SECOND EDITION

The American Psychiatric Publishing

TEXTBOOK of PERSONALITY DISORDERS

DSM-5 EDITION

EDITED BY

John M. Oldham, M.D., M.S.

Andrew E. Skodol, M.D.

Donna S. Bender, Ph.D., FIPA

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To our families, who have supported us:

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To our colleagues, who have helped us.

To our patients, who have taught us.

And to each other, for the friendship that has enriched our work together.

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Foreword

Personality disorders occupy an important and particularly challenging place in psychiatry. There is broad recognition that for affected individuals, personality disorders cause significant distress, impairment, and disproportionate health care utilization. In addition, several personality disorders, most notably borderline, narcissistic, and antisocial, often produce significant adverse effects on families, in workplaces, and, more broadly, for society. The clinical and societal significance of these disorders notwithstanding, there remains considerable disagreement on how best to define them and how to make reliable, clinically useful, and ultimately scientifically valid diagnoses.

The challenges facing the field of personality disorders, as well documented in this textbook, arise partly from difficulties that are common to the study of all psychiatric disorders: a lack of objective medical or neuropsychological diagnostic tests or of biomarkers that track severity or reflect improvement with treatment. As for essentially all psychiatric disorders, the personality disorders are poorly captured by the categorical diagnostic approach that has been the hallmark of DSM since its third edition (American Psychiatric Association 1980). Personality disorders, like almost all psychiatric disorders, are heterogeneous syndromes that result from the interaction of highly polygenic risk with diverse developmental and environmental factors; as a result these disorders would be better conceptualized in dimensional terms that are continuous with health and that recognize shared features within and across families of disorders (Sullivan et al. 2012). The clinical and scientific problems created by the imposition of a nosology based on discontinuous categories are perhaps greater for the study and treatment of personality disorders than for any other area of psychiatry. Personality represents a complex set of attributes that mediate how each human being experiences his or her self and understands and interacts with the external world, especially the social but also the nonsocial world. As described in several chapters of this textbook, it is an intensely active area of investigation to find the scientifically strongest—and at the same time clinically useful—approaches to capturing and enumerating personality traits. In the study of personality disorders, however, this task is further complicated by the need to identify boundaries among personality traits (and trait clusters) that are adaptive, maladaptive, or disordered, a scientific task complicated by the need to account for the context dependence of what can be judged adaptive versus pathological.

As is documented within this textbook, serious attempts were made in the process of developing DSM-5 (American

Psychiatric Association 2013) to create dimensional alternatives to the problematic contemporary categorical treatment of the personality disorders. The end result of this process is represented by an alternative diagnostic model contained within DSM-5, but not within the main section of the manual. This alternative model, detailed by the editors of this textbook in Chapter 24, "An Alternative Model for Personality Disorders: DSM-5 Section III and Beyond," was rightly or wrongly judged too complex for the clinical community and too radical a departure from the status quo. Unfortunately, the problems with the status quo remain quite severe: these are described throughout the textbook, but perhaps most saliently in Chapter 3, "Articulating a Core Dimension of Personality Pathology." Thus, for example, the current DSM-5 personality disorder categories discussed in the main text of the manual have the peculiar properties of being too broad and too narrow at the same time. In short, each personality disorder category is too broad in that it selects a highly heterogeneous group of individuals but also too narrow as evidenced by the remarkably high frequency of co-occurrence with other personality disorders and other DSM-5 disorders. As a result of the arbitrary and narrow diagnostic silos, the majority of patients with any personality disorder diagnosis receive more than one diagnosis, and often many.

Of course, it is far easier to identify problems than to propose solutions that will aid the clinicians who treat this challenging population or facilitate scientific advances aimed at better understandings and treatments. Perhaps the disagreements that surfaced in the development of DSM-5 can be taken as a starting point for progress in classification, which would represent a step toward strengthening the science by facilitating better clustering of patients for study.

The challenges taken on by the authors of this textbook might frighten all but the most stalwart clinicians and investigators, especially when combined with the task of treating such a demanding population. In a field that finds itself in a period of serious, but hopefully constructive disagreement, it is particularly important to have a textbook such as this one. It presents the clinical wisdom and scientific data that should be expected of a comprehensive volume. More importantly, it does not push the current controversies into the background, but addresses them head-on with many very interesting chapters written by protagonists in the attempts to advance better scientific understandings. Despite the unsettled nature of the classification, many chapters contained within this textbook bear powerful witness to advances in the understanding of personality disorders and to a very solid body of treatment research. Over the last decade it has been recognized that the course of many personality disorders, including the most researched disorder, borderline personality disorder, is not as fixed and monotonic as had previously been believed. Especially when treated with evidence-based psychosocial interventions and judicious use of medications, many patients can achieve reasonably good outcomes. Despite the challenges that remain, there has been significant and meaningful progress. Overall, I commend this textbook to mental health professionals as extremely useful and as capturing the excitement of this field.

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Introduction

There is a vast and rich literature in science, medicine, philosophy, and the arts reflecting worldwide fascination with the subject of personality—what makes each of us unique and different from each other, and what determines the ways in which we are alike. The traditional mandate of medicine, however, is to understand illness—how to identify it, how to treat it, and how to prevent it. This new edition of the *Textbook of Personality Disorders* brings to its pages the wisdom and guidance of some of the world's experts to teach us about the illnesses we call personality disorders. Particularly in the realm of personality, there are not clear categorical distinctions differentiating individuals with "normal" personalities from those who suffer from impairments in personality functioning. Personality functioning and personality traits exist along continuous spectra, from healthy to unhealthy and from adaptive to maladaptive. There are variations in the degree of disturbance in a person's sense of self and in interpersonal relationships (central defining aspects of personality disorders), but significant impairment in these areas of functioning plus the prevalence of pathological traits can impede a person's effective navigation in the world.

