The Science and Practice of Abnormal Child Psychology

Welcome to the Study of Abnormal Child Psychology

Childhood is a time of physical maturation, intellectual development, and social-emotional growth. Ideally, children are provided with ample opportunities for play and exploration within the safety and security of a loving family and supportive social network. However, for a significant number of youth, childhood is marked by biological, behavioral, or social-contextual challenges that can adversely affect their development.

The study of child psychopathology is complex and diverse. The sheer number of psychological disorders that can afflict children and adolescents is daunting, to say nothing of the multitude of causal factors and treatments. However, the last 20 years have witnessed a marked increase in the scientific study of abnormal child and adolescent psychology. Theory and empirical research have helped to advance the field, enabling researchers to identify some of the causes of childhood disorders and guiding clinicians toward the most promising forms of treatment.

There is, perhaps, no more exciting time to be studying abnormal child psychology than now. Students interested in psychological research will discover many areas of child psychopathology that deserve their attention. Each disorder can be explored from multiple perspectives, ranging from its genetic and biological underpinnings to the behavioral and social-cultural factors that cause and maintain it. At the same time, students interested in helping at-risk youth will discover new developments in the application of psychological research to prevent and treat childhood disorders.
The field of abnormal child psychology is broad and constantly changing. There is much work to be done. Geneticists, neuroscientists, physicians, psychologists, counselors, teachers, parents, and all other individuals who interact with youth can play a role in the prevention and alleviation of childhood disorders and the promotion of children’s mental health. This text is intended to introduce you to this intellectually exciting and personally rewarding discipline. Welcome!

Prevalence of Childhood Disorders

Epidemiologists are scientists who study the prevalence of medical and psychological disorders in the general population. Prevalence refers to the percentage of individuals in a given population who have a medical or psychological condition. To estimate prevalence, epidemiologists collect data from thousands of individuals in the population, asking them to comment on their current physical or psychological health. To estimate the prevalence of psychological disorders among children and adolescents, epidemiologists usually rely on information gathered from parents, other caregivers, and (sometimes) children themselves.

Conducting epidemiological research is difficult for several reasons. First, researchers are challenged by the task of collecting data from thousands of people in the population. Many people do not want to participate in lengthy surveys, others do not understand questions asked of them, and still others provide inaccurate information. Second, the information collected depends greatly on who answers the researchers’ questions. For example, parents may be able to comment on children’s disruptive behavior, but they may be less accurate in estimating children’s difficulties with depression or use of alcohol (Loeber, Green, & Lahey, 1990). Third, conducting a large-scale epidemiological survey is costly and time consuming. For these reasons, determining the exact prevalence of childhood disorders has been challenging.

Despite these methodological obstacles, at least seven large epidemiological studies designed to estimate the prevalence of child and adolescent disorders have been conducted in English-speaking countries. Collectively, these studies include data from tens of thousands of youths and their caregivers, using a variety of research strategies. Results indicate that approximately 15% of youths aged 6 to 16 have a diagnosable mental disorder at any given point in time (Breton et al., 1999; British Medical Association, 2006; Costello et al., 1996; Meltzer, Gatward, Goodman, & Ford, 2003; Offord et al., 1987; Shaffer et al., 1996; Simonoff et al., 1997).

A prevalence of 15% indicates that as many as 11,100,000 youths in the United States are experiencing significant psychological distress and impairment (U.S. Census Bureau, 2006). Furthermore, by the time they reach age 16, as many as 30% will have experienced a psychological disorder at some point in their lives (British Medical Association, 2006). The most common category of mental disorders among youth is anxiety disorders (e.g., phobias, fears of separation), followed by conduct problems (e.g., oppositional and aggressive behaviors) and Attention-Deficit/Hyperactivity Disorder (ADHD; see Table 1.1).

1Boldface type indicates a new or key term.
Psychological disorders have direct, deleterious consequences on the quality of life of children and their families. The direct cost of child and adolescent mental health care in the United States is approximately $12 million annually (Ringel & Sturm, 2001). Youths who experience mental disorders are at risk for lower academic achievement, which can adversely affect their ability to reach their earning potential as adults. Furthermore, the parents of children and adolescents with mental disorders often show reduced productivity at work because of the demands associated with caring for these youths.

The cost to society of child and adolescent psychological disorders is also enormous. Society must not only pay for the direct cost of mental health treatment, but must also cover expenses associated with child and adolescent mental illness. These associated costs include incarceration and rehabilitation for youths with conduct problems, drug and alcohol counseling for youths with substance abuse and dependence, and family supervision and reunification services for youths who experience childhood maltreatment. School districts must pay for special educational services for children with cognitive, learning, and behavioral problems that interfere with their ability to benefit from traditional public education. Although the prevention of childhood mental disorders would spare families considerable suffering and spare society enormous expense, prevention remains an underutilized approach to dealing with child and adolescent psychopathology in the United States (Tolan & Dodge, 2005).

Although approximately 15% of youth experience full-blown psychological disorders, the percentage of youth who encounter significant mental health problems is even greater (see Table 1.2). To be classified with a mental disorder, youths must show both significant symptoms and marked distressed or impairment in day-to-day functioning. However, many youths experience serious problems in their family relationships, educational attainment, and social functioning but fall short of meeting

### Table 1.1 Prevalence of Psychological Disorders in Children and Adolescents

<table>
<thead>
<tr>
<th>Problem</th>
<th>Prevalence (%)</th>
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<tbody>
<tr>
<td>Any anxiety disorder</td>
<td>6.5</td>
</tr>
<tr>
<td>Attention-deficit/hyperactivity disorder</td>
<td>3.3</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>3.3</td>
</tr>
<tr>
<td>Any depressive disorder</td>
<td>2.1</td>
</tr>
<tr>
<td>Any substance use disorder</td>
<td>0.8</td>
</tr>
<tr>
<td>Autism and other pervasive developmental disorders</td>
<td>0.3</td>
</tr>
<tr>
<td>Any eating disorder</td>
<td>0.1</td>
</tr>
<tr>
<td>Any bipolar disorder</td>
<td>0.1</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Source: Based on the Ontario Child Health Study (Offord et al., 1987), the National Institutes of Mental Health Methodology for Epidemiology of Mental Disorders in Children and Adolescents Study (Shaffer et al., 1996), the Great Smoky Mountains Study (Costello et al., 1996), the Virginia Twin Study of Adolescent Behavioral Development (Simonoff et al., 1997), the Quebec Child Mental Health Survey (Breton et al., 1999), the British Child Mental Health Survey (Meltzer et al., 2003), and the British Medical Association Board of Science Survey (British Medical Association, 2006).
diagnostic criteria for a mental disorder. For example, many children experience considerable feelings of sadness and symptoms of social withdrawal, but they do not meet diagnostic criteria for Major Depressive Disorder. Similarly, many adolescent girls show poor body image and unhealthy eating habits, but they do not qualify for a diagnosis of Anorexia or Bulimia Nervosa. Youths with subthreshold emotional or behavioral problems are clearly not reaching their social and emotional potentials and deserve the attention of parents, teachers, and mental health practitioners. Indeed, as many as 21% of youth in the United States have either a diagnosable mental disorder or a subthreshold behavioral or emotional problem that significantly interferes with their general functioning and quality of life (Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000). Consequently, approximately one in five youths are in need of psychological treatment or support.

