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MENTAL HEALTH IN SOCIAL WORK

A Casebook on Diagnosis and Strengths-Based Assessment

JACQUELINE CORCORAN JOSEPH WALSH

THIRD EDITION

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Preface

Mental Health in Social Work: A Casebook on Diagnosis and Strengths-Based Assessment is a graduate level textbook that will help students and professionals learn to understand clients holistically as they proceed with the assessment and intervention process. A major purpose of *Mental Health in Social Work* is to familiarize readers with the *American Psychiatric Association's Diagnostic and Statistical Manual* (DSM) classification of mental disorders (APA, 2013). The primary reasons that social workers need to become conversant with the DSM are the following: (1) to offer clients appropriate referrals and treatment; (2) to communicate effectively with other mental health professions; and (3) to be eligible for third-party reimbursement.

While gaining competence in DSM diagnosis, the reader is also taught to maintain a critical perspective on the various DSM diagnoses and the medical model as promulgated through the DSM. The field of social work has a focus not just on the individual, but on the person within an environmental context, and concerns itself with strengths as well as problems. Additionally, social work has a traditional commitment to socially diverse populations. Because the DSM is limited in these areas, *Mental Health in Social Work* includes the biopsychosocial risk and resilience perspective, which takes into account both risks and strengths at the individual and environmental levels. Each chapter then explores the relevant risk and protective influences for each disorder, highlighting some of the particular risks for special populations, including children, women, the elderly, people of color, people with disabilities, LGBTQ people, and those from low socioeconomic strata.

Another emphasis in *Mental Health in Social Work* is evidence-based treatment, a movement in social work and various other health and mental health disciplines. The meaning of evidence based practice can be debated (Norcross, Beutler, & Levant, 2006), but has been generally defined as the prioritization of research evidence when social workers consider how to best help clients. However, client preferences and available resources must also be part of the process of clinical judgment in addition to research studies (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). In considering the hierarchy of evidence, whenever possible we rely on systematic reviews and meta-analyses, which are considered "first-line evidence" (Petticrew & Roberts, 2006). These systematic reviews aim to comprehensively locate and synthesize the treatment outcome literature in a particular area. If the review lends itself to combining the results of primary studies in a quantitative way, then it is referred to as meta-analysis (Littel, Corcoran, & Pillai, 2008). From these reviews of the literature, *Mental Health in Social Work* presents treatment guidelines for each disorder covered in the book.

The learning in *Mental Health in Social Work* primarily occurs through a case study method. Case-based learning developed in the field of business (Barnes, Christensen, & Hansen, 1994), and problem-based learning found its origin at the McMaster University Medical School in Canada (Barrows, 1986), but these pedagogical methods dovetail in their use of cases as teaching tools for analysis, application, and decision-making (Naumes & Naumes, 2012).

The field of social work has a long history of relying on "practice wisdom." Practice wisdom is an inductive way of learning in which experience working in the field and through multiple observations leads a worker to derive principles for approaching certain types of cases and situations. Using classroom-based cases involves both deductive—the application of theory and principles to class content (top down)—and inductive (bottom up) methods (Harkrider et al., 2013; Naumes & Naumes, 2012).

In *Mental Health in Social Work* students are asked to respond to cases in each chapter, which have been selected to represent the diversity of people with whom social workers intervene. Each chapter in *Part Two: DSM-5 Categories* contains a chapter case study as well as end-of-chapter "Reflect and Reply" cases. A template for formulating diagnoses for the chapter case studies is provided in Appendix A. In addition, each chapter case study provides “Questions to Consider” to help you formulate the DSM-5 diagnoses, and answers to those questions are provided in Appendix B. Appendix C provides a template for the multipart diagnosis, assessment, goal setting and treatment planning plan, and critical critique for the “Reflect and Reply” end-of chapter cases, and the Instructor’s Manual provides the answers to these. Instructors can choose their own way of using the cases, but typically they are formulated in class by small groups, for individual homework, or used as a way to evaluate student performance. Note that in order to complete the diagnosis in each case, readers must access a copy of the DSM–5.

New to This Edition

This third edition has the following updates and additions:

- New chapters on obsessive-compulsive disorder (Chapter 9) and post-traumatic stress disorder (Chapter 10) have been added to align with the DSM–5.
- A new chapter on gender dysphoria has been added (Chapter 14).
- Many chapters now include boxes that discuss how socially diverse populations are affected by the disorders discussed in the respective chapters.
- “Questions to Consider” for making a DSM diagnosis have been added for each chapter case study. Suggested answers for those questions are provided in Appendix B.
- The templates for end-of-chapter “Reflect and Reply” cases have been updated for better ease of use.
- Research and studies have been updated.
- References have been updated.

In summary, this book takes a case study approach, with students applying evidence-based information on mental disorders to build their social work competency in terms of assessment and treatment of mental illness.

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PART ONE: ASSESSMENT

PART TWO: DSM–5 CATEGORIES

1

Diagnosis and the Social Work Profession

Henry Williams, a 59-year-old African-American male, was in the hospital after undergoing surgery for removal of a brain tumor. His past medical history included seizures, insulin-dependent diabetes mellitus, and pancreatitis (an inflammation of the pancreas that causes intense pain in the upper abdomen). At this time, Mr. Williams was taking several medications, including Dilantin (used to treat epilepsy), insulin, and steroids (to decrease swelling around his tumor).

About six days after the surgery, Mr. Williams woke up in the middle of the night and was very loud in "casting the demons out," as he called it. The nurse tried to calm him, but Mr. Williams was so incensed that he picked up a small monitoring machine next to his bed and threw it at her. Security officers and the on-duty physician assistant were called to calm the patient. The next morning, the neurosurgery team requested a psychiatric exam, but because it was a Friday Mr. Williams was not examined until the following Monday. His family visited over the weekend, and he repeatedly became agitated, even accusing his wife of cheating on him. He was upset and emotional during those visits, and it took him a while to calm down after his family left. On Sunday night, Mr. Williams got up at midnight and threatened his roommate. Mr. Williams yelled that his roommate was cheating on him with his wife and they were plotting to kill him. Because his roommate feared for his safety, he was moved to another room, while the nurse tried to calm Mr. Williams.

When the psychiatric team, accompanied by the social work intern, finally examined Mr. Williams, he said he felt great but was hearing voices, most prominently that of his pastor. He reported that he saw demons at night and was attempting to fight them off. He also stated that he thought someone wanted to kill him to benefit from his life insurance policy. In addition, Mr. Williams told the psychiatrist that his wife had not come to visit him for some days (this was not true; she had been there twice over the weekend) but that his son had been at his bedside in the morning and he had enjoyed the visit.

Mr. Williams's wife heard about the incident with the roommate and said she would not take Mr. Williams home because she was afraid of him. She told the social work intern that Mr. Williams had behaved similarly in the past. She would sometimes wake up in the middle of the night and find him standing next to the bed or leaning over her body, staring at her. When she confronted her husband, he would pass it off as a joke, saying he was making sure she was really in bed and had not gone out. (They had separate bedrooms.) She also told the intern that although she had never cheated on her husband, he had had an affair several years ago. After she found out, they went to marriage counseling together, but the marriage had been "rocky" ever since.

The case above is one in which the client, Mr. Williams, appears to have a mental disorder. It is estimated that 17.6% of people worldwide experience a mental disorder in the course of one year, and 29.2% do so during a lifetime (Steel et al., 2014). The various disorders are catalogued and described in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), published by the American Psychiatric Association (APA). The DSM is the standard resource for clinical diagnosis in the United States. The first edition of the DSM was published in 1952, and the manual has undergone many revisions during the last 60 years. The latest version is DSM–5, published in May 2013. (Please note that in this text we generally use the abbreviation DSM to refer to this edition, and only use specific edition numbers when necessary.)

The definition of *mental disorder* in DSM–5 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" (American Psychiatric Association (APA), 2013, p. 20). Such a disorder usually represents significant distress in the person's social or occupational functioning. The DSM represent a *medical* perspective, which is only one of many possible perspectives on human behavior. The medical definition focuses on underlying disturbances *within* the person and is sometimes referred to as the *disease model* of abnormality. This model implies that the abnormal person must experience changes within the self (rather than enact environmental change) in order to be considered "normal" again.

In its desire to promote the "objectivity" of its manual, the APA does not recognize the notion of mental illness as a *social construction*. A social construction is any belief system in a culture that is accepted as factual or objective by many of its members, when instead the belief system is constructed by influential members of that society (Perone, 2014). The medical profession holds great influence in Western society, so when mental health diagnoses are presented as scientifically based disorders, many people accept them as such. Social constructionism asserts that many "accepted" facts in a society are instead only ideas that reflect the values of the times in which they emerge. Until 1974, for example, homosexuality was included as a mental disorder in *DSM-II*.

This may explain why the DSM classification system does not fully represent the knowledge base or values of the social work profession, which emphasizes a transactional, person-in-situation perspective on human functioning. Still, the manual is extensively used by social workers for many positive reasons. Worldwide, the medical profession is preeminent in setting standards for mental health practice, and social workers are extensively employed in mental health settings, where clinical diagnosis is considered necessary for selecting appropriate interventions. In fact, social workers account for more than half of the mental health workforce in the United States (Unites States Bureau of Labor Statistics, 2018). Competent use of the DSM is beneficial to social workers (and clients) for the following reasons:

- Social workers are employed in a variety of settings, not just mental health facilities, where they meet people who are vulnerable to mental health disorders because of poverty, minority status, and other social factors. No matter what their setting, social workers must be able to recognize the symptoms of possible disorders in their clients and appropriately refer them for treatment services.
- The diagnostic system provides a *partial* basis of a comprehensive bio-psycho-social assessment.
- An accurate diagnosis helps to facilitate the development of an appropriate intervention plan (although many interventions are available for clients with the same diagnosis).
- The diagnostic categories enable social workers to help clients—and possibly their families—learn about the nature of the client's problems. Although stigma is often attached to the assignment of a diagnostic label, many people take comfort in learning that their painful experiences can be encapsulated in a diagnosis that is shared by others. It validates the experience and offers hope that their problems can be resolved.

- Use of the DSM allows practitioners from various disciplines to converse in a common language about clients.
- The DSM perspective is incorporated into professional training programs offered by a variety of human service professions and portions of state social worker licensing examinations.
- Insurance companies usually require a formal DSM diagnosis for client reimbursement.

For these reasons, social workers need to gain competence in DSM diagnosis. Enabling them to do so is a major purpose of this book. To that end, each chapter covers a particular mental disorder and is illustrated with two or three case studies, which readers can use to practice applying their skills and knowledge. Cases have been selected to represent the diversity of people with whom social workers intervene. The disorders chosen for this book are those social workers may see in their employment or field settings and that have sufficient research information behind them. For instance, reactive attachment disorder is not included, even though child clients may carry this diagnosis, because there has been relatively little research on the disorder, despite the fact that data have been gathered through the years on attachment theory and styles.

We now turn to an overview of the DSM classification system, using the case that opened the chapter as an illustration. We will later describe some of the tensions involved in DSM diagnosis as practiced by social workers and discuss how this book will help develop social workers' skills in ways that will overcome some of the limitations of the DSM approach to clinical practice.

THE DSM CLASSIFICATION SYSTEM

Following is a description of the DSM classification system of mental disorders with general guidelines for its use.

Beginning with the problem that is most responsible for the current evaluation, the mental disorder is recorded. Most major diagnoses also contain subtypes or specifiers (e.g., "mild," "moderate," and "severe") for added diagnostic clarity. When uncertain if a diagnosis is correct, the social worker should use the "provisional" qualifier, which means he or she needs additional time or information to be confident about the choice. It is important to recognize that more than one diagnosis may apply to a client, and medical diagnoses should also be included if they are significant to the client's overall condition. Social workers cannot make medical diagnoses, of course, but such diagnoses can be included if they are noted in a client's history or the client reports their existence. Further, if a person no longer meets criteria for a disorder that may be relevant to his or her current condition, the qualifier "past history" can be used, although this would not be the primary diagnosis. For example, if a woman seeks help for depression while she is pregnant, it may be important to note that she has an eating disorder history. Social and environmental problems that are a focus of clinical attention may also be included as part of a diagnosis. The final part of Section I in the DSM is entitled "Other Conditions That May Be a Focus of Clinical Attention" and includes a list of conditions (popularly known as *Z-codes*) that are not considered formal diagnoses but can be used for that descriptive purpose.

Following is a list of hierarchical principles that can help the social worker decide which diagnoses to use in situations where several might be considered:

- "Disorders due to a general medical condition" and "substance-induced disorders," which include not only substances people consume but also medications they are prescribed, preempt a diagnosis of any other disorder that could produce the same symptoms.

- The fewer diagnoses that account for the symptoms, the better. This is the rule of "parsimony." Social workers need to understand the power of the diagnostic label in its negative as well as positive aspects, and use such labels judiciously. For example, posttraumatic stress disorder (PTSD) and reactive attachment disorder are sometimes diagnosed together in children. Although they share some symptoms, when they are used together, the diagnostic picture becomes imprecise and does not lead to a coherent treatment plan.
- When a more pervasive disorder has essential or associated symptoms that are the defining symptoms of a less pervasive disorder, the more pervasive disorder is diagnosed if its criteria are met. For example, if symptoms of both "autism spectrum disorder" and "specific communication disorder" are present, the social worker should use the former diagnosis, because its range of criteria subsumes the criteria for the latter one (see Chapter 3 for case examples).

These principles are, of course, applied only after a comprehensive client assessment is carried out. Each chapter in this book includes assessment principles relevant to specific disorders, but here we present some general guidelines for the assessment of a client's mental, emotional, and behavioral functioning.

MENTAL STATUS EXAMINATION

A mental status examination (MSE) is a process by which a social worker or other human services professional systematically examines the quality of a client's mental functioning. The results of the examination are combined with information derived from a client's social history to produce clinical impressions of the client, including a DSM diagnosis. While many MSE formats are available, Hepworth et al. (2017) summarize the components of most such assessments as follows:

- *General mental capacities*. The client's orientation to time, person, place, and situation; quality of general intellect; memory; ability to think abstractly; and quality of concentration
- *Appearance*. How the client looks and acts, including facial expressions, in the context of his or her cultural milieu, and the quality of his or her psychomotor movements
- *Reality testing.* The client's overall judgment and insight (ability to recognize a problem and its consequences), and the presence of any dangerous, impulsive behaviors
- *Speech*. The appropriateness of volume, rate, and amount
- *Emotions*. Including mood, or how the client feels most of the time, and affect, how the client appears to be feeling at this time
- *Thought*. What the client thinks about; whether there are any delusions, obsessions, compulsions, or phobias; any suicidal or homicidal ideation; the client's thought processes
- *Sensory perceptions.* The presence of illusions or hallucinations

Directions Now that you have read a description of the diagnostic system, hierarchical principles, and an MSE, can you work out a diagnosis for Henry Williams before reading ahead?