For decades, it was widely thought that some severely disturbed individuals just seemed to have been "born that way," a view resulting from cases with significant genetic loading or risk. We know, of course, that environments in early life are also critically important—these range from health-promoting, highly nurturing environments to stressful and neglectful environments from which only the most resilient emerge unscathed. We are steadily learning more about complex polygenic risk factors that confer vulnerability to the development of most psychiatric disorders. The importance of epigenetics is increasingly recognized, clarifying the capacity of stressful environmental experience to activate risk genes and launch a cascade of events resulting in the emergence of psychopathology, including the personality disorders.

With the advent of standardized diagnostic systems, empirical and clinical research on the personality disorders has expanded. Semistructured research interviews are being used to study clinical and community-based populations to provide better data about the epidemiology of these disorders. Overall, personality disorders occur in over 10% of the general population, and their public health significance has been well documented, reflecting sometimes extreme impairment in functioning and high health care utilization. As clinical populations are becoming better defined, new and more rigorous treatment studies are being carried out, with increasingly promising results. In addition, longitudinal naturalistic studies have shown surprising patterns of improvement in patients with selected personality disorders, challenging the assumption that these dis-

orders are almost always "stable and enduring" over time. Genetic and neurobiological studies have clarified that the personality disorders, like other psychiatric disorders, emerge developmentally based on the combination of heritable risk factors and environmental stress.

Fundamental challenges remain, such as clarifying the relationship between normal personality and personality disorders themselves. A strong consensus has developed among personality experts that the personality disorders are best conceptualized dimensionally, and Section III, "Emerging Measures and Models," of the recently published DSM-5 contains an alternative model for the personality disorders, a hybrid dimensional and categorical model that is extensively referenced and discussed in this volume (see particularly Chapter 7, "Manifestations, Assessment, and Differential Diagnosis," and Chapter 24, "An Alternative Model for Personality Disorders: DSM-5 Section III and Beyond").

In light of the continuing and increased activity and progress in the field of personality studies and personality disorders, we judged the time to be right to develop this new edition of the *Textbook of Personality Disorders,* with an emphasis on updating information we believe to be essential to clinicians. First, in Chapter 1, Oldham presents a brief overview of the recent history of the personality disorders, along with a summary look at the evolution of the personality disorders component in successive editions of DSM. Then, this new volume is organized into four parts: 1) Clinical Concepts and Etiology; 2) Treatment; 3) Special Problems, Populations, and Settings; and 4) Future Directions.

Part I: Clinical Concepts and Etiology

The first section of this textbook might be thought of as the foundation for the parts that follow. In Chapter 2, Heim and Westen review the major theories that have influenced thinking about the nature of personality and personality disorders. The next chapter, by Morey and Bender, follows naturally from the previous one, emphasizing the fundamental roles of self and interpersonal functioning as core components of personality and as defining features of impairment in personality disorders. These concepts are central components of the alternative model for personality disorders in DSM-5, described in more detail in Chapters 7 and 24. Fonagy and colleagues, in Chapter 4, then present a developmental perspective, stressing the importance of healthy attachment experiences as building blocks for effective adult personality functioning. Disruptions in attachment, conversely, set the stage for future impairment, and they correlate strongly with the development of the neurobiological dysregulation that is present in many patients with personality disorders, described in Chapter 5 by Koenigsberg and colleagues. New data on prevalence, sociodemographics, and levels of functional impairment are described by Torgersen in Chapter 6. Although there are relatively few well-designed population-based studies, Torgersen reviews important contributions, including his own Norwegian study, and he tabulates prevalence ranges and averages for individual DSM-defined personality disorders as well as for all personality disorders taken together.

In Chapter 7, Skodol reviews the defining features of DSM-5 Section II and Section III personality disorder assessment models, discusses complementary approaches to the clinical assessment of a patient with possible personality psychopathology, provides guidance on general problems encountered in the routine clinical evaluation, and outlines differential diagnosis according to the alternative DSM-5 model for personality disorders. Throughout, Skodol provides expert guidance to introduce readers to the new model, clarifying the differences in the application of this new dimensional hybrid system compared with the traditional DSM-IV categorical approach. In Chapter 8, Grilo and colleagues provide an overview of the clinical course and outcome of personality disorders, synthesizing the empirical literature on the long-term course of personality disorder psychopathology, including the importance of comorbidity and continuity of psychopathology over time.

Part II: Treatment

Chapters 9–17 offer a range of treatment options and considerations. The treatment section begins with Chapter 9, in which Bender underscores the necessity of explicitly considering aspects of alliance building with various styles of personality psychopathology across all treatment modalities. Yeomans and colleagues, in Chapter 10, summarize the salient features of psychodynamic psychotherapies and psychoanalysis, including mechanisms of change and empirical validation, as applied to patients with personality pathology. In Chapter 11, Bohus outlines the core elements of cognitive-behavioral therapies, approaches that have increasingly been shown to be effective in the treatment of a number of different personality disorders. In Chapter 12, following this conceptual overview by Bohus, Fowler and Hart summarize several specific cognitive-behavioral therapy strategies, including traditional cognitive-behavioral therapy itself, schema-focused therapy, and dialectical behavior therapy, as applied in working with patients with personality disorders.