### Sociodemographics and Children’s Mental Health

Mental health problems are not equally distributed across the population (British Medical Association, 2006; Shaffer et al., 1996). First, mental and behavioral disorders are more common among adolescents than among children. Although the prevalence of some disorders, like ADHD, gradually decreases from childhood to adolescence, the prevalence of most disorders, especially conduct problems, depression, and anxiety, increases dramatically during the early teenage years. Although mental health problems can emerge at any age, early adolescence appears to be a time in development that places youths at particular risk.

Second, boys and girls are at different risk for developing psychological disorders across development. Specifically, young boys are more likely than young girls to develop most early childhood disorders, especially developmental disorders (e.g., Autism, Mental Retardation) and disruptive behavior problems (e.g., ADHD, conduct problems). However, by early adolescence, these differences between genders narrow. By late adolescence, girls show a greater likelihood of emotional disorders, especially depression and anxiety, than do boys.

Third, youths from socially and economically impoverished families and neighborhoods are at increased risk for developing most psychological disorders. Across English-speaking countries, youths from low-income families, single-parent families,
parents of low educational attainment, and high-crime neighborhoods show increased prevalence for almost all child and adolescent disorders. In the United States, African American and other ethnic minority children show increased risk for many mental health problems. Researchers are actively searching for the causes of child psychopathology among low-income minority youth, as well as ways to reduce the risks they face.

**The Rise of Pharmacotherapy**

One of the greatest changes in the field of abnormal child psychology in the last two decades has been the dramatic increase in the use of medication by children and adolescents. The use of psychotropic medication has increased approximately three-fold in the past 15 years (Olfson, Marcus, Weissman, & Jensen, 2002). Recent data indicate that approximately 1 in 10 adolescent boys and 1 in 14 adolescent girls who visit a physician are prescribed a psychotropic medication (Thomas, Conrad, Casler, & Goodman, 2006). Indeed, psychotropic medication prescriptions for adolescents increased 191% from 1994 to 2001, compared to an increase of only 6% for nonpsychotropic medications (Thomas et al., 2006; see Figure 1.1).

![Figure 1.1](image.png)

**Figure 1.1** Psychotropic Medication Use Over Time

Source: Based on Thomas et al. (2006).

Note: Prescriptions for adolescents have increased 191% since 1994. Approximately 20% of adolescents prescribed psychotropic medications were not diagnosed with a mental disorder.
Estimates of the prevalence of psychotropic medication among youth vary (Bonati & Clavenna, 2005; see Table 1.3). Overall, approximately 5.2% of children and adolescents in the United States have been prescribed at least one psychotropic medication. The most frequently prescribed class of medications for youth are psychostimulants, like methylphenidate (i.e., Ritalin), which are often used to treat ADHD. The second most frequently prescribed medications for youth are antidepressants, especially serotonin reuptake inhibitors like paroxetine (i.e., Paxil) and fluoxetine (i.e., Prozac). In most cases, these medications are prescribed by pediatricians and family practice physicians, rather than psychiatrists.

The use of prescription medications is even higher among youths referred for psychiatric treatment. In one epidemiological study of youths referred to mental health professionals in the United States, approximately 29% were prescribed at least one psychotropic medication (Warner, Pottick, & Mukherjee, 2004). Medication was most frequently used to treat children with ADHD, depression, and psychotic disorders. Youths who show two or more psychiatric disorders are especially likely to be prescribed medication. More than 40% of youths with multiple psychiatric disorders receive medication. Youths receiving inpatient psychiatric treatment are most likely to use prescription medication. Indeed, approximately 70%–75% of psychiatrically hospitalized youths are prescribed at least one psychotropic medication during the course of their inpatient stay (Dean, McDermott, & Marshall, 2006; Lekhwani, Nair, Nikhinson, & Ambrosini, 2004; Najjar, Welch, Grapentine, Sachs, Siniscalchi, & Price, 2004).

### Table 1.3 Psychotropic Medication Use Among Youth in the United States

<table>
<thead>
<tr>
<th>Medication</th>
<th>Prevalence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any psychotropic medication</td>
<td>5.2</td>
</tr>
<tr>
<td>Psychostimulants (Ritalin, Adderall)</td>
<td>3.4</td>
</tr>
<tr>
<td>Antidepressants (Paxil, Prozac)</td>
<td>1.5</td>
</tr>
<tr>
<td>Antianxiety medications (BuSpar)</td>
<td>0.4</td>
</tr>
<tr>
<td>Antipsychotics (Risperdal)</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Source: Based on Bonati and Clavenna (2005).
Note: Table shows prevalence of medication use among youth with and without psychiatric problems.

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### Barriers to Child Mental Health Services in the United States

Some experts have argued that the child mental health system in the United States is in a state of crisis (President’s New Freedom Commission on Mental Health, 2003). Available data indicate that the prevalence of child and adolescent mental health problems has increased over the past two decades. However, families’ access to high-quality mental health services remains grossly inadequate. Only about one-third of youths who need mental health services receive treatment (Burns et al., 1995). Families who are able to obtain mental health services often find treatment inadequate or outdated.
Tolan and Dodge (2005) have identified several barriers to children’s access to high-quality, empirically based mental health services. First, financial hardship often interferes with children’s access to comprehensive treatment. In the United States, mental health treatment and medical treatment do not receive equal coverage from insurance companies, despite evidence that mental health problems cost families and society considerable financial expense. Families may find themselves unable to pay for high-quality treatment for their children and adolescents. Families who are uninsured or underinsured face the additional challenge of obtaining treatment from a public social service system that is often overburdened and underfunded.

Second, even if families can pay for high-quality mental health services, they may be unable to find these services. As we will see, many of the empirically supported, high-quality mental health treatments that have been identified by researchers are not available in most communities. For example, Multisystemic Therapy (MST) is an empirically supported treatment for older adolescents with serious conduct problems. Many well-designed studies have shown MST to reduce adolescents’ disruptive behavior problems, improve their social and academic functioning, reduce their likelihood of arrest and incarceration, and save money (Henggeler & Lee, 2003). However, few clinicians are trained in providing MST, and MST is available in only a small number of communities. Consequently, many clinicians rely on other, less well-supported interventions.