Diagnosis

Diagnosis of Mr. Williams

F19.959	Medication-induced psychotic disorder, with onset during intoxication, severe, without use disorder
	Insulin-dependent diabetes mellitus
	Meningioma (cerebral)
	Seizure disorder
	Pancreatitis

Rationale for the Diagnosis

Medication (steroid)-induced psychotic disorder was diagnosed because Mr. Williams's symptoms began a few days after he started to take the medication. Steroids can affect the limbic system of the brain, causing aggression and emotional outbursts. Although this diagnosis would have to be made by medical personnel, the social worker should be aware that the symptoms of apparent mental disorders may result from a medical condition or from medication used to treat the condition. A diagnosis of psychotic disorder due to a medical condition was excluded because Mr. Williams did not show symptoms before or immediately after the craniotomy was performed. They only developed six days after the surgery.

The "with onset during intoxication" specifier was used because the symptoms developed after Mr. Williams began taking the medication, rather than after he terminated it (which would be a withdrawal state). The "severe" specifier indicates that the symptoms (delusions and hallucinations) are dramatic. (The delusions may have a basis in reality; he was the one who had had an affair and may be projecting his own behavior onto his wife.) It should also be noted that Mr. Williams had just had a brain tumor removed; changes in mood and affect are fairly common in these patients. Finally, the "without use disorder" specifier indicates that Mr. Williams does not have an existing substance use disorder apart from what he is now experiencing. (We also note here that some, but not all, specifiers have numerical codes, as is true in this case.)

The four other diagnoses refer to Mr. Williams's medical condition. While all of them have code numbers, we will not include them in any cases in this book, since our focus is on the DSM.

LIMITATIONS OF THE DSM

Any classification of mental, emotional, and behavioral disorders is likely to be flawed, because it is difficult for any system to capture the complexity of human life. As noted earlier, the DSM classification system is based on a medical model of diagnosis, while the profession of social work is characterized by the consideration of systems and the reciprocal impact of persons and their environments on human behavior. That is, for social workers the quality of a person's social functioning should be assessed with regard to the interplay of biological, psychological, and social factors. Three types of person-in-environment situations likely to produce problems in social functioning include life transitions, relationship difficulties, and environmental unresponsiveness. Social work interventions, therefore, may focus on the person, the environment, or, more commonly, both. Each chapter in this book offers critiques of the particular DSM diagnosis and the medical perspective underlying it. Readers are encouraged to offer a critical perspective when presented with each of the case illustrations.

Various specific criticisms of the DSM formulation of mental disorders have been postulated. First, as noted above, DSM tends to view clients in isolation and decontextualizes the disorder from the person and the life circumstances that have given rise to it. Generally speaking, it does not highlight the roles played by systems in the emergence of problems. Some parts of the DSM do so, however, such as with the "adjustment disorders," in which people are seen as having difficulty adjusting to environmental stressors. Social workers have the opportunity to make references to the personal and social aspects of life in the diagnosis through the use of Z-codes.

A related criticism is that, arising as it does from the psychiatric profession, the DSM may overstate the case for biological influences on some mental disorders (McCammon & Sieve, 2015). For instance, heritability for both major depression and anxiety is about 30% to 40%, and for substance use disorders it is about 30%. Although other biological factors may play a role in the development of mental disorders aside from genetics (e.g., complications at birth, exposure to lead), social factors (family environment, community, social support, income levels) certainly play a large role.

Another concern about the DSM is that the reliability of diagnosis (agreement among practitioners about the same clients) is not high for some disorders, and generally has not risen significantly since *DSM-II* (Vanheule et al., 2014). Further, some feminists argue that the DSM is gender-biased, according a much higher prevalence of many disorders to women than men (notably depression, anxiety, and many of the personality disorders) (Ussher, 2013). The DSM has been criticized for blaming women for their responses to oppressive social conditions.

Next, because not all symptoms need to be met for any diagnosis to be made, two people with the same diagnosis can have very different symptom profiles. There is also an acknowledged abundance of "sub-threshold cases" (those that do not quite meet the minimum number of symptom criteria), even though these may produce as much impairment as those that meet full diagnostic criteria (Shah, 2015). This problem of a lack of specificity has been dealt with in part by the addition over time of new subtypes of disorders and by the introduction of severity qualifiers (mild, medium, severe).

Due to the above limitations, many people have argued that mental disorders (e.g., anxiety, depression, and personality disorders) should be assessed through a *dimensional* approach on a continuum of health and disorder. Many measurement instruments assess symptoms in a dimensional context rather than through a categorical system like the DSM, in which a person either meets certain criteria or does not. Several systems of this type are described in Section III of the DSM (e.g., regarding personality disorders) but they have not yet been adopted for "official" use. In this book we occasionally mention measures that might be useful for assessment, but our focus is on DSM diagnosis. The interested reader is encouraged to refer to other books that focus on measurement instruments (Corcoran & Walsh, 2016; Fischer & Corcoran, 2007; Hersen, 2006).

The problem of comorbidity, in which a person may qualify for more than one diagnosis, is a point of confusion among practitioners. The reader will note that, throughout this book, comorbidity rates for disorders are often substantial. The DSM encourages the recording of more than one diagnosis when the assessment justifies doing so. Many disorders, however, (e.g., anxiety disorders and depression) correlate strongly with one another (Balon, 2016). It may be that an anxious depression differs from either a "pure" major depressive disorder or anxiety disorder in critical ways. In addition, research on treatment generally confines itself to people without comorbid disorders, so that results are often not generalizable to the treatment population at large.

Finally, the DSM makes no provisions for recording client strengths. Strengths-oriented practice implies that social workers should assess all clients in light of their capacities, talents, competencies, possibilities, visions, values, and hopes (Tan & Yuen, 2013; Saleebey, 2008). This perspective emphasizes human *resilience*—the skills, abilities, knowledge, and insight that people accumulate over time as they struggle to surmount adversity and meet life challenges.

Chapter 2 focuses on the appraisal of strengths at both individual and environmental levels. Attention to risk and resilience influences and client strengths is critical to informing the social worker's assessment and subsequent decisions about diagnosis and is a hallmark of the profession. This focus helps social workers correct what we have identified as limitations of the medical model of diagnosis and brings a more holistic perspective to assessing people who experience problems in living. It allows clinical social workers to be fully immersed in the interdisciplinary practice of diagnosis while upholding the values of the profession.

2

Biopsychosocial Risk and Resilience and Strengths Assessment

This book is organized with a biopsychosocial risk and resilience framework for understanding and intervening with people who have mental disorders. In this chapter, we describe this framework and its advantages for social work assessment. Then we detail a number of risk and protective factors at the biological, psychological, and social levels that may contribute to or inhibit the development of mental disorders.

DEFINITIONS AND DESCRIPTION

Although the biological and psychological levels relate to the individual, the social aspect of the framework captures the effects of the family, the community, and the wider social culture. The processes within each level interact, prompting the occurrence of risks for emotional or mental disorders and the propensity toward resilience, or the ability to function adaptively despite stressful life circumstances (Garcia-Dia, DiNapoli, Garcia-Ona, Jakubowski, & O'Flaherty, 2013). Risks can be understood as hazards occurring at the individual or environmental level that increase the likelihood of impairment (Furber, Leach, Guy, & Segal, 2016). Protective mechanisms involve the personal, familial, community, and institutional resources that cultivate individuals' aptitudes and abilities while diminishing the possibility of problem behaviors. These protective influences may counterbalance or buffer against risk (Werner, 2000) and are sometimes the converse of risk (Jessor, Van Den Bos, Vanderryn, Costa, & Turbin, 1997). For instance, at the individual level, poor physical health presents risks while good health is protective. It must be noted that research on protective influences is limited compared with information on risks for various disorders (Donovan & Spence, 2000).

The biopsychosocial emphasis expands one's focus beyond the individual to a recognition of systemic factors that can both create and ameliorate problems. The nature of systems is such that the factors within and between them have transactional and reciprocal influence on one another, with early risk mechanisms setting the stage for greater vulnerability to subsequent risks. The development of oppositional defiant disorder and conduct disorder (see Chapter 12) is a case in point that shows how the presence of certain risk or protective mechanisms may increase the likelihood of other risk and protective influences.

Although precise mechanisms of action are not specified, data have begun to accumulate that four or more risk influences may overwhelm an individual and represent a threat to adaptation (Epps & Jackson, 2000; Frick, 2006; Garmezy, 1993; Runyan et al., 1998). Although some researchers have found that the more risks, the worse the outcome (Appleyard, Egeland, van Dulmen, & Sroufe, 2005), others have argued that risk does not proceed in a linear, additive fashion (Greenberg, Speltz, DeKlyen, & Jones, 2001). Nor are all risk factors weighted equally. The associations between risk and protection and outcomes are complex and may involve changing conditions across a person's development.

The biopsychosocial framework holds a number of advantages for the assessment of mental disorders. It provides a theoretical basis for social workers to conceptualize human behavior at several levels and can assist them in identifying and bolstering strengths as well as reducing risks. The framework offers a balanced view of systems in considering both risks and strengths, as well as recognizing the complexity of individuals and the systems in which they are nested.

The chapters in this book delineate the risk and protective influences for both the onset of particular disorders and for an individual's adjustment or recovery. Some of the influences discussed in each chapter are nonspecific to that particular disorder; in other words, certain risks and protective mechanisms play a role in multiple disorders. These common mechanisms, discussed at the individual and social levels, are good targets for intervention and prevention and are given an overview here.

INDIVIDUAL FACTORS

Individual factors encompass the biological and psychological realms. Within biology we will discuss genes and heritability, neurotransmitters, temperament, physical health, developmental stage, and intelligence. At the psychological level we will explore individual patterns of behavior.

Biological Mechanisms

Genes and Heritability

Although information on the genetic influences of all mental disorders is not available, the disorders differ in the extent to which genetic causes are attributed to them. For instance, heritability for major depression ranges from 31% to 42% (Sullivan, Neale, & Kendler, 2000); similarly, many anxiety disorders seem to be moderately heritable. Certain other disorders, such as bipolar disorder and schizophrenia, may be more heritable (Ruderfer et al., 2014; McCarthy, Liang, Spadoni, Kelsoe, & Simmons, 2014).

For most disorders, specific genetic markers have not been delineated, and genetic models for many disorders increasingly include a number of genes (Williams, Reardon, Murray, & Cole, 2005). There also may be common genes that play a role in various disorders. For example, the neurodevelopmental disorders, including autism spectrum disorders, ADHD, and learning disorders, may stem from the same genes (Pettersson, Anckarsater, Gillberg & Lichtenstein, 2013).

Even for disorders assumed to have genetic causes, those conditions result not only from abnormalities in inherited genes but also from certain gene combinations or other errors in genes caused during pregnancy by such events as infections and exposure to x-rays. Finally, it is widely hypothesized that a genetic vulnerability may be activated by the presence of adverse environmental events (Williams et al., 2005).

Neurotransmitters

Many people describe mental disorders as caused by "chemical imbalances in the brain." Neurotransmitters are the chemicals that convey communication between neurons. These substances are naturally regulated by breaking down in the spaces between cells or through re-uptake into transmitting cells. Problems with neurotransmitter action have been associated with various mental disorders. For example, low levels of serotonin have been associated with depression, anxiety (Ebmeier, Donaghey, & Steele, 2006), and borderline personality disorder (Ni, Chan, & Bulgin, 2006), while high levels have been linked to autism spectrum disorder (Dickinson, Jones, & Milne, 2016). Inflated levels of norepinephrine have been associated with borderline personality disorder (Gurvits, Koenigsberg, & Siever, 2000), and problems with dopamine have been correlated with schizophrenia (Perez-Costas, Melendez-Ferro, & Roberts, 2010) and attention-deficit hyperactivity disorder (ADHD) (Levy, Hay, & Bennett, 2006). However, the notion of a "chemical imbalance" as the cause of a mental disorder is a reductionistic way to view disorders, as most arise from a complex interplay of biological, psychological, and social processes. In addition, correlation should not be confused with causality. That is, psychosocial events can affect brain functioning and the action of neurotransmitters (Andreasen, 2001; Cozolino, 2002).

Temperament

Temperament provides the foundation for personality. It includes qualities that are biologically driven, observed from infancy, and moderately stable across the life span and in different contexts (Deater-Deckard, Ivy, & Smith, 2005). Temperament involves activity level, intensity, attention span, quality of mood (irritability or explosiveness), adaptability, flexibility, and rhythmicity (the regularity of sleep-wake cycles, eating, and elimination) (Barkley, 2013). In a German study of risk factors for preschool adjustment, negative child temperament was the only factor that significant, even including parental competence and mental health disorders, SES, and social support (Wlodarczyk et al., 2017).

To a certain degree, a child's temperament will elicit behaviors from caregivers that will crystallize these traits and increase the likelihood that these behavior patterns endure over time (Johnson et al., 2005). "Children who are irritable, easily distressed by changes in the environment, and more distractible may be less able to cope with adversity and more likely to attract or elicit harsh and rejecting parenting" (Deater-Deckard et al., 2005, p. 52). On the other hand, positive temperamental traits, such as good-naturedness, precociousness, maturity, inquisitiveness, willingness to take risks, optimism, hopefulness, altruism, and personableness, help people cope with life stress and attract others to them (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009).

Physical Health

Good physical health is a protective mechanism for many disorders; this includes perinatal health (the periods just before and after child delivery) and birth complications (Werner, 2000). Complications during pregnancy and delivery may place individuals at risk for mental disorders, including ADHD (Bhutta, Cleves, Casey, Cradock, & Anand, 2002; Latimer et al., 2012); eating disorders (Favaro, Tenconi, & Santonastaso, 2006), bipolar disorder (Kinney, Yurgelun-Todd, Tohen, & Tramer, 1998); and schizophrenia (Verdoux et al., 1997). Further, certain maternal behaviors during pregnancy may increase the child's risk for some disorders. A pregnant mother's prenatal excessive alcohol intake or cigarette smoking are risk influences for the onset of disruptive behavior disorders (Latimer et al., 2012). Cigarette smoke exposure is associated with a higher risk of school-age children developing behavioral problems, such as hyperactivity, attention deficits, or peer relationship problems (Rückinger et al., 2010). Controlling for other social influences, children who were exposed to tobacco smoke only prenatally have a 1.9 times higher risk of developing abnormal behavioral symptoms in comparison to children with no exposure. The risk for such children first exposed to tobacco smoke after birth is 1.3 times higher. Further, children who were exposed to tobacco smoke while in the womb and while growing up had twice the risk of developing abnormal behavioral symptoms. Similarly, Ekblad, Gissler, Lehtonen, and Korkeila (2010), in a Finnish study, found that the rate of psychotropic medication use in young adults was highest in those whose mothers smoked more than 10 cigarettes a day while pregnant (16.9%), followed by youths whose mothers smoked fewer than 10 cigarettes a day (14.7%) and unexposed youths (11.7%).

Developmental Stage

Mental disorders often emerge early in life. About 50% of cases have their onset by age 14, and 75% begin by age 24 (Kessler, Adler et al., 2005). The risk of mental disorders continues to be high through the age category 30 to 44; prevalence then declines for people who have matured out of this high-risk age range. For example, the borderline and antisocial personality disorders may remit as afflicted individuals mature into their 40s (Paris, 2003).

In Werner and Smith's (2001) longitudinal study on resilience, many people whose lives had been characterized by adversity and mental health or learning disabilities in their teens were able to make a positive adjustment by age 40. Protective influences for positive adaptation involved education at community colleges, educational and vocational skills garnered during military service, a stable marriage, active participation in a religious faith, and the experience of life-threatening accident or illness.