Apart from the realm of individual treatments, there are other venues for therapeutic interventions. In Chapter 13, Ogrodniczuk and colleagues demonstrate the application of group, family, and couples therapies to personality disorders. Fruzzetti and colleagues, in Chapter 14, review the important role of psychoeducation in the treatment of personality disorders, as well as the growing importance of family involvement in treatment and of peer support programs. Schulz and Nelson then take up the issue, in Chapter 15, of pharmacotherapy and other somatic treatments, because many patients with personality disorders may benefit from complementing their psychosocial treatments with evidence-based, symptom-targeted, adjunctive medications. Schlesinger and Silk, in Chapter 16, provide recommendations about the best way of negotiating collaborative treatments, because many patients with personality disorders are engaged in several treatment modalities with several clinicians at the same time. In the final chapter in this section, Gutheil cautions practitioners about dynamics that can lead to boundary violations when working with certain patients with personality disorders.

Part III: Special Problems, Populations, and Settings

In recognition of the fact that patients with personality disorders can be particularly challenging, we have included

five chapters devoted to special issues and populations. Of prime importance is the risk for suicide. In Chapter 18, Links and colleagues provide evidence on the association of suicidal behavior and personality disorders, examine modifiable risk factors, and discuss clinical approaches to the assessment and management of suicide risk. In Chapter 19, Prins and colleagues focus on pathways to substance abuse in patients with personality disorders, and they discuss issues of differential diagnosis and treatment. Substance use and abuse is common in many patients with personality disorders, perhaps particularly in patients with antisocial personality disorder. Black and Blum, in Chapter 20, present the latest findings regarding antisocial behavior. Of the personality disorders, antisocial personality disorder is one of the most costly to society, and it can be associated with serious personal consequences. Unfortunately, far too little is available to offer at this point in terms of effective treatment, and many of these individuals end up in correctional and forensic settings.

In Chapter 21, Sansone and Sansone discuss the substantial prevalence of personality disorders within general medical settings, demonstrating that physical conditions frequently coexist with and are complicated by personality pathology and that patients with personality disorders often seek treatment from primary care or family medicine physicians. In the final chapter in this section, Chapter 22, Malone and Benedek focus on an important population that often gets overlooked: soldiers on active duty in the U.S. military. In military settings, personality disorders can be masked or unrecognized but can eventually lead to significant impairment in functioning. The armed services are increasingly alert to the accurate recognition of personality disorders within their ranks, and to the not uncommon co-occurrence of posttraumatic stress disorder, traumatic brain injury, major depression, and suicide risk.

Part IV: Future Directions

In the first of two chapters in the final section of this textbook, Schmahl and Herpertz focus on the increasing usefulness of translational research to deepen understanding of the biopsychosocial nature of the personality disorders. To close, the book's editors Skodol, Bender, and Oldham summarize current controversies about and present a detailed chronicle of the evidence supporting the alternative DSM-5 model for personality disorders, and the complex process of its development.

We are grateful to all of the chapter authors for their careful and thoughtful contributions, and we hope that we have succeeded in providing a current, definitive review of the field. We would particularly like to thank Liz Golmon for her organized and steadfast administrative support, without which this volume would not have been possible.

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CHAPTER 1

Personality Disorders

Recent History and New Directions

John M. Oldham, M.D., M.S.

Personality Types and Personality Disorders

People are different, and what makes us different from each other has a lot to do with something called personality, the phenotypic patterns of thoughts, feelings, and behaviors that uniquely define each of us. In many important ways, we are what we do. At a school reunion, for example, recognition of classmates not seen for decades derives as much from familiar behavior as from physical appearance. To varying degrees, heritable temperaments that differ widely from one individual to another determine an amazing range of human behavior. Even in the newborn nursery, one can see strikingly different infants, ranging from cranky babies to placid ones. Throughout life, each individual's temperament remains a key component of that person's developing personality, added to by the shaping and molding influences of family, caretakers, and environmental experiences. This process is also bidirectional, so that the "inborn" behavior of the infant can elicit behavior in parents or caretakers that can, in turn, reinforce infant behavior: placid, happy babies may elicit warm and nurturing behaviors; irritable babies may elicit impatient and neglectful behaviors.

But even-tempered, easy-to-care-for babies can have bad luck and land in a nonsupportive or even abusive environment, which may set the stage for a personality disorder, and difficult-to-care-for babies can have good luck, protected from future personality pathology by specially talented and attentive caretakers. Once these highly individualized dynamics have had their main effects and an individual has reached late adolescence or young adulthood, his or her personality will often have been pretty well established. This is not an ironclad rule, however; there are "late bloomers," and high-impact life events can derail or reroute any of us. How much we can change if we need to and want to is variable, but change is possible. How we define the differences between personality styles and personal-

ity disorders (PDs), how the two relate to each other, what systems best capture the magnificent variety of nonpathological human behavior, and how we think about and deal with extremes of thoughts, feelings, and behaviors that we call PDs are spelled out in great detail in the chapters that follow in this textbook. In this first chapter, I briefly describe how the American Psychiatric Association (APA) has approached the definition and classification of the PDs, building on broader international concepts and theories of psychopathology.