Third, there are simply not enough experts in child and adolescent mental health to satisfy the need for services. Jenkins (1998) estimated that the current mental health care system is able to address the needs of only about 10% of all youths with psychological problems. Youths who receive treatment are typically those who show the most serious distress or impairment. Youths with less severe problems, such as moderate depression, mild learning problems, or unhealthy eating habits, often remain unrecognized and untreated until their condition worsens. Inadequate mental health services are especially pronounced among poor and ethnic minority youth (Ringel & Sturm, 2001).

Finally, stigma can interfere with children’s access to mental health treatment. Many caregivers are reluctant to refer their children for therapy because of the negative connotations associated with diagnosis and treatment. Approximately 25% of pediatrician visits involve behavioral or emotional problems that could be better addressed by child and adolescent mental health professionals (Horwitz et al., 2002). Stigma associated with the diagnosis and treatment of childhood disorders causes many at-risk youths to be denied treatment.

What Is Abnormal Child Psychology?

Differentiating Normal From Abnormal Child Behavior

Defining Abnormal Behavior in Children

There is no consensus on how to define abnormal behavior in children and adolescents and no agreement on how to best differentiate abnormality from normal functioning. However, mental health practitioners and researchers have
proposed several criteria to identify children with behavioral and social-emotional problems.

One approach to defining abnormality is based on statistical deviancy. In this approach, abnormal behaviors are defined by their relative infrequency in the general population. For example, thoughts about death are fairly common among adolescents. However, recurrent thoughts about killing oneself are statistically infrequent and could indicate a mood disturbance such as depression. Advocates of the statistical infrequency approach might administer a rating scale to clients and identify youths who show symptoms well beyond the range of normality, compared to other children and adolescents of the same age and gender.

The chief limitation of the statistical deviancy approach to defining abnormality is that not all infrequent behaviors are indicative of mental disorders. Imagine a child who is tearful, prefers to stay in her room, does not want to play with friends, and is having problems completing schoolwork. From the statistical deviancy perspective, we might diagnose this girl with depression because she shows mood problems that are rare among children her age. However, if we learn that her grandfather died a few days before her assessment, we would likely interpret her behavior as a normal grief reaction, not as an indicator of Major Depressive Disorder.

Although statistical infrequency may be an important component of a definition of abnormality, it is insufficient. Statistical deviancy does not take into account the context of children’s behavior.

Another approach to defining abnormality is based on degree of impairment. From this perspective, abnormal behavior is defined by thoughts, feelings, or actions that interfere with the individual’s social, academic, or occupational functioning. For example, an adolescent who feels sad because she broke up with her boyfriend would not be diagnosed with depression, as long as she is able to maintain relationships with friends, get along with parents, and perform adequately in school. However, her behavior might be considered abnormal if her functioning deteriorates in any of these areas.

Defining abnormality by level of impairment has a serious drawback: Many people with mental disorders do not show overt impairment in functioning. For example, an adolescent who carefully plans his suicide may show so few overt problems at home or in school that parents and friends are surprised when he attempts self-harm. By most accounts, Eric Harris and Dylan Klebold, the adolescents who killed 12 classmates and a teacher in Columbine High School in April, 1999, showed few symptoms of impairment before they committed their heinous crimes (see Image 1.1).

Yet another definition of abnormality might incorporate the individual’s degree of psychological distress. People can show psychological distress through depressed mood, irritability, anxiety, worry, panic, confusion, frustration, anger, or any other feeling of dysphoria. Psychological distress is one of the central features of most anxiety and mood disorders.

One limitation of defining abnormality in terms of psychological distress is that distress is often subjective. Some signs of distress can be observed by others, such as sweaty palms and flushed face. However, distress is usually assessed by asking clients
Guns in School

In the past few weeks there has been news of several shootings in high schools. A student in Texas killed three fellow classmates and injured many more when he fired at a prayer group before school. This student had several other weapons with him when he was apprehended, showing how easy it was to bring so many weapons to school and not be noticed. Students who bring guns to school are hardly ever detected. This is shocking to most parents and even other students since it is just as easy to bring a loaded handgun to school as it is to bring a calculator.

The problem of guns in school is a major one faced by many parents, teachers, and citizens these days. Solutions are hard to come by in such a situation because of how widespread the problem is and how different each school in each town can be. Students can get weapons into school too easily and they have to much access to weapons outside of school.

A. Weapons in school are hard to detect and students have ways of getting out of searches or other ways of detection.

1. One example of students avoiding detection is a 1990 survey conducted by the Centers For Disease Control (CDC) which found that one in 20 high school students carried a gun in school during the past month (CDC).

2. Students can use their backpacks, purses, or even projects to bring weapons into school.

3. Metal detectors can be avoided by using other school entrances.

B. Students have access to many weapons and can obtain a gun from many places.

1. The low price of junk guns (as low as 69 dollars) brings these guns within the economic reach of children (Gun Digest, 288).

Image 1.1 Guns in School. A paper submitted by Eric Harris approximately one year before he and Dylan Klebold shot 12 classmates and one teacher in Columbine High School. His teacher commented on the paper: "Thorough and logical. A few formatting problems, however. Nice job!"

Source: Released to public domain by the Jefferson County Sheriff's Office, July 6, 2006.
Subjective assessment of distress in children is problematic for at least two reasons. First, not all children are equally aware of their mood states or able to differentiate among various emotions. For example, some children express dysphoria by crying while others develop physical symptoms, like upset stomach. Furthermore, young children often confuse negative emotions such as “fear” and “anger.” Second, children’s ratings of distress often cannot be compared against an objective criterion. For example, a child who reports feeling “bad” might be experiencing more distress than another child who reports feeling “terrible.”

A second limitation to defining abnormality based on distress is that many youths with serious behavior problems do not experience negative emotions. For example, adolescents with conduct problems often show no signs of anxiety or depression. They may only express remorse when they are caught and punished. Similarly, younger children with oppositional and defiant behavior toward adults rarely express psychological distress. Instead, their disruptive behavior causes distress to their parents and teachers.

Abnormal behavior might also be defined by actions that violate society’s standards or rules. Put another way, abnormality may be defined in terms of cultural deviancy. For example, Conduct Disorder is characterized by a persistent pattern of behavior that violates the rights of others or the rules of society. Adolescents with Conduct Disorder often have histories of disruptive behavior problems that clearly go against cultural norms and mores: shoplifting, robbery, violence toward others, truancy.

The chief limitation of defining abnormal behavior exclusively by the degree to which it violates social or cultural norms is that these norms can vary considerably from culture to culture. For example, in Western industrialized societies, parents often require young children to sleep in their own beds, usually in separate rooms. Children who refuse to sleep in their own beds may be classified as having a sleep disorder. However, in many nonwestern societies, requiring young children to sleep alone is considered cruel and detrimental to their social and emotional development.