Intelligence

A high intelligence quotient (IQ) is a protective factor, resulting in higher school performance despite life stress and more effective problem solving in peer social situations (Wachs, 2000). Conversely, low IQ is a central risk factor for antisocial behavior, over and above socioeconomic status (SES). More specifically, reading and reasoning skills have been identified as critical to a child's long-term development (Werner & Smith, 2001). Parental education is also key, extending from adjustment in childhood, all the way into middle age (Werner & Smith, 2001).

Psychological Mechanisms

Self-efficacy and Self-esteem

Children with positive self-concepts and a self-perception that is characterized by an internal sense of control, a belief that they can influence their environment, and effective coping strategies, are better equipped to face life stressors (Wachs, 2000; Werner & Smith, 2001).

Self-regulation and Emotion Regulation

A child who can listen, pay attention, follow instructions, and persist on a task, even if faced with stressful life events, will achieve greater success in school (Sektnan, McClelland, Acock, & Morrison, 2010). When controlling for other risk factors, children whose parents and teachers reported that they had strong self-regulation in preschool and kindergarten did significantly better in math, reading, and vocabulary at the end of first grade.

Emotional regulation refers to the ability of the child to identify, tolerate, express a range of emotions, and to be able to recover from a challenging emotional state and return to a level of equilibrium (Davila, Ramsay, Stroud, & Steinberg, 2005). The ability to self-regulate is generally assumed to evolve from secure caregiving. When caregivers are unable to regulate their children's and their own emotional states, the children do not have opportunities to develop effective strategies for responding to their own emotions or those of others.

Coping Strategies

A tendency toward rigid belief systems and certain cognitive distortions puts people at risk for mental disorders. For example, depression is related to significant cognitive distortions, such as Beck's conceptualization of the "cognitive triad" of depression: thoughts about the self as worthless, the world as unfair, and the future as hopeless (Beck, Rush, Shaw, & Emery, 1979). In addition, youth with conduct problems display distortions in how they perceive and code their social experiences (Kazdin, 2017). These conduct problems include the inability to produce a variety of strategies to manage interpersonal problems, difficulty figuring out ways to achieve a particular desired outcome, difficulty identifying the consequences of a particular action and its effects on others, a tendency to attribute hostile motivations to the actions of others, and misunderstanding of how others feel. The combination of perceived threat and limited options for managing social situations makes antisocial youth more likely to respond with aggression rather than with more productive problem-solving strategies.

The nature of one's coping strategies is also a general risk or protective mechanism. For example, certain coping strategies are problematic for the development of anxiety and depressive disorders. One type of problematic coping pattern involves avoidance coping. For instance, some anxiety disorders develop partly because individuals avoid situations that trigger anxiety. They do not allow themselves to tolerate a situation until the anxiety begins to dissipate. Unfortunately, a style of avoidance for dealing with depression might lead a person to experience more life stress and depressive symptoms as a result (Holahan, Moos, Holahan, Brennan, & Schutte, 2005).

Rumination is another detrimental coping pattern. Rumination is the proclivity to focus on the symptoms of a distressed mood, or to mull over the reasons for its occurrence in an incessant and passive way (Nolen-Hoeksema, 2002), rather than using problem-solving strategies to resolve it (Hino, Takeuchi, & Yamanouchi, 2002). It is not only the internalizing disorders that are linked with problematic coping; conduct problems in girls have also been associated with poor coping skills (Burke et al., 2002). Interpersonal skills can also be subsumed under the category of coping strategies. These skills involve the ability to create and maintain relationships and to communicate effectively and assertively (Henggeler et al., 2009).

SOCIAL MECHANISMS

Family factors have a major influence on whether an individual with a biological vulnerability develops a mental disorder. For instance, family characteristics explain more of the variance in adolescent substance use than do any other factors (Hopfer, Stallings, Hewitt, & Crowley, 2003). Families transmit both genetic material and an environmental context for children (Wachs, 2000), although the extent to which heredity or the family environment explains its influence is not always well understood. Other important influences in the social environment include neighborhood, church, school, and other community resources available to families. The influence of each of these mechanisms will be discussed, although it is important to point out that these aspects of the community context interact with one another (e.g., schools are part of the neighborhood) and with other levels (e.g., individuals and families make up neighborhoods).

Family

Several patterns are indicative of families in which mental disorders develop, among them hostility, conflict, isolation, low cohesion, enmeshment, and an absence of nurturing (e.g., Yap, Pilkington, Ryan, & Jorm, 2014). Certain family variables center on the parent–child relationship. Parental rejection of the child, inconsistent and ineffective discipline, lack of supervision, and lack of involvement in the child's activities are also mechanisms of risk. On the other side, positive parenting, healthy family functioning and family environment was associated with decreased depression and anxiety in African-American youth (Washington et al., 2017). Positive parenting has also shown a buffering effect on neighborhood disadvantage to adolescent brain development (Whittle et al., 2017).

Parent–infant attachment is especially central. The developing child requires a sense of security that caregivers will respond in warm, consistent, and sensitive ways to his or her needs (Bowlby, 1969, 1973, 1980). Early attachment is hypothesized to result in the formation of *working models*, beliefs and experience about the self and others that will influence functioning across a person's life (Davila et al., 2005). Indeed, attachment style has been shown to afford stability into adulthood (Hazan, Campa, & Gur-Yaish, 2006).

Further risks in the context of the family involve instability and parental conflict, such as discord, separation and family violence, and high parental stress (Loeber, Farrington, Stouthamer-Loeber, & Van Kammen, 1998). Chronic marital discord and family violence are associated with risks to maternal mental health, increased incidence of depression and PTSD (Golding, 1999), aversive parenting practices (Krishnakumar & Buehler, 2000), and the development of mental health disorders in children (Briggs-Gowan et al., 2010). Psychopathology afflicting parents that compromises their abilities also constitutes a risk for mental health disorders in children (Milne et al., 2009).

Conversely, family stability, a stable parental relationship (including parental agreement on values and discipline), and social support for parents are seen as protective. Families that have effective discipline skills, healthy cohesion, and positive communication help buffer their children against the development of mental disorders. Further, adolescents whose parents provide emotional support and structure the environment with consistent rules and monitoring tend to group with peers who share similar family backgrounds (Steinberg, 2001). Supportive parenting in turn affects the characteristics of the child, in that he or she learns to regulate emotional processes and develop cognitive and social competence (Wachs, 2000). Individual characteristics of parents are also key; parents who have problem-solving ability and resourcefulness, experience low stress, and demonstrate frustration tolerance and patience are more effective in their role as parents (Henggeler et al., 2009).

Household Composition

Household composition refers to familial structure and includes the size of the family, the number of parents in the home, and the spacing of children's births. Larger family size (more than three children) is a risk factor, as precious family resources are then spread among many children (Werner, 2000). Living in a single-parent family has also been identified as a risk factor. Compared to teens with married or cohabiting parents, those with divorced parents are at higher risk for a mental health disorders, especially anxiety, behavior, and substance use disorders (Merikangas, He, Burstein, Swanson et al., 2010). Whereas in two-parent families two adults can provide financial security, guidance, and emotional support, single parents are more likely to work full time and therefore are not as available for supervision, monitoring, or time spent with their children. Rapid childbearing (defined as less than a two-year spacing between children) further presents risk, because it limits the amount of time devoted to the first child (Klerman, 2004).

Traumatic Events and Loss

These experiences are grouped with family factors because events such as sexual abuse and physical abuse often occur in the context of the family. Child maltreatment is a risk factor for both health problems (Norman et al., 2012) and mental health disorders in both childhood and adulthood (Scott et al., 2010; Washington et al., 2017). When abuse and neglect are severe, children may be removed from their own homes and placed into foster care; these situations put them at further high risk for mental health problems (Fazel, Doll, & Langstrom, 2008). Childhood adversities (defined as physical and sexual abuse, neglect, family violence, parental mental illness, substance use disorders, and criminality) may be associated with up to 45% of all mental disorders that have an onset in childhood, and at least 25% of disorders with later onset (Green et al., 2010). The deleterious effect of adverse childhood experiences were documented in a systematic review (Kalmakis & Chandler, 2014). Types of experiences, including parental mental illness, physical and emotional abuse, and witnessing abuse, were found to be associated with all psychiatric outcomes. Events were also cumulative—the more adverse the experiences, the greater the effect on both mental and physical health.

Neighborhood

Although individual and family characteristics are major contributors to child and young adult outcomes, neighborhood factors are also key (Ellen, 2000; Leventhal & Brooks-Gunn, 2003). Living in poor and disadvantaged communities creates substantial risks of antisocial behavior in children. Such risks include poverty, unemployment, community disorganization, availability of drugs, the presence of adults involved in crime, overcrowding, community violence, and racial prejudice (Hill, 2002; Loeber, Burke, Lagey, Winters, & Zera, 2000). Parenting abilities are often challenged by the many stressors that attend to living in a low socioeconomic stratum, among them unemployment, underemployment, the lack of safe child care, the lack of transportation, inadequate housing, and exposure to crime. These stressors may not only negatively affect parenting but may also inhibit access to general health and mental health care services.

An extensive review of the literature on neighborhood effects (Leventhal & Brooks-Gunn, 2003) found evidence that living in a disadvantaged neighborhood had negative consequences for young children's mental health functioning. A large, population-based study in Sweden found that high neighborhood deprivation was related to two-fold higher odds of conduct disorder, 40% higher odds of anxiety disorders, and 21% higher odds of depressive disorders or bipolar disorder (Sundquist et al., 2015). Neighborhoods can have an effect on adolescent brain development in the frontal lobe (Whittle et al., 2017).

Neighborhoods can, however, represent a source of protection. Although neighborhood peers may exert negative influences on such behaviors as drug and alcohol use and criminal activity, some studies have found that adult neighbors who offer structure and monitoring can be an important source of support for children experiencing risks in their own families (Werner & Smith, 2001). In addition to providing informal social control and social cohesion, neighbors involved in local organizations help to sustain the mental health of children who live in neighborhoods marked by disadvantages (Xue, Leventhal, & Brooks-Gunn, 2005). Studies have also shown that middle-class and affluent neighborhoods have generally positive effects on educational attainment and achievement for adolescents, and neighbors of high SES contribute to younger children's verbal ability, IQ, and academic achievement.

Finally, frequent changes in residences while growing up are associated with poor outcomes in youth in terms of both attempted and completed suicide (Qin, Mortensen, & Pedersen, 2009). Repeated separations from peers and familiar activities, the stress of facing a new environment, and the potential unavailability of parents due to their own stress may overwhelm a youngster's ability to cope.

Social Support Networks

Social support is a multidimensional concept, commonly defined as the availability of a network of people on whom a person can rely in times of need (Hankin & Abela, 2005). Different types of social support include emotional, financial, informational, or enacted support. Social support networks can provide risk or protective influences. Positive social support acts as a buffer against the development of many disorders, such as depression (Gariepy, Honkaniemi, & Quesnel-Vallee, 2016). It also plays a strong role in adjustment and recovery from many of the disorders discussed in this book.

The number and variety of social supports (extended family, friends, neighbors, coworkers, and church members) appear to be important (Henggeler et al., 2009). For youths, such supports encourage involvement in a peer group that is engaged in prosocial activities, hobbies, and interests.

A particular type of social network involving church or religious participation has been associated with positive physical and mental health, as well as with buffering the effects of neighborhood risks (Taylor, Ellison, Chatters, Levin, & Lincoln, 2000; Werner & Smith, 2001). Religious attendance and religiosity have been significantly associated with a decreased likelihood of drug use among adolescents, and may buffer the impact of neighborhood risk on criminal offending (Miller, Davies, & Greenwald, 2000; Johnson, Jang, Li, & Larson, 2000). Research further indicates a positive relationship between religious involvement and adult health outcomes and coping with stress (McCullough, Larson, Hoyt, & Koenig, 2000).

More formal support systems may also enhance protection. Research has shown that participation in out-of-school activities and availability of community supports has positive outcomes for children in terms of educational attainment and health status. Empirically validated programs, such as Big Brothers and Big Sisters (Thompson & Kelly-Vance, 2001) and other youth organizations present substantial protective factors (Werner, 2000).

SOCIETAL CONDITIONS

The United States has "overarching social, political, legal, economic, and value patterns" (Greene & Livingston, 2002, p. 79) that can both contribute to individual problem situations and provide protection against risk. These macro-level influences, however, do not occur in isolation from risk and protective mechanisms at the other levels. For example, employment may open opportunities for interactions with others and expansion of social support networks, which in turn may help the family provide a safe and secure home. Remember, the nature of systems is that the processes within each system influence one another.

On the protective side, social policies can have positive effects on the income and employment of individuals. For example, Social Security payments to older adults have a significant effect on reducing the percentage of those who are poor, while Medicare covers many of their major health care costs. For the working poor, economic supports include such programs as the earned income tax credit and food stamps, which help them meet household expenses. (For a review of income support policies, see Scholz & Levine, 2000.) Strong child-support policies have also been shown to improve the income of single-mother families (Garfinkel, Heintze, & Huang, 2001).

Poverty, discrimination, and segregation are risks that affect individual-level functioning, whereas social and income supports, tax policies, and legal sanctions provide protection against these risks. We will now explore further some of the risks in U.S. culture associated with being poor, being a member of an ethnic minority, and being female. After that, we will discuss the way in which mental health services are delivered in the United States.

Poverty

Low SES is associated with the development of a number of mental disorders (Reiss, 2013), such as oppositional defiant disorder and conduct disorder (Hill, 2002), ADHD (Russell, Ford, Williams, & Russell, 2016), anxiety disorders, depression, and schizophrenia (Brown, 2011; Mulvany, O'Callaghan, Takei, Byrne, & Fearon, 2001; Wadsworth & Achenbach, 2005). People of the lowest SES have a two- to threefold likelihood of having a mental disorder compared with the general population (U.S. Department of Health and Human Services (DHHS), 2001) and this is also true of children and adolescents (Merikangas et al., 2010a). Those living in poverty are more exposed to stressful circumstances such as crime; violence; availability of drugs; and lack of safe child care, convenient transportation, quality health care, and adequate housing. The poor are also less likely to be protected against these stressors by social or material resources. Finally, because the presence of a mental disorder, such as schizophrenia, usually results in academic and occupational impairment, those with mental disorders may end up living in poverty.

Ethnicity

Overall, people of color have rates of mental disorder similar to those among the White mainstream populations of European descent. Some minorities, however, especially African Americans, are overrepresented among certain subgroups that are vulnerable to mental disorders, including people who are homeless, incarcerated, or in the foster care system (DHHS, 2001). Many people in these subpopulations are not counted in national surveys of mental disorders. In addition, ethnic minorities are disproportionately poor and are therefore subject to the attendant risks that have been detailed earlier. Further, racism and discrimination have a strong association with measures of stress and mental health (Kessler, Mickelson, & Williams, 1999). Moreover, "racial stereotypes and negative images can be internalized, denigrating individuals' self-worth and adversely affecting their social and psychological functioning" (DHHS, 2001, p. 39). Even though the prevalence of mental disorders among most ethnic minority groups is similar to the White mainstream, minorities are underserved when it comes to treatment (Le Meyer, Zane, Cho, & Takeuchi, 2009; Merikangas, He, Brody, Fisher et al. 2010).