Although personality pathology has been well known for centuries, it is often thought to reflect weakness of character or willfully offensive behavior, produced by faulty upbringing, rather than to be a type of "legitimate" psychopathology. In spite of these common attitudes, clinicians have long recognized that patients with personality problems experience significant emotional distress, often accompanied by disabling levels of impairment in social or occupational functioning. General clinical wisdom has guided treatment recommendations for these patients, at least for those who seek treatment, plus evidence-based treatment guidelines have been developed for patients with borderline PD. Patients with paranoid, schizoid, or antisocial patterns of thinking and behaving often do not seek treatment. Others, however, seek help for problems ranging from self-destructive behavior to anxious social isolation to just plain chronic misery, and many of these patients have specific or mixed PDs, often coexisting with other conditions such as mood or anxiety disorders.

The DSM System

Contrary to assumptions commonly encountered, PDs have been included in every edition of the APA's Diagnostic and Statistical Manual of Mental Disorders (DSM). Largely driven by the need for standardized psychiatric diagnoses in the context of World War II, the U.S. War Department, in 1943, developed a document labeled Technical Bulletin 203, representing a psychoanalytically oriented system of terminology for classifying mental illness precipitated by stress (Barton 1987). The APA charged its Committee on Nomenclature and Statistics to solicit expert opinion and to develop a diagnostic manual that would codify and standardize psychiatric diagnoses. This diagnostic system became the framework for the first edition of DSM (American Psychiatric Association 1952). This manual has subsequently been revised on several occasions, leading to new editions: DSM-II (American Psychiatric Association 1968), DSM-III (American Psychiatric Association 1980), DSM-III-R (American Psychiatric Association 1987), DSM-IV (American Psychiatric Association 1994), DSM-IV-TR (American Psychiatric Association 2000), and DSM-5 (American Psychiatric Association 2013).

Figure 1–1 (Skodol 1997) portrays the ontogeny of diagnostic terms relevant to the PDs, from the first edition of DSM through DSM-5. DSM-IV-TR involved only text revisions but retained the same diagnostic terms as DSM-IV, and DSM-5 (in its main diagnostic component, Section II, "Diagnostic Criteria and Codes") includes the same PD diagnoses as DSM-IV except that the two provisional diagnoses, passive-aggressive and depressive, listed in DSM-IV Appendix B, "Criteria Sets and Axes Provided for Further Study," have been deleted. Additionally, Section III, "Emerging Measures and Models," of DSM-5 includes an alternative model for personality disorders, which is reviewed extensively throughout this book.

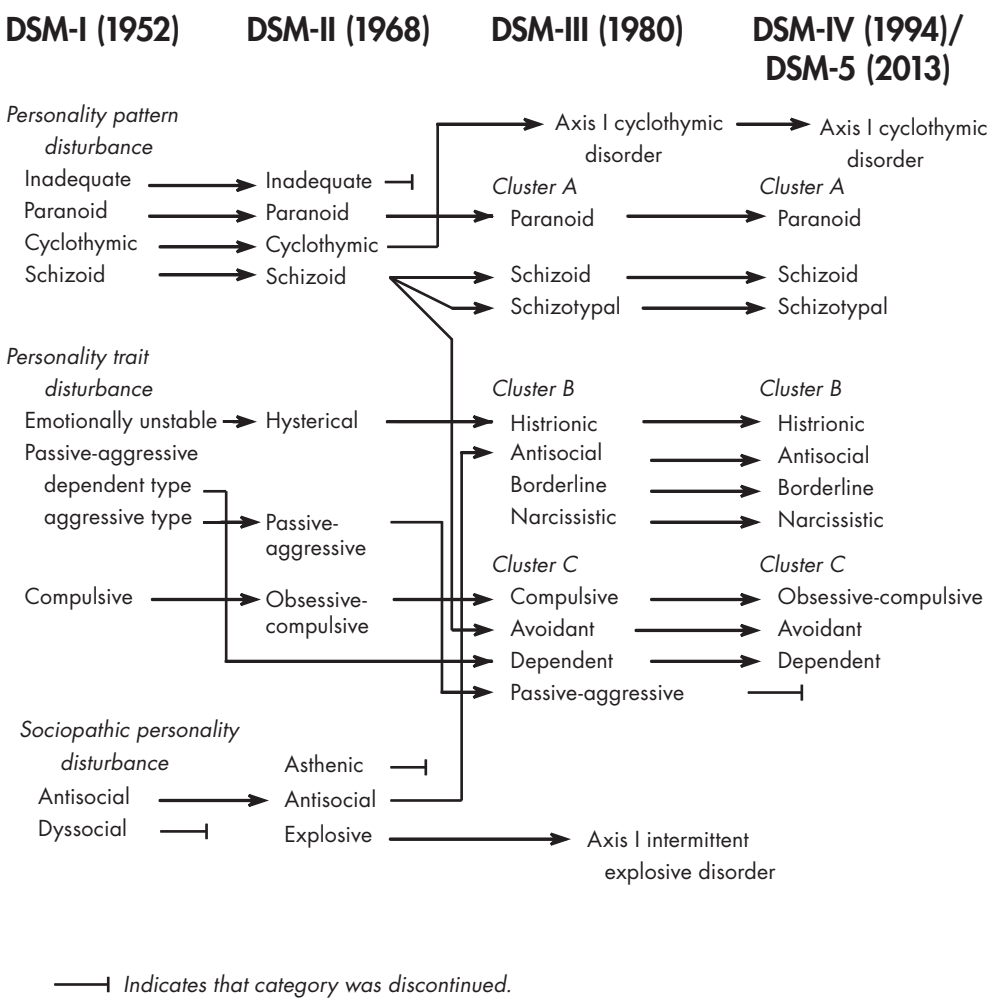

FIGURE 1–1. Ontogeny of personality disorder classification.

