Behavior must be understood in the context of children's age and level of development. Although tantrums are developmentally expected in toddlers, they can be signs of maladaptation when shown by older children.

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Adaptive behavior is also determined by the child's *environmental context*, that is, it depends on children's surroundings. Consider Xavier, a 13-year-old boy who has a history of running away from home, staying out all night, skipping school, and earning low grades. Clearly, Xavier's behavior is problematic. However, if we discover that Xavier is also experiencing physical abuse at home, we might see how his problematic behavior reflects an attempt to cope with maltreatment. Xavier runs away and stays out all night to avoid abuse and has difficulty completing assignments and attending school because of his stressful home environment. Xavier's actions are best understood in terms of his environmental context.

Our ability to recognize, understand, and treat childhood's behavioral, cognitive, and social-emotional problems depends on our knowledge of typical child development. Consider George, a 16-year-old boy who begins drinking with friends at parties. Approximately once every month for the past 6 months, George has consumed several alcoholic beverages while partying with friends. He drinks to have fun and has never gotten into trouble or put himself in dangerous situations while intoxicated. Consider also Maria, a 14-year-old girl who is dieting to lose weight. Although Maria's weight is average for a girl her age and height, she is dissatisfied with her body and feels like she needs to lose at least 15 pounds. Whether we regard George and Maria's actions as maladaptive and indicators of a mental health problem depends partially on whether their behaviors are atypical of adolescents their age or inconsistent with the environmental demands they face. We need to know something about typical development in adolescents to determine if their behavior is atypical and potentially problematic (Masten & Kalstabakken, 2019).

Developmental psychopathologists also believe that children's mental health problems can shed light on typical child and adolescent development. Youths who clearly show delays in mastering developmental tasks or failures in meeting environmental demands can teach us how development typically proceeds. For example, children with autism have problems perceiving and interpreting other people's social behavior. By studying these deficits, researchers are beginning to understand how the ability to process social information develops in infants and children without autism (Toth & Manly, 2020).

Review

- Development is shaped by multiple factors across three broad levels of analysis: biological, psychological, and social–cultural. Development is probabilistic rather than predetermined. Development is also transactional; each factor influences the others over time.
- Developmental psychopathologists view behaviors as either adaptive or maladaptive. Adaptive thoughts, feelings, and actions promote children's competence.
- Adaptive and maladaptive behaviors can only be understood in the context of the child's development and environment. A behavior that was adaptive in one situation or in the past might be maladaptive in another situation or at a different time.

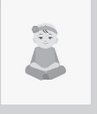
What Affects the Course of Development?

Developmental Pathways

As children grow, they face certain **developmental tasks** or behavioral, cognitive, or social-emotional challenges that depend on their age and developmental level. Erik Erikson (1963) outlined some of the most important social and emotional tasks facing individuals over the lifespan. For example, the primary developmental task facing infants is to establish a sense of trust in a loving and responsive caregiver. Infants must expect their caregivers to be sensitive and responsive to their physical, social, and emotional needs and to see themselves as worthy of receiving this care and attention from others. A primary developmental task of adolescence is to establish a sense of identity. Adolescents must develop a coherent sense of self that links childhood experiences with their goals for adulthood. People usually accomplish this task by trying different social roles during their teenage years (Figure 2.1).

Developmental psychopathologists use the term **developmental pathway** to describe the course or trajectory of children's development (Masten & Kalstabakken, 2019). Developmental tasks present forks in this pathway. The child can either successfully master the developmental task or have problems with its successful resolution. Mastery of developmental tasks leads to competence, placing children

Figure 2.1 ▪ Common Developmental Tasks Across Childhood and Adolescence

Stage		Developmental tasks
	Infants and toddlers	• Attachment to caregivers • Basic motor skills: sitting, standing, walking, jumping • Acquiring basic speech and language skills • Achieving a sense of autonomy from parents
	Younger children	• Taking care of self and helping out at home • Obeying the rules at home, school, and in public • Learning basic academic skills: reading, spelling, writing, arithmetic • Making and keeping friends
	Older children	• Greater independence outside the home (e.g., after-school activities, sports) • Mastering more advanced academic skills: creative writing, science, advanced math • Developing a personal identity or sense of self • Fostering close relationships with peers
	Teens	• Greater involvement in clubs, volunteer work, or a part-time job • Preparing for full-time employment, job training, or college • Obeying the laws of society (e.g., curfew, driving a car, substance use) • Building close friendships and possible romantic relationships

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on course for optimal development. However, failure to master early developmental tasks can interfere with the development of later skills and abilities.

For example, infants who establish a sense of basic trust in caregivers may be better able to make and keep friends in later childhood. However, failure to establish a sense of trust in caregivers during infancy may interfere with children's abilities to develop close peer relationships later in childhood (Handley et al., 2020). Similarly, young children who learn to regulate their behavior and emotions may be able to pay attention in school and cope with minor setbacks and disputes with their classmates. However, young children who continue to tantrum or act aggressively when they do not get their way may be ostracized by their peers (Beauchaine & Cicchetti, 2020). Consider Carter, a boy heading down a problematic developmental pathway.

Case Study

Developmental Pathways

A Pathway to Trouble

Carter was a 13-year-old boy who was referred to the psychologist at his school because of fighting. Although Carter's most immediate problem was getting into fights with other boys at lunch and after school, the psychologist knew that Carter's problems began much earlier. As a preschooler, Carter was physically abused by his mother's live-in boyfriend. Like many children who experience maltreatment, Carter developed problems trusting adults—especially men. He was reluctant to develop close emotional ties with others or to rely on others when he was sad, scared, or in need of comfort and reassurance. Instead, Carter became mistrustful of others and often expected others to be angry or hurtful toward him. These early experiences placed him on a developmental path strewn with many obstacles toward a healthy view of himself and others.

Carter's early experience of maltreatment also taught him that physical aggression can be an effective, short-term strategy for expressing anger and solving interpersonal problems. Instead of learning to avoid arguments or to regulate his emotions, Carter tended to solve disputes by yelling, pushing, or punching. These aggressive actions interfered with his ability to develop more adaptive, prosocial problem-solving strategies and led him further along a path to long-term problems.

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Now in middle school, Carter has few friends and is actively disliked by most of his peers. Because of his social rejection, Carter spends time with other peer-rejected youths who introduce him to more serious, disruptive behavior: truancy, vandalism, and alcohol use. Carter is following a path blazed by many youths who show conduct problems and antisocial behavior in adolescence.

Luckily, it is not too late for Carter. His school psychologist might help him find ways to reconnect with prosocial peers. Maybe Carter can join a sports team or after-school club? The psychologist might also be able to teach Carter new strategies to regulate his emotions and solve social problems so that he does not have to rely on fighting. Most importantly, perhaps the psychologist's actions and empathy can convince Carter to trust other adults. Interventions like these can help Carter find a new path to adulthood that is characterized by behavioral, social, and emotional competence.

We can also think of development as analogous to a building. Our genetic endowment might form the foundation of the building, providing us with our physical attributes, raw neurobiological potentials, and behavioral predispositions. The ground floor might consist of early environmental experiences, such as our prenatal surroundings or the conditions of our gestation and delivery. Subsequent

floors might consist of postnatal experiences, such as our nutrition and health care, the relationships we develop with our parents and other caregivers, the quality of our education, and the friends we make in school. The integrity of the upper levels of our "building" is partially determined by the strength of the lower levels. For example, problems with the foundation will place additional challenges on the formation of higher levels. However, especially well-developed higher levels can partially compensate for difficulties in the foundation.

The building does not exist in a vacuum, however. The context in which the structure is created is also important. Just as temperature, wind, and rain can affect the construction of a building, so, too, can the child's social–cultural climate affect his development. Social and cultural conditions can promote the child's psychological integrity: high-quality schools, safe neighborhoods, and communities that protect and value children and families. Other social and cultural factors, such as exposure to poverty and crime, can compromise development.

Continuity vs. Change

Developmental psychopathologists are also interested in predicting the course of development. Some psychological problems tend to be developmentally transient; they rarely persist into adolescence or adulthood. For example, elimination disorders (e.g., bed-wetting and soiling) tend to exist only during early childhood.

Other disorders show **homotypic continuity**—that is, they persist from childhood to adolescence or adulthood relatively unchanged. For example, young children with intellectual disabilities or autism will likely continue to experience these conditions as adults. Although the severity of these problems may decrease over time, these children will likely continue to experience problems with cognition or social communication, respectively (Maughan & Rutter, 2010).

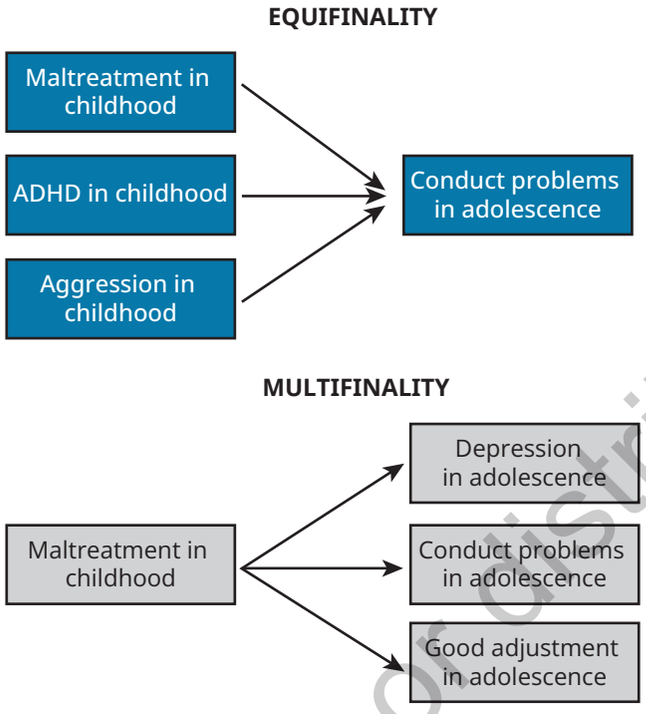
Most childhood disorders, however, show **heterotypic continuity**—that is, children's overt signs and symptoms change over time, but their underlying pattern of behavior remains the same. To understand heterotypic continuity, consider Ben, a 6-year-old boy diagnosed with attention-deficit/hyperactivity disorder (ADHD). Like most young boys with ADHD, Ben's most salient problem is hyperactivity; he frequently leaves his seat during class, talks with his neighbors, and fidgets with his clothes and belongings. By middle school, however, Ben shows more problems with inattention than hyperactivity. He has difficulty staying focused during class, remembering to complete his homework, and ignoring distractions during exams. As a young adult, Ben continues to experience ADHD, but he is most bothered by problems with organization, planning, and prioritizing activities at home and at work. He no longer fidgets, but he often feels restless. Although Ben's most immediate symptoms have changed, his underlying problems with attention and inhibition have persisted over time (Brunkhorst-Kanaan, 2021). Another example of heterotypic continuity can be seen in Emma, an extremely shy preschooler. Approximately 15% of infants inherit a temperament that predisposes them to become shy and inhibited when placed in unfamiliar situations. Emma, who inherited this tendency, developed extreme anxiety when separated from her mother. She would cry, tantrum, and become physically ill when her mother would leave her at preschool. Although Emma's separation anxiety gradually declined, she began experiencing problems with chronic worrying in middle school. Now, as a young adult, Emma continues to experience problems with both anxiety and depression. Although Emma's symptoms have changed over time, her pattern of underlying emotional distress has persisted into adulthood (Fox et al., 2023).

Equifinality and Multifinality

Not all childhood disorders persist over time. Why do some conditions show continuity, whereas others do not? Developmental psychopathologists are very interested in individual differences in these divergent developmental outcomes. Predicting individual differences in development is extremely difficult because many factors interact over time to affect children's functioning. The interactions between factors, over time, produce two phenomena: equifinality and multifinality (Yang et al., 2025).

Equifinality occurs when children with different developmental histories show similar developmental outcomes (Figure 2.2). Imagine that you are a psychologist who conducts evaluations for a

Figure 2.2 ▪ Equifinality and Multifinality



Note: Equifinality occurs when children with different histories show the same outcome; multifinality occurs when children with the same history show different outcomes.

juvenile court. As part of your duties, you assess adolescent boys who have been arrested for illegal activities to make recommendations to the court regarding treatment. All the boys that you assess have similar developmental outcomes; they all show conduct problems like fighting, stealing, or vandalism. However, after you interview many of the boys, you discover that their developmental histories are quite different. Some boys were physically abused in early childhood. Other boys had problems with ADHD and risk-taking behavior. Still other boys had long histories of aggression and substance use. Your discovery illustrates the principle of equifinality in child development: There are many different paths to the same developmental outcome.

Multifinality occurs when children with similar early experiences show different developmental outcomes. Imagine that you are a clinical social worker who evaluates children who have been physically abused. You notice that some of these children show long-term emotional and behavioral problems, whereas others seem to show few long-term effects. Your observation reflects the principle of multifinality: Children with similar early experiences can show different developmental outcomes.

The principle of equifinality makes it hard to determine the cause of a child's disorder. Because of equifinality, we usually cannot infer the causes of children's problems based on their current symptoms. For example, many people incorrectly believe that all adolescents who sexually abuse younger children were, themselves, sexually abused. On the contrary, adolescents engage in sexual abuse for many reasons, not only because they were victimized themselves (Fox & DeLisi, 2019).

The principle of multifinality limits our ability to predict a child's developmental outcome. For example, many people erroneously believe that if a child has been sexually abused, he is likely to exhibit a host of emotional and behavioral problems later in life, ranging from sexual dysfunctions and aggression to depression and anxiety. In fact, the developmental outcomes of boys and girls who have been sexually abused vary. Some children show significant maladjustment while others show few long-term effects. Their diversity of outcomes illustrates the difficulty in making predictions regarding development (Hinshaw & Beauchaine, 2015).