Some experts define abnormality in terms of behavioral rigidity. From this perspective, abnormal behavior is characterized by the repeated and inflexible display of certain actions, thoughts, or emotional reactions, especially in response to psychosocial stressors. For example, a child who shows fear at the prospect of separating from his mother may be displaying abnormal behavior if he shows this fear in almost all situations. Under some circumstances, clinginess to parents is adaptive, for example, when the child is in an unfamiliar and potentially dangerous setting, such as a crowded airport. Under other circumstances, separation anxiety is clearly maladaptive, such as when a child is unwilling to leave his parents to attend school.

Whereas mental health is characterized by flexibility in responding to changes in situational demands, abnormal behavior may be marked by the persistent use of a limited number of behaviors that are clearly not adaptive in all situations. The chief drawback to defining abnormal behavior in terms of rigidity is that terms like “inflexibility” and “maladaptive” are, themselves, vague.

A final way to differentiate abnormality from normal functioning is based on the notion of harmful dysfunction. According to Jerome Wakefield (1992), a behavior
is considered abnormal if it meets two criteria. First, the behavior must be harmful; that is, it must be associated with a significant impairment in daily functioning. Second, the behavior must reflect an underlying biological dysfunction; that is, it must have an underlying medical or biological cause.

The harmful dysfunction approach to defining abnormality has two limitations. First, the requirement that a behavior be “harmful” may be too stringent. As we have seen, many youths with depression, anxiety, and other emotional problems show no impairment in functioning. Furthermore, the definition of “harmful” is somewhat vague and subjective. For example, Wakefield’s (1992) definition does not tell clinicians how severe an adolescent’s depressive symptoms must be to be considered “harmful.” Must an adolescent be actively contemplating suicide to have a mental disorder?

Second, Wakefield’s (1992) requirement that people show underlying biological dysfunction is also problematic. Most people with mental disorders do not show a clear biological cause for their disorder. Even children with disorders that have strong genetic and biological underpinnings, such as autism and ADHD, do not consistently show structural or functional brain abnormalities. There is no blood test or “chemical imbalance” that can be used to diagnose these childhood disorders.

The Psychiatric Definition of Abnormality

Most mental health practitioners and researchers use the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR; American Psychiatric Association, 2000) to diagnose mental disorders. DSM-IV-TR is published by the American Psychiatric Association and reflects the current psychiatric conceptualization of mental illness. DSM-IV-TR defines mental disorder as follows:

A clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress or disability or with a significantly increased risk of suffering, death, pain, disability, or an important loss of freedom. (p. xxxi)

According to the DSM-IV-TR, a person might be classified as having a mental disorder if she shows thoughts, feelings, or actions that are associated with (1) psychological distress, such as anxiety, depression, or discomfort; (2) impaired functioning, such as problems with social relationships, school, or work; or (3) risk of harm to self or others.

It is worth noting that people experiencing mental disorders must show at least one of these features—distress, impairment, or risk—they need not show all three characteristics. Some seriously depressed adolescents experience tremendous emotional pain and frequently think about killing themselves, but they do not show marked impairment in their social or academic functioning. Other youths who show serious conduct problems have been arrested and have dropped out of school, but they report no problems with anxiety, depression, or low self-esteem.
Abnormality, Ethnicity, and Culture

According to the *DSM-IV-TR*, clinicians must carefully differentiate symptoms of a mental disorder from behaviors and psychological states that are sanctioned in a given culture. Differentiating abnormal symptoms from culturally sanctioned behavior is especially challenging when clinicians are asked to assess youths from other cultures.

**Julia**

Julia was a 16-year-old Asian American girl who was referred to our clinic by her oncologist after she was diagnosed with a rare form of cancer. Julia refused to participate in radiation therapy or take medications for her illness. Her physician suspected that Julia was paranoid because she attempted to attack him when he tried to examine her in his office.

With the help of a translator, Julia’s therapist learned that she was a second-generation Hmong immigrant from Southeast Asia who lived with her parents and extended family. Julia and her family had limited contact with individuals outside the Hmong community and refused to participate in Western medicine. Instead, Julia and her parents practiced traditional Eastern folk medicine.

Because Julia’s therapist doubted that folk medicine alone would help her cancer, she suggested that Julia’s community shaman talk with her physician to identify which aspects of medical treatment might be acceptable to Julia and her family. Over time, Julia was able to successfully participate in Western medical treatment by having the shaman attend all of the radiation therapy sessions, bless the medications prescribed by the oncologist, and perform other folk remedies important to Julia and her family.

Faul and Gross (2006) have identified four ways ethnicity and culture can affect the diagnostic process. First, ethnic minority 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, white, middle-class parents often place great value on fostering children’s social-emotional development and encouraging child autonomy. These parents often provide high levels of 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 adopt less permissive and more authoritarian socialization tactics. Clinicians need to be aware of cultural differences in socialization goals and parents’ ideas about appropriate and inappropriate child behavior.

Second, ethnic minorities living in the United States, especially immigrants, 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. Many ethnic minorities also face the additional stress of low social and economic status. Many immigrants to the United States, especially those from Latin America, do not share the same legal status as members
of the dominant culture. For these reasons, the sheer number of psychosocial stressors encountered by ethnic minority families is greater than those encountered by families who are members of the dominant culture.

Third, language differences can cause problems in the assessment and diagnosis of non-native speakers. The assessment and diagnostic process was designed predominantly for English-speaking individuals living in the United States. The words that describe some psychological symptoms are not easily translated into other languages. Furthermore, many symptoms reported by individuals from other cultures do not readily map onto DSM-IV-TR diagnostic criteria. Psychological tests are almost always developed with English-speaking children and adolescents in mind. For example, white children raised in Columbus, Ohio will likely find the following question on an intelligence test fairly easy: “Who was Christopher Columbus?” However, Cambodian immigrant children who recently moved to the city might find the question extremely challenging. Psychologists must be aware of differences in language and cultural knowledge when interpreting test results.

Fourth, ethnic minorities are often underrepresented in mental health research. Over the past two decades, researchers have made considerable gains in understanding the causes and treatment for a wide range of child and adolescent disorders. However, researchers know relatively little about how differences in children’s ethnicity and cultural backgrounds might place them at greater risk for certain disorders or affect treatment. For example, emerging data suggest that the prevalence of alcohol and drug abuse among adolescents differs, depending on adolescents’ ethnicities. Researchers have only recently begun to create treatment programs designed specifically for minority youth. For example, the TEMAS program was created to help Spanish-speaking children and adolescents overcome mood and anxiety problems using culturally relevant storytelling (Costantino, Malgady, & Cardalda, 2005). Clearly, more research needs to be done to investigate the interplay between psychopathology and culture among ethnic minority youth.

What Is Abnormal Child Psychology?

Understanding the Development of Psychopathology

Developmental psychopathology is a broad approach to studying normal and abnormal development across the lifespan. Developmental psychopathologists believe that development is shaped by the complex interaction of biological, psychological, and social-cultural factors over time. An adequate understanding of development, therefore, depends on the appreciation of each of these domains, how they interact, and how they affect the person from infancy through adulthood (Rutter & Sroufe, 2000).