Note. No changes were made to the personality disorder classification in DSM-III-R except for the inclusion of self-defeating and sadistic personality disorders in Appendix A. These two categories were not included in DSM-IV, DSM-IV-TR, or DSM-5. Passive-aggressive and depressive personality disorders were present in Appendix B of DSM-IV and DSM-IV-TR but have been removed for DSM-5. An alternative model for the personality disorders (not shown in Figure 1–1) is included in Section III, "Emerging Measures and Models," of DSM-5.

Source. Modified from Skodol AE: "Classification, Assessment, and Differential Diagnosis of Personality Disorders." *Journal of Practical Psychiatry and Behavioral Health* 3:261–274, 1997.

Although not explicit in the narrative text, the first edition of DSM reflected the general view of PDs at the time, elements of which persist to the present. Generally, PDs were viewed as more or less permanent patterns of behavior and human interaction that were established by early adulthood and were unlikely to change throughout the life cycle. Thorny issues such as how to differentiate PDs from personality styles or traits, which remain actively debated today, were clearly identified.

In the first edition of DSM, PDs were generally viewed as deficit conditions, reflecting partial developmental arrests, or distortions in development secondary to inadequate or pathological early care-

taking. The PDs were grouped primarily into *personality pattern, personality trait,* and *sociopathic personality.* Personality pattern disturbances were viewed as the most entrenched conditions, likely to be recalcitrant to change, even with treatment; these conditions included inadequate personality, schizoid personality, cyclothymic personality, and paranoid personality. Personality trait disturbances were thought to be less pervasive and disabling, so in the absence of stress these patients could function relatively well. If under significant stress, however, patients with emotionally unstable, passive-aggressive, or compulsive personalities were thought to show emotional distress and deterioration in functioning, and they were variably motivated for and amenable to treatment. The category of sociopathic personality reflected what were generally seen as types of social deviance; it included antisocial reaction, dyssocial reaction, sexual deviation, and addiction (subcategorized into alcoholism and drug addiction).

The primary stimulus leading to the development of a new, second edition of DSM was the publication of the eighth revision of the International Classification of Diseases (World Health Organization 1967) and the wish of the APA to reconcile its diagnostic terminology with this international system. In the DSM revision process, an effort was made to move away from theory-derived diagnoses and to attempt to reach consensus on the main constellations of personality that were observable, measurable, enduring, and consistent over time. The earlier view that patients with PDs did not experience emotional distress was discarded, as were the subcategories described above. One new PD was added, called asthenic PD, only to be deleted in the next edition of DSM.

By the mid 1970s, greater emphasis was placed on increasing the reliability of all diagnoses. DSM-III defined PDs (and all other disorders) by explicit diagnostic criteria and introduced a multiaxial evaluation system. Disorders classified on Axis I included those generally seen as episodic "symptom disorders" characterized by exacerbations and remissions, such as psychoses, mood disorders, and anxiety disorders. Axis II was established to include the PDs as well as specific developmental disorders; both groups were seen as composed of early-onset, persistent conditions, but the specific developmental disorders were understood to be "biological" in origin, in contrast to the PDs, which were generally regarded as "psychological" in origin. The decision to place the PDs on Axis II led to greater recognition of the PDs and stimulated extensive research and progress in our understanding of these conditions. (New data, however, have called into question the rationale to conceptualize the PDs as fundamentally different from other types of psychopathology, such as mood or anxiety disorders, and in any event the multiaxial system of DSM-III and IV has been removed in DSM-5.)

As shown in Figure 1–1, the DSM-II diagnoses of inadequate PD and asthenic PD were discontinued in DSM-III. Also in DSM-III, the DSM-II diagnosis of explosive PD was changed to intermittent explosive disorder, cyclothymic PD was renamed cyclothymic disorder, and both of these diagnoses were moved to Axis I. Schizoid PD was felt to be too broad a category in DSM-II and therefore was recrafted into three PDs: schizoid PD, reflecting "loners" who are uninterested in close personal relationships; schizotypal PD, understood to be on the schizophrenia spectrum of disorders and characterized by eccentric beliefs and nontradi-

tional behavior; and avoidant PD, typified by self-imposed interpersonal isolation driven by self-consciousness and anxiety. Two new PD diagnoses were added in DSM-III: borderline PD and narcissistic PD. In contrast to initial notions that patients called "borderline" were on the border between the psychoses and the neuroses, the criteria defining borderline PD in DSM-III emphasized emotion dysregulation, unstable interpersonal relationships, and loss of impulse control more than persistent cognitive distortions and marginal reality testing, which were more characteristic of schizotypal PD. Among many scholars whose work greatly influenced and shaped the conceptualization of borderline pathology introduced in DSM-III were Kernberg (1975) and Gunderson (1984). Although concepts of narcissism had been described by Sigmund Freud, Wilhelm Reich, and others, the essence of the current views of narcissistic PD emerged from the work of Millon (1969), Kohut (1971), and Kernberg (1975).