Review

- Developmental pathways reflect the way children face developmental tasks over time. Competence in early developmental tasks (e.g., trust in infancy) can promote competence in later tasks (e.g., friendships in adolescence).
- Some disorders, like autism, show homotypic continuity; they remain relatively stable over time. Most disorders, such as ADHD and emotional disorders, show heterotypic continuity; the overt signs and symptoms of the disorder change over time, but the underlying problem remains relatively constant.
- Equifinality occurs when children with different histories show the same outcome. Multifinality occurs when children with the same history show different outcomes.

Why Do Some Children Have Better Outcomes Than Others?

Risk and Protective Factors

What explains equifinality and multifinality? Why is there such great variability in children's developmental pathways? The answer is that child development is multiply determined by the complex interplay of biological, psychological, and social–cultural factors. Some of these factors promote healthy, adaptive development, whereas others increase the likelihood that children will follow more maladaptive developmental paths.

Developmental psychopathologists use the term **risk factors** to describe influences on development that interfere with the acquisition of children's competencies or compromise children's ability to adapt to their environments. Risk factors can be biological, psychological, or social–cultural (Cicchetti, 2016a).

In general, the more risk factors experienced by children, the greater their likelihood of developing a disorder. For example, several large studies have counted the number of adverse childhood experiences (ACEs) youths encountered growing up, such as maltreatment, witnessing family violence, experiencing poverty, or having a parent with a chronic mental health or substance use problem. Children with multiple adverse experiences were at significantly greater risk for developing physical and mental health problems in adolescence and adulthood (Lacey & Minnis, 2020; Rutter, 1978; Sameroff et al., 1987). Moreover, certain adverse experiences appear to interact with in a synergistic fashion, placing youths at greatly elevated risk for later problems: sexual abuse, physical abuse, neglect, and exposure to domestic violence (Briggs et al., 2021).

Not all youths who experience these risk factors develop mental health problems, however. **Protective factors** refer to biological, psychological, and social–cultural influences that buffer the negative effects of risks on children's development and promote adaptation. For example, parental divorce is a risk factor for behavioral and emotional disorders in young children, especially in families experiencing chronic stress and economic adversity (Cao et al., 2022). However, certain factors protect children of divorced parents from developing problems. These protective factors include the child's temperament or innate emotional disposition (a biological factor), the quality of the parent–child relationship (a psychological factor), and the degree to which parents can rely on others for support (a social–cultural factor).

The salience of a risk factor depends on the child's age, gender, level of development, and environmental context. For example, child sexual abuse is a risk factor for later psychosocial problems (Noll, 2021). However, the effects of sexual abuse depend on the gender of the child and the age at which the abuse occurs. Boys often show the greatest adverse effects of sexual victimization if they are abused in early childhood, whereas girls often show the poorest developmental outcomes if abuse occurs during early adolescence. Similarly, the ability of protective factors to buffer children from the harmful effects of risk depends on context. For example, many children who experience sexual abuse report considerable distress and impairment. However, children with a caring, nonoffending parent are often able to cope with this stressor more effectively than youths without the presence of a supportive caregiver (Cohen et al., 2019).

Resilience

Protective factors promote resilience in at-risk youths. **Resilience** refers to the tendency of some children to develop competence despite the presence of multiple risk factors (Masten, 2021). Consider Ramon and Rafael, two brothers growing up in the same low-income, high-crime neighborhood but experiencing different outcomes.

Case Study

Risk and Resilience

Divergent Developmental Paths

Ramon and Rafael are brothers growing up in the same impoverished neighborhood. Ramon, the older brother, begins showing disruptive behavior at a young age. He is disrespectful to his mother, defiant toward his teachers, and uninterested in school. By late elementary school, he has been suspended several times for fighting and being truant. In junior high school, Ramon associates with peers who introduce him to other antisocial behaviors, such as shoplifting and breaking into cars. By adolescence, Ramon rarely attends school and earns money selling drugs. At 15, Ramon is removed from his mother's custody because of his antisocial behavior and truancy.

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Rafael, the younger brother, also shows early problems with defiance and aggression. However, these problems do not persist beyond the early elementary school years. Although Rafael does not enjoy school, he befriends an art teacher who recognizes his talent for drawing. The teacher offers to tutor him in art and help him show his work. Rafael also takes art classes at a local community center to learn new mediums. Through these classes, he meets other adolescents interested in drawing and painting. Rafael's grades in high school are generally low; however, he excels in art, music, and draftsmanship. He graduates with his class and studies interior design at community college.

What accounts for Ramon's struggles and Rafael's resilience? Although there is no easy answer, a partial explanation might be the presence of protective factors at just the right time in Rafael's development. Ramon's path to antisocial behavior was probably facilitated by peers who introduced him to criminal activities. In contrast, Rafael's peer group encouraged prosocial activities and the development of artistic competence. If Rafael's teacher did not encourage the development of his talents until later in Rafael's development, perhaps after he developed friendships with deviant peers, would he have followed the same developmental pathway as Ramon? Although we do not know for sure, we can speculate that these protective factors played an important role in his ability to achieve despite multiple risks (Masten & Cicchetti, 2016).

Most protective factors occur spontaneously: A teacher nurtures a special talent in an at-risk youth, a coach encourages a boy with depression to join a team, or a girl who has been abused is adopted by loving parents. Sometimes, however, protective factors are planned to prevent the emergence of disorders. For example, communities may offer free infant and toddler screenings to identify and help children with developmental disabilities at an early age. Schools may offer prevention programs for students at risk for learning disabilities. Even psychotherapy can be seen as a protective factor by helping children and adolescents alter developmental trajectories and promote long-term well-being (Masten & Kalstabakken, 2019).

Review

- Risk factors interfere with the acquisition of children's competence or their ability to adapt to their surroundings. Protective factors buffer children from risks.
- Resilience occurs when children develop competence despite the presence of multiple risk factors.

Biological Influences on Development

How Can Genes Affect Development?

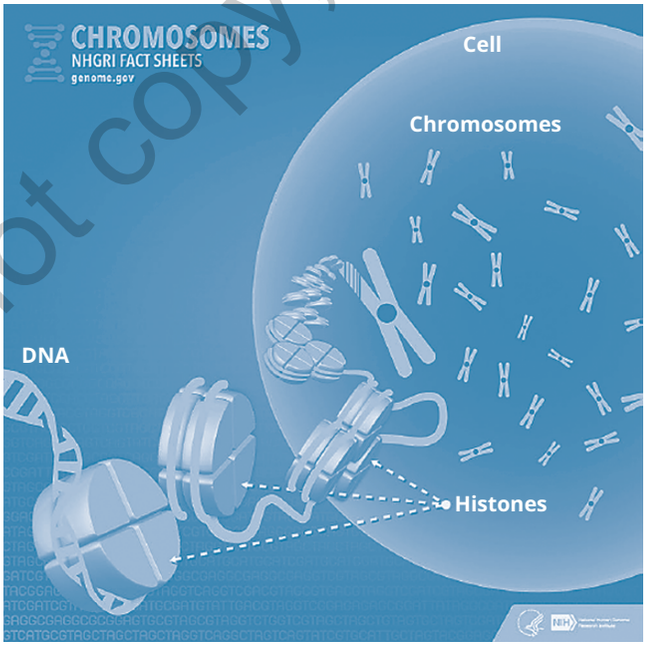
Genes and Chromosomes

Our body contains approximately 50 trillion cells, each containing our complete genetic code. The code is written using deoxyribonucleic acid (DNA). DNA is shaped like a twisted ladder, or double helix. The "ropes" of the ladder are made up of sugars (deoxyribose) and phosphates. The "rungs" of the ladder consist of pairs of chemical bases held together by hydrogen bonds. Their structures allow them to combine only in certain ways, forming our unique genetic blueprint. DNA instructs each cell to build proteins, which form the structure and characteristics of the person (Tasman et al., 2024).

Segments of DNA are organized into **genes**. A single human cell contains approximately 20,000 genes. If the genes in each cell were connected end to end, they would be approximately 2 meters long. To save space in the cell, genes wrap around special proteins called histones. **Histones** are important because they can turn genes "on" and "off" by binding to them in certain ways (Stoltenberg, 2022).

Genes are organized into strands called **chromosomes**. In typically developing humans, each cell contains 23 pairs of chromosomes, for a total of 46. Twenty-two of these pairs, called autosomes, look the same in both males and females. The 23rd pair, the sex chromosomes, differs in males and females. Females have two X chromosomes, whereas males have one X and one Y chromosome (Figure 2.3).

Figure 2.3 ▪ Genes, Chromosomes, and DNA



www.genome.gov

Note: Each cell contains 23 pairs of chromosomes. Each chromosome contains genes, which consist of DNA and proteins (called histones) around which DNA is wrapped.

Most cells form in a process called mitosis. In this process, chromosome pairs split in two and duplicate themselves. Then, the cell divides, forming two cells with 23 pairs of chromosomes each. The resulting (daughter) cells are identical to the original (parent) cell. Each cell contains the entire genetic code, but certain segments of the code are switched on or off, telling the cell its function: to serve as lung tissue, heart tissue, or other parts of the body.

Sex cells (i.e., sperm and ova) form differently, in a process called meiosis. Just as in mitosis, chromosome pairs split and duplicate themselves. Unlike in mitosis, however, chromosome pairs line up and exchange genetic material with each other, a process called recombination. Finally, the recombined chromosomes split into two daughter cells that are genetically different from the parent cell and divide again into sex cells. The result is that the sex cells have slightly different genetic information than the parent cells and only one-half the number of chromosomes. When sex cells combine during fertilization, each parent contributes one set of chromosomes and his or her genetic diversity to the offspring. Many genetic disorders arise when problems occur during meiosis. For example, children may inherit too many or two few chromosomes from each parent. Down syndrome typically occurs when children inherit an extra 21st chromosome during fertilization (Freberg, 2023).

Neurotypical individuals have the same genes; the differences in people's appearance come from slight variations in these genes, called **alleles**. For example, all people have genes that determine their hair color. Different alleles influence whether someone will be a blonde, redhead, or brunette. These alleles are usually inherited from parents or develop spontaneously as a genetic mutation (Stoltenberg, 2022).

Many people erroneously believe that genes determine behavior. For example, the media may incorrectly report that researchers have discovered a gene responsible for sexual orientation or a gene that makes people behave aggressively. Nothing could be further from the truth. Genes merely form a blueprint for the body's creation of proteins. Some of these proteins partially determine our hair color, eye color, or skin pigmentation. Others influence our height, body shape, and (sadly) our cholesterol. No gene directs behavior. However, genes can lead to certain structural and functional changes in our bodies that predispose us to behave in certain ways (Stoltenberg, 2022).

Behavioral Genetics

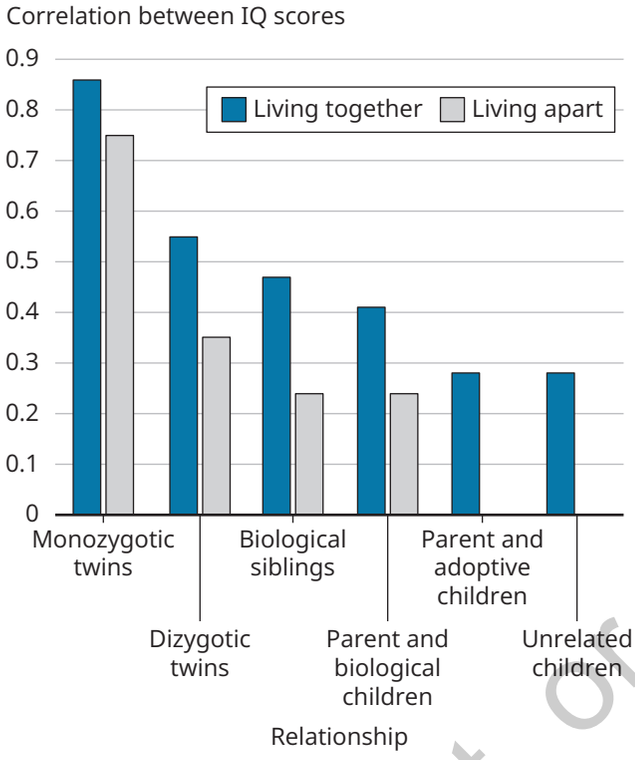
Behavioral genetics is an area of research that examines the relationship between genes and behavior. Behavioral geneticists use three approaches to identify the relative contributions of genetic and environmental influences on development. The first, and simplest, approach is by conducting a *family study*. In a family study, researchers determine whether a certain characteristic is shared by members of the same family. If the characteristic is partially determined by genetics, biologically related individuals are more likely to share the characteristic than unrelated individuals.

For example, researchers have examined the heritability of children's intelligence using family studies. If we look at the dark bars in Figure 2.4, we see that the correlations of IQ scores are higher among biological relatives than among nonbiological relatives. Behavioral **concordance** is expressed as the correlation between individuals, ranging from 1.0 (i.e., perfect similarity) to 0 (i.e., no similarity). The mean correlation between two biological siblings' IQ scores is approximately .45, whereas the mean correlation between two unrelated children's IQ scores is only about .27. These findings suggest that genetic factors play a role in children's intelligence.

The primary limitation of family studies is that they do not adequately control for environmental effects. Although it is true that biological relatives share similar genes, they also usually live in similar environments. Most family members share the same house, live in the same neighborhood, and come from similar socioeconomic and cultural backgrounds. Therefore, when family studies indicate that closely related relatives are more likely to have a disorder than more distant relatives, we cannot determine whether this similarity is due to common genes or similar environments (Freberg, 2023).

To tease apart the relative effects of genes and environment, behavioral geneticists conduct *adoption studies*. In an adoption study, researchers examine children who were separated from their biological families shortly after birth. If a behavioral attribute is influenced by genetics, we would expect children to show greater similarity to their biological relatives than to their adoptive relatives.