Developmental psychopathologists study human development across several levels of analysis. These levels include the person’s genetics, brain structure and functioning, psychological development (i.e., actions, thoughts, emotions), family interactions and peer relationships, and the broader social-cultural context in which the
person lives. Factors on each of these levels can individually affect development. More frequently, however, factors across levels interact over time to shape children’s developmental outcomes (Cicchetti & Toth, 1998).

**Probabilistic Epigenesis**

Developmental psychopathologists use the term *epigenesis* to describe the way biological, psychological, and social-cultural factors interact with each other to influence development over time (see Figure 1.2). Development unfolds as genetic and biological factors guide and direct psychological, familial, and social functioning (Gottlieb & Willoughby, 2006).

Consider Nina, a child with Down syndrome. Nina’s syndrome was caused by a genetic mutation on chromosome 21, probably acquired through an abnormality in her mother’s egg cell. This genetic mutation caused Nina’s brain and central nervous system to develop in an abnormal fashion. Her neurological development, in turn, shaped her psychological functioning during early childhood. Nina’s parents reported delays in her motor development (e.g., sitting up, walking), use of language, and acquisition of daily living skills (e.g., toilet training, dressing). In school, she showed problems learning to read, write, and count. These psychological characteristics affected the type of care she received from parents and teachers. Nina’s mother was understandably very protective, and her teachers often offered Nina extra attention 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 well below her peers academically. However, Nina was able to spend half the school day

![Figure 1.2 Developmental Epigenesis](image)

*Source: Based on Gottlieb and Willoughby (2006).*

*Note: Development unfolds over time. Genetic, biological, psychological, familial, and social-cultural factors interact with each other—across time—to shape children’s outcomes. Because of the complex interplay of factors affecting development, children’s outcomes are “probabilistic,” not predetermined.*
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 (a social-cultural factor) 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. However, epigenesis is a bidirectional process. Genetic and biological factors certainly affect psychological and social functioning; however, psychological and social factors can also determine the effects of genes and biology on development. Arnold Sameroff (2000) used the term transactional to refer to the way factors across levels affect each other over time.

To understand the transactional nature of development, consider Anthony, another child with Down syndrome. Anthony’s mother, Anita, was heartbroken when her obstetrician told her that Anthony had Down syndrome. Rather than despair, Anita decided that she was going to maximize her son’s cognitive, social, and behavioral potential by giving him the most enriching early environment that she could provide. After Anthony’s birth, Anita spent countless hours talking with Anthony, reading him books, listening to music, playing games, and going on outings. Although Anthony acquired language and daily living skills slowly, Anita had high expectations for him. She remained patient and tried to provide 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. Anthony developed fairly good language and daily living skills and was able to graduate with his high school class. Today, Anthony is employed full time in the mailroom of a large company and lives independently.

Understanding and predicting child development is extremely difficult for two reasons. First, development is influenced by many factors across multiple levels: genes, biology, psychology, family, society. Second, these factors are constantly changing over time, each interacting with the others. Consequently, the unfolding of development is not predetermined by one’s genes, biology, or any other factor. Instead, the unfolding of development is probabilistic; a person’s developmental outcome can vary depending on the interplay of many biological and environmental factors. Developmental psychopathologists use the term “probabilistic epigenesis” to refer to the complex transaction of biogenetic, psychological, familial, and social-cultural factors that shape development over time (Cicchetti & Sroufe, 2000; Gottlieb & Willoughby, 2006).

**Developmental Pathways**

Developmental psychopathologists often liken child development to a journey along a path. Indeed, they often refer to children as following certain developmental pathways, or trajectories, toward either healthy or unhealthy outcomes (Pickles & Hill, 2006).

As children grow, they face certain developmental tasks or challenges along their paths (see Table 1.4). These tasks depend largely on the age and developmental level of the child. Erik Erikson (1963) outlined some of the most important developmental tasks facing individuals as they progress from infancy through old age. 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. The 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 goals for adulthood. They usually accomplish this task by trying out different social roles and behaviors during the teenage years.

Developmental tasks present forks in the developmental path. The child can either successfully master the developmental task or have problems with its successful resolution. Mastery of developmental tasks leads to social, emotional, and

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**Table 1.4 Developmental Tasks in Childhood and Adolescence**

*Infants, toddlers, and preschool-age children*
- Attachment (basic trust) to one or more specific caregivers
- Learning to sit, stand, walk, and jump
- Acquiring functional language
- Obedience to simple commands and instructions of adults
- Toilet training
- Appropriate play with toys and other people
- Achieving a sense of autonomy from parents

*School-age children*
- Learning reading, writing, mathematics
- Attending and behaving appropriately at school
- Following rules for behavior at home, at school, and in public places
- Getting along with peers at school
- Making friends with peers

*Younger adolescents*
- Attending and behaving appropriately at school
- Learning to solve advanced problems with numbers, algebra
- Learning required language, history, and other subjects
- Completing secondary schooling
- Getting along with peers in school
- Making and maintaining close friendships
- Obeying the laws of society

*Older adolescents*
- Working or preparing for future higher education
- If working, behaving appropriately in the workplace
- If in school, meeting academic standards for courses or degrees
- Forming and maintaining romantic relationships
- Obeying the laws of society
- Transitioning from parents, living independently

behavior competence, placing children on course for optimal development. For example, infants who establish a sense of basic trust in caregivers may have greater ability to make and keep friends in later childhood. Unsuccessful resolution of developmental tasks, however, can lead to problems in later development. For example, 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 (Masten et al., 2006).

Progress along developmental pathways, therefore, builds upon itself over time. Early developmental experiences set the groundwork for later developmental experiences. If children show early social, emotional, and behavioral competence, they can use these early skills to master later developmental tasks. However, failure to master early developmental tasks can interfere with the development of later skills and abilities. For example, a preschool child who learns to control his behavior and emotions during play will likely have an easier time making friends when he enters first grade. However, a preschooler who continues to tantrum or act aggressively when he does not get his way may be ostracized by peers in the first-grade classroom.

To understand the hierarchical nature of development, consider another analogy: Development is like a building. Our genetic endowment might form the foundation of the building, providing us with our physical attributes, raw neurobiological potential, and behavioral predispositions. The ground floor might consist of early environmental experiences, such as our prenatal surroundings or the conditions of our birth and delivery. Subsequent floors might consist of postnatal experiences, such as our nutrition and health care, the relationships we develop with our parents, 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. Certain 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 child development.

Distinguishing Normality From Abnormality

From the perspective of developmental psychopathology, normal and abnormal behavior is determined by the degree to which it promotes children’s competence. Behaviors that allow children to develop social, emotional, and behavioral competence over time and meet the changing demands of the environment are regarded as adaptive. 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 complex moral reasoning to solve interpersonal problems.
These behaviors are adaptive because they allow children to understand and interact with their environment in effective and flexible ways (Sroufe, 1997).