DSM-III-R was published in 1987 after an intensive process to revise DSM-III, involving widely solicited input from researchers and clinicians and following similar principles to those articulated in DSM-III, such as assuring reliable diagnostic categories that were clinically useful and consistent with research findings, thus minimizing reliance on theory. In DSM-III-R, no changes were made in diagnostic categories of PDs, although some adjustments were made in certain criteria sets—for example, they were made uniformly polythetic instead of defining some PDs with monothetic criteria sets (i.e., with all criteria required), such as for dependent PD, and others with polythetic criteria sets (i.e., with some minimum number, but not all criteria required), such as for borderline PD. In addition, on the basis of prior clinical recommendations to the DSM-III-R PD subcommittee, two PDs were included in DSM-III-R in Appendix A, "Proposed Diagnostic Categories Needing Further Study": self-defeating PD and sadistic PD. These diagnoses were considered provisional.

DSM-IV was developed after an extensive process of literature review, data analysis, field trials, and feedback from the profession. Because of the increase in research stimulated by the criteria-based multiaxial system of DSM-III, more evidence existed to guide the DSM-IV process. As a result, the threshold for approval of revisions for DSM-IV was a higher one than that used in DSM-III or DSM-III-R. DSM-IV introduced, for the first time, a set of general diagnostic criteria for any PD, underscoring qualities such as early onset, long duration, inflexibility, and pervasiveness. These general criteria, however, were developed by expert consensus and were not derived empirically. Diagnostic categories and dimensional organization of the PDs into clusters remained the same in DSM-IV as in DSM-III-R, with the exception of the relocation of passive-aggressive PD from the "official" diagnostic list to Appendix B, "Criteria Sets and Axes Provided for Further Study." Passive-aggressive PD, as defined by DSM-III and DSM-III-R, was thought to be too unidimensional and generic; it was tentatively retitled "negativistic PD" and the criteria were revised. In addition, the two provisional Axis II diagnoses in DSM-III-R, self-defeating PD and sadistic PD, were dropped, because of insufficient research data and clinical consensus to support their retention. One other PD, depressive PD, was proposed and added to Appendix B. Although substantially controversial, this provisional diagnosis was proposed as a

pessimistic cognitive style, presumably distinct from passive-aggressive PD or dysthymic disorder.

The diagnostic terms and criteria of DSM-IV were not changed in DSM-IV-TR, published in 2000. The intent of DSM-IV-TR was to revise the descriptive, narrative text accompanying each diagnosis where it seemed indicated and to update the information provided. Only minimal revisions were made in the text material accompanying the PDs.

Since the publication of DSM-IV, new knowledge has rapidly accumulated about the PDs, and discussions about controversial areas have intensified. Although DSM-IV had an increased empirical basis compared with previous versions of DSM, a number of limitations of the categorical approach were apparent, and many unanswered questions remained. Are the PDs fundamentally different from other categories of major mental illness such as mood disorders or anxiety disorders? What is the relationship of normal personality to PD? Are the PDs best conceptualized dimensionally or categorically? What are the pros and cons of polythetic criteria sets, and what should determine the appropriate number of criteria (i.e., threshold) required for each diagnosis? Which PD categories have construct validity? Which dimensions best cover the full scope of normal and abnormal personality? Many of these discussions overlap with and inform each other.

Among these controversies, one stands out with particular prominence: whether a dimensional approach or a categorical one is preferred to classify the PDs. Much of the literature poses this topic as a debate or competition, as if one must choose sides. Dimensional structure implies continuity, whereas categorical structure implies discontinuity. For example, being pregnant is a categorical concept, whereas height might be better conceptualized dimensionally because there is no exact definition of "tall" or "short," notions of tallness or shortness may vary among different cultures, and all gradations of height exist along a continuum.

We know, of course, that the DSM system is referred to as categorical and is contrasted with any number of systems referred to as dimensional, such as the interpersonal circumplex (Benjamin 1993; Kiesler 1983; Wiggins 1982), the three-factor model (Eysenck and Eysenck 1975), several four-factor models (Clark et al. 1996; Livesley et al. 1993, 1998; Watson et al. 1994; Widiger 1998), the "Big Five" model (Costa and McCrae 1992), and the seven-factor model (Cloninger et al. 1993). How fundamental is the difference between the two types of systems? Elements of dimensionality already exist in the traditional DSM categorical system, represented by the organization of the PDs into Cluster A (odd or eccentric), Cluster B (dramatic, emotional, or erratic), and Cluster C (anxious or fearful). In addition, a patient can just meet the threshold for a PD or can have all of the criteria, presumably a more extreme version of the disorder. Certainly, if a patient is one criterion short of being diagnosed with a PD, clinicians do not necessarily assume that there is no element of the disorder present; instead, prudent clinicians would understand that features of the disorder need to be recognized if present and may need attention. Busy clinicians, however, often think categorically, deciding what disorder or disorders a patient "officially" has. In practice, when a patient is thought to have a PD, clinicians generally assign only one PD diagnosis, whereas systematic studies of clinical populations utilizing semistructured interviews show that patients with personality psychopathology generally have multiple PD diagnoses (Oldham et al.

1992; Shedler and Westen 2004; Skodol et al. 1988; Widiger et al. 1991).