As well as a lack of access to health care, people from ethnic minorities may hold even more stigmatizing attitudes toward mental illness than the general population, making them less likely to seek treatment (DHHS, 2001). Moreover, people from ethnic minorities are more likely to turn to the general health care system for problems they experience. Primary care providers typically do not have the time or the expertise to diagnose and treat mental disorders, especially when their patients already have physical disorders that they can recognize and treat (DHHS, 2001). Minorities may also seek help from informal sources such as family, friends, religious leaders, and indigenous healers.

Other barriers to the treatment of mental illness include the fragmented organization of mental health services in the United States (see next section) and providers' "lack of awareness of cultural issues, bias, or inability to speak the client's language, and the client's fear and mistrust of treatment" (DHHS, 2001). In addition, although the helping professions have recently begun to move toward evidence-based practice, there is a shortage of research on treatment outcomes for the major mental disorders among people from different ethnic groups (DHHS, 2001). Further, there has been a call for "cultural competence," which involves sensitivity to culture and the development of "skills, knowledge, and policies to deliver effective treatments" (DHHS, 2001, p. 36). Models of culturally sensitive services have been developed and tested, with results showing they can be effective for various populations and problems, such as substance use disorders in youth (Steinka-Fry, Tanner-Smith, Dakof, & Henderson, 2017), depressive disorders in adults (Chowdhary, Jotheeswaran, Nadkarni, & Hollon, 2014), and schizophrenia (Degnan, Baker, Edge, Nottidge et al., 2018).

Sexual Minorities

People from sexual minority groups—gay, lesbian, bisexual, transgender, questioning —have elevated risk for mental disorders. A systematic review of community-based surveys indicates that 20% of sexual minority adults have attempted suicide (Hottes, Bogaert, Rhodes, Brennan, & Gesink, 2016) and are at increased risk for anxiety, depression, and substance use disorders in both adolescence and adulthood (Plöderl & Tremblay, 2015). The hypothesis is that stress due to having a hidden lifestyle, coming out, discrimination, and lack of social support may overwhelm an individual's ability to cope. For substance use disorders, additionally, there may be limited social venues where alcohol is not a feature of the environment and, until recently, limited access to societal institutions that provide protection against substance use (i.e., marriage) (Beatty et al., 1999).

The Mental Health Care System

In the United States, the system of mental health care consists of a patchwork of ad hoc services (DHHS, 2001). There are four chief sectors for mental health care:

- *Specialty mental health sector*. This sector includes mental hospitals, residential treatment facilities, psychiatric units of general hospitals, and specialized community agencies and programs (e.g., community mental health centers, day treatment programs, and rehabilitation programs). In their survey of child and adolescent mental health disorders, Merikangas, He, Brody, Fisher et al. (2010a) found that overall, 55% of those with a disorder had consulted with a mental health professional, which is seen as an improvement in treatment seeking from the past.
- *General medical and primary care sector*. This sector is responsible for regular prenatal care, childhood immunizations, and routine developmental screenings that protect against the development of disorders, such as intellectual disability, and for the early detection of others, such as autism spectrum disorder. General practitioners are responsible for a great deal of medication care for people with certain disorders, such as ADHD, depression, and anxiety. Often this means that people receive substandard care. For example, ethnic disparities in the diagnosis and treatment of depression are present in the primary care system, where many people from ethnic minority groups are served for their mental health needs (Stockdale, Lagomasino, Siddique, McGuire, & Miranda, 2008).
- *Human services sector*. This sector comprises social welfare (housing, transportation, and employment), criminal justice, educational, religious, and charitable services. It is not until some adolescents reach the juvenile justice system that they are identified as having a mental illness (Fazel et al., 2008).
- *Voluntary support network*. This sector includes self-help groups and organizations devoted to education, communication, and support. An annual average of 2.4 million adults aged 18 or older (1.1% of the population) received support from a mental health self-help group in a year (Goldstrom et al., 2006).

Unfortunately, there is no systematic way for people to obtain needed mental health services. Often those with the greatest and most complex needs, and the fewest resources, are underserved. The lack of access to health care and health insurance is a principal factor in limiting adequate treatment for serious and chronic conditions (Tondo, Albert, & Baldessarini, 2006). For example, among people who made an effort to get treatment for substance use disorders, 42.5% reported cost or insurance barriers (SAMHSA, 2006).

Typically, people do not receive timely treatment for mental disorders. The median delay across disorders for receiving treatment is nearly a decade (Wang et al., 2005). If people are left untreated, they may be more vulnerable to future episodes that may be even more severe in nature and more resistant to treatment.

Several factors have been associated with treatment delay (Wang et al., 2005). Early onset of a disorder, defined as child or adolescent onset, is of particular concern, because untreated early-onset disorders can result in school and subsequent occupational failure, early childbearing and marriage, and marital problems. Other factors associated with treatment delay include being of the male gender, having minority status, attaining a lower education level (except for substance use disorders), being married, and having social support (presumably because of lesser need for support from formal sources).

CONCLUSION

The social work profession is distinguished by its holistic attention to the biological, psychological, and social influences on the functioning of all people. With this broad perspective, social work practitioners can complete comprehensive assessments to determine the nature of their clients' problems, which may include the mental disorders described in this book. Additionally, the social worker's knowledge of the risk and resilience influences associated with mental disorders helps focus his or her intervention onto the relevant areas of the client's life. Finally, the strengths perspective encourages social workers to build on the client's areas of real or potential resilience in recovering from, or adapting to, mental disorders, and in so doing helps the client develop a greater sense of self-efficacy. All of these themes will be incorporated into the subsequent chapters of this book.

3

Autism Spectrum Disorder

Case Study Part 1: Emmanuel

Emmanuel is a five-year-old Guatemalan boy who has just started kindergarten. He is an artistic and active child who enjoys playing on the playground, listening to music, and doing puzzles. On his first day of school, Emmanuel had a hard time separating from his parents. He cried almost continuously throughout the day, tried to run away from the classroom and playground, and threw tantrums when the classroom teacher tried to redirect him. Emmanuel continually asked for his mom or dad and could not be calmed down. The teacher reported that he seems to have difficulty with transitions, such as from the classroom to the cafeteria, and he does not follow directions unless the teacher or her assistant directs him through each step. The teacher also noted that Emmanuel appears to have difficulty in other areas of development. His speech is functional but not pragmatic, meaning that he is able to form the words necessary for speaking but cannot use them as a social tool to interact with others. He does not approach other children and does not react to their attempts to play or talk.

Autism spectrum disorder (ASD) is a neurological-developmental disorder with an onset during the first three years of life. The child with ASD demonstrates serious impairments in social interaction and communication, as well as odd repetitive behaviors and restricted interests (APA, 2013). More than anything else, ASD is characterized by impairments in social relatedness. These include a lack of awareness of the feelings of others, an inability to express emotions, and the absence of a capacity for social and symbolic (imaginative) play. People with ASD sometimes possess impressive isolated skills such as memorization, visual and spatial awareness, and attention to details.

ASD is experienced with different levels of severity (Di Rezze et al., 2016). In DSM-5, the three levels of severity are characterized as *requiring support, requiring substantial support*, and *requiring very substantial support*. At a moderate level of impairment, early cognitive and language development are apparently normal, but the child has unusual interests that he or she pursues with intensity. The child's attachment patterns to family members are well established, but he or she does not tend to attach to peers and new adults. Because the behavioral abnormalities are less pronounced, the child's referral for assessment is usually later than others with suspected ASD. These social difficulties are lifelong, but such people are more likely to secure employment, live independently, and establish a family. In its mildest form, the deficits in social and other skills are even less severe, and such people have a fair prognosis for independent functioning. It should be mentioned that a new DSM disorder, social pragmatic communication disorder, characterizes children and adolescents who have persistent difficulty with verbal and nonverbal communication that cannot be explained by low cognitive ability. Some previously diagnosed with ASD may now meet the criteria for this disorder.

PREVALENCE AND COMORBIDITY

The prevalence of ASD is difficult to gauge due to differences in assessment techniques both worldwide and in the United States (Ramsey, Kelly-Vance, Allen, Rosol & Yoerger, 2016). There is even diagnostic variability across states, which is believed to be an indicator of differences in the training of professionals, the availability of pediatricians, and the accessibility of health care resources. A review of prevalence studies indicates that the worldwide rate for ASD is about 11 per 10,000 (Baxter et al., 2015). The Centers for Disease Control and Prevention (2012) found that the prevalence of ASD in the United States was 1 in 68 or 14.7 per 10,000 during 2010. ASD occurs in all social classes although white children are more likely to be diagnosed than African-American children. The reason for this difference is not understood, but may be due to a greater likelihood for whites to be evaluated for the disorder. Studies consistently find that ASD occurs more often in males than in females, with a ratio of approximately 3.2:1 (Loomes, Hull, & Mandy, 2017).

Children and adolescents with ASD experience a range of comorbid medical and psychiatric disorders. Precise data are not available for these rates because there are no formal ASD assessment instruments that also attend to comorbid disorders. Commonly occurring medical problems in children with ASD include allergies and gastrointestinal difficulties (Mannix, 2016) and seizure disorders (30%) (Valvo et al., 2013). It is well-known that intellectual disability co-occurs with ASD at a frequency of about 50% with 50% of those comorbidities being severe and 30% being in the mild to moderate ranges (Rivard, Terroux, Mercier, & Parent-Bourisier, 2015). Other common comorbid psychiatric disorders, which are present in almost 80% of cases, include depression, anxiety, and overactivity and attention problems (Trammel, Wilczynski, Dale, & Mcintosh, 2013). More recently, the observed co-occurrence of attention deficit hyperactivity disorder (ADHD) and ASD has become an issue of study (Matson & Cervantes, 2014).

The likelihood of comorbid psychiatric disorders is largely due to the broadly debilitating features of ASD, their associated medical disorders, and the problematic life experiences related to having the disorder. For example, aggression and self-injury (head banging, finger or hand biting, head slapping, and hair pulling) are common behavioral symptoms for children with comorbid pathologies. These behaviors are rarely intentional, but are due to biological factors (such as seizures), cognitive and emotional impairments (leading to impulsivity and low frustration tolerance), an inability to communicate anger verbally, difficulty managing change, learned behaviors to avoid certain tasks or situations, and a misreading of others' intent as threatening (Richards, Davies, & Oliver, 2017). While ASD in adulthood is less studied, it has been found that the prevalence of comorbid psychiatric conditions is lower in persons over 50 years old (Lever & Geurts, 2017; Wise, Smith, & Rabins, 2017).

ASSESSMENT

With ASD the goals of assessment are to determine first whether a child has the disorder and then to offer appropriate interventions to maximize the child's potential for change. Professionals must set the stage for a long-term collaborative relationship with parents and help them become better-informed advocates for their child.

A major thrust in health care is the early diagnosis of ASD so that intervention can begin as soon as possible (Rosenberg, Landa, Law, Stuart, & Law, 2011). Early diagnosis is associated with urban residence, middle socioeconomic status (SES), pediatric referral to a specialist, having a child with severe language deficits, having an IQ of 70 or lower, and symptoms such as hand flapping and toe walking. Later diagnosis is associated with rural residence, low SES, oversensitivity to pain, hearing impairment, female gender, and having seen at least four primary care providers. Parental concern is a more important factor than pediatric testing in identifying a child with ASD, because 90% of parents of such children recognize a significant abnormality in the child by the age of 24 months (Matheis et al., 2017).

The symptoms of ASD usually appear when the child is 6–12 months of age. During the first year of life the child typically displays unusual social development, being less likely to imitate the movements and vocal sounds of others, and exhibits problems with attention and responding to external stimulation (Daniels & Mandell, 2014). Between 1 and 3 years of age, when parents are most likely to seek evaluation, differences from peers are readily apparent, and the child's idiosyncratic, self-absorbed behaviors and communication problems are striking. Parents report their child's regression from a higher level of functioning in 20% to 40% of cases (Jo et al., 2015). Often, neurologists and developmental pediatricians are responsible for diagnosing ASD, with primary pediatricians doing so only 12% of the time (Emerson, Morrell, & Neece, 2016). Some reasons for the low rate of pediatrician diagnosis include the physician's feeling unqualified to do so, time constraints on conducting screenings, and fears of labeling a child prematurely. Many children with ASD are initially evaluated at a mean age of 48 months but are not diagnosed until 61 months (with no differences by gender or SES) (Deconinck, Soncarrieu, & Dan, 2013). More severely impaired children tend to be diagnosed earlier. Most practitioners do not use a diagnostic screening instrument in the process, and 20% to 25% of children are not diagnosed until after entering school.

Assessment is a challenging process because no biochemical tests are available to assess ASD, nor does a single behavior or set of behaviors unequivocally characterize it. Assessment should be multidisciplinary in nature, including evaluations by a clinical or school psychologist, medical doctor, and speech and language pathologist as well as a social worker. A core assessment for ASD comprises the following elements (Hathorn, Alateeqi, Graham, & O'Hare, 2014):

- *Information from parents.* Includes information about the mother's pregnancy, labor, and delivery; the child's early neonatal course; the parents' earliest concerns about their child; family history of developmental disorders; symptoms in the areas of social interaction, communication/play and restricted or unusual interests; the presence of problem behaviors that may interfere with intervention such as aggression, self-injury, and other behavioral oddities; and the child's prior response to any educational programs or behavioral interventions
- *Direct observations.* Includes observations in structured (school) and unstructured (home) settings, and in interactions with peers, parents, and siblings
- *Medical evaluation.* Includes information about possible seizures, visual and hearing examinations for possible sensory problems, and testing for lead levels if the child has had exposure
- *Cognitive assessment.* Establishes the level of intellectual functioning
- *Assessment of adaptive functioning and social skill development.*
- *Speech and language assessment*

Neuropsychological testing might also be indicated for children with some verbal ability in order to gain a sense of their strengths and limitations for treatment and education planning (Anagnostou et al., 2014).

Professionals are encouraged to use formal instruments to assist in their diagnostic assessments, and a variety of such instruments are available. Two, both clinician-administered, have been considered the "gold standards" for the assessment of ASD: the Autism Diagnostic Interview–Revised (Lord, Rutter, & LeCouteur, 1994) and the Autism Diagnostic Observation Schedule (Lord, Risi, & Lambrecht, 2000). Another recommended measure is the Social Communication Questionnaire, which is a parent-report version of the Autism Diagnostic Interview-Revised (Berument, Rutter, Lord, Pickles, & Bailey, 1999; Rutter et al., 2003). Other assessment tools are also available.

Case Study Part 2: Emmanuel

Although Emmanuel started kindergarten this year and has never been in a preschool setting, he can write all the letters of the alphabet, as well as his own and his sister's name. He is also able to write numbers and recite them up to three digits. His handwriting is artistic and looks almost like a form of calligraphy, especially his numbers. His family states that they never taught him any of these skills.