Figure 2.4 ▪ The Effects of Genes and Environment on Intelligence



Note: Behavioral geneticists use family, adoption, and twin studies to estimate the heritability of intelligence. Based on Sattler (2024).

For example, the mean correlation between parents and their biological children's IQ scores is approximately .40. In contrast, the mean correlation between parents and their adoptive children's IQ scores is only .25. Because children show greater similarity to their biological parents than their adoptive parents, we can conclude that genetic factors play unique roles in the development of children's intelligence.

The primary weakness of adoption studies is that parents who adopt children are often not typical of parents in the general population. Adoption agencies carefully screen prospective adoptive parents before placing a child in their custody. Consequently, adoptive parents are less likely to have mental health problems and are more likely to have higher income and educational backgrounds than other parents. Furthermore, parents who offer their children for adoption often have higher rates of mental health problems and come from more disadvantaged backgrounds than parents in the general population. These differences between biological and adoptive families may partially account for the greater similarity between children and their biological parents compared to their adoptive parents.

A third way that behavioral geneticists identify the relative contributions of genes and environment on behavior is by conducting a *twin study*. In a twin study, researchers compare the concordance between monozygotic (MZ; identical) and dizygotic (DZ; fraternal) twins. MZ twins are the products of the same egg and sperm cell; consequently, they have a 100% genetic similarity. DZ twins are the products of different egg and sperm cells; consequently, they share only 50% of their genes, like other biological siblings. The correlation between IQ scores for MZ twins is .85, whereas the correlation for DZ twins is only .55. The higher concordance for MZ twins than DZ twins indicates that intelligence is at least partially genetically determined.

In some cases, twin and adoption studies are combined by examining twins who both live with their biological parents (e.g., the dark bars in Figure 2.4) and twins separated at birth (e.g., the light bars in Figure 2.4). For example, the mean correlation in IQ for MZ twins reared

together is .85, whereas the mean correlation for MZ twins reared apart is also very high: .75. The high correlations for twins reared together or apart indicate that genetic factors play important roles in the development of intelligence. Even twins separated shortly after birth have remarkably similar IQs.

Behavioral geneticists often divide environmental influences into two types: shared environmental factors and nonshared environmental factors. **Shared environmental factors** are experiences common to siblings. For example, siblings usually are reared by the same parents, grow up in the same house, attend the same schools, and belong to the same church. Shared environmental experiences make siblings more alike. In contrast, **nonshared environmental factors** are experiences that differ among siblings. For example, siblings may have different friends, play different sports, or enjoy different subjects in school. Siblings may also have different types of relationships with their parents. These nonshared environmental factors often account for more of the variance in children's behavior than do shared experiences. Nonshared environmental factors help to explain why siblings can be so different even though they grow up in the same home (Plomin, 2024).

Molecular Genetics

Another way to study the effects of genes on behavior is to examine children's genes at the molecular (rather than the behavioral) level. Recent advances in our knowledge of the human genome and in gene research technology have allowed scientists to search for specific genes that might be partially responsible for certain disorders (Vologodskii, 2023).

Recall that in neurotypical individuals, genes show natural variation, called alleles. **Molecular genetics** is the scientific field in which researchers attempt to link the presence of specific alleles with certain attributes, behaviors, or conditions. One way to identify which alleles might be responsible for specific disorders is to conduct a *linkage study*. In a linkage study, researchers search the entire genetic structure of individuals (i.e., perform a "genome scan"), looking for the presence of certain alleles and the existence of a specific disorder. If researchers find certain alleles in individuals with the disorder and do not find these alleles in people without the disorder, they hypothesize that the allele is partially responsible for the disorder (Schulze & McMahon, 2019).

Researchers tend to use linkage studies when they do not know exactly where to look for genes responsible for the disorder. Given the magnitude of the human genome, it is difficult to identify links between certain alleles and specific disorders. However, researchers have successfully used linkage studies to identify alleles responsible for disorders caused by single genes, such as Huntington's disease. Linkage studies have been less successful in identifying the causes of disorders that depend on the presence or absence of multiple genes.

An alternative technique is to conduct an *association study*. In an association study, researchers select a specific gene that they believe might play a role in the emergence of a disorder. Then, they examine whether there is an association between a particular allele of this "candidate" gene and the disorder (Jaffee, 2016).

For example, researchers hypothesized that a specific gene, which affects the neurotransmitter dopamine, might play a role in the development of ADHD. They suspected this gene because abnormalities in dopamine have been identified as a specific cause for ADHD. Furthermore, medications that affect dopamine in the brain can reduce ADHD symptoms. The researchers identified a group of children with and without ADHD. Then, they examined whether the two groups of children had different alleles for the candidate gene. The researchers found that a certain allele for this gene was much more common among youths with ADHD compared to youth without the disorder. Consequently, they concluded that the gene may be partially responsible for ADHD (Langley, 2019).

Of course, molecular genetics research is much more complicated than has been described here. Nearly all mental disorders are influenced by multiple genes; there is almost never a one-to-one relationship between the presence of a specific allele and the emergence of a given disorder. Furthermore, genes never affect behavior directly; their influence on behavior is always influenced by environmental experience (Vologodskii, 2023).

Review

- Genes come in different variants, called alleles. The alleles we inherit from our parents can influence our physical attributes (e.g., hair and eye color) as well as our risk for developing certain disorders.
- Behavioral geneticists conduct family, adoption, and twin studies to determine the heritability of psychological characteristics like intelligence, personality, and mental health problems.
- Molecular geneticists conduct linkage and association studies to identify specific genes that may underlie certain disorders.

How Do Genetic and Environmental Factors Interact?

The Diathesis-Stress Model

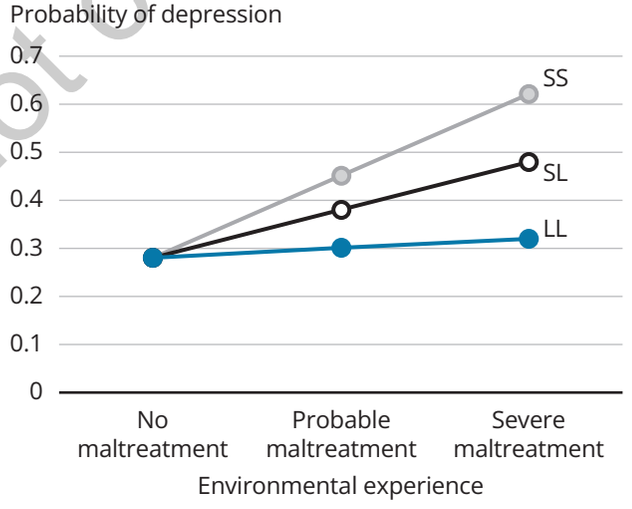
Genes guide our maturation, but they do not determine our development. Our **genotype** refers to the genetic code that we inherit from our parents. In contrast, our **phenotype** is the observable expression of our genetic endowment. Our phenotype is determined by the complex interaction between our genes and our environment (Grigorenko et al., 2016).

The **diathesis-stress model** can be used to explain the way genes and environments interact and affect development. According to this model, a child exhibits a disorder when an underlying genetic risk (i.e., diathesis) for the disorder is triggered by a stressful experience or life event. Both genetic risk and an environmental stressor are necessary for the disorder to emerge; the genetic risk or environmental experience alone is insufficient to bring about the disorder (Plomin et al., 2017).

We can see the usefulness of the diathesis–stress model in a famous study conducted by Avshalom Caspi and colleagues (2003). The researchers followed a large group of children from early childhood through early adulthood to examine the relationship between child maltreatment and depression later in life. As we might expect, children exposed to maltreatment were at risk for depression later in life. However, whether a maltreated child developed depression depended on his genotype (Figure 2.5).

Children who did not experience maltreatment were at low risk for depression later in life, regardless of their genes. However, children exposed to severe maltreatment displayed different outcomes, depending on their genotypes. Specifically, children who inherited one or two short alleles of the

Figure 2.5 ▪ The Diathesis–Stress Model



Note: Children's likelihood of depression depends on their genetic risk and an environmental stressor (i.e., maltreatment). SS = two short alleles, SL = one short, one long allele, LL = two long alleles. Based on Caspi and colleagues (2003).

serotonin transporter gene were likely to develop depression in adulthood. Interestingly, this gene regulates the neurotransmitter serotonin, a chemical that plays an important role in mood regulation. The short version of this gene seems to place children at risk for depression if they also experience maltreatment. In contrast, children who inherited two long alleles of the serotonin transporter gene were not more likely to develop depression in adulthood, even if they were exposed to maltreatment. The long version of this gene seems to protect children from the effects of stressful life events.

The diathesis–stress model is especially helpful in explaining multifinality, the tendency of children exposed to the same environmental stressor to show different developmental outcomes. In Caspi and colleagues' (2003) study, maltreated children showed divergent outcomes depending on their genetic risk.

Gene-Environment Correlation

The diathesis–stress model shows that both genes and environment influence development. A second influential model, developed by Sandra Scarr and Kathleen McCartney (1983), shows that genes and environments are not independent. According to the **gene-environment correlation model**, our genotypes influence the environments that we experience, and these environmental experiences, in turn, affect our outcomes. According to the model, there are three types of gene-environment correlations: passive, evocative, and active.

Although our biological parents determine our genotype, they also determine the quality of our early environmental experiences. Our genes and early experiences are related. For example, parents with high intelligence may pass on this genetic predisposition to their children. At the same time, because of their high intelligence and (perhaps) income, these parents have access to higher-quality medical care, nutrition, childcare, and schools. Intelligent parents speak and read to their children frequently, provide stimulating educational toys, and take their children on outings. In this manner, their children *passively* receive genotypes and early environmental experiences conducive to high intelligence.

As children develop, their phenotype gradually emerges from the interaction between their genotype and early environment. Like their parents, they may begin to show signs of above-average intelligence. They show well-developed verbal skills, learn more quickly than their peers, perform more tasks independently, and are curious about a wide range of topics. These behaviors *evoke* certain responses in others. School personnel may identify these children as gifted and provide them with more enriched educational experiences. They may be admitted into accelerated classes in high school and gain academic scholarships to selective colleges.

As children continue to develop, they *actively select* environmental experiences conducive to their genotype. For example, they might develop friendships with other bright children with similar interests and hobbies; seek out extracurricular activities that satisfy their curiosity in science, music, or art; and select challenging and rewarding majors in college. In a sense, youths select their own environments based on the cumulative influence of their genes and early experiences.

Now that you know the basics of gene-environment correlation, consider Kirby (From Science to Practice). Can you explain the emergence of Kirby's problems using the concept of passive, evocative, and active gene-environment correlation?

From Science to Practice

Understanding Gene–Environment Correlation

Kirby is a 10-year-old boy who attends the third grade at a local public school. Kirby failed first grade and will likely fail again this year. Kirby's reading is below average, and he makes frequent mistakes in math. His writing skills are also poor. The school psychologist did not find evidence of a learning disability; however, psychological testing revealed below-average intelligence.

Kirby is frequently disruptive and inattentive during class. His teacher stated that Kirby's parents "just don't care." She has tried to contact his mother by telephone, but she usually does not return her calls and rarely follows through with her suggestions for home tutoring. Kirby will likely be sent to a remedial class next year if improvements are not made.

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Socially, Kirby is awkward. He is larger and taller than his classmates. He is teased because of his size, his poor grades, and the frequent reprimands he receives from teachers. Classmates also make fun of Kirby because of his name, his old "Walmart clothes," his poorly cut hair, and the fact that he always "smells like hot dogs"—due to his family's wood burning stove.

Kirby has few friends in his class. After school, he often hangs around with older kids at the junior high school. Kirby has been caught smoking on a few occasions and teachers suspect some alcohol use. He is also beginning to pick on younger children after school.

Kirby's problems include poor academic skills, disruptive behavior at school, and rejection by peers. They can be explained using the three types of gene-environment correlation.

1. Kirby's parents *pass* their genes on to him—genes that may have placed him at risk for low academic achievement. Furthermore, his parents also provide him with an early environment that is not conducive to good grades. They may not be able to afford high-quality schools and do not seem involved in his education. Consequently, Kirby struggles with reading and acts out in class.
2. Kirby's poor academic skills and appearance *evoke* negative reactions in others. His teacher is frustrated with his antics, and his classmates dislike him.
3. Kirby is beginning to *actively select* surroundings that are conducive to his genes and emerging disruptive behaviors. Rejected by children his age, Kirby associates with older boys who introduce him to cigarettes and alcohol.

If you were Kirby's therapist, how might you use the concept of gene-environment correlation to intervene and help Kirby establish a new developmental pathway?

Epigenetics

According to the diathesis-stress model, children will develop a disorder only if they have both a genetic risk for the disorder and an environmental stressor to trigger its onset. Moreover, gene-environment correlations show that our genotype and our environment are not independent; we sometimes select environments that are conducive to our genes. **Behavioral epigenetics** shows that environmental factors can also directly affect the expression of our genes and our risk for mental health problems (Tollefsbol, 2023).