Behaviors that interfere with children's social, emotional, and behavioral competence or do not meet the changing demands of the environment are regarded as maladaptive. Examples of maladaptive behavior include toddlers who do not understand others' emotional expressions and withdraw from social interactions, school-age children who impulsively hit others when they are angry, and adolescents who fail to show respect to peers. These behaviors are considered maladaptive because they indicate a failure to develop social competencies and they interfere with children's social-emotional well-being (Sroufe, 1997).

From the perspective of developmental psychopathology, normal behavior is determined by the degree to which the child's actions are adaptive, given her developmental tasks. Consequently, normality and abnormality are dependent on children's developmental context. Consider a two-year-old child who stubbornly 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 abnormal in two year olds. In fact, defiance and stubbornness can reflect toddlers' developmentally appropriate bids for autonomy. However, the same behaviors shown by a six-year-old child would likely be considered maladaptive and abnormal. In the context of his age and level of development, these behaviors likely reflect problems balancing needs for autonomy with respect for parental authority (Cicchetti & Aber, 1998).

From the perspective of developmental psychopathology, normal and abnormal behavior are also determined by the degree to which a behavior is adaptive, given the child's environment. Consequently, normality and abnormality are dependent on children's environmental context. 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 this psychosocial stressor. Specifically, Xavier stays out at night and runs away from home to escape physical maltreatment. Furthermore, he likely has difficulty completing assignments and attending school because of his stressful home environment. Although Xavier's behavior deserves the attention of caring professionals, his actions are best understood in terms of the environmental context.

The Importance of Understanding Normal Development

From the perspective of developmental psychopathology, abnormal development reflects a deviation from normality. Therefore, our ability to recognize, understand, and treat childhood disorders depends on our knowledge of normal child development. Consider George, a 14-year-old boy who begins drinking with friends at parties. Approximately once every month for the past six months, George has drunk at least five or more alcoholic beverages while partying with friends. He drinks in order to “have fun with friends” and has never gotten into trouble or put
himself in dangerous situations while intoxicated. Consider also a 12-year-old girl, Maria, who is dieting to lose weight. Although Maria’s weight is average for a girl her age and height, she is very dissatisfied with her body and feels like she needs to lose at least 15 lbs. Whether we regard George and Maria’s actions as abnormal depends partially on whether their behaviors are atypical of adolescents their age or inconsistent with the environmental demands they face.

Developmental psychopathologists also believe that abnormal behavior can shed light on normal child and adolescent development. Youths who clearly show delays in mastering developmental tasks or failures in meeting environmental demands can teach us about how development typically proceeds. For example, children with autism show unusual deficits in 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 typically developing infants and children.

Focus on Individual Differences in Development

Developmental psychopathologists are very interested in individual differences in child and adolescent development; that is, they want to discover what leads to differences in the way some children develop compared to others. Predicting individual differences in development is extremely difficult because, as we have seen, many factors interact over time to affect children’s developmental outcomes. The complex interactions between biogenetic, psychological, familial, and social factors over time produce two phenomena: equifinality and multifinality (Cicchetti, 1990; Sroufe, 1989b).

**Equifinality** occurs when children with different developmental histories show similar developmental outcomes. For example, imagine that you are a psychologist who conducts psychological evaluations for a juvenile court. As part of your duties, you assess adolescent boys who have been arrested and convicted of illegal activities, such as theft, assault, and drug use, in order to make recommendations to the court regarding probation and treatment. All of the boys that you assess have similar developmental outcomes; that is, they all show conduct problems. However, after interviewing many of the boys, you discover that their developmental histories are quite different. Some boys have long histories of antisocial behavior, beginning in early childhood. Other boys have no histories of conduct problems until their recent arrest. Still other boys’ conduct problems are limited to times when they were using drugs and alcohol. Your discovery illustrates the principle of equifinality in child development: There are many different paths to the same developmental outcomes.

The principle of **multifinality** refers to the tendency of children with similar early experiences to show different social, emotional, and behavioral outcomes. For example, imagine that you are a clinical social worker who evaluates children who have been physically abused. During the course of your career, you have assessed a number of children who have been abused by their caregivers. You notice, however, that some of these children show long-term emotional and behavioral problems while others seem to show few adverse effects. Your observation reflects the principle of multifinality: Children with similar early experiences show different outcomes.
The principle of equifinality makes definitive statements about the *causes* of psychopathology extremely difficult. Because of equifinality, we usually cannot infer the causes of children's behavior problems based on their current symptoms. For example, many people incorrectly believe that all adolescents who sexually abuse younger children were, themselves, sexually abused in the past. In actuality, adolescents engage in sexual abuse for many reasons, not only because they were victimized themselves.

The principle of multifinality limits the statements we can make about children's *prognosis*. For example, many people erroneously believe that if a child has been sexually abused, she is likely to exhibit a host of emotional and behavior problems later in life, ranging from sexual deviancy and aggression to depression and anxiety. In fact, the developmental outcomes of boys and girls who have been sexually abused vary considerably. Some children show significant maladjustment while others show few long-term effects. Their diversity of outcomes illustrates the difficulty in making predictions regarding development.

**Risk and Resilience**

What explains equifinality and multifinality? Why is there such great diversity in children's developmental pathways? The answer is that child development is multiply determined by the complex interplay of genetic, biological, psychological, familial, and social-cultural factors. Some of these factors promote healthy, adaptive development, whereas other factors increase the likelihood that children will follow less-than-optimal, more maladaptive developmental trajectories.

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. In contrast, psychologists use the term *protective factors* to refer to influences on development that buffer the negative effects of risks on children's development and promote adaptive functioning (see Table 1.5). Risk and protective factors occur across levels of functioning: They can be genetic, biological, psychological, familial, or social-cultural (Cicchetti, 2006; Luthar, 2006).

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. However, the effects of sexual abuse depend on the gender of the child and the age at which the abuse occurs. For example, boys often show the greatest adverse effects of sexual victimization when they are abused in early childhood, whereas girls often show the poorest developmental outcomes when abuse occurs during early adolescence (Richters & Cicchetti, 1993).

Similarly, the ability of protective factors to buffer children from the harmful effects of risk depends on context (see Image 1.2). For example, many children who experience sexual abuse at the hands of a family member (e.g., stepfather) experience considerable psychological distress and behavioral impairment. However, children who are able to rely on a caring, nonoffending parent are often able to cope with this stressor more effectively than youths without the presence of a supportive parent (Heflin & Deblinger, 2003).
Protective factors are believed to promote resilience in youths at risk for maladaptive development. Resilience refers to the tendency of some children to develop social, emotional, and behavioral competence despite the presence of multiple risk factors. Consider the following stories about two brothers growing up in the same impoverished, high-crime neighborhood.
**Image 1.2** A Portrait of Resilience: Karol Wojtyla. Karol's mother died when he was eight; his two older siblings were dead by the time this photo was taken at the age of 12. His family had little money. During adolescence, he experienced the Great Depression and the destruction of World War II. However, Karol's close relationship to his father may have protected him from these childhood stressors. He became a champion for human rights and a major figure of the 20th century: Pope John Paul II.