Emmanuel uses very few of his own words and sentences but repeats what other people say (echolalia) and sometimes recites whole conversations from cartoons. An example of echolalia is when he answers questions like, "Are you hungry?" with "Are you hungry?" instead of giving an affirmative or negative answer. This affects his interaction with people, when he responds the same way to questions they pose. Further, Emmanuel confuses pronouns (he says, "You want to go home" instead of "I want to go home"). When upset, Emmanuel makes guttural noises or screams unintelligibly. He also seems sensitive to certain sensory inputs, especially loud noises, such as laughter or the hubbub of many people speaking at the same time. These seem to bother him greatly, and he reacts by covering his ears and screaming as if in pain.

Generally, Emmanuel seems to have no interest in his peers. He maintains little eye contact with others and does not pick up social cues. For example, he is unable to play tag because he does not understand what to do when he is "it"; nor can he follow his classmates' example of getting in line. He prefers to play on his own and does not engage in imaginative play. When Emmanuel gets excited, he will flap his hands rapidly, clap his thighs and crotch, and tap his face. In comparison with his peers he appears aloof or in a world of his own.

Despite his lack of social skills, Emmanuel can manage many one-on-one situations with adults. He is able to interact in a limited way with one person at a time and participates in activities suggested by that person if the activities interest him. It is in these situations that he displays what resembles a sense of humor, although he seems to be amused only by his own jokes and does not react to other people's funny remarks or faces. The social worker who assisted him during the first two days of school reports that he has limited interests. He was content with writing numbers and letters over and over and was willing to take turns with the social worker. He appeared to enjoy naming the numbers she wrote but showed distress when she did not use the same calligraphic style of handwriting that he himself used. The social worker also reported that Emmanuel frequently writes down numbers to soothe himself after getting upset.

Emmanuel's parents report that he acts rather impulsively at times. They state that he likes to "help" with chores at home. On one occasion he attempted to do the laundry and emptied an entire bottle of bleach on a basket of colored clothes, ruining them. They say he is not aggressive, however.

Emmanuel's school personnel completed a thorough assessment, which included a review of his medical history. They conducted a series of tests, including a speech and language evaluation, the Wechsler Intelligence Scale, the Childhood Autism Rating Scale, the Developmental Behavior Checklist, the Vineland Adaptive Behavior Scale, educational evaluation and observation, and collected his social history. These revealed an average IQ (95) but below-average language skills. Instead of using words of his own, Emmanuel employs idiosyncratic expressions. He lacks social skills and shows some developmental delays in areas of self-help and adaptation. For example, he becomes easily frustrated when he cannot unzip his jacket and does not accept certain school rules, like putting his backpack in his locker, if they go against his usual pattern of behavior.

Emmanuel comes from a caring family. Family members have been aware of Emmanuel's atypical development but related it to his lack of schooling and interaction with peers. They also report that his language development was delayed—he did not babble until the age of 2½. He started imitating others and reciting sentences by age 4. His parents attributed this delay to the fact that two languages (English and Spanish) are spoken in the home. They assumed that this lack of consistency led to Emmanuel's difficulties with language development. At this point, his mother speaks to him in Spanish, while all other family members go back and forth between English and Spanish. Emmanuel himself speaks English, which he started using at the age of 2½. He understands Spanish, but speaks it only when distressed.

The parents are open to treatment and agreed to the special education eligibility process. All family members demonstrate affection toward and concern for Emmanuel. His mother and sister report some inconsistency in parenting, however, because his father seems to give in to all of Emmanuel's wishes. Emmanuel is clearly his father's favorite child. His father carries Emmanuel home from school although the child is a physically strong and healthy boy, and Emmanuel will always interrupt his father's activities to demand attention. His mother tries to use a more structured approach to discipline and reports letting him cry if he does not get what he wants, such as when he demands candy in a store. According to Emmanuel's mother, these differences in parenting are a source of spousal disputes.

The family resides in a three-bedroom apartment in a working-class neighborhood. They live in the United States legally and receive disability benefits due to the father's medical condition (a job-related leg injury). Up to this point, Emmanuel stayed at home with his father while his mother worked as a maid. His sister (age 17) attends the local community college and his brother (age 13) is a seventh grader at a public middle school. The parents understand little English and need the assistance of their daughter or a translator to engage in meetings with school personnel. Extended family members live in the area, and large family gatherings are common. The family is also involved in their Catholic church and have access to support services there.

Directions Part I, Diagnosis Given the case information, prepare the following: a diagnosis, the rationale for the diagnosis, and additional information you would have wanted to know in order to make a more accurate diagnosis.

Questions to Consider:

1. What are Emmanuel's significant symptoms with regard to having a mental disorder?
2. For how long have Emmanuel's problems been evident?
3. Have there been any recent stressful events in Emmanuel's life that might account for any of his symptoms?
4. To what extent do Emmanuel's and his parents' cultural traditions contribute to his problem behaviors?
5. Given that Emmanuel has a developmental disorder, with what other disorders of childhood and adolescence (if any) do his symptoms overlap?

See Appendix A for a template for preparing the diagnosis and Appendix B for suggested answers to the Questions to Consider.

BIOPSYCHOSOCIAL RISK AND RESILIENCE INFLUENCES

Onset

ASD is a genetic, neurobiological disorder, although its specific causes have not yet been identified. There is no association of ASD with any psychological or social influences in the absence of biological mechanisms. Still, certain populations are more at risk for the disorder because of their biological characteristics or tendencies to have a later age of diagnosis (see Box 3.1). Although ASD

Box 3.1 Autism and Social Diversity

Females

- Overall, ASD is more prevalent in males than females, but females tend to be more severely affected because of a greater likelihood of comorbid intellectual disability (Halladay et al., 2015).

Low SES

- Low socioeconomic status is one of the factors associated with a later diagnosis of autism (Hildago, McIntyre, & McWhirter, 2015).

has many potential causes, in this section we will explore risks due to heredity and brain abnormalities (see Table 3.1).

Heredity

Evidence that ASD is a neurodevelopmental disorder is indicated by its high rates of heredity transmission (Tick, Bolton, Happe, Rutter, & Rijsdijk, 2016). The concordance rate for ASD in identical twins ranges between 64% and 91%, depending on the diagnostic criteria used. A large-scale family study found that 10.1% of siblings also develop ASD, with the risk being highest for siblings born within 18 months of each other (Risch et al., 2014). The chances of half-siblings developing ASD were 3% to 6.5%.

The research suggests that many genes, perhaps as many as 100, contribute to the development of ASD (Xiao, Kember, Brown, & Bucan, 2016). Knowledge is developing rapidly in this area. Chromosomal damage appears to occur in genes that control growth and development in early life; influence speech and language development; cause behavioral symptoms associated with ASD; contribute to tuberous sclerosis (a multisystem disorder characterized by seizures and intellectual disability); are associated with metabolic and serotonin deficiencies; and prompt the development of fragile X, a type of intellectual disability. There is strong evidence that advanced parental age (over age 40) in either mothers or fathers creates an increased risk of having a child with ASD (Vierck & Silverman, 2015). Possible biological mechanisms at work here include mutations associated with advancing age or alterations in genetic imprinting.

Brain Abnormalities

Approximately 70% of people with ASD experience distinct neurological abnormalities and some degree of intellectual disability (Rivard et al., 2015). Several relevant brain abnormalities have been identified. Brain imaging studies indicate that ASD is associated with enlarged overall brain size (as much as 10% larger than other toddlers) and decreased size and activity in specific areas of the brain (Hutsler & Zhang, 2010). These areas possibly include the midsagittal area of the cerebellum,

TABLE 3.1 Biological Risk and Resilience Influences for the Onset of Autism Spectrum Disorder

Risk	Protective
Biological	
Genetic loading	Female sex
Brain abnormalities (enlarged overall size; decreased size and activity in specific areas)	Normal brain size
Dysfunction in neurotransmitter systems	Younger age of parents
Male sex	Normally functioning neurotransmitter systems
Older age of parents at birth (40+)	Younger age of parents
Pregnancy or birth complications	Normal pregnancy and birth process

thought to be involved in the sequencing of motor activities; the lower hippocampus (in the midbrain), associated with complex learning processes; the amygdala (located in the temporal lobe), which is believed to contribute to the recognition of faces and emotional expression; and a portion of the brain stem associated with attention. Children with ASD may have an overgrowth of neurons, coupled with an underdeveloped organization of neurons in specialized systems in some areas of the brain, although related findings have not been consistently replicated.

It has long been suspected that problems leading to ASD symptoms may be present in a number of neurotransmitter systems (the chemicals in neurons that send messages to each other) that include serotonin, dopamine, norepinephrine, acetylcholine, oxytocin, endogenous opioids, cortisol, glutamate, and gamma-aminobutyric acid, but no clear evidence has yet emerged in this regard (Dickinson, Jones, & Milne, 2016). Promising new areas of study include possible dysfunction of the cholinergic system, oxytocin, and amino acid neurotransmitters. There is also a need for studies that control for subject variables such as race, gender, and pubertal status.

With regard to its deficits in brain functioning, ASD has been conceptualized in various ways; among them as a disorder of *central coherence*, in which the person is unable to process information holistically and instead develops a bias toward part-oriented processing; a disorder of executive function, in which the person is unable to process bits of information or regulate behavior and is thus inclined toward rigid, repetitive behaviors and impoverished interactions; and a deficit in social cognition, in which the person fails to understand the internal mental states of other people and has difficulty making attributions of mental states to others and themselves (Van Schalkwyk & Volkmar, 2015).

Course and Recovery

Knowledge about ASD has increased greatly in the past 10 years, and as a result its outcomes appear to be improving for many persons, particularly if they are diagnosed early in life (see Table 3.2).

TABLE 3.2 Biopsychosocial Risk and Resilience Influences for the Course of Autism Spectrum Disorder

Risk	Protective
Biological	
Earlier age of onset (before 24 months)	Later age of onset (after 24 months)
Severity of the condition	Milder level of impairment
Co-occurring mental or medical disorders	Absence of comorbidity
Intellectual disability	Absence of intellectual disability
Female gender	Male gender
Delayed diagnosis	Early detection
	Proper diet (low risk of ingesting toxins)
Psychological	
Aggression and self-injury	Nonaggressive
Unintelligible speech	Intelligible speech
IQ under 60	IQ over 60
	Early nonverbal communication and functional play skills
Social	
Family	
Poor parent–child interactions	High quality parent–child interactions
Services	
Late detection	Early intensive, behavioral intervention
Lack of services available	Persistent intervention

Still it remains a chronic, generally debilitating condition with no treatments able to eliminate its core symptoms. A recent systematic review and meta-analysis of its course, including 25 studies and 828 persons, concluded that 19.7% of people with ASD had a good outcome (generally working but requiring some degree of support in daily living), 31.1% had a fair outcome (some degree of independence, and although requiring support and supervision did not need special residential provisions), but 47.7% had a poor outcome (requiring special residential supervision and high levels of ongoing support) (Steinhausen, Mohr Jensen, & Lauritsen, 2016). These findings indicate that the potential for significant functional improvement into adulthood is still limited for most people with ASD.

A systematic review of 25 longitudinal studies of cognitive, language, social and behavioral outcomes in adults with ASD found that outcomes are variable (Magiati, Tay, & Howlin, 2014). Adaptive functioning (a term that indicates one's ability to function independently in his or her environment) and behavioral symptoms tended to improve modestly, with higher childhood IQ and language ability being the best predictors of these outcomes. Many people who achieve higher levels of adaptive functioning still experience, however, some impairments in employment, perception, social isolation, motor skills, and mood.

Recent longitudinal studies tend to support the above findings. Long-term assessment of a sample of 74 persons with ASD over the age of 50 who were participating in a community services program indicated that social functioning symptoms had declined only slightly over a mean time span of 25 years, which suggests that persistent intervention helps people to acquire and maintain gains (Wise et al., 2017). Some physical problems became or remained noteworthy over time, however, including gastrointestinal disorders, seizures, and weight gain. Several outcome studies have focused on persons with ASD who did not have an intellectual disability. One study of 43 adults found that while their impairments were prominent in areas involving social interaction, their daily living skills such as getting around, maintaining a household, and self-care were not different from nonclinical study participants (Schmidt et al., 2015). Another longitudinal study of 64 adults with ASD who did not experience intellectual disability found that adaptive behavior levels did not change significantly over time, although prior skills in executive function, rather than IQ, predicted later skills in the social functioning and socialization domains (Pugliese et al., 2016). Executive function was defined as those cognitive processes that are responsible for planning and goal-directed behavior.

Other than the timing of assessment and intervention, protective influences for the course of ASD include a later age of onset (after 24 months) as well as the child's early acquisition of nonverbal communication, functional play skills, and speech capacity (Baghdadli et al., 2012). Another protective influence on the course of the disorder is the quality of parents' interactions with their children, which may affect the development of language skills over time. Literature reviews have also noted the protective influences of a proper diet and overall physical health, because environmental toxins such as air pollutants and pesticides may negatively affect brain development (Wong, Wais, & Crawford, 2015). An absence of pregnancy and birth complications is protective (Michelle, de Montigny, Ofner, & Do, 2017). There is no evidence, however, that the avoidance of certain vaccines serves as a protective factor.

Directions Part II, Biopsychosocial Risk and Resilience Assessment Formulate a risk and resilience assessment, both for the onset of the disorder and for the course of the disorder, including the strengths that you see for this individual. What techniques could you use to elicit additional strengths in the client?

INTERVENTION

Comprehensive interventions for children with ASD include strategies that address its core deficits of communication, social interaction, and flexibility in thinking and behavior. They must be delivered for many hours per week over periods of time ranging from months to years (Bishop-Fitzpatrick, Minshew, & Eack, 2013). Unfortunately, no intervention has been shown to change the core features of ASD to an extent that highly impaired people are able to achieve normative levels of functioning. After a thorough diagnostic evaluation, however, steps may be taken to help an individual function with significant gains. The range of interventions should include behavior management, special education, family support, and social skills training (for people with higher functioning ASD). Some parents find complementary and alternative medications appealing as a means of controlling behavioral symptoms, but considerable caution should be exercised when doing so due to the lack of research on these substances.

Behavior Management

Behavioral interventions focus on improving functioning and adaptation capacities (Lee, Lee, Kim, & Kim, 2015). These show the greatest effect when initiated before the child is 5 years old, which emphasizes the importance of early diagnosis, but they must be provided for 20–40 or more hours per week for up to 2 to 3 years.

Evidence-based practice research suggests that there are two intervention models to be recommended for children, including applied behavior analysis (ABA) and developmental social pragmatic (DSP) strategies (Smith & Iadarola, 2015). In ABA, practitioners (usually involving a team, including parents) utilize learning principles to teach socially significant behaviors to the child. Pre-academic skills such as imitation, matching, and numbers concepts, and communication, self-management, social, and academic skills are broken down into small steps and taught to the child systematically, using reinforcers. The learning process is slow, but over time the interventions, if successful, may become less structured and support the child's entry into community settings such as schools. In contrast, DSP interventions are based on observations that show a strong association between caregiver responsiveness to young children and the children's subsequent acquisition of skills for communicating and interacting with others. DSP intervention aims to promote these two sets of skills by being responsive to the child in ways such as imitating, expanding on, and joining into play activities initiated by the child. The two approaches differ in that ABA involves discrete teaching trials and separate learning units, each with a beginning and end, while DSP aims for a continuous flow of back and forth communication.