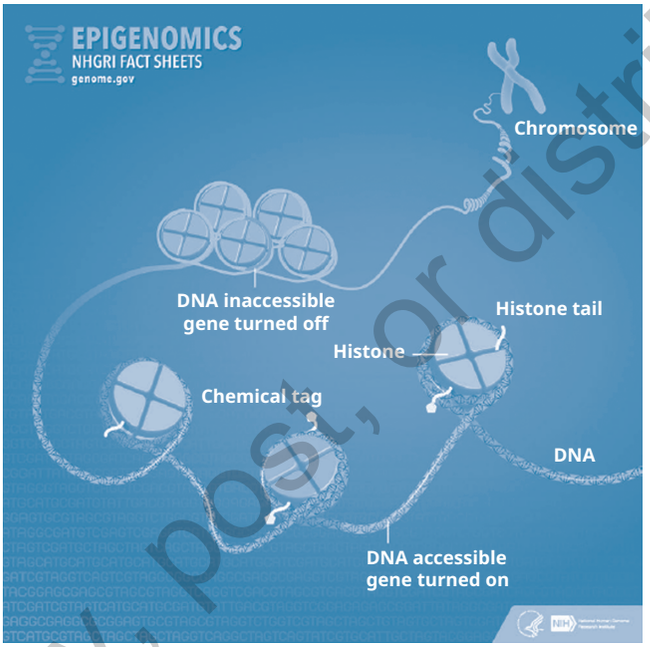
Recall that our genetic makeup consists of DNA, which is organized into genes and chromosomes in each of our cells. Genes direct the building of proteins that allow each cell to specialize and carry out its essential functions. These proteins influence our health, appearance, thoughts, feelings, and actions.

Epigenetic structures consist of chemical compounds and proteins that attach to our DNA and turn genes on or off. These compounds and proteins are not part of our genetic code; consequently, scientists call them epigenetic (i.e., above the genome). When these epigenetic structures attach to DNA and regulate its expression, scientists say they have "marked" the genome. Although these marks do not change the DNA itself, they do alter the way in which cells use the DNA's instructions.

These epigenetic marks can be passed on to new cells when they divide. Moreover, epigenetic marks can also be passed down from one generation to the next.

Epigenetic compounds can affect the expression of DNA in several ways (Figure 2.6). In a process called *DNA methylation*, proteins attach chemical tags (called methyl groups) to certain portions of genes, turning them on or off. In another process called *histone modification*, DNA wraps either tightly or loosely around histones. Segments of DNA that are loosely wrapped can be expressed, whereas other segments that are tightly wrapped cannot. Consequently, histone modification can turn genes "on" and "off" by the tightness of the wrapping (National Human Genome Research Institute, 2025).

Figure 2.6 ▪ Epigenetics



Source: www.genome.gov

Note: Chemical tags and histones, which are not part of the genome itself, affect the expression of individual genes and can influence behavior.

Environmental experiences can change epigenetic structures. Certain environmental factors such as diet, smoking, and exposure to disease have been shown to alter structures, leading to different expressions of the genetic code. Epigenetic structures are heritable. Although much of the epigenome is reset when parents pass their genes to their children, some structures persist and affect the child's phenotype (Cicchetti, 2019).

Researchers first demonstrated the effects of epigenetics on behavior in rats (Weaver et al., 2004). Rat pups have a certain gene that regulates their stress response. This gene is wrapped tightly around a histone that prevents it from becoming active. The researchers found that nurturing behaviors of the mother toward the pups (e.g., licking, grooming) caused this portion of the gene to unwind from the histone, allowing it to be expressed. When these pups reached adulthood, they were better able to cope with stress than rats whose mothers were less nurturing. Subsequent research showed that these epigenetic changes affected the care these rats gave to their own offspring, thus passing on this stress response to the next generation (Masterpasqua, 2009).

Researchers are only beginning to understand how epigenetics might help explain the development of disorders in children. In one recent study, researchers examined the caregiving behaviors of depressed and nondepressed mothers. As we might expect, depressed mothers expressed more negative emotions toward their infants than nondepressed mothers. Moreover, the infants of depressed mothers

showed different epigenetic structures than the infants of nondepressed mothers, suggesting that these early caregiving experiences might affect children's epigenetic activity. Longitudinal research is needed to determine whether these epigenetic changes, brought on by early experience, might affect children's subsequent behavior (Moore, 2015).

Other research has examined the epigenetic structure of children with existing behavior problems. In one of the largest studies so far, researchers examined children and adolescents referred to mental health clinics because of disruptive behavior. The researchers found that children's stress hormones and their severity of behavior problems were associated with changes in their epigenetic structure, specifically, structures associated with the expression of the cortisol receptor gene. This finding is interesting because cortisol is the body's main stress hormone; furthermore, the cortisol receptor gene plays a role in regulating the body's stress response. Epigenetic changes to the expression of this gene might underlie some of the problems shown by these youths (Dadds et al., 2016).

We are only beginning to appreciate how behavioral epigenetics can help us understand the emergence of childhood disorders. Perhaps someday, researchers might develop medications that can affect epigenetic structures, genetic expression, and risk for mental health problems (Mews et al., 2021).

Review

- According to the diathesis-stress model, children must have both (1) a genetic risk and (2) an environmental stressor to develop a disorder. The model helps explain multifinality, that is, the tendency of children with similar genes or experiences to have different outcomes.
- The gene-environment correlation model assumes that our genes and environments are related. There are three types of gene-environment correlations: passive, evocative, and active. Their relative importance changes across development.
- Epigenetic structures (e.g., methyl tags and histones) can turn genes "on" or "off." These structures, which are not part of children's genotype, can be altered by environmental experiences and passed down from one generation to the next.

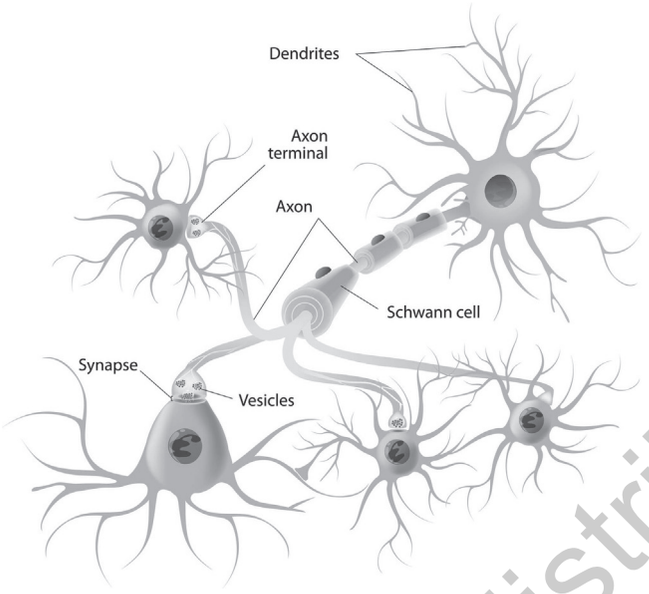
How Does the Brain Change Across Development?

Scientific advances have given us increasingly more detailed pictures of the brain and nervous system from infancy through adolescence. Studies examining children over time have yielded several principles of brain development (Roberts, 2020).

1. *The brain consists of 100 billion neurons.*

   A **neuron** is a nerve cell that is typically very narrow and long. Most neurons are small. You could place 50 neurons side by side within the period that ends this sentence. Neurons vary from 1 millimeter to more than 1 meter in length. Neurons are also very numerous; if you counted each neuron in your brain, one neuron per second, it would take you more than 3,000 years to finish.

   The structure of a neuron can tell us something about its function. The center of most neurons contains the cell body. Its main purpose is to perform metabolic functions for the cell, that is, to keep the cell alive. The neuron also has dendrites: fingerlike appendages that receive information from either outside stimuli (e.g., light, pressure) or other neurons. Finally, the neuron has a longer axon, which relays information from the dendrites and cell body to the terminal endings of the neuron. Neurons relay information electrically, by controlling the positively and negatively charged particles that are allowed to enter and exit the cell. Information is conducted down the axon in a manner analogous to electricity flowing down a wire. Mammalian axons are wrapped in a fatty substance called myelin (produced by Schwann cells), which increases conduction and speeds the electrical impulse.



Neurons relay information down their axons electrically. They communicate with other neurons using chemical messengers called neurotransmitters.

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2. *Neurons communicate using chemical messengers.*

Each neuron typically forms many connections with other neurons, forming a complex neural network. Although information travels within neurons electrically, it travels between neurons chemically. When an impulse reaches the end of an axon, it triggers the release of a chemical messenger called a **neurotransmitter**. The neurotransmitter is released into the synapse, a small cleft between neurons. In the synapse, neurotransmitters can be detected by other neurons, causing them to change their electrical charge. Sufficient stimulation by neurotransmitters can cause other nerve cells to become active, thus sending the impulse to the next neuron.

Neurotransmitters have different functions. Some are *excitatory*—that is, they increase the positive charge of neurons, making them more likely to become active. For example, dopamine is an excitatory neurotransmitter that is important for attention and concentration. Insufficient dopamine in certain brain regions is associated with ADHD. Other neurotransmitters are *inhibitory*—that is, they increase the negative charge of neurons, making them less likely to become active. For example, gamma aminobutyric acid (GABA) is an inhibitory neurotransmitter. Alcohol causes an increase in GABA, slowing reaction time, judgment, and decision-making. Most psychotropic medications and drugs affect behavior by enhancing or attenuating the effects of neurotransmitters.

3. *The brain is organized from the bottom up.*

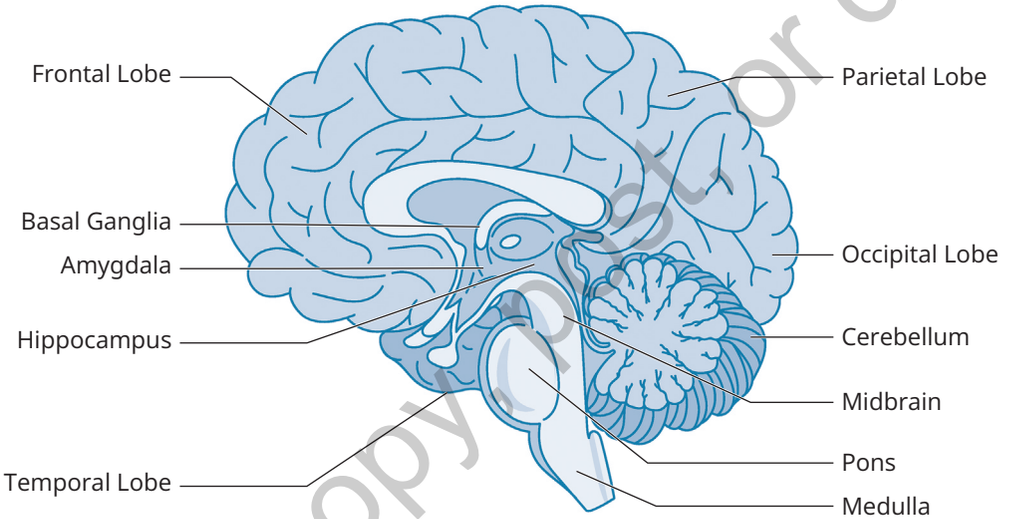
Evolutionarily older areas of the brain develop first, followed by more complex, higher-order brain regions. For example, the **brain stem** consists of the *medulla, pons*, and *midbrain* and is largely responsible for basic metabolic functions such as heart rate, respiration, and arousal. It is developed at birth and is necessary to keep us alive (Ganzel & Morris, 2016).

Similarly, the **cerebellum** is a brain region located near the back of the brain; it is chiefly responsible for balance and coordinated motor activity. It develops rapidly during the first year of life and undergoes a second round of maturation during early adolescence. Researchers believe the cerebellum plays a role in mental gracefulness and efficiency in addition to adroitness in physical movement. Maturation of the cerebellum during adolescence might explain the increased physical gracefulness exhibited by older adolescents as well as a general increase in mental efficiency across development.

Just above the brainstem, in the center of the brain, are two important regions that also mature relatively early. The **basal ganglia** are located between the brainstem and the higher-level cortical regions. The basal ganglia perform many important functions. One of their primary roles is to help control movement. Another function is to filter incoming information from the senses and relay this information to other brain regions where it can be processed. The basal ganglia have also been implicated in the regulation of attention and emotions. Researchers believe that structural changes in the basal ganglia during childhood and adolescence might account for children's increased motor functioning, attention, and emotional processing during the school-age years.

Finally, the **limbic system** is located deep inside the brain, behind the cortex. Two important components of the limbic system are the *amygdala* and *hippocampus*. The amygdala aids in our understanding and expression of emotions, especially negative feelings, such as fear and rage. The hippocampus also plays a role in emotional processing, especially the formation of emotion-laden memories (Figure 2.7).

Figure 2.7 ▪ Important brain regions include the brain stem (medulla, pons, midbrain), cerebellum, basal ganglia, limbic system (amygdala, hippocampus), and the lobes of the cortex.



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4. *Higher-order regions may not mature until adulthood.*

The **cerebral cortex** is the outermost shell of the brain. It is divided into four lobes. The *occipital lobe*, located near the back of the brain, is primarily responsible for visual processing. This brain region appears to undergo the most change from birth through age 2 years. The volume of the *parietal lobe* (located on the sides and top of the brain) peaks around age 6. The parietal lobe is primarily responsible for integrating visual, auditory, and tactile information. The *temporal lobe* (located on the sides and bottom of the brain) also shows peak growth during the first 6 years of life. The temporal lobe has multiple functions, including hearing, language, and the expression and regulation of emotions.

The *frontal lobe* develops rapidly in late childhood and early adolescence. The frontal cortex plays an important role in language production, problem-solving, and memory—skills that develop rapidly during childhood. A particular region of the frontal lobe, the prefrontal cortex, shows peak growth in early adolescence and reorganization into early adulthood. This brain region is responsible for planning, organizing, and prioritizing activity to meet long-term goals. Development of the prefrontal cortex is believed to underlie young adults'

increased capacity for attention, inhibition, and overall self-regulation (de Haan & Johnson, 2016).

5. *Experience can affect the brain.*

Although it may seem that brain maturation determines development, the relationship between maturation and behavior is bidirectional. The brain can change in response to experience. Biological maturation and environmental experiences interact in three ways to shape the developing brain (Cicchetti, 2019).

First, certain aspects of brain development are *gene driven*. These aspects are largely impervious to the effects of experience and almost entirely determined by genetics. For example, the development of the brain stem and migration of neurons from the center of the brain to the cortex is believed to be genetically preprogrammed. Developmental psychologists sometimes refer to this importance of genes over experience in embryonic development as canalization (Blair et al., 2016).