Source: AP Photo. Used with permission.

**Ramon and Rafael**

Ramon, the older brother, begins showing disruptive behavior at a young age. He is disrespectful to his mother, defiant toward his teachers, and disinterested in school. By late elementary school, he has been suspended a number of times for fighting and chronic truancy. In junior high school, Ramon begins associating 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.

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 antisocial 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 art 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 (Cicchetti & Toth, 1991; Sroufe & Rutter, 1984).

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 children with developmental disabilities at an early age. Identification of developmental delays in infancy or toddlerhood can lead to early intensive intervention and better prognosis. Similarly, schools may offer prevention programs for girls who might develop eating disorders. Volunteers might teach girls about healthy eating, risks of dieting, and stress management. Even psychotherapy can be seen as a protective factor. Therapy helps children and adolescents alter developmental trajectories away from maladaptation and toward adaptation (Quinton & Rutter, 1998; Toth & Cicchetti, 1999).

As we have seen, developmental psychopathology is an emerging approach to understanding abnormal child behavior in the context of normal child development, in relation to the environment, and across time. Developmental psychopathology offers a rich and multifaceted perspective on abnormal child psychology across a number of different levels: genetic, biological, psychological, familial, and social-cultural. Throughout this book, the principles of developmental psychopathology will be used to explore the causes and treatment of child and adolescent disorders across these levels and within various developmental contexts.

The Science of Abnormal Child Psychology

The Scientist-Practitioner Approach

Integrating Science and Practice

The scientist-practitioner approach to abnormal psychology assumes that psychological research and clinical practice are interdependent and equally important facets of psychological training. Psychologists trained in the scientist-practitioner tradition are first and foremost scientists. They are committed to understanding human behavior through careful and systematic empirical investigation. Psychological science is concerned primarily with understanding behavior, with the goal of explaining, predicting, and/or influencing aspects of behavior that are relevant to people’s lives. Psychological scientists, whether they work in research labs or
mental health clinics, rely on scientific principles to inform their work, and they try to base their professional activities on knowledge gained through systematic data collection.

Most scientist-practitioners are clinicians who use scientific knowledge to alleviate distress and promote the welfare of their clients. Clinicians are called to apply information gained through research to help children, adults, and families. Furthermore, they may be asked to consult with other professionals, evaluate the effectiveness of social programs, and teach or supervise new generations of mental health experts. These individuals often work in mental health clinics, hospitals, schools, counseling centers, and other places where psychological services are delivered to individuals or groups.

Other scientist-practitioners are primarily engaged in research. Although they may also see clients on a limited basis, these professionals are devoted to understanding the prevalence, causes, and treatment of mental disorders. Researchers might be employed at a college or university, a medical school, a hospital, or an independent research center.

From the scientist-practitioner perspective, both the science and practice of psychology are important to the discipline. Psychological science informs clinical practice by helping psychologists use the most accurate assessment techniques and effective therapeutic methods possible. At the same time, the practice of assessment and therapy guides research by helping scientists focus their efforts on discovering principles and practices that have real-world applications.

The scientist-practitioner approach has its roots in a 1941 report to the American Association for Applied Psychology written by David Shakow (Baker & Benjamin, 2000). In the report, Shakow outlined the importance of research and clinical training in the education and development of clinical psychologists. He argued that psychologists must be able to integrate scientific principles and knowledge with their expertise as clinicians. Shakow recognized that psychologists could not balance their time equally between research and clinical practice; most would consider themselves either chiefly researchers or primarily practitioners. However, he asserted that an appreciation for science and practice was necessary for all psychologists, regardless of their professional role. As Drabick and Goldfried (2000) explain,

The scientist-practitioner model sought to encourage the development of practitioners who are both consumers of assessment and treatment research findings and evaluators of their own interventions using empirical methods, as well as researchers who are capable of producing and reporting clinically relevant data to the scientific community. Indeed, graduates would be well-trained clinicians who combined practice with an awareness of scientific research; or, conversely, . . . competent researchers with sensitivity to clinical issues. (p. 330)

Shakow’s report was used by the American Psychological Association (1947) to formulate the first guidelines for the training of clinical psychologists. Today, most university-based clinical training programs identify themselves in the scientist-practitioner tradition.
Scientifically Informed Practice

The core tenets of the scientist-practitioner approach are outlined by Richard McFall’s (1991) now-classic paper, “Manifesto for a Science of Clinical Psychology.” McFall’s cardinal principle is that scientifically based psychology is the only legitimate and acceptable form of understanding and alleviating psychological disorders. Stated another way, psychology is a science that must have its roots in empiricism and objective evaluation. According to McFall, “all forms of legitimate clinical psychology must be grounded in science . . . all competent clinical psychologists must be scientists first and foremost, and . . . all clinicians must ensure that their practice is scientifically valid” (p. 76).

From McFall’s (1991) perspective, the distinction between psychological science and clinical practice is artificial. The only way clinicians can help their clients in a competent and ethical manner is to base their interventions on the research literature and on empirical investigation. Before practicing any form of assessment or treatment, clinicians must ask, “What is the empirical evidence supporting my practice?” Whenever possible, clinicians must rely on assessment strategies and therapy techniques that have received empirical support.

Unfortunately, many clinicians do not ground their interventions in the research literature or empirical data (Garb & Boyle, 2004). Instead, they may base their clinical practice on other factors, including theory, clinical experience, and anecdotal information provided by others. Although theories, experience, and anecdotes can be useful when combined with empirical evidence, they are insufficient guides for clinical practice by themselves. Psychological scientists believe that empirical data provide the best evidence either for or against a specific clinical intervention.

Without empirical data, clinicians might intervene in ways that are not effective. Ineffective interventions can harm clients and their families in at least three ways. First, ineffective interventions can cost significant time and money—resources that might be better spent participating in treatment with more empirical support. For example, available treatments for childhood disorders include listening to certain types of music, wearing special glasses, taking large doses of vitamins, avoiding certain textured foods, riding on horseback, swimming with dolphins, re-enacting the birth experience, and a host of other therapies with little systematic support. Although most of these interventions do not cause physical or psychological harm to clients, they can cost significant time, energy, and money. Furthermore, when insurance companies compensate individuals for participating in these therapies, resources available for more empirically supported interventions are diminished.