A number of meta-analyses and systematic reviews support the efficacy of behavioral interventions, although with generally small to moderate effects. In a review of five meta-analyses published in 2009 and 2010, Reichow (Reichow, 2012) noted that four of the analyses concluded that behavioral interventions were effective for many children, although outcomes varied among studies (Reichow, 2012). A meta-analysis of 43 single-case studies for adolescents and adults found that behavioral interventions in the areas of academic skills, adaptive skills, problem behavior, phobic avoidance, social skills, and vocational skills had medium-to-strong positive effects, although many of the studies were not methodologically strong (Roth, Gillis, & DiGennaro-Reed, 2014). One limitation of empirically validated programs is the challenge to families of maintaining the intensity recommended (the number of hours of involvement and consistent use of specific exercises).

Anxiety is a common comorbid problem in children and adolescents with ASD, and two meta-analyses investigated the efficacy of cognitive-behavioral interventions targeted at this condition

(Kreslins, Robertson, & Melville, 2015). In one, 10 randomized control trials including 470 participants and using clinical and parent-reported outcome measures showed that such interventions were effective and that individual treatment was superior to group intervention. Another study of 14 studies and 511 youth with high-functioning ASD also found strong evidence of positive outcomes (Ung, Selle, Small, & Storch, 2015).

For adolescents, intervention emphasis should be placed on adaptive and vocational skills. Sexual development in adolescence brings some additional behavioral problems, which may be addressed using education and behavioral techniques. Such techniques include teaching basic social skills through operant conditioning (introducing oneself, responding to requests, not touching others inappropriately). Among adults, the identification of community resources and supports for long-term care planning is critical. Such resources may include foster homes, semi-independent living situations, living with parents who may qualify for income supplements and insurance, and supervised group living.

In summary, Smith and Iadarola (Smith & Iadarola, 2015) offer the following characteristics of effective programs for children with ASD:

- Services should make use of the particular interests and learning style of each child to increase his or her engagement in activities through reinforcement systems and incorporating preferred activities into intervention sessions.
- Intervention planning should involve a systematic selection of individualized goals and instructional procedures based on an assessment of each child.
- The child's environments should include visual schedules to help him or her anticipate transitions between activities and organized work spaces to facilitate task completion.
- Intervention content should address the impairments in social communication and restricted, repetitive behaviors that define ASD.
- Family or caregiver involvement is necessary to promote consistency between the home and intervention setting, both to take advantage of the family's knowledge of the child and overcome difficulties that children are likely to have in conveying information from one setting to another.

Special Education

Federal law mandates the provision of an Individualized Education Plan (IEP) for all children with ASD. Ancillary services such as speech or language therapy, occupational therapy, and physical therapy are often required as a part of this plan (De Bruin, Deppler, Moore, & Diamond, 2013). Research on interventions for children and adolescents with ASD in the schools has been encouraging. A literature review of 14 studies including 28 participants found that all common interventions used to help persons with transitions, including the use of activity schedules, social narratives that highlight behavior expectations, peer mediation (a buddy system), video modeling, and various reinforcement procedures are successful in reducing aggression, keeping students on task, and reducing inappropriate vocalizations, tantrums, and episodes of running away (Lequia, Wilkerson, Kim, & Lyones, 2015). A meta-analysis of 34 studies with 89 participants found that both reinforcement-based and video-modeling interventions were especially effective in enhancing positive behaviors (De Bruin et al., 2013). Continuous programming, including summer programming, is more effective than episodic intervention, because children with ASD often regress in the absence of services. Social workers should be prepared to collaborate with teachers and other school personnel and to work with parents to obtain appropriate educational placements.

Family Education, Support, and Involvement

A child's development of ASD is clearly disruptive to the entire family system, as demonstrated in two qualitative reviews. In a systematic review and metasynthesis of 14 studies, six major themes related to family challenges were identified, including everyday emotional stress and strain, ongoing problems with adaptation, an overall negative impact on the family, needing to make decisions about professional services, managing the sense of stigmatization, and learning to better appreciate the "little things" (Corcoran, Berry, & Hill, 2015). In another metasynthesis of 31 articles six themes were noted as well, several of them similar to those in the first study, including family confusion during the prediagnosis stage, accepting the diagnosis, challenges to family life adjustment, learning to navigate the services system, developing a sense of parental empowerment, and moving forward (DePape & Lindsay, 2015). A literature review on resilience factors for caregivers included the availability of social support, spousal support, changing cognitive appraisals of life situations (as being more positive), acceptance, optimism, self-efficacy, and a belief that one's actions can have impact (Bekhet, Johnson, & Zauszniewski, 2012). Parents tended to develop resilience as the child got older and more time passed since the diagnosis.

Service implications of all these findings are clear. Parents, and sometimes grandparents, can benefit greatly from educational and supportive interventions. They should be encouraged to participate in programs for their children with ASD to enhance consistency in intervention at home and at school and to facilitate the child's generalization of skills across settings. Family members can also be invited to join parent and family groups for information and support. Many programs are parent-mediated, meaning that the parental caregiver takes on a primary intervention role. In a meta-analysis of 17 studies conducted since 2002 that included 916 children, it was found that such parent-mediated interventions can be helpful, especially in enhancing the relationship between parent and child, although these programs do not have impact on the child's core symptoms (Oono, Honey, & McConachie, 2013).

Social Skills Training

Interventions emphasizing social skills development have emerged as a major theme in the treatment literature in recent years, with a special focus on older children and adolescents. These interventions can be carried out through integrated peer groups, class-wide interventions, adult social groups, and video to help clients observe themselves as they try to gain new interactional skills. Three meta-analyses have found that these interventions produce modest positive effects. One analysis of five randomized controlled studies involving clients age 6 to 21 found that group interventions improved overall social competence and friendship quality but had no effect on the capacity for emotional regulation (Reichow, Steiner, & Volkmar, 2013). Another analysis of 19 group interventions found that overall positive effects for task-based measures of impact were modest (Gates, Kang, & Lerner, 2017). A review of 115 single-case studies of 343 participants also concluded that there were modest benefits to the intervention (Wang, Parrila, & Cui, 2013).

Medication

The core features of ASD unfortunately do not respond to medication. Drug intervention may, however, help control the symptoms of aggression, severe irritability, interfering repetitive behaviors, ADHD, anxiety, depression, sleep dysregulation, and self-injury (Earle, 2016). The range of medications used for these purposes include risperidone, aripiprazole, and haloperidol (traditionally classified as antipsychotic medications); methylphenidate, atomoxetine and alpha-agonists (ADHD medications); selective serotonin reuptake inhibitor antidepressants; and mood stabilizers, including the anticonvulsants. All of these medications, except risperidone and aripiprazole when used for severe irritability, are considered off-label because they have not been FDA-approved for treating ASD. A review by Earle (2016) suggests that risperidone and aripiprazole are indeed effective for reducing severe irritability, but that antidepressants and stimulants should be used with caution due to their lower levels of effectiveness and high rates of adverse side effects. Children appear to be particularly sensitive to the adverse effects of the SSRI medications (including agitation).

Still, medications are used extensively. In a study of 7,901 children in five U.S. health systems it was found that almost half (48.5%) received drugs during the year observed (Madden et al., 2017). The most frequently used medications were stimulants, alpha-antagonists, or atomoxetine (30.2%); antipsychotics (20.5%); and antidepressants (17.8%). Medication use by children with ASD was 7.7% more prevalent than use by children with other DSM diagnoses, although evidence for the effectiveness of any medication was weak. In another study of a Medicaid program covering 41 states, it was found that 65% of children and adolescents received at least one psychotropic medication, most often from the antipsychotic class (Schubart, Camacho, & Leslie, 2014). Rates of polypharmacy are also significant, a finding that was borne out in an insurance company study of 33,000 children with ASD (Jain et al., 2013). In that study 64% of the children had filled at least one prescription, 35% had been prescribed two drugs, and 15% were prescribed drugs from three classes. The median length of polypharmacy was 346 days. Older children and those with comorbid diagnoses (seizures, ADHD, anxiety, depression, bipolar depression) received more medications.

Again, there is little compelling support for claims of effectiveness for most medications. Hirota, Veenstra-Vanderweele, Hollander, and Kishi (2014) conducted a systematic review and meta-analysis of seven randomized, placebo-controlled studies with 171 participants and concluded that there were no significant differences between those with ASD and control groups in regard to irritability and global impairment. Dove et al. (2012) conducted a systematic review for adolescents and young adults, including eight studies of 13- to 30-year-olds, and found that the strength of evidence for effectiveness was poor except regarding the use of risperidone for aggression.

Complementary and Alternative Treatments

Complementary and alternative medicine (CAM) treatments for ASD include any that are believed by some professionals and family members to be helpful, but have not been widely researched or endorsed by medical professionals. The National Center for Complementary and Alternative Medicine organizes these therapies into four domains: mind–body medicine, biologically-based practices, manipulative and body-based practices, and energy medicine (Levy & Hyman, 2015). They tend to be used more often by parents with higher educational levels and lower functioning children.

One large-scale study involving 18 European countries examined the prevalence of CAM use among a sample of children with ASD under age 7 (Salomone, Charman, McConachie, & Warreyn, 2015). Of the 1,680 parent participants, 47% reported having tried a CAM approach in the past 6 months, with the most common approaches being diets and supplements (25%) and mind-body practices (24%). Other unconventional approaches were used by 25% of the families. Children with lower verbal ability and those using prescribed medications were more likely to be receiving diets or supplements. Concurrent use of high levels of conventional psychosocial intervention was significantly associated with use of mind-body practices. Higher parental educational level also increased the likelihood of use of diets, supplements, and mind-body practices. In another study 80.9% of parents (N=194) from a local ASD organization and clinical practice in southeastern Virginia reported that they had tried some form of CAM treatment for their child with autism (Hopf, Madren, & Santianni, 2016). The most frequently used therapies were multivitamins (58.6%), the gluten-free casein-free diet (54.8%), and methyl B-12 injections (54.1%). The CAM therapies that received the highest average rating of effectiveness were sensory integration therapy, melatonin, and off-label use of prescription antifungal medications.

Directions Part III, Goal Setting and Treatment Planning Given your risk and resilience assessments of the individual, your knowledge of the disorder, and evidence-based practice guidelines, formulate goals and a possible treatment plan for this individual.

CRITICAL PERSPECTIVE

One of the major changes in DSM–5 is the recognition that what used to be termed "autistic disorder" exists on a continuum, with varying degrees of impairment that imply different interventions. There has historically been some debate about whether there are significant distinctions between autism and the "old" disorders (Asperger's syndrome and pervasive developmental disorder–not otherwise specified) that have been subsumed under the autism spectrum. The DSM–5 work group decided that there was no clear support for separate classifications, although some scholars disagree and believe that the ASD label represents an inappropriate effort to bring together what are in reality distinct disorders requiring distinct interventions (e.g., Tsai & Ghaziuddin, 2014). Most people believe, however, that the new classification allows professionals to identify levels of disability more clearly in each of the core areas of autism and thus consider ASD along a single spectrum of ability and disability. There is concern among some consumer advocacy groups that the changes in terminology may make some people at least temporarily ineligible for funded services (e.g., those who have been diagnosed with Asperger's syndrome rather than autistic disorder) although funding sources have been making adjustments in their eligibility criteria.

Directions Part IV, Critical Perspective Formulate a critique of the diagnosis as it relates to this case example. Questions to consider include the following: Does this diagnosis represent a valid mental disorder from the social work perspective? Is this diagnosis significantly different from other possible diagnoses? Your critique should be based on the values of the social work profession (which are incongruent in some ways with the medical model) and the validity of the specific diagnostic criteria applied to this case.

REFLECT AND APPLY

See Appendix C for directions and templates for preparing the *Diagnosis* and *Biopsychological and Risk and Resilience Assessment* for these cases.

Case 1: Hao

Hao, a 5-year-old child whose parents emigrated from Vietnam many years ago, was recently expelled from his parochial school kindergarten class and advised to seek placement at the public school. The reason for the expulsion was his inability to relate to other children in class, incessant hand washing, and inability to follow instructions. Hao could not follow the classroom routine and would only stay for activities in which he was interested, such as those focusing on math or science topics. At times he would grow so frustrated with what he saw as disruptions to his favored activities that he had temper tantrums. His parents, Lang and An, are extremely upset over Hao's expulsion and are not sure what the future holds for him.

Lang and An had no previous thoughts of seeking out services for their son until now. It was only when Hao faced the structure of the kindergarten day that problems emerged. Lang, a 43-year-old Vietnamese woman and primary informant during this assessment, enrolled Hao in preschool at the age of 4 and did notice at that time that Hao was not connecting personally with other children. She said, "Hao only wanted to play alone. He ran around the yard while other children played together." But when Lang asked the teachers about this, they said that Hao was a sweet little boy who displayed no unusual behaviors and that all children mature at different rates. Lang believes that the preschool teachers' patience served to elicit positive behavior from Hao. Hao thrived in preschool and responded well to the staff's consistent positive reinforcement. Hao never had a tantrum in preschool.

Lang tried for years to conceive before having Hao. She was able to access quality prenatal care and experienced a good pregnancy and vaginal delivery with no complications. Hao was a healthy infant, who weighed 7 pounds, 4 ounces, at birth. He walked at 11 months of age, had a vocabulary of about 20 words when he was 18 months old (which is considered normal), and was toilet trained at 24 months of age. He also began to read at 24 months of age and learned how to use a computer before he was 36 months old. Hao now dedicates a significant portion of time to figuring out how to operate minute functions on the computer, fixing computer parts, and playing math and science games on the computer.

Hao is also gifted musically. He can play a song on his electric keyboard after hearing it only once. Hao was recently tested and found to have an IQ of 130. He was extremely interested in the testing process, and asked questions about the instruments. Sometimes he would ask the psychologist questions in response to her questions.

Lang appreciates the importance of Hao's gifts and nurtures his curiosity with books, musical instruments, and computer games. At the same time, she and An are both concerned about these attributes in terms of their impact on Hao's relationships with others. They believe Hao functions at such a high level that he would alienate peers by obsessing about his computer and academic pursuits and not just playing like a normal 5-year-old.

Lang encourages Hao to dress himself, select his own breakfast (he is able to pour his own cereal and milk), and care for his books and toys. Her son needs help buttoning his clothing and tying his shoes because of a slight delay in fine-motor skills.

Lang notices a difference between her more compliant nieces and nephews and Hao, who would prefer to follow his own set of rules rather than those set forth by his family. Lang states that mealtimes are especially difficult for their family, because Hao refuses to sit for longer than 2 minutes and ignores them when they speak to him. Lang and An value order, like most Vietnamese parents; according to Lang, Hao's frequent disruptions during meals are difficult to bear. He sits for 2 minutes at a time and then gets up to draw or write in his notebook. When he does sit at the table, Hao takes over an hour to finish a meal that should take 30 minutes to finish.

Hao tends to ignore his parents when they try to discipline him. When Hao does not follow instructions, he is responsive to time-outs, strong verbal communication, and direct eye contact from Lang. Time-outs have proved a deterrent to disruptive behavior, because Hao hates receiving them. Lang and An try to be consistent in their approach to discipline. When asked how she has managed to be patient and firm with Hao in the face of his erratic behavior, Lang stated that it is difficult but she has to do it in order to be a good mother for Hao. She stated that Hao needs extra attention and patience and that her faith helps her through the tough times.