Second, some aspects of brain development are *experience expectant*—that is, the formation of the brain region is partially dependent on information received from the environment. Infants have an overabundance of neural connections. Connections that are used are maintained and strengthened while connections that are not used atrophy and die. Whether a connection is maintained or pruned depends on experience. For example, an infant exposed to the Japanese language during the first few years of life may strengthen neural connections responsible for processing the sounds used in Japanese. However, infants not exposed to Japanese during this early period of development may lose neural connections that play a role in processing this language. Consequently, children who are not exposed to Japanese in infancy or early childhood may find it difficult to speak the language without an accent. Developmental psychologists often refer to periods of development in which experience can greatly shape neural structure and functioning as developmentally sensitive periods.

Third, brain development can be *experience dependent*—that is, environmental experiences in later life can lead to the formation of new neural connections or to changes in the brain's organization or structure. **Neural plasticity** refers to the brain's malleability, that is, its capacity to change its structure and/or functioning in response to environmental experiences. These experiences can be either internal or external. Internal experiences alter the immediate environment of the brain and nervous system. For example, exposure to too much testosterone or stress hormone can lead to structural changes in various brain regions. In contrast, external experiences come from outside the organism. For example, an infant exposed to environmental toxins can experience brain damage (Mancini et al., 2022).

Neuroscientists have discovered that the brain is remarkably adaptive to environmental stressors, especially when these stressors occur early in life. Perhaps the most striking example of brain plasticity is seen following a surgical procedure called a functional hemispherectomy. This surgery is performed on some children who have medically intractable epilepsy that arises in one hemisphere of the brain. These seizures cause severe impairment, occur very frequently, and are not responsive to medication. The surgeon removes the entire parietal lobe of the nonfunctional hemisphere (the origin of the seizures) and severs the corpus callosum, a bundle of neurons that allow the seizure to travel from one hemisphere to the other (Karagianni et al., 2023).

Despite removal or disconnection of several brain regions, children usually show remarkable recovery from the surgery. Children often experience weakness or mild paralysis on the opposite side of the body. Furthermore, if the left hemisphere is removed, most children experience problems with language. However, children usually recover much of this lost functioning within 6 to 12 months after surgery, as the remaining hemisphere gradually assumes many of these lost functions. In fact, most children who undergo this surgery return to school 6 to 8 weeks later (van Schooneveld et al., 2016).

Positive environmental experiences can also lead to the formation of new neural connections. Long ago, the neuropsychologist Donald Hebb (1949) proposed that the simultaneous activation of neurons can cause the neurons to form new connections. Hebb suggested "neurons that fire together, wire together." More recently, neuroscientists have been able to show **synaptogenesis**, that is, the formation of new neural connections due to experience. For example, rats reared in enriched living environments (e.g., given extra space and access to toys and mazes) show differences in brain structure and functioning compared to rats reared in typical cages. Humans who receive extensive training in Braille show growth in brain regions responsible for processing the sense of touch. Children who take piano or guitar lessons show a reorganization of brain regions responsible for controlling the finger positions of their instruments (Cicchetti, 2019).

Review

- The brain consists of 100 billion neurons that form trillions of synaptic connections. Neurons relay information within themselves electrically; they communicate between one another using chemical messengers called neurotransmitters.
- Brain development is characterized by rapid growth followed by periods of neuronal pruning. Development begins in evolutionarily older brain regions (e.g., brainstem, basal ganglia, limbic system) and ends in regions responsible for higher-order functions (e.g., the cerebral cortex).
- Development can be gene driven, experience expectant, or experience dependent. Environmental experiences can lead to synaptogenesis and the reorganization of neuronal connections (i.e., plasticity).

Psychological Influences on Development

How Is Learning Theory Important to Understanding Children's Mental Health?

Psychologists often use **learning theory** to explain and predict children's overt actions. From the perspective of learning theory, children's behavior is largely determined by environmental contingencies. Learning occurs in three ways: (1) through classical conditioning, (2) through operant conditioning, and (3) through imitation or modeling.

Classical Conditioning

In **classical conditioning**, learning occurs when the child associates two stimuli paired together in time. One stimulus is initially called the neutral stimulus (NS) because it does not elicit a response. The other stimulus is initially called an unconditioned stimulus (UCS) because it elicits an unlearned or unconditioned response (UCR). The child may come to associate the NS with the UCS if the two stimuli are presented together in time (Fisher et al., 2022).

Pavlov demonstrated that dogs would associate the sound of a metronome (NS) with the presentation of meat powder (UCS) if the two stimuli were presented contiguously. After repeated presentations, the metronome alone elicited salivation. After conditioning, the previously neutral stimulus (e.g., metronome) is referred to as the conditioned stimulus (CS), whereas the resulting response (e.g., salivation) is referred to as the conditioned response (CR).

Classical conditioning can be used to explain the emergence of certain childhood disorders. For example, a boy who is bitten by a dog might associate the sight of a dog (NS) with the experience of being bitten (UCS). The dog bite, in turn, naturally causes a fear response (UCR). Later, the presence of any dog (CS) may elicit a similar fear response (CR). The boy might develop a phobia for dogs.

Consider another example. A girl is taking notes in her high school math class when she suddenly experiences a panic attack. The attack is so severe that she immediately leaves class and runs to the

bathroom for privacy and safety. The girl associates her classroom (NS) with the panic attack (UCS), which naturally causes intense negative emotions (UCR). Later, any thought of reentering her classroom (CS) might elicit feelings of apprehension or anxiety (CR). She might develop a fear of going to school.

In graded exposure therapy, extinction occurs as the child is gradually exposed to the feared stimulus over time. It is an effective way to help children overcome phobias.

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One way of decreasing behaviors acquired through classical conditioning is to repeatedly expose the CS until the severity of the CR decreases. When the CS no longer elicits the CR, we say that *extinction* has occurred.

Exposure therapy is a primary treatment for most anxiety disorders. In a process called *graded exposure*, extinction occurs gradually. For example, a therapist might recommend that a boy with a fear of dogs gradually spend more time with dogs, to extinguish this fear. Initially, the boy might simply look at pictures of dogs, then remain in a room with a dog on a leash, and finally pet a dog. After the boy is repeatedly exposed to the dog, the dog's presence no longer elicits an intense fear response.

In a process called *flooding*, extinction occurs rapidly—usually within one session. For example, a girl with a fear of school might enter her math classroom with her school counselor and remain there until her panic subsides. Although flooding is a more rapid treatment than graded exposure, it is less frequently used with children because it causes greater distress.

Operant Conditioning

Whereas classical conditioning occurs when children associate two stimuli together in time, **operant conditioning** occurs when children associate an action with a consequence in the environment. Operant conditioning is based on the notion that the consequences of our actions determine the likelihood that the actions will be repeated (Fisher et al., 2022).

If the consequences of our actions increase the likelihood that we will repeat the behavior in the future, these consequences have reinforced our behavior. **Reinforcement** can be positive or negative. *Positive reinforcement* occurs when an individual is presented with a stimulus that increases the likelihood of behavior. For example, a father might give his daughter ice cream after she eats her vegetables at dinner. If the presentation of ice cream following the meal increases the likelihood that the girl eats her vegetables in the future, we say that the ice cream positively reinforced the child's eating.

Many people mistakenly believe that the adjective "positive" in the term positive reinforcement refers to the pleasantness of the reinforcer. In fact, the term positive simply refers to the fact that the stimulus is presented to the individual. Some presumably pleasant stimuli are not positively reinforcing to all children. For example, providing a 2-year-old with one piece of candy for using the toilet may increase the likelihood that he will use the toilet in the future. However, providing one piece of candy to a 14-year-old for completing his math homework will likely not increase the likelihood that he will complete his math homework in the future.

Additionally, some presumably unpleasant stimuli can be positively reinforcing. For example, a teacher may reprimand her student for disrupting class. If the teacher's reprimand results in an increase in the student's disruptive behavior, the teacher's behavior is positively reinforcing, no matter how aversive it appears.

Negative reinforcement occurs when the withdrawal or avoidance of a stimulus increases the likelihood of behavior. For example, a father might allow his daughter to leave the dinner table only after she finishes her vegetables. If escaping the dinner table by eating vegetables increases the likelihood that the girl eats her vegetables in the future, we say that the father's actions negatively reinforced the child's eating.

Negative reinforcement often underlies childhood behavior problems. For example, a mother might ask her son to turn off Netflix and clean his room. The son might ignore his mother because he prefers to watch his favorite show. The mother might withdraw her request and clean her son's room

herself. If the mother's behavior (i.e., withdrawal of her request) increases the likelihood that her son will ignore her requests in the future, we say that her actions are negatively reinforcing his disobedience. She is teaching him to ignore her requests.

In contrast to reinforcement, **punishment** always decreases the probability of future behavior. There are two types of punishment: positive and negative. *Positive punishment* involves a stimulus presentation that decreases the likelihood of behavior. For example, a mother might scold her son for his disobedience. If scolding results in a decrease in her child's defiance, then it is a form of positive punishment. *Negative punishment* involves avoidance or removal of a stimulus that decreases the likelihood of behavior. For example, a teacher might remove a child from a desirable classroom activity following his disruptive behavior in class. If the teacher's actions result in a decrease in the student's disruptive behavior, then the teacher's behavior was a form of negative punishment (Table 2.1).

Table 2.1 ▪ Operant Conditioning

		Stimulus	
		Applied **(+)**	***Withdrawn*** **(–)**
Behavior	*Increased* (Reinforcement)	**Positive Reinforcement** *Giving a child dessert for finishing her vegetables.*	**Negative Reinforcement** *Allowing a child to leave the table for finishing her vegetables.*
	Decreased (Punishment)	**Positive Punishment** *Scolding a child for disrupting class.*	**Negative Punishment** *Making a child miss recess for disrupting class.*

Note: Reinforcement increases future behavior; punishment decreases it.

Clinicians prefer to use reinforcement, instead of punishment, to correct behavior problems. Reinforcement is preferred because it teaches children new, adaptive skills, and it does not risk harm. In some cases, however, punishment can be used therapeutically. For example, a therapist might teach a parent to use positive punishment to correct her son's bed-wetting. Each time the boy wets the bed, the parent might require the boy to perform a series of actions designed to correct the problem behavior. These actions might include stripping the bed, taking the bedding to the washing machine, helping to start the wash, putting on new sheets, and sitting on the toilet. Similarly, a therapist might teach a parent to use time-out as a form of negative punishment for her disruptive preschooler. Time-out involves removing the child from all potentially reinforcing stimuli to decrease the child's defiance. The child might be required to sit in a special chair for 3 minutes with no access to toys, television, or other stimuli.

Social Learning

Behaviors can also be acquired by observing others. Albert Bandura and colleagues (Bandura, Ross, & Ross, 1961) demonstrated that children who watched adults behaving aggressively toward a Bobo doll often imitated the adults' aggressive actions. Bandura's **social learning theory** proposes that learning through imitation or modeling is a primary mechanism of behavioral acquisition. Social learning is especially likely when models are similar to children in age and gender and when models are reinforced for their actions.

Modeling is also used to explain and to treat child behavior problems (Bandura, 1978). For example, parents who model anxiety to their children can increase their children's likelihood of developing an anxiety disorder. A mother who is afraid of social situations might model this fear to her daughter. She might avoid attending social gatherings and worry about appearing foolish in public. She might also tell her daughter that other people are critical and judgmental, thereby increasing her daughter's fear of social situations. As a result, her daughter might develop anxiety and a tendency toward social withdrawal (Garcia et al., 2021).

A therapist might also use modeling to reduce the daughter's social anxiety. The therapist might ask the child's teacher to pair the girl with a "classroom buddy"—a girl who shows well-developed social skills and is willing to model appropriate social behavior. By watching her "buddy," the girl might discover that social situations are often pleasant and are rarely catastrophic. Consequently, her social anxiety may decrease (Cordier et al., 2021).

Review

- Classical conditioning occurs when children associate two stimuli together in time. Behaviors acquired through classical conditioning can be extinguished using exposure techniques.
- Operant conditioning occurs when children associate a behavior with an environmental consequence. Reinforcement always increases the likelihood of future behavior; punishment always decreases the likelihood of future behavior. Reinforcement and punishment can be positive or negative.
- Social learning occurs when children acquire a behavior through imitation or modeling.

How Is Cognitive Development Important to Understanding Children's Mental Health?

Piaget's Stage Theory

Cognitive development refers to changes in a child's capacity for perception, thought, language, and problem-solving. Jean Piaget's stage theory provides a framework for thinking about cognitive development in children and adolescents. Piaget's career was dedicated to genetic epistemology, that is, the study of the development of children's knowledge and understanding of their surroundings. He believed that children were like little scientists, constantly learning about their environment though play and exploration. Through their experiences, they build cognitive models to understand the world. Three processes aid in the development of these models: assimilation, accommodation, and equilibration (Flavell, 2021).

Assimilation is a cognitive process in which we take in information from our experiences and use this information to build models to understand our surroundings. For example, my 2-year-old son learned what a dog was because our neighbor had a terrier. As he played with the terrier, he learned that dogs are small animals with fur that bark and wag their tail. He assimilated this information into his cognitive model for the concept of a dog.

Accommodation refers to adjusting one's cognitive model based on new experiences. A few months later, a new neighbor moved next door who owned a Great Dane. Upon seeing the Great Dane, my son said, "horse." We corrected him by saying, "no, that is a dog." Puzzled, my son petted the Great Dane, noticed its short fur and wagging tail, and called it a dog. He accommodated his understanding of a dog to fit this new experience: Some dogs can be large.

Equilibration drives cognitive development; it is a state of balance (i.e., equilibrium) between one's experiences and one's understanding of the world. We are motivated to achieve this balance. When my son saw the Great Dane and called it a horse, he experienced tension between his experience of seeing a large dog and his understanding that dogs are small animals. He resolved this tension and achieved equilibration by adjusting his understanding of dogs to include Great Danes.