In the early 2000s, the APA convened, in collaboration with the National Institute of Mental Health (NIMH), a series of research conferences to develop an agenda for DSM-5, the proceedings of which were subsequently published. In an introductory monograph (Kupfer et al. 2002), a chapter was devoted to personality and relational disorders, in which First et al. (2002) stated that "the classification scheme offered by the DSM-IV for both of these domains is woefully inadequate in meeting the goals of facilitating communication among clinicians and researchers or in enhancing the clinical management of those conditions" (p. 179). In that same volume, in a chapter on basic nomenclature issues, Rounsaville et al. (2002) argued that "well-informed clinicians and researchers have suggested that variation in psychiatric symptomatology may be better represented by dimensions than by a set of categories, especially in the area of personality traits" (p. 12). Subsequently, an entire monograph, "Dimensional Models of Personality Disorders: Refining the Research Agenda for DSM-V" (Widiger et al. 2006), was published, with in-depth analyses of dimensional approaches for the PDs. Shortly thereafter, a Work Group on Personality and Personality Disorders was established by the APA, and efforts were launched to develop a dimensional proposal for the PDs for DSM-5. This process is described in detail in the final chapter of this volume (Chapter 24, "An Alternative Model for Personality Disorders: DSM-5 Section III and Beyond"). It was challenging for the work group to reach a consensus in support of a single dimensional model for the PDs to be used in clinical practice, just as it had been difficult for the field. In the end, a hybrid dimensional and categorical model was proposed, and this model was approved by the APA as an alternative model and placed in Section III of DSM-5, whereas the DSM-IV criteria-defined categorical system was retained in Section II of the manual, for continued use. The alternative model includes six specific PDs, plus a seventh diagnosis of *personality disorder—trait specified* that allows description of individual trait profiles of patients with PDs who do not have any of the six specified disorders. In addition, the alternative model involves assignment of level of impairment in functioning, an important additional element of dimensionality when making PD diagnoses. As described in Chapter 7, "Manifestations, Assessment, and Differential Diagnosis," the alternative model also presents a coherent core definition of all PDs, as moderate or greater impairment in self and interpersonal functioning.

Questions have been raised about the stability of the PDs over time, even though their enduring nature is one of the generic defining features of the PDs in DSM-5 Section II. Personality pathology is often activated or intensified by circumstance, such as loss of a job or the end of a meaningful relationship. In the ongoing findings of the Collaborative Longitudinal Personality Disorders Study (CLPS), for example, stability of DSM-IV–defined PD diagnoses reflected sustained pathology at or above the diagnostic threshold, but substantial percentages of patients showed fluctuation over time, sometimes being above and sometimes below the diagnostic threshold. In the CLPS, which used a stringent definition of remission (the presence of no more than two criteria for at least 1 year), 85% of patients with DSM-IV–defined borderline personality disorder at intake showed remission at the 10-year follow-up point. However, impairment in functioning was much slower to remit, perhaps consistent with more recent evidence demonstrating that

trait-defined PDs are more persistent over time than DSM-IV–defined PDs (Hopwood et al. 2013).

Conclusion

This brief review of the history of the classification of personality pathology serves as a window on the progress in our field and in our understanding of the PDs. Increasingly, a stress/diathesis framework seems applicable in medicine in general, as a unifying model of illness—a model that can easily apply to the PDs. Variable genetic vulnerabilities predispose us all to potential future illness, which may or may not develop depending on the balance of specific stressors and protective factors.

The PDs can be thought of as maladaptive exaggerations of nonpathological personality styles, resulting from predisposing temperaments combined with stressful circumstances. Neurobiological abnormalities have been demonstrated in at least some PDs, as is the case in many other psychiatric disorders. Our challenge for the future is to better characterize variations in personality psychopathology and determine whether and how PDs are different from other classes of psychiatric disorders. As we learn more about the etiologies and pathology of the PDs, it will no longer be necessary, or even desirable, to limit our diagnostic schemes to atheoretical, descriptive phenomena, and we can look forward to an enriched understanding of personality pathology, better treatments, and guidance for prevention.

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PART I

Clinical Concepts and Etiology

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CHAPTER 2

Theories of Personality and Personality Disorders

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Personality refers to enduring patterns of cognition, emotion, motivation, and behavior that are activated in particular circumstances (see Mischel and Shoda 1995; Westen 1995). This is a minimalist definition—that is, one that most personality psychologists would accept, despite widely differing theories—but it underscores two important aspects of personality: its dynamic nature (that personality reflects an ongoing interaction of mental, behavioral, and environmental events) and the potential for variation and flexibility of responding (activation of specific processes under particular circumstances). Enduring ways of responding need not be broadly generalized to be considered aspects of personality (or to lead to dysfunction) because many aspects of personality are triggered by specific situations, thoughts, or feelings. For example, a tendency to bristle and respond with opposition, anger, or passive resistance to perceived demands of male authority figures may or may not co-occur with a similar response tendency toward female authorities, peers, lovers, or subordinates. Nevertheless, this tendency represents an enduring way of thinking, attending to information, feeling, and responding that is clearly an aspect of personality (and one that can substantially affect adaptation).