Hao has suffered from severe allergies since he began eating solid foods. He is allergic to peanuts, eggs, and milk and breaks out in eczema as a result. Lang and An are closely involved with Hao's pediatrician, and Lang constantly monitors his food intake. As a result, Hao has suffered few outbreaks of eczema in recent years.

Every Saturday and Sunday An brings Hao to the park, where they enjoy playing basketball, soccer, and other sports. An becomes frustrated with Hao's excessive laughter during these activities. At times An loses his patience and threatens to leave the park. Lang indicated that Hao's loss of control is unacceptable in the Vietnamese culture; children are expected to be more in control of their emotions by the time they are Hao's age.

Lang and An are healthy and report no chronic physical or mental illness in themselves or their own families. Lang is a high school graduate who is a trained hairdresser, and An is a college graduate currently working as an information technologist. They enjoy a financially secure life and comfortable existence. Lang has been able to stay home and care for Hao because of this financial security but is excited about getting back into hairdressing. She knows that she will be much happier when she is cutting hair again, in that she will have a personal and professional outlet.

As An works long hours, Lang bears the brunt of the responsibility for Hao. She complains of feeling exhausted and helpless. This difficulty has placed an occasional strain on Lang's marriage with An. Lang feels relieved when her husband is available to help. An cooks dinner on weekends and will sometimes use his flex-leave to take Friday off, which allows Lang to have time to herself. On weekends, Lang and An spend time with An's family. Lang enjoys this time. She has a positive relationship with them, they eat meals and enjoy birthday parties together, and sometimes Lang will go shopping with her sister-in-law.

Hao has 11 first cousins and sees them almost every weekend for birthdays, at church, and during dinner get-togethers. Hao and his first cousin, 6-year-old Thanh, get along well, although Hao tends to focus too much on academics with Thanh. This irritates Lang, who picks up on Thanh's lack of interest, but Hao is unable to see it. Lang will at times firmly instruct Thanh to ignore Hao's questions about math, science, and reading, suggesting other toys and games they might enjoy instead. Hao's aunts and uncles don't always understand why his parents encourage his "different" personality and express distaste over what they perceive as his unusual habits.

Lang summed up her feelings about Hao's most pressing issue. Lang emphasized that while Hao is gifted intellectually, he is not developing socially. Lang stated, "I don't care if he is smart. How is he going to have friends and someday find a wife if he is this way?"

Lang explained that both she and her husband were "boat people." She escaped from Communist Vietnam 25 years ago and spent 3 years in Cambodia until she was able to locate a family member in the United States who could sponsor her. An had arrived in the United States 5 years before Lang arrived. The couple met in the United States and married 15 years ago. Lang stated that her faith in God and her determination helped her to persevere through many difficult obstacles when trying to come to the United States.

For Lang, An, and Hao, English is their second language. Vietnamese is spoken in the home, and the family holds traditional Vietnamese values. For example, Lang explained that family cohesiveness, spirituality, and work are important to them.

Lang reported that in Vietnam, Hao's behavior would be considered completely unacceptable and totally outside the norm. She stated that she was able to think "less Vietnamese and more American" about Hao when she observed the patience of American teachers in managing Hao. She is hopeful about the future and recognizes that she and An would not be receiving the support for Hao in Vietnam that they receive here. In Vietnam children are warned against bad behavior by being threatened with a wooden spoon. Often, children are hit with the spoon if they continue to misbehave. Lang reports that she has threatened Hao with the spoon only occasionally. Lang stated that when Hao misbehaves she gets down on her knees, uses direct visual contact, and speaks firmly. Lang has used time-outs successfully in the past and will continue to use them.

Lang, An, and Hao are devout Catholics and rely heavily on the guidance of their faith. Lang indicates that she prays often and speaks to her priest when she feels overwhelmed. Lang indicated that her priest has helped her to understand Hao better and told her that God made him and he should be accepted and loved. Lang gets a great deal of support from her priest and is able to find strength and patience through prayer. Lang sometimes prays at the dinner table when Hao is not cooperating and reports that it helps her not lose her patience with him. Lang often engages him in prayer to remedy his inattentiveness. This approach generally works, and Lang reports that Hao will sit and pray with her for periods of up to a minute or two.

Observations of Hao in his kindergarten classroom revealed that he speaks very loudly and in close proximity to other people's faces. The teacher says that he is unable to retain her instructions about standing back or speaking more quietly. Typically, Hao flatly looks off into space while the teacher speaks. His face displays little emotion. He does not react to questions or comments made by the teacher.

Case 2: DeShon

DeShon Johnson is a five-year-old African-American male kindergarten student who has been referred to his school's Child Study Team. He is distant and aloof, does not relate to classmates and his teacher, and rarely makes eye contact. He does not play imaginatively like the other children in his class, although his mother says he entertains himself well, usually playing with small household items such as kitchen utensils, pencils, or small toys such as matchbox-style cars, for hours on end. He also likes being outside.

His mother, Mrs. Turner, reports that at times DeShon easily becomes frustrated, upset, and defiant—crying, screaming, and throwing himself to the floor—especially when having to transition from one activity to another. These tantrums last from 5 to 30 minutes and occur once or twice per day. DeShon's mother and her partner react to these tantrums by ignoring, yelling, or spanking him. Nothing, according to his mother, changes the nature of his tantrums. At most times, his affect is flat. He is sensitive to tactile experiences, particularly with regard to food texture. For example, DeShon refuses to eat any food items that are crunchy or hard in consistency. He likes soft foods, such as yogurt, bananas, and soggy cereal. Although DeShon does talk, he displays echolalia, often repeating what others say to him. He also rocks back and forth and waves his hands in front of his face.

According to his mother, DeShon's birth history was normal, and he was healthy upon delivery. His mother stated that she became somewhat concerned about her son when he was between 18 and 24 months of age. She noted that DeShon's speech, which had apparently been developing relatively normally, stopped progressing. The little eye contact that DeShon had previously made became even less frequent. She also noted that DeShon seemed increasingly uninterested in social interaction, even with her, his older siblings, and others with whom he was quite familiar. Toilet training was reportedly an extensive, time-consuming, and difficult process for DeShon. Despite these concerns, DeShon did not receive consistent medical care and follow-up on referrals to specialists because of the family's frequent moves, lack of financial resources, and temporary homelessness. Consequently, DeShon entered kindergarten with no formal diagnosis or treatment plan.

DeShon Johnson resides with his mother, her male partner, and two older teenage siblings. Ms. Turner is 30 years old and attended school until the eighth grade, when she became pregnant with DeShon's 15-year-old brother. Each of her children has a different biological father. She is currently unemployed but has occasionally worked in the food services field. DeShon's biological father (Torrence Brown) is 39 years old and has been intermittently incarcerated since the age of 15 for drug charges. He has sporadic contact with DeShon and provides no financial support.

The family has Medicaid health coverage. DeShon's mother tends to let coverage lapse for a few months each year because she does not complete the required renewal paperwork in a timely manner. At the same time, DeShon's mother is fairly familiar with social services agencies and how to get assistance and financial help when her family needs it.

Mrs. Turner's partner is 38 years old and has a tenth-grade education. At times he is employed as a painter. He has lived with the family off and on for approximately 3 years but has two children in other households living with their respective mothers.

DeShon's mother is able to meet the basic needs of her children: food, clothing, bathing, and shelter. While she obviously loves her children, she is inconsistent in disciplining them. She and her partner often become frustrated with DeShon's challenging behaviors and communication difficulties and tend to rely on yelling and spanking for discipline.

Mrs. Turner's stepmother, aunt, and uncle offer emotional support to the family. In addition, she sees other extended family members, perhaps several times each month. Most are also struggling financially, so they are not able to offer financial aid.

The family lives in an apartment complex near DeShon's school. Although some parents in this area are reluctant to allow their children to play outside due to potential danger, DeShon's mother perceives the neighborhood as being much safer than some of her past neighborhoods.

DeShon attended no preschool or day care prior to entering public kindergarten as a 5-year-old. During the first few days of school, DeShon's teacher recognized that not only had DeShon lacked exposure to any form of structure in his young life, but he also seemed unusually detached from social interactions. This veteran teacher realized that DeShon was likely developmentally delayed, and she immediately referred him to the Child Study Team for an evaluation.

Upon learning of his behavioral characteristics and history, the Child Study Team recommended that DeShon undergo full assessments—psychological, educational, and sociological evaluations. This school system provides comprehensive services to children with special needs, and the special education teachers are experienced and dedicated. DeShon's mother is willing to seek and accept whatever assistance the school can offer. Testing showed that DeShon has an IQ of 60 and that his strongest learning style is through visual means. His receptive listening skills are very poor. A medical exam indicated no known physical conditions that could have caused his current symptoms.

4

Attention Deficit Hyperactivity Disorder

Case Study Part 1: Billy

Mrs. Bronsky, a 32-year-old white woman, brought her two children—Pauline, age 10, and Billy, age 8—to the agency because her new husband's 15-year-old nephew had sexually abused them. Mrs. Bronsky says that Billy has always been a difficult child, independent of the sexual abuse. When asked to do chores or homework or given any instruction, he argues and refuses point blank. If he is doing something annoying to his mother, such as banging a toy against the wall and creating scuffmarks, he keeps doing it, almost as if he enjoys getting on everyone's nerves.

His teachers report that Billy argues about teacher commands and refuses to do schoolwork. When teachers correct him on misbehavior, he blames classmates. Not surprisingly, he has always received poor conduct grades in school. He has also barely passed each grade and is currently scraping by. His math and science grades are now at the failing level. Mrs. Bronsky says that he has not undergone any testing at the school, nor does he have an Individualized Education Plan (IEP). However, his teacher has suggested that Billy take Ritalin. Mrs. Bronsky states that she does not want her son on medication and has heard that some herbal remedies might help him. She admits that Billy does seem to have some difficulty keeping his attention on tasks. He is easily distracted (looking out the window at school and getting involved with what is happening out there rather than what the teacher is saying), doesn't seem to be listening when someone tells him something (but Mrs. Bronsky suspects that he's purposely being difficult), and loses and forgets things (his math book, his homework, or what the teacher has told him). Again, Mrs. Bronsky thinks that these are purposeful behaviors to avoid the work rather than actual forgetfulness.

Attention deficit hyperactivity disorder (ADHD) is characterized by a chronic pattern of *inattention* or *hyperactive/impulsive behavior* (or both) that is more severe than what is typically observed in peers (APA, 2013). Persons with the "inattention" subtype of the disorder manifest a failure to attend to details and make many careless mistakes, whereas those with the "hyperactive" subtype are characterized by restlessness and impulsivity. Note that most studies in the chapter involve either the "hyperactive" or "combined" subtype, which involves both hyperactivity and inattention. The ADHD diagnosis was once largely restricted to children and adolescents, but it is now known that the condition can persist into adulthood. The current diagnostic criteria reflect sensitivity to some differences in presentation for people age 17 and older.

PREVALENCE AND COMORBIDITY

In 2016, 6.1 million U.S. children ages 2 to 17 (9.4%) had ever received an ADHD diagnosis (Danielson, Bitsko, Ghandour, Holbrook et al., 2018). Of these, 5.4 million had the diagnosis according to their parents, representing 8.4% of all U.S. children in this age group. It has increased in recent years—from 7.8% in 2003. A meta-analysis of prevalence studies of adult ADHD found a pooled rate of 2.5% (Simon, Czobor, Bálint, Mészáros, & Bitter, 2009).

About two thirds (63.8%) of children with ADHD have at least one current comorbid disorder (Danielson, et al., 2018). ODD/CD are most common (about half of all children with current ADHD), followed by anxiety problems (about a third), depression (17%), autism spectrum disorder (13.7%), and Tourette syndrome (1.2%). A small percentage (1.0%) of adolescents 12–17 years of age with current ADHD had a parent-reported current substance use disorder.

ASSESSMENT

The way in which ADHD assessments are conducted depends on the age of the client. The diagnosis is particularly difficult in preschool children because of the lack of valid measurement tools and the difficulty of sorting out the possible psychological or environmental contributors to the child's symptoms (DuPaul & Kern, 2011). As a result, most comprehensive assessments do not occur until elementary school. The social worker can assume primary responsibility for certain aspects of this assessment (clinical interviews with the child and parent, assessment of parent-child interactions, interviews with teachers, and implementation of standardized behavior rating scales). Other aspects of the assessment require referrals for medical and psychological evaluation. In summary, assessment at the school-age stage should comprise the following (Subcommittee on Attention-Deficit/Hyperactivity Disorder, Steering Committee on Quality Improvement and Management, 2011; Barkley, 2015):

- A physical examination and a review of health records
- Interviews with the child, parents, teachers, and any other significant persons. It must be noted that children tend to underreport their symptoms (Pelham, Fabiano, & Massetti, 2005). In addition, teachers are usually the first people (followed by parents) to suggest that a child be evaluated for ADHD (Sax & Kautz, 2003), and their judgment of a child's symptoms tends to be valid (Mannuzza, Klein, & Moulton, 2002).
- Rating scales completed by parents and teachers can provide useful information. The Swanson, Nolan, and Pelham-IV Questionnaire (SNAP-IV) (Swanson, 1992; Swanson, Schuck, Porter, Carlson et al., 2012) has both parent and teacher versions for children aged 5 to 11.
- A review of school records (report cards, achievement tests, and attendance).
- Behavioral observations of the child and of parent-child interaction.

Making a differential diagnosis between ADHD and other disorders is important. Children with ODD behave in a way that purposely annoys and antagonizes others, whereas ADHD symptoms are displayed without regard to others. However, as noted, both disorders often co-occur. The practitioner must also explore any trauma history. Common traumas include abandonment, physical or sexual abuse, or observation of family or community violence. Some of the symptoms of post-traumatic stress disorder (PTSD) may mimic those of ADHD (Perrin, Smith, & Yule, 2000). Chronic hyperarousal and physiological reactivity to cues from the traumatic event can appear as hyperactivity and impulsivity. Intrusive thoughts of a trauma can interfere with attention and concentration.

For assessment of ADHD in adults, a clinical interview with adults should include a discussion of ADHD symptoms present in childhood and current symptoms. DSM-5 has updated criteria so they are more relevant for adults. In previous editions, the criteria tended to be geared toward children and did not address adult functioning. The DSM–5 has also changed the age of onset to 12 rather than 7, mainly in response to adults having difficulty retrospectively recalling childhood problems with ADHD. If possible, a collateral person (a spouse, partner, or parent) should be interviewed to provide a more objective appraisal of the client's symptoms (Murphy & Adler, 2004).

In a synthesis of qualitative studies, parents of youth with ADHD indicated there was no standardized route by which their children became diagnosed with ADHD (Corcoran, Schildt, Hochbrueckner, & Abell, 2016). However, it was often the school system that first identified a child in need of further assessment for ADHD. Some children were evaluated within that system and others went to psychologists or medical doctors (although not typically psychiatrists).