Through assimilation, accommodation, and equilibration, children progress through a series of four broad stages of cognitive development in an invariant sequence. Each stage is characterized by greater sophistication in their cognitive abilities (Bjorklund, 2022).

Infants in the *sensorimotor stage* (0–2 years) develop an understanding of themselves and their surroundings largely through happenstance or trial and error. This stage is marked by the emergence of object permanence, the notion that objects exist even when the child cannot see them; pretend play, acting "as if" one object (e.g., a doll) is another (e.g., a real baby); and increased use of language. Delays in motor skills, pretend play, and language during this stage can indicate a range of neurodevelopmental problems.

Preschoolers in the *preoperational stage* (2–6 years) engage in increasingly more sophisticated use of language and representational thought. They can form a more complex understanding of their world and can begin to plan their actions before engaging in them. Children in this stage develop theory of mind, that is, the notion that other people have mental states (i.e., "minds") that can be different from their own. As a result, children can begin to take the perspective of others, understand others' motives and feelings, and respond with empathy. Conditions such as autism spectrum disorder and social communication disorder are characterized by delays in theory of mind and empathic understanding.

School-age children (6–12 years) fall in the stage of *concrete operations*. Throughout elementary school, these children develop greater capacity for conservation, that is, understanding that objects may change in appearance, but their amount or quantity remains constant. Conservation is tied to the physical world rather than to abstract ideas. Consequently, children in this stage can learn about subjects connected to the physical world (e.g., arithmetic, reading) but are typically not ready for more abstract subjects (e.g., algebra, literary analysis).

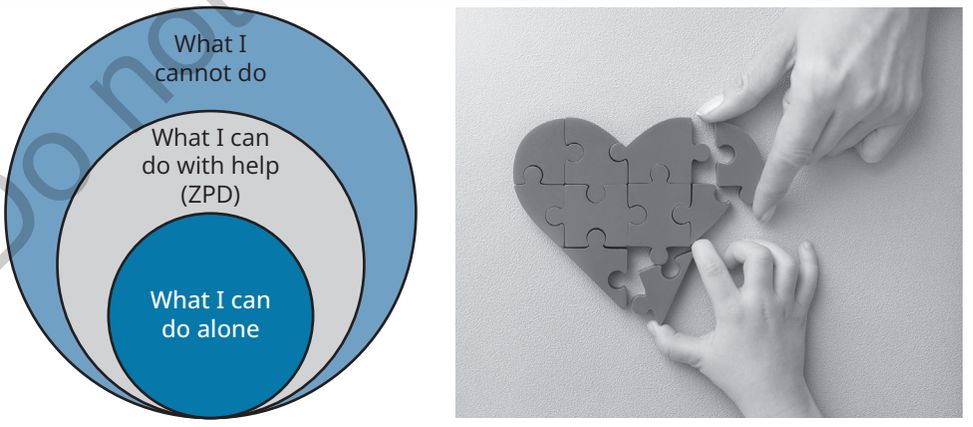
Finally, adolescents (≥12 years) achieve the stage of *formal operations*, characterized by logical-deductive reasoning. At this stage, adolescents can begin to use general principles to determine specific truths, enabling them to engage in more abstract thought. Formal operations allow adolescents and young adults to comprehend algebra and geometry, psychology and sociology, or philosophy and political science—subjects that young children cannot understand. They can also begin to ask and answer questions like, "What kind of person am I?" "What do I believe and value?" and "With whom do I want to spend my time?" (Flavell, 2021).

Vygotsky's Sociocultural Theory

Lev Vygotsky (1978) offered an alternative theory of cognitive development that emphasized social interactions and culture. Whereas Piaget saw children as scientists, independently exploring the world around them, Vygotsky saw children as collaborators who learned about their surroundings through conversations and interactions with others.

According to Vygotsky, cognitive development occurs best when information and skills are presented within a person's **zone of proximal development**. This zone reflects the disparity between knowledge and skills that the child can demonstrate independently versus with the assistance of an adult or collaboration with peers (Figure 2.8). For example, a 3-year-old may not be able to complete a six-part jigsaw puzzle by herself, but she can with the help of her father. A six-part puzzle is within her zone of proximal development because she can complete it successfully with help. Completing the puzzle will allow her to develop her visual-spatial reasoning skills. Completing a two-part puzzle will not advance her development because it is too easy; she could complete it without assistance. Similarly,

Figure 2.8 ▪ The Zone of Proximal Development



Note: Vygotsky believed that cognitive development depends on social interactions. Learning occurs best within the zone of proximal development (ZPD).

Source: Based on Vygotsky (1978); iStockPhoto/scyther5

a 50-piece puzzle will not advance her cognitive development; even with help she will be unable to complete it. Learning occurs optimally within the zone of proximal development. Vygotsky believed that information and skills within the zone today will be within the child's independent abilities in the future (Vygotsky, 1978).

Scaffolding refers to assistance that the other person provides to the child to help her successfully complete the task. Although Vygotsky did not use this term, it is often used to describe ways that parents, teachers, and others can extend the zone of proximal development to include more complex information and skills. For example, a father might restructure the puzzle task in such a way to make it easier for his 3-year-old to complete it. He might arrange the pieces in the order they should be inserted or suggest ways the pieces might be connected by pointing or by providing hints.

According to Vygotsky, language is essential to cognitive development. Children acquire most of their knowledge and understanding of the world by talking with others. Children do not need to learn that it is dangerous to stick a metal object into an electrical outlet by testing it for themselves. Instead, they can learn by listening to their parents or older siblings (Wood et al., 1976).

Vygotsky (1987) described a three-step process by which language mediates cognitive development. When children are first introduced to new knowledge, speech is external. For example, a parent teaching her daughter to hit a softball might describe the steps: keep your eye on the ball, step into the pitch, and swing through. As the child practices batting, her speech becomes private. She might say or whisper these steps to herself as she performs them. With more practice, her speech becomes internalized as thought. When she bats, she no longer thinks about each step in the process but executes them automatically.

Children's private, self-directed speech allows them to also develop **metacognition**, that is, thinking about their own cognitive processes. For example, they can learn strategies that help them focus their attention; keep track and manage time; plan, organize, and sequence actions to complete multistep activities; and monitor their progress toward a long-term goal. These and other strategies are essential to regulating their actions, controlling their emotions, and achieving in school (Bruner, 2017).

Social Cognition

Social cognition is an important aspect of cognitive development that concerns our capacity to think about social situations. Social cognition is based on social information processing theory, a general model for how humans perceive, judge, store, and retrieve social information. Central to the notion of social cognition is the idea that we form *schemas*, or mental models about ourselves and others. These schemas are based on prior interpersonal experiences, and they guide and direct future social behavior. For example, a child with well-developed social skills and many friends might expect a new classmate to be friendly. He might approach the new classmate and ask him to play during recess. In contrast, a child who is socially awkward and rejected by her peers might anticipate that a new classmate would also reject her. Consequently, she might avoid the new classmate (Frith & Frith, 2012).

Problems with social information processing underlie many childhood disorders. For example, children who engage in aggressive behavior toward peers typically have negative schemas regarding themselves and others. Furthermore, when confronted with social problems, they tend to perceive others' actions as hostile or rejecting and have difficulty generating peaceful problem-solving strategies. Similarly, children with depression often view themselves as ineffective in social situations. When confronted with social problems, they tend to shy away from others, often leading others to reject them, confirming their low self-worth. Fortunately, therapies have been developed to improve children's social information-processing skills and alleviate children's behavioral and emotional problems (Dodge et al., 2022; Higgins et al., 2022).

Review

- Piaget believed that children's cognitive development occurs through assimilation, accommodation, and equilibration. He described four stages of cognitive development that follow a fixed sequence.

- Vygotsky emphasized the role of language and culture in cognitive development. He believed that development occurred optimally when children acquire knowledge and skills within a zone of proximal development.
- Social cognition refers to children's ability to think about social situations and solve interpersonal problems. Some childhood disorders are associated with social problem-solving biases or deficits.

How Is Emotional Development Important to Understanding Children's Mental Health?

Emotional Development

Emotional development refers to the emergence and refinement of a child's experience, expression, understanding, and regulation of feelings. The process of emotional development reflects the child's physical maturation, increased cognitive complexity, and experiences with others (Bornstein & Lamb, 2024).

Emotional expression begins in infancy. Crying is a powerful means of communication for newborns. Distress, pleasure, anger, fear, and interest are among the earliest emotions that infants display. Young infants occasionally laugh and smile, although smiling deliberately at others typically does not emerge until age 4 months. Emotions such as sadness and fear are typically seen in the second half of the first year of life.

Toddlerhood is characterized by rapid development of the brain's limbic system and frontal lobe as well as greater independence from parents. Consequently, toddlers begin to show more complex feelings such as pride (in asserting autonomy) and shame (in taking risks and failing). Between the ages of 3 and 5, children develop greater capacity for empathy. Empathy is dependent on their ability to attend to other's emotional expressions, label them correctly, and take their perspective. Children with autism typically show delays in their emotional expression and understanding of others' feelings.

Advances in cognition, especially language, allow preschoolers and young school-age children to label and to differentiate their own emotions. For example, kindergarteners can begin to distinguish feeling "mad" from feeling "sad." Young children also become better able to share their feelings verbally, rather than expressing them through aggression, crying, or throwing tantrums. Young children also learn how to alter their emotional expressions in different contexts. For example, the emotions a child can express at home might be different from the emotions he might show in the classroom or on a playground (Bridges, 2018).

Emotion Regulation

A major task during childhood and adolescence is to develop emotion regulation skills. **Emotion regulation** refers to the processes we use to recognize, label, and control our feelings and the way we express these feelings through our actions. Emotion regulation is important to all aspects of development; it affects our attention, concentration, thought processes, memory, relationships, and ability to set and achieve long-term goals (Bornstein & Lamb, 2024).

Children's ability to regulate their emotions changes over time. Initially, emotion regulation is highly dependent on others. For example, an infant might cry for his mother when he is cold or hungry, and a toddler might run to her father when she skins her knee on the playground. Gradually, children develop strategies to regulate their emotions more independently. For example, an older child might ride his bike to alleviate his anxiety about school, and an adolescent might go to the movies with friends to take her mind off trouble at home. The ability to regulate one's emotions independent of others is essential to social–emotional development (LeBlanc et al., 2018).

The processes that children use to regulate emotions can be divided into two broad categories: effortful and reactive. *Effortful processes* involve deliberately changing one's attention, thoughts, or actions with the goal of increasing positive emotions or achieving long-term objectives. Imagine that a

girl misses a free throw and her team loses an important basketball game. To regulate her emotions, she could engage in a wide range of effortful processes. She could direct her attention away from her missed shot and, instead, focus on words of encouragement from her teammates like, "Don't worry about it. You'll get it next time." She could also reappraise the situation and think to herself, "Even professional basketball players don't make all of their shots." She could also look at the situation as a learning opportunity and resolve to practice her shooting (Eisenberg et al., 2018).

In contrast, *reactive processes* are automatic responses to emotions that children adopt in a rigid or habitual manner. For example, the girl who missed the game-winning free throw could respond by crying and running to the locker room, or she could tantrum or shove an opponent. Reactive processes like these may help the girl feel better in the short term, but they hinder her ability to reach long-term goals. She's unlikely to get much playing time after crying or fighting.

Many childhood disorders occur when children habitually and rigidly rely on reactive processes to regulate their emotions. For example, internalizing disorders, like anxiety and depression, occur when children react to stressful events through inhibition, avoidance, or withdrawal. In contrast, externalizing disorders, like conduct problems and ADHD, occur when children automatically respond to emotion-provoking experiences through aggression or impulsivity (Fernandes et al., 2018; Hannesdottir & Ollendick, 2018).

Other disorders also reflect difficulty with emotion regulation. For example, disruptive mood dysregulation disorder is seen in young children who exhibit chronic irritability and severe temper outbursts. Treatment for this disorder involves teaching children to avoid situations that might trigger tantrums and finding new ways to cope with negative emotions. Eating disorders also sometimes reflect underlying problems with emotion regulation. Some adolescents engage in bingeing or purging as a maladaptive way to reduce anxiety, depression, or low self-worth. Self-injurious behaviors, like burning or cutting, can also be seen as a problematic attempt to regulate emotions. The treatment of these disorders typically involves replacing these maladaptive emotion-regulation strategies with healthier, more effective coping skills (Baudinet et al., 2018; Kircanski et al., 2019).

Review

- Early emotional development is chiefly concerned with emotional expression and accurately understanding the feelings of others. Children with autism often experience problems developing these skills.
- Later emotional development focuses on increased capacity for emotion regulation, that is, the ability to recognize, label, and control our feelings and emotional displays. Children with conduct problems, anxiety, and mood disorders often have difficulty with emotion regulation.

Social–Cultural Influences on Development

How Do Parents and Caregivers Influence Development?

Temperament and Goodness-of-Fit

Temperament refers to an infant's characteristic pattern of actions and emotions in response to environmental stimuli. It is typically observable in the first few weeks after birth (Kagan, 2022). Temperament is relatively stable over time and across situations. Temperament reflects one aspect of personality that is believed to be largely innate. Children enter the world with a particular temperament that helps them make sense of their experiences. These experiences, in turn, interact with their temperament and shape their personalities (Stifter & Dollar, 2016).

Parents of two or more children can appreciate differences in temperament. One child may be relatively quiet, easy to calm when upset, yet timid in new situations. His sibling, however, may cry at the slightest provocation, be a poor sleeper and picky eater, and act like a daredevil on the playground. Temperament helps to explain why biological siblings, who share 50% of their genes in common and are raised by the same parents, can behave so differently.