Second, families who participate in ineffective treatment can lose hope in the therapeutic process and in psychological treatment more generally. For example, many parents of oppositional and defiant children seek help to manage their children’s behavior. Although a number of well-supported interventions exist to treat children’s disruptive behavior, many families are given therapy that lacks empirical support. Consequently, they meet with limited success. As a result, many parents come to believe that psychological interventions will not help their children. Some parents simply give up on treatment; others decide to use medication.
Third, interventions that lack empirical support can be harmful to clients, families, and society. The history of psychology is marked by examples of clinicians harming individuals and society by practicing without empirical basis. Perhaps nowhere is this more obvious than in the treatment of autism. In the 1960s, Bruno Bettelheim suggested that autism was caused by parents who were cold and rejecting toward their children. Bettelheim’s erroneous theory for the etiology of autism placed unnecessary blame on parents and resulted in a host of interventions that were completely ineffective at alleviating autistic symptoms.

Later, sociologist Douglas Biklen (1993) recommended that individuals with autism and severe mental retardation who were mute might be able to communicate with others if facilitated by a trained therapist. The subsequent practice of “facilitated communication” involved the therapist guiding the client’s hand as the client supposedly typed messages on a keyboard. In one case, a client participating in facilitated communication supposedly reported that he had been abused by his family. As a result, the client was removed from his family’s custody, despite no corroborating evidence of maltreatment. Later, the technique of facilitated communication was discredited by showing that the messages typed by clients actually reflected knowledge and information provided by facilitators, not by the individuals with developmental disabilities.

Even more recently, physician Andrew Wakefield and colleagues (1998) incorrectly suggested that the measles-mumps-rubella (MMR) vaccine caused autism in some children susceptible to the disorder. Consequently, many conscientious parents refused to immunize their infants, resulting in an unnecessary and sometimes dangerous increase in these childhood illnesses.

Clinicians also harm clients in more subtle ways when they provide information that lacks empirical support. For example, some clinicians erroneously perpetuate the myth that most sexually abused children victimize other children in the future. This incorrect belief can unnecessarily worry parents and stigmatize young victims. Similarly, other clinicians convey the notion that certain childhood disorders, like ADHD, do not exist; rather, problems with hyperactivity and inattention are caused by inadequate parenting. Such unsupported beliefs can distract parents from empirically supported interventions and cause parents to feel unnecessarily guilty and ineffective.

Scientist-practitioners engaged in full-time clinical practice try to approach their daily activities using the principles of psychological science. From the scientist-practitioner perspective, clinical work is analogous to a research study in which the practitioner’s sample size consists of one individual (i.e., the client). The clinician generates hypotheses about the source of the client’s problem and the best form of treatment, based on data gathered from the client and information presented in the research literature. Then, the clinician administers treatment and evaluates the client’s outcomes using objective criteria. Finally, the clinician might modify her intervention based on information from the client, in order to improve effectiveness.

**Clinically Informed Research**

Most professionals have focused on the importance of clinicians applying principles of psychological science to their practice. Somewhat less attention has been
directed at the importance of researchers conducting studies that are meaningful to therapists. A scientist-practitioner approach to psychopathology implies that psychological research must be relevant to clinical practice.

A number of researchers have recognized the considerable gap between psychological research and clinical practice (Antony, 2005). Unfortunately, many researchers eschew the lack of scientific rigor that characterizes most clinical interventions, while therapists often find psychological research to be inaccessible and detached from their daily practice. From the scientist-practitioner perspective, researchers can take at least three steps to bridge this gap between research and practice.

First, psychological research must address practical problems that have relevance to clinicians. Although research in basic psychological structure and functioning is extremely important, research that has direct application to clinicians’ day-to-day work is most likely to be used by therapists in the community.

Second, researchers must disseminate their findings in a manner that clinicians can understand and use. As psychology students know, reading an empirical study from a peer-reviewed journal can be challenging. It is extremely tempting to read the article’s abstract, introduction, and discussion and omit the method and results section, in order to avoid the often complex and confusing description of research design and statistics. Furthermore, relatively few research articles are written with clinicians as the primary audience. Often, readers who want to apply findings to their clinical work must determine the implications of research to their practice on their own. Researchers must be more mindful of clinicians when disseminating their research, to maximize the likelihood that clinicians will understand and apply their findings.

Third, the intervention techniques that are developed by researchers must translate to the real world. New therapies are usually evaluated in university clinics and research hospitals, and they are evaluated under ideal circumstances. For example, when evaluating a new therapy, researchers carefully select clients with only certain disorders, provide therapists with considerable training in delivering the interventions, and carefully monitor clients’ participation in treatment and clinicians’ adherence to the treatment program. However, when therapies are used outside research settings, they may not be as feasible to administer or as effective at reducing clients’ symptoms. For example, behavioral treatments have been shown to reduce children’s disruptive behavior problems in carefully controlled research studies. However, when these programs are administered in real-world clinics, as many as 50% of families drop out of treatment before completion.

From the scientist-practitioner perspective, researchers must be mindful of the needs of clinicians when designing, conducting, and reporting their studies. A closer connection is needed between psychological science and clinical practice if applied psychology is to flourish.

**Students as Emerging Scientists and Practitioners**

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

Because students often provide frontline psychological services, they have enormous potential for improving the functioning of children, adolescents, and families. However, students can also contribute to the propagation of inaccurate information and the dissemination of ineffective and unsupported treatments. Although psychology students are not in a position to direct interventions, they can approach treatment from the perspective of psychological science. Specifically, students can ask the following questions:

1. What is the evidence for the intervention or service that I am providing? Is there a theoretical and empirical 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. Am I providing ethical, time-effective, and cost-effective services? 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 ethical and scientifically mindful manner?

As you read this book, consider how you might use the empirical literature to inform your own understanding of child and adolescent disorders. A scientific approach to child psychopathology is not reserved for licensed psychologists or university professors. Instead, all students, parents, teachers, and individuals who work with youth are called upon to use empirical data to help improve the functioning of others.

Critical Thinking Exercises

1. Some experts believe that the child mental health system is in a state of crisis. Why? What might state governments and/or private social services do to provide high-quality mental health services to children?

2. According to the DSM-IV-TR, a mental disorder is a pattern of behavior characterized by distress, disability (impairment), or risk. What might be some limitations to this definition of “mental disorder,” especially when it is applied to children and adolescents?
3. Sigmund Freud wrote about the difficulty of predicting children's development:

So long as we trace development from its final outcome backwards, the chain of events appears continuous. . . . But if we proceed the reverse way, if we start from the premises and try to follow these up to the final result . . . we notice at once that there might have been another result and we might have been just as well able to understand and explain the latter. Hence the chain of causation can always be recognized with certainty if we follow the line of analysis backwards, whereas to predict it is impossible.

(from Stroufe & Rutter, 1984)

Apply this passage to the concept of “probabilistic epigenesis.”

4. In his “Manifesto for a Science of Clinical Psychology,” Richard McFall (1991) argues that the only legitimate form of psychology is scientific psychology. How can psychological research guide the practice of psychotherapy? How can the clinical experiences of therapists inform psychological research? In what ways can students think of themselves as scientists and practitioners?