Given primary care providers' role in diagnosis and treatment, attempts have been made to educate providers on appropriate practices (Wolraich, Bard, Stein, Rushton, & O'Connor, 2010). As a result, improvements have been made, in that the majority of physicians report using the DSM criteria (81%) and teacher rating scales (67%) to arrive at a diagnosis. However, due to time constraints and lack of training, primary care providers are sometimes ill-equipped to manage and treat a mental health disorder, and much variation exists among clinicians. As a result, ADHD is both overdiagnosed (given to those who meet few symptoms of the criteria) and underdiagnosed (not given to those who meet full criteria) (Purdie, Hattie, & Carroll, 2002).

Case Study Part 2: Billy

Mrs. Bronsky says she has not talked to her children about the sexual abuse, both because they have been interviewed so many times and because they do not bring it up. She would prefer that they all just forget about it, but the women at the children's advocacy center emphasized that her children will need counseling. She reports, though, that the professionals attribute all of Billy's problems, such as his lack of following through with rules and his bed-wetting, to the abuse. As long as she can remember, however, Billy has had these problems. Mrs. Bronsky denies that he has had nightmares, changes in sleep or eating patterns, or any other specific fears since the abuse occurred. She reports that both Pauline and Billy liked their cousin who abused them and now ask when they can play with him again. When asked how she responds to those requests, Mrs. Bronsky says she tells them, "Now you know after what you said you can't play with him ever again." When you explore with her what this could mean to the children, she says that she makes it clear that the abuse was the older cousin's fault, that he has a problem and needs a lot of counseling, and that they did the right thing in telling her about it.

When asked about the bed-wetting, Mrs. Bronsky said that that is another long-standing problem. Billy wets his bed almost every night and has done so ever since he was little. She says he rarely wets himself during the daytime. When asked how she has tried to address the problem, she says that she tries to limit his liquid intake after a certain time of day and makes sure he uses the bathroom before he goes to bed. She says that for the past year, Billy has occasionally (once a month) passed feces into his clothing during the daytime. She has had him checked medically, and no problem has been found. She says that she sees neither the bowel movements nor his urination as oppositional behaviors, because he is extremely embarrassed about these "accidents." When asked, she claimed that the doctor has given her no advice on how to handle these problems, other than to have Billy be responsible for washing his own sheets and clothing. She notes that he sometimes hides the sheets and clothes because he is embarrassed.

Mrs. Bronsky reports that she was married to Pauline and Billy's father for 9 years and that he was physically abusive to her, but not to the children. She admits that they witnessed some of the violence and would cry, but she denies that it had any lasting impact on them in terms of nightmares, flashbacks, or other fears. She says her husband hung out with a motorcycle gang and had a problem with "taking speed" in their early marriage, but now merely drinks heavily. She states that he eventually left her 2 years ago to be with another woman.

Mrs. Bronsky reports that her children have regular visitation with her ex-husband and have consistently denied to all who ask that he is abusive to them. The children tell the therapist that they like their dad's partner, and that he is not drunk when they are over there, although he does sometimes drink beer. They enjoy their visits to his house. When asked the reason their parents are not together anymore, they say that he went to live with his girlfriend and do not mention the family violence.

Mrs. Bronsky says she has been married to her new husband, Don, for one year, and that she is happy because he is so much better than her ex-husband. He is not violent to her and holds a regular job. When asked how her new husband reacted to the report of Pauline and Billy's sexual abuse by his sister's son, she said that he believes it happened but doesn't want any part of the whole problem. He has played as minimal a role as possible in the police and child protective services investigations. For example, Mrs. Bronsky has gone alone to the child advocacy center with her children to be interviewed and to have their medical examinations. When asked if the sexual abuse in the family has put any stress on her relationship with her husband, Mrs. Bronsky denies it. She says her husband is very good with her children, although when the children were alone together with the therapist in the second session, they reported, "Don yells a lot" at them and at their mother.

When the therapist was alone with Billy for the first session, he did not talk at all and just looked down as the therapist made various validating remarks ("It's hard talking to someone you don't know," "You're not in here for anything you've done wrong," etc.) or asked questions related to his expectations about counseling ("What did your mom say you were coming for?") or told him about her role ("My job is to talk to kids about things that have happened to them that have been hard to deal with."). No matter what the therapist tried, Billy refused to answer. In the second session, Billy and his sister were together in the session and were more forthcoming, as indicated by the information they provided about their father, his girlfriend, and their stepfather. Billy was guarded when the therapist brought up the recent sexual abuse and avoided answering any questions, whereas his sister was willing to discuss it. He denied having bad dreams.

The social worker obtained a release from Mrs. Bronsky to talk to Billy's teacher, who says that in her mind, there is no doubt that Billy has ADHD. "He's classic. He can't sit still. He gets out of his seat if any item attracts his attention. He always has to be fiddling with something. He talks when I'm talking." When asked about oppositional symptoms, she says, "He talks back if I tell him to stop disrupting the class and makes excuses. He glowers at me and folds his arms, refusing to do his work at times. The little work he finishes is a mess and full of mistakes. Everyone else is always to blame. He's not accountable at all."

Directions Part I, Diagnosis Given the case information, prepare the following: a diagnosis, the rationale for the diagnosis, and additional information you would like to know in order to make a more accurate diagnosis.

Questions to Consider:

1. Has Billy suffered any recent stressors that could account for his symptoms? Did his symptom pattern precede or follow the stressful life events?
2. Do the oppositional behaviors arise out of frustration due to inattention and hyperactivity?
3. Has Billy been exposed to trauma? Could his symptom pattern be indicative of PTSD?

See Appendix A for a template for preparing the diagnosis and Appendix B for suggested answers to the Questions to Consider.

BIOPSYCHOSOCIAL RISK AND RESILIENCE INFLUENCES

Onset

Many researchers assert that ADHD represents a pattern of cognitive or neuropsychological impairment that is manifested in the person's deficits regarding executive functioning (Barkley, 2015; Johnson, Wiersema, & Kuntsi, 2009). This part of the brain is responsible for goal-directed regulation of thought and action and key functions involve the following:

1. working memory (which involves the capacity to hold information active in the mind and mentally work with it to guide behavior)
2. inhibition, which is the ability to override a habitual but incorrect response
3. mental set-shifting, which means the ability to flexibly switch between tasks or mental sets

A meta-analysis of functional magnetic resonance imaging studies (using MRI technology to measure brain activity) with people with ADHD confirmed that the attention and impulsive deficits are associated with several areas of the brain that involve impairments in cognitive function (Hart, Radua, Mataix-Cols, & Rubia, 2013). There are also neurobiological factors, such as the capacity to inhibit impulsive behaviors, that protect youngsters from developing ADHD in the presence of environmental risk (Nigg, Nikolas, Friderici, Park, & Zucker, 2007).

Genetic Influences

ADHD is assumed to be an inherited genetic disorder with heritability estimates at over 70% (Faraone & Khan, 2006; Polderman et al., 2007). The precise genetic mechanisms that contribute to the onset of ADHD are not known (Neale et al., 2010), but dopamine transmitter and receptor genes, as well as several serotonin transporter and receptor genes, have been linked to the disorder (Faraone & Khan, 2006; Gizer, Ficks, & Waldman, 2009; Levy, Hay, & Bennett, 2006).

Aside from genetics, other biological influences may influence the development of ADHD. Children who are born prematurely are at twice the risk for ADHD as full-term children (Bhutta, Cleves, Casey, Cradock, & Anand, 2002). Maternal smoking and drinking during pregnancy may independently act as predisposing influences (Kahn, Khoury, Nichols, & Lanphear, 2003). Lead exposure in childhood is another route to the development of ADHD (Choi, Kwon, Lim, Lim, & Ha, 2016). Other environmental toxins, including organophosphate pesticides, at levels common among U.S. children, may contribute to a diagnosis of ADHD (Bouchard, Bellinger, Wright, & Weisskopf, 2010).

Interestingly, an Australian study tracking maternal anxiety and attention problems in children found that anxiety during or after pregnancy was associated with attention problems in children at both 5 and 15 years (Clavarino et al., 2010). The effect of maternal anxiety was cumulative; that is, the more chronic the anxiety, the more likely the child was reported (by both mother and child) as being attention impaired. This relationship could be biological: Genetics may be responsible for both maternal anxiety and child ADHD. Alternatively, the child's inherited anxiety potential could influence his or her responsiveness to the environment through an alteration of the hormonal and autonomic nervous systems. The association found in this study could also be due to the parenting abilities and responsiveness of anxious mothers to their children's needs and behaviors.

Social Influences

Although many experts vigorously assert that ADHD is a neuropsychological disorder, others suggest that family and social risk influences may play a causal role (Counts, Nigg, Stawicki, Rappley, & Eye, 2005). Risks for socially diverse populations are summarized in Box 4.1.

Box 4.1 Attention Deficit Hyperactivity Disorder and Social Diversity

Females

- While ADHD is more prominent among boys than girls (almost 13% versus 6%) (Danielson et al., 2018), girls may be underdiagnosed; females have a lower base level of inattentiveness and hyperactivity than their male counterparts, and thus they have to deviate much further from girls without symptoms in order to be diagnosed (Arnett, Pennington, Willcutt, DeFries, & Olson, 2015). Further, inattentiveness is the most prominent feature in girls rather than hyperactivity and impulsivity that brings boys to the attention of professionals (Monuteaux, Mick, Faraone, & Biederman, 2010).
- Impairment for girls with ADHD can cross many life domains and persist over time, and by young adulthood many suffer from antisocial, addictive, mood, anxiety, and eating disorders (Biederman et al., 2010; Nazar et al., 2016).

Race/Ethnicity

- Although African-American children have more ADHD symptoms, they are diagnosed two-thirds less frequently than white children. This pattern is not explained by teacher rating bias or SES, but may be influenced by parent beliefs about ADHD, a lack of treatment access and utilization, and the fact that existing assessment tools may not adequately capture ADHD manifestation in African Americans (Miller, Nigg, & Miller, 2008).
- Lower treatment rates in African-American children may be related to high rates of classroom behavior problems among African-American youths (Miller et al., 2008).
- In the Multimodal Treatment Study of ADHD, boys from ethnic minority backgrounds improved with a combination of behavioral therapy and medication compared to only medication (Jensen et al., 2007). In general, African-American and Latino parents prefer psychosocial treatment to medication for ADHD (Pham, Carlson, & Kosciulek, 2010).
- Prevalence rates for Hispanic children are estimated at 6.7%, compared with 9.4% for white children (Danielson et al., 2018). The condition may go unrecognized in Hispanics given the lack of population-based studies performed, language barriers, underreporting by mothers due to lack of knowledge of symptoms, cultural differences in developmental expectations by Hispanic mothers, physician bias against taking concerns of parents seriously, and a lack of access to treatment resources (Rothe, 2005).

Low SES

- Lead exposure increases the risk of ADHD (Choi et al., 2016).
- Children living in low-SES homes are more likely to have an ADHD diagnosis than those in higher SES groups (Russell, Ford, Williams, & Russell, 2016).

It is likely that adversity may affect children with a genetic vulnerability to develop ADHD (Laucht et al., 2007). Attachment difficulties may be a pathway to attention problems and related symptoms that are severe enough to meet diagnostic criteria for ADHD (Storebø, Rasmussen, & Simonsen, 2016). Severe early deprivation, as often occurs in institutional rearing, may be one way this occurs. Institutional rearing was associated with elevated inattention and over-activity into early adolescence, even when a child had been adopted at an earlier stage (Stevens et al., 2008).

Single-parenting specifically may also be an influence for the development of ADHD, as indicated by a study of almost 3,000 elementary school children who were followed up with twice a year for 2 years (Choi et al., 2016). Those who had high levels of lead in their blood and who were from single-parent families were most at risk for being diagnosed with ADHD.

Additionally, low socioeconomic status (SES) may contribute to ADHD. A systematic review of 42 studies found that children from low SES backgrounds were more likely to have an ADHD diagnosis than their counterparts from higher SES homes (Russell, Ford, Williams, & Russell, 2016). The relationship was partly explained by factors associated with low SES, including mental health problems in parents and smoking during pregnancy.

Course and Recovery

Continuance rates from childhood to adulthood ADHD are estimated to be 36% in the U.S. population (Breslau, Miller, Chung, & Schweitzer, 2011), with 8.1% of adults meeting diagnostic criteria (Kessler et al., 2005). Outcomes for people in adulthood who were diagnosed with ADHD in childhood appear to be compromised.

A recent, population-based, longitudinal study found that the odds of having an alcohol or drug-dependent disorder was increased in adulthood if a child had been diagnosed with ADHD (Levy et al., 2014). Finally, ADHD is a risk factor for self-harm (Allely, 2014) and suicidality, including ideation and attempts (Impey & Heun, 2010).

In a review of studies following hyperactive children into young adulthood, a third (32%) had failed to complete high school, and far fewer were enrolled in college compared with the control group (without hyperactivity) (Barkley, 2015). In addition, the young adults with hyperactivity had fewer friends and had more difficulty keeping friends.

Sexual risk taking, in terms of both number of partners and unprotected sex, has also been indicated. In a national longitudinal study in Denmark, Østergaard, Dalsgaard, Faraone, Munk-Olsen, and Laursen (2017) found that, compared to individuals without ADHD, those with ADHD were significantly more likely to become parents as teenagers, particularly for girls. Therefore, youth with ADHD should be considered for pregnancy prevention.

A systematic review of 351 studies compared people with ADHD as adults who were treated versus those who were not treated and people not diagnosed with ADHD (Shaw et al., 2012). When studies were pooled, the findings indicated that lack of treatment was associated with worse long-term results in all areas compared to the receipt of treatment. Participants who were treated improved in 72% of all outcome categories over those who were not treated, although they still did not tend to function within "normal" levels. The outcomes most responsive to treatment were obesity and driving; the least responsive were drug use/addictive behavior, antisocial behavior, services use, and occupation. Therefore, it appears that treatment in childhood is important for improving the long-term course of ADHD, but it still may not help people attain a "normal" level of functioning in all areas. An associated factor related to better adjustment is treatment response (Molina et al., 2009). Those who had responded well to treatment and had maintained gains for at least 2 years tended to be functioning the best at eight-year follow-up.

Outcomes for persons with ADHD are influenced by features of the disorder and response to treatment, as well as psychological and family factors. More severe ADHD is more persistent (Kessler et al., 2005) and is associated with worse outcomes (Barkley, Fischer, Smallish, & Fletcher, 2006), even into adulthood (Roy et al., 2017).

Additionally, lack of psychiatric comorbidity is related to better adjustment and recovery, whereas comorbidity is associated with persistence (Riglin et al., 2016) and poor outcomes (Roy et al., 2017). Comorbid ODD and CD are particularly associated with worse outcomes.

Family factors play a considerable role for the child's adjustment. Pervasive child problems in the way of daily negative interactions and behavioral management difficulties demand considerable parental resources (Coghill et al., 2008). These demands often result in failure, fatigue, demoralization, isolation, strained marital relationships, and compromised health occupational functioning (Corcoran et al., 2016; Corcoran, Schildt, Hochbrueckner, & Abell, 2017). A recent systematic review indicated that parental stress with having a child diagnosed with ADHD is considerable, and is worse with male children and when hyperactivity is present (Theule, Wiener, Tannock, & Jenkins, 2013).

However, parental or family difficulties that contribute to inconsistent, coercive, or decreased efforts at managing child's behavior may increase problem behaviors and may eventually lead to the