The New York Longitudinal Study provides us with the best data regarding the relationship between temperament in infancy and personality later in life. In this study, Stella Chess, Alexander Thomas, and Herbert Birch (1965) categorized children into one of three temperament clusters:

1. *Easy children* tended to show a high degree of positive emotions during parent–child interactions, engaged in regular daily routines, and were at ease with new people and situations. They could be soothed quickly when upset. These children were classified as "easy" because they presented fewer problems to their caregivers.
2. *Difficult children* tended to display more negative emotions and irritability during parent–child interactions; showed more intense reactions to environmental stimuli; and experienced problems establishing regular eating, sleeping, and toileting schedules. They were more easily upset by changes to their routines or surroundings. These children were labeled "difficult" because their behavior presented challenges to their caregivers.
3. *Slow-to-warm-up children* tended to show little activity and emotion during parent–child interactions and appeared apprehensive when confronted with new people or situations. These children were considered "slow-to-warm-up" because they needed more time to adapt to changes in their surroundings.

The researchers discovered that the same dimensions of temperament could be observed in children of all ethnicities and socioeconomic groups. Infants tended to show stable temperament by 2 to 3 months of age. Most important was the **goodness-of-fit** between the infant's temperament and the demands and expectations of their environment. For example, a "difficult" baby raised by a single parent who is experiencing a high degree of stress might show more problems than a "difficult" baby raised by a single parent who has a safe home, a flexible job, and the support of family and friends.

Developmental psychopathologists explore the degree to which temperament might place children at risk for disorders later in life. For example, Jerome Kagan studied one dimension of temperament, emotional reactivity, which can be observed in 4-month-old infants. When presented with a novel stimulus, such as a dangling mobile, emotionally reactive infants appear distressed. In contrast, infants with low reactivity remained calm when presented with the same stimulus. When tested again at 14 and 21 months, reactive infants often displayed inhibition and fear in novel situations (e.g., when a clown entered the room), whereas infants low in reactivity tended to be more outgoing. Furthermore, children who were reactive in infancy and fearful as toddlers were at increased risk for developing anxiety disorders in later childhood (Fox et al., 2015).

It is important to remember that temperament does not determine personality or a child's risk for psychopathology. However, temperament can affect children's personality and subsequent interactions with others. For example, Nathan Fox conducted an impressive longitudinal study investigating the relationship between difficult temperament in infancy and the emergence of psychological disorders in adolescence and early adulthood. The study showed that young children with inhibited temperament were at increased risk for anxiety problems as young adults. However, children's peer networks during adolescence largely explained the relationship between early temperament and later anxiety. Inhibited children who avoided social contact and developed smaller peer networks tended to develop anxiety disorders; in contrast, inhibited children who were able to establish supportive peer networks did not show increased anxiety. These findings suggest that temperament can place children on certain developmental pathways, but temperament alone does not determine children's outcomes (Frenkel et al., 2015).

Attachment

Attachment refers to the emotional bond between caregiver and child that serves to protect and reassure the child in times of danger or uncertainty (Grossman et al., 2016). According to John Bowlby (1969, 1973, 1980), the parent–child attachment relationship has three basic functions. Most important, the attachment relationship serves to protect the child from danger. Infants and young children are biologically predisposed to seek help from their parents when scared, upset, or unsure of their

surroundings. At the same time, parents are predisposed to respond to their infant's bids for attention and care (Pasco Fearon et al., 2016).

Second, attachment provides parent–infant dyads with an avenue for sharing positive emotional experiences. Through interactions with parents, infants learn about the natural reciprocity of social interactions and the give-and-take of interpersonal relationships.

Third, attachment helps infants learn to regulate negative emotions and behaviors. Initially, infants control anxiety and distress by relying on comfort from their caregivers. Over time, children develop **internal working models**, or mental representations of their caregivers, that help them cope with psychosocial stress. Infants learn to use these mental representations of their parents as a "secure base" from which to explore their surroundings and regulate their emotions and actions.

The quality of parent–child interactions over the first few years of life influences the initial quality of the attachment relationship. Parents who provide sensitive and responsive care to their children, by meeting their children's needs in a consistent and developmentally appropriate fashion, usually develop secure attachment relationships with their children. Their children, in turn, come to expect sensitive and responsive care from their parents. At the same time, these children come to view themselves as worthy of receiving sensitive and responsive care from others.

In contrast, parents who do not provide sensitive and responsive care in a consistent fashion are likely to foster insecure attachment relationships with their children. When scared or upset, these children do not expect their parents to effectively meet their needs and help them regulate their emotions. They adopt internal working models of their parents as unavailable or inconsistent. At the same time, they may view themselves as unworthy of receiving attention and care from others.

The strange situation is used to assess infant–caregiver attachment. Does the child rely on his caregiver for comfort and use her as a secure base to explore his surroundings?

Mary Ainsworth and colleagues (1978) identified three patterns of attachment that develop over the first few months of life. These patterns can be observed in the behavior of 12-month-old infants using the **strange situation**, a laboratory-based test. The strange situation occurs in a playroom and involves separating infants from their parents for short periods of time. Most infants experience distress when separated. However, researchers are primarily interested in how infants respond to their parents when they are reunited. Specifically, researchers observe whether infants can use their parents as a means to reduce distress and return to play.

Most children who participate in the strange situation show *secure attachment* relationships with their parents. These children use their parents as a secure base from which to regulate their emotions, control their behavior, and return to play. Although they usually show distress during separation, they seek comfort and physical contact with their parents when they are reunited. After a little while, reassurance from caregivers soothes these infants, and they can return to play.

Some infants develop *insecure–avoidant attachment* relationships with their parents. When reunited with their parents, these infants show passivity and disinterest. In fact, many of these infants actively avoid their parents' bids for attention by turning away or ignoring them. Although these infants might be upset by separation, they appear uninterested or resentful of their parents when they return. Instead of using their parents as a secure base from which to regulate their emotions, these infants attempt to rely on themselves to cope with the stress of separation. Attachment theorists reason that parents who consistently dismiss their children's bids for attention foster insecure–avoidant attachment relationships with their infants.

Other infants develop *insecure–ambivalent attachment* relationships with their parents. When separated, these infants usually show considerable distress. However, when reunited with their parents, these infants alternate between seeking and resisting their caregivers' support. For example, an infant might initially motion to be picked up by her mother and then immediately push away. The behavior of these infants conveys the notion that they desperately want comfort from their parents but that they do

not expect their parents to adequately provide for their needs. Attachment theorists reason that parents who alternate between providing care and ignoring their children foster this insecure–ambivalent pattern of attachment.

Ainsworth (1978) noticed that some infants could not be classified into any of the three original attachment patterns. In the strange situation, these infants tended to show repetitive, stereotyped behaviors when separated from their caregivers, such as jerky movements of their arms, neck, or back. When reunited with their caregivers, these infants tended to freeze, stare off into space, or act fearfully. Mary Main, a student of Ainsworth, classified these children as having *disorganized/disoriented attachment* because their behavior did not seem organized like those of other infants (Main & Solomon, 1986). Subsequent research showed that disorganized/disoriented attachment is associated with histories of neglect. Furthermore, many caregivers who developed disorganized/disoriented attachment relationships with their infants experienced a major loss or trauma shortly before or after their child's birth.

The Minnesota Longitudinal Study on Risk and Adaptation (Nivison et al., 2024) examined relationships between mother–child attachment in infancy and children's developmental outcomes. Overall, its results showed that the development of secure attachment in infancy and early childhood is associated with later social–emotional competence. For example, infants who formed secure attachment relationships tended to be more popular, resilient, resourceful, and cooperative in preschool. By age 6, they were more compliant, responsive, self-reliant, and empathic than children with insecure attachment histories.

In contrast, infants who developed insecure–avoidant attachment relationships were more likely to display behavior problems such as stealing, lying, or cheating. Others were at risk for mood problems, such as irritability, anger, and depression. They also exhibited more negative reactions than peers.

Infants who developed insecure–ambivalent attachments tended to show excessive dependency on caregivers at home and teachers in preschool. During the school-age years, they often acted frustrated, passive, or helpless. They required reassurance, at the expense of taking risks and engaging in other activities.

Finally, infants who showed disorganized/disoriented attachment were at greatest risk for behavior problems in childhood. Specifically, many of these children showed oppositional, defiant, or spiteful behaviors toward their caregivers. These children were also most likely to develop aggressive behavior and conduct problems. In adolescence, these children were at risk for dissociative symptoms, such as unexpected lapses in awareness or memory.

Although early parent–child attachment seems to place children on developmental pathways toward either competence or adversity, it does not determine children's destiny. Many children change their patterns of attachment from infancy to adolescence because of experiences with other caregivers. Supportive relatives, teachers, coaches, and friends can provide corrective emotional experiences to children who were initially insecure, causing them to modify their working models for relationships. Researchers have identified a subset of infants who changed their attachment patterns from insecure (in infancy) to secure (in childhood) largely because of sensitive and responsive care from adults in their lives. These children tend to show improvements in family and peer functioning by adolescence (van IJzendoorn & Bakermans-Kranenburg, 2014). Psychotherapy can be seen as a way to alter an individual's working model for relationships from one based on rejection or inconsistency to one based on sensitivity and trust.

Parenting Behavior

Although parenting practices differ across families and cultures, psychologists have identified at least two dimensions of parenting that are important to development (Bornstein, 2022). The first dimension, *parental responsiveness*, refers to the degree to which parents display warmth and acceptance toward their children, orient their behavior to meet their children's needs in a sensitive and responsive fashion, and engage their children through shared activities and positive emotions. The second dimension, *parental demandingness*, refers to the degree to which parents have age-appropriate expectations for their children's behavior, clearly establish and consistently enforce rules governing their children's actions, and supervise their children's activities (Bornstein, 2016).

Diana Baumrind (1991) classified caregivers into four **parenting types**, based on the degree to which they endorse responsive and demanding parenting behaviors. *Authoritative* parents are both responsive and demanding toward their children. These parents set high, but age-appropriate, expectations for their children's behavior and help their children meet these expectations by providing them with nurturance and support. They are assertive in their interactions with their children but not intrusive. They use discipline to support their children and to teach them how to regulate their own behavior; they do not use discipline punitively. They value responsibility but also recognize children's needs for sensitive and responsive care.

Authoritarian parents show high levels of demandingness but low levels of responsiveness. These parents value obedience and achievement in their children. They set high standards for their children and firm limits on their children's behaviors. They establish clear rules and expect them to be obeyed. These parents are highly involved in their children's lives, providing them with organized, structured, and supervised educational, extracurricular, and social experiences. They strive to teach self-reliance and responsibility to their children, but they may give their children less support and encouragement to live up to these responsibilities.

Indulgent parents show high levels of responsiveness but low levels of demandingness. These parents are described as lenient, nondirective, and permissive. They value autonomy and exploration in their children. They place few limits on their children's behaviors and are reticent to discipline.

Uninvolved parents show low levels of both responsiveness and demandingness. These parents display infrequent or inconsistent interactions toward their children, often because they are distracted by other psychosocial stressors (e.g., working multiple jobs, caring for an elderly relative).

Overall, children of authoritative parents display the best developmental outcomes. On average, these children show well-developed social skills, emotional competence, and capacity for self-regulation and self-direction. Children of authoritarian parents tend to perform well academically but are at risk for low self-esteem and peer problems, especially in late childhood and early adolescence. Children of indulgent parents often display high levels of self-esteem and well-developed social skills, but they are susceptible to behavior problems during childhood and substance use problems during adolescence. Children of uninvolved parents typically display the poorest outcomes. These children are at particular risk for low academic achievement, behavior problems, and emotional difficulties across development (Bornstein, 2022).

Review

- Temperament refers to the way infants and young children organize their behavior in response to novel environmental stimuli. The goodness-of-fit between the children's temperament and their caregiving environment is important to development.
- Attachment refers to the emotional bond between caregiver and child that serves to promote safety. Attachment is innate; however, the quality of attachment depends on the sensitivity and responsiveness of the caregiver toward the child.
- Caregivers can be classified into one of four parenting types based on their responsiveness and demandingness: (1) authoritative, (2) authoritarian, (3) indulgent, and (4) uninvolved.

How Do Peers Influence Development?

Interpersonal Theory

Harry Stack Sullivan (1953) was an influential psychiatrist who developed one of the first comprehensive theories about the importance of friendships to social–emotional development. He believed that close, trusting friendships were vital to people's sense of self and their overall well-being. In contrast, Sullivan believed that loneliness is the most painful human experience possible.

Sullivan thought that intimacy is the hallmark of satisfying interpersonal relationships. According to Sullivan, intimate relationships are characterized by closeness and vulnerability between two people who value each other and regard each other as equals. Intimate relationships foster love and ward off feelings of anxiety, isolation, and loneliness. Sullivan identified several

stages of interpersonal development, from infancy through adulthood, characterized by a greater capacity for intimacy in relationships.

Young children's relationships (2–6 years) tend to be low in intimacy. Relationships are either between two people of unequal standing (e.g., parent and child) or two equals who do not have emotional closeness (e.g., two preschoolers playing with the same toys). Young children's main task is to learn to delay gratification to maintain relationships over time. Children must learn to take turns, to share belongings, and to follow rules so that everyone can play together. Some children will develop imaginary friends with whom they will "practice" these skills.

Peers are essential to children's social–emotional development.

Slightly older children (6–9 years) begin to establish relationships with peers. Sullivan saw these friendships as critical for all later relationships. In the classroom and on the playground, school-age children decide which peers they like and dislike. By accepting another child into one's play group, the child is saying, "I like and value you." Acceptance establishes a sense of self-worth in children.

Sullivan described preadolescence (9–12 years) as a "quiet miracle" in which children begin to develop close relationships with one or more "best" friends. These friends act as a source of security and support in times of trouble. Sullivan believed these relationships can begin to foster love, a feeling that occurs when another person's happiness and security becomes as important as the happiness and security of oneself. Sullivan believed that loving relationships allowed preadolescents to share their feelings without fear of rejection or humiliation and to take risks in exploring their identities and values.

Adolescence (≥13 years) begins with puberty and ends with the establishment of loving and mutually supportive relationships with others. Sullivan saw early adolescence as a time of insecurity and self-doubt that can be managed through the emotional support of peers. In time, however, adolescents use their increased capacity for intimacy to initiate deep friendships and romantic relationships. Part of this transition involves viewing partners not as objects designed to gratify their needs but as autonomous individuals with their own identities, values, and intrinsic worth.

Peer Acceptance and Rejection

The formation of relationships depends on several factors (Prinstein & Giletta, 2016). First, the ability to form friendships depends on children's cognitive development. Young children must be able to attend to the activities of others, imitate others' actions, understand cause-and-effect relationships, and have basic competence with language. Children with autism, communication or learning disorders, and developmental disabilities may have trouble gaining acceptance from peers because of delays in these areas.

Second, interpersonal relationships depend on the ability to accurately interpret others' emotions, the capacity to regulate one's own emotional expression, and the ability to empathize. As we have seen, youths with autism have difficulty understanding emotions and showing empathy. Children and adolescents with mood disorders also typically have problems with emotion regulation. Irritability, sadness, or social withdrawal can compromise their relationships with family and friends.

Third, children must be able to regulate their own behavior to make and keep friends. Children with ADHD and other disruptive behavior disorders are often rejected by peers because of their aversive, high-rate, or aggressive actions.

Finally, children need adequate social skills to form intimate relationships with others. These skills include knowing how to introduce yourself to a stranger, how to avoid a fight with a friend, and how to cope with social stress or peer pressure. Inadequate social skills can lead to peer rejection. Some peer-rejected youths develop depression and other mood problems, whereas other rejected youths associate with deviant peers who introduce them to antisocial behavior (Dobbins et al., 2023; Zabel et al., 2020).

Review

- Sullivan believed that close friendships are critical to children's social and emotional competence. Friendships in childhood form the basis for future adult relationships based on mutual respect.
- Peer acceptance depends on behavioral, cognitive, and social–emotional competence. Problems in any of these areas can contribute to peer rejection and psychological problems.

How Do Other Social–Cultural Factors Influence Development?

Proximal and Distal Risk

Until now, we have focused chiefly on the immediate causes of childhood disorders. These causes include the child's genotype, brain structure and functioning, learning experiences, thoughts and feelings, and relationships. These immediate determinants of children's functioning are often referred to as *proximal risk factors* because they can directly affect children's well-being. For example, a genetic disorder can lead to low intellectual functioning, whereas exposure to harsh, authoritarian parenting can contribute to children's oppositional and defiant behavior. The overwhelming majority of research addressing the causes of child psychopathology focuses on proximal risk factors because they are typically the easiest to study (Tolan, 2016).

Researchers have increasingly turned their attention to other, *distal risk factors* for child behavior problems. Distal risk factors are social, cultural, and broad environmental influences on development. As we have seen in the previous chapter, an important distal risk factor is socioeconomic status (SES). Children from low-SES families are at increased risk for developing behavioral and emotional disorders compared to youths from middle- and high-SES backgrounds. Other distal risk factors include family structure (e.g., single-parent families), neighborhood quality (e.g., population density, crime), and broader social–cultural values (e.g., the importance of school, family, or religion; Wadsworth et al., 2016).

Distal risk factors, like poverty and neighborhood disadvantage, can *directly influence* child development. For example, infants and toddlers who ingest environmental toxins like lead are at risk for developing behavioral and learning problems. Typically, youths are exposed to lead from lead water pipes or the paint that flakes off the walls of older homes. Children from low-SES families are disproportionately exposed to lead because they often live in older homes and neighborhoods. Consequently, rates of lead poisoning, and subsequent neurological damage, are greatest among youths from low-SES families (Gronqvist et al., 2020).

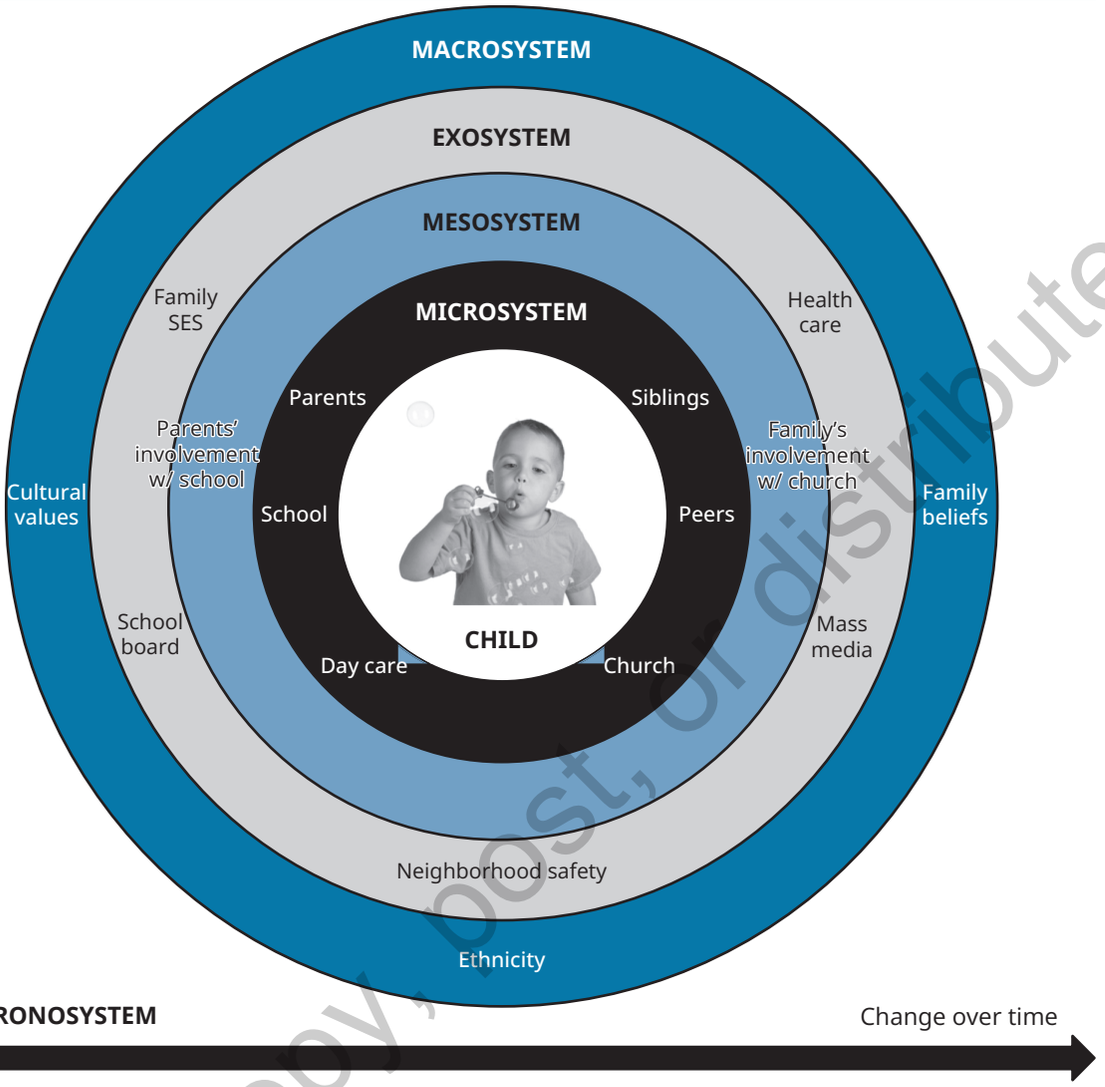
Distal risk factors can also *indirectly influence* child development. For example, the degree to which parents argue over financial concerns predicts the extent to which they use harsh discipline with their children. Their harsh parenting behavior, in turn, predicts the emergence of their children's behavior problems. In this case, financial stress contributes to children's behavior problems indirectly, by increasing problematic parenting behavior (Ward & Lee, 2020).

Bronfenbrenner's Ecological Systems Theory

Perhaps the most influential and comprehensive explanation for the way social–cultural factors affect children has been offered by the developmental psychologist Urie Bronfenbrenner. According to Bronfenbrenner's (1979, 2005) **ecological systems theory**, children's environment can be viewed as a hierarchy of concentric systems with each smaller system nested inside the others like stacked cups (Figure 2.9).

The *microsystem* reflects children's immediate surroundings and proximal influences on their development. Factors within the microsystem include children's genetic inheritance, biological functioning, psychological processes, and interactions with parents and family. The microsystem also includes children's relationships with teachers, coaches, and peers as well the various social roles they adopt (e.g., student, athlete, friend). The microsystem is the "primary engine of development," and children's interactions with caregivers, siblings, and friends are believed to be the most important proximal determinants of their developmental outcomes (Bronfenbrenner & Morris, 1998).

Figure 2.9 ▪ Bronfenbrenner's Ecological Systems Theory



Note: Development is shaped by proximal and distal factors over time. Adapted from Bronfenbrenner (1979, 2005).

The *mesosystem* refers to the connections between microsystems. For example, children's relationships at home and school are important determinants of their overall functioning. However, the quality of interactions between home and school also influences children's well-being. Children whose parents take an active role in their education, clubs, and sports will likely show different outcomes than children whose parents show less interest in their activities.

The *exosystem* reflects contextual influences that affect microsystems but do not affect children directly. For example, a father might be required to change work schedules or to work longer hours to keep his job. These work-related changes might influence the amount of time he is able to spend with his child. Similarly, the school board might decide to reduce funding for certain extracurricular activities, causing a child to give up a favorite sport or club. The parent's change in work schedule and the school board's change in funding can alter children's daily experiences and indirectly affect their development.

The *macrosystem* refers to broad social, economic, and cultural influences on children's development. Chief among these factors are socioeconomic disadvantage, neighborhood quality, and digital media exposure. Other broad influences can include the family's religious beliefs, cultural values, and history (Tolan, 2016).

Bronfenbrenner recognized that the effects of all four systems on development change over time. In fact, he considered time to be a fifth system in his model—the *chronosystem*. Time shapes development

in two ways. First, the importance of various systems depends on children's age and developmental level. For example, peers are more important to children's developmental outcomes in later childhood and adolescence than they are during the preschool years. Second, different generations of children are exposed to different risks. For example, children born in the first half of the 20th century faced the dual threats of the Great Depression and World War II. Their children and grandchildren, in turn, lived through the Vietnam era and Cold War. Children today face new risks: domestic and international terrorism, environmental catastrophes, and serious illnesses like COVID-19. Each generation of children and adolescents must find ways to respond to stressors like these. A full understanding of child development depends on an appreciation for children's interactions with these environmental systems and how these interactions vary across time (Shelton, 2019).

Review

- Proximal risk factors directly affect children's development. Distal risk factors include broader social and cultural influences that affect children either directly or indirectly through family, schools, neighborhoods, or society.
- Bronfenbrenner's ecological systems theory views child development as occurring within a series of nested social systems ranging from the microsystem (e.g., immediate influences) to the macrosystem (e.g., indirect influences). Development must also be understood in the context of time.

Key Terms

Accommodation
Adaptive behavior
Allele
Assimilation
Attachment
Basal ganglia
Behavioral epigenetics
Behavioral genetics
Brain stem
Cerebellum
Cerebral cortex
Chromosomes
Classical conditioning
Cognitive development
Concordance
Developmental pathways
Developmental psychopathology
Developmental tasks
Diathesis-stress model
Ecological systems theory
Emotional development
Emotion regulation
Equifinality
Equilibration
Gene
Gene-environment correlation model
Genotype
Goodness-of-fit
Heterotypic continuity
Histones
Homotypic continuity
Internal working model
Learning theory
Limbic system
Maladaptive behaviors
Metacognition
Molecular genetics
Multifinality
Neural plasticity
Neurons
Neurotransmitters
Nonshared environmental factors
Operant conditioning
Parenting types
Phenotype
Probabilistic epigenesis
Protective factors
Punishment
Reinforcement
Resilience
Risk factors
Scaffolding
Shared environmental factors
Social cognition
Social learning theory
Strange situation
Synaptogenesis
Temperament
Zone of proximal development

Critical Thinking Exercises

1. Mrs. Johnson referred her 5-year-old son, Billy, to a psychologist because Billy showed problems with oppositional and defiant behavior (e.g., crying, throwing tantrums, sassing back). The psychologist observed Mrs. Johnson and Billy during a 20-minute play session in the clinic. During the session, Mrs. Johnson repeatedly yelled at Billy and threatened to spank him. How might Billy's behavior problems be explained by the *transaction* between Billy and his mother?
2. Are you and your biological siblings alike? Although you and your brother or sister might have been raised by the same parents and grew up in the same home, you might have different personalities, interests, and goals for the future. Use the concept of shared and nonshared environmental factors to explain why two biological siblings who grow up in the same household can be so different.
3. Savannah is a 12-year-old girl who is extremely shy. She loves computer programming and graphic design and wants to take a class this summer to develop her skills. However, she is afraid to go. How might a therapist use graded exposure to help Savannah overcome her anxiety about attending the class?
4. Bruno is a 14-month-old infant who participates in the strange situation. When left alone, Bruno becomes upset and cries. However, when his mother returns to the room, he runs to her, motions to be picked up, and settles into her arms. An observer comments, "Bruno doesn't seem to be securely attached. He's so easily upset when his mother leaves!" Is this statement accurate?
5. Diana Baumrind discovered that children from authoritative families often show the best developmental outcomes. However, most research supporting this conclusion has been conducted with middle-class, non-Latino, White families. How might SES or ethnicity affect the relationship between parenting behavior and children's outcomes?

Test Yourself and Extend Your Learning

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