Among the dozens of approaches to personality advanced over the past century, two are most widely used in clinical practice: psychodynamic and cognitive-social or cognitive-behavioral. Two other approaches have gained increased interest among personality disorder (PD) researchers: trait psychology, one of the oldest and most enduring empirical approaches to the study of normal personality, and biological approaches, which reflect a long-standing tradition in descriptive psychiatry as well as more re-

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cent developments in behavioral genetics and neuroscience. Although most theories have traditionally fallen into a single "camp," several other approaches are best viewed as integrative. These include Millon's (1990) evolutionary-social learning approach, which has assimilated broadly from multiple traditions (e.g., psychoanalytic object relations theory); Benjamin's (1996a, 1996b) interpersonal approach, which integrates interpersonal, psychodynamic, and social learning theories; and Westen's (1995, 1998) functional domains model, which draws on psychodynamic, evolutionary, behavioral, cognitive, and developmental research. In this chapter we briefly consider how each approach conceptualizes PDs.

Psychodynamic Theories

Psychoanalytic theorists were the first to generate a concept of personality disorder (also called *character disorder,* reflecting the idea that PDs involve character problems not isolated to a specific symptom or set of independent symptoms). PDs began to draw considerable theoretical attention in psychoanalysis by the middle of the twentieth century (e.g., Fairbairn 1952; Reich 1933/1978), in part because they were common and difficult to treat and in part because they defied understanding using the psychoanalytic models prevalent at the time. For years, analysts had understood psychological problems in terms of conflict and defense using Sigmund Freud's topographic model (conscious, preconscious, unconscious) or his structural model (id, ego, superego). In classical psychoanalytic terms, most symptoms reflect maladaptive compromises forged outside of awareness among conflicting wishes, fears, and moral standards. For example, a patient with anorexia nervosa who is uncomfortable with her impulses and who fears losing control over them may begin to starve herself as a way of demonstrating that she can control even the most persistent of desires, hunger. Some of the PDs identified in DSM-IV (American Psychiatric Association 1994) have their roots in early psychoanalytic theorizing about conflict—notably dependent, obsessive-compulsive, and to some extent histrionic PD (presumed to reflect fixations at the oral, anal, and phallic stages, respectively).

Although some psychoanalysts have argued that a conflict model can account for severe personality pathology (e.g., Abend et al. 1983), most analytic theorists have turned to ego psychology, object relations theory, self psychology, and relational theories to help understand patients with PDs. According to these approaches, the problems seen in patients with character disorders run deeper than maladaptive compromises among conflicting motives and indicate derailments in personality development reflecting temperament, early attachment experiences, and their interaction (e.g., Balint 1969; Kernberg 1975b). Many of the DSM-IV PDs, notably schizoid, borderline, and narcissistic PDs, have roots in these later approaches.

Psychoanalytic ego psychology focuses on the psychological *functions* (or, in contemporary cognitive terms, skills, procedures, and processes involved in self-regulation) that must be in place for people to function adaptively, attain their goals, and meet external demands (see Bellak et al. 1973; Blanck and Blanck 1974; Redl and Wineman 1951). From this perspective, patients with PDs have various deficits in functioning, such as poor impulse control, difficulty regulating their affects,

and deficits in the capacity for self-reflection. These deficits may render them incapable of behaving consistently in their own best interest or of taking the interests of others appropriately into account (e.g., lashing out aggressively without forethought, cutting themselves when they become upset).

Object relations and relational and self psychological theories focus on the cognitive, affective, and motivational processes presumed to underlie functioning in close relationships (Aron 1996; Greenberg and Mitchell 1983; Mitchell 1988; Westen 1991b). From this point of view, PDs reflect a number of processes, including the following: First, internalization of attitudes of hostile, abusive, critical, inconsistent, or neglectful parents may leave patients with PDs vulnerable to fears of abandonment, self-hatred, a tendency to treat themselves as their parents treated them, and so forth (Benjamin 1996a, 1996b; Masterson 1976; McWilliams 1998). Second, patients with PDs often fail to develop mature, constant, multifaceted representations of the self and others. As a result, they may be vulnerable to emotional swings when significant others are momentarily disappointing, and they may have difficulty understanding or imagining what might be in the minds of the people with whom they interact (Fonagy and Target 1997; Fonagy et al. 1991, 2003). Third, patients with PDs often appear to have difficulty forming a realistic, balanced view of the self that can weather momentary failures or criticisms and a corresponding inability to activate procedures (hypothesized to be based on loving, soothing experiences with early caregivers) that would be useful for self-soothing in the face of loss, failure, or threats to safety or self-esteem (e.g., Adler and Buie 1979). A substantial body of research supports many of these propositions, particularly vis-à-vis borderline PD (BPD), the most extensively studied PD (e.g., Baker et al. 1992; Gunderson 2001; Westen 1990a, 1991a).

From a psychodynamic point of view, perhaps the most important features of PDs are the following: 1) they represent constellations of psychological processes, not distinct symptoms that can be understood in isolation; 2) they can be located on a continuum of personality pathology from relative health to relative sickness; 3) they can be characterized in terms of character style, which is orthogonal to level of disturbance (e.g., a patient can have an obsessional style but be relatively sick or relatively healthy); 4) they involve both implicit and explicit personality processes, only some of which are available to introspection (and thus amenable to self-report); and 5) they reflect processes that are deeply entrenched, which often serve multiple functions and/or have become associated with regulation of affects and are hence resistant to change.

The most comprehensive theory that embodies these principles is the theory of personality structure or organization developed by Otto Kernberg (1975a, 1984, 1996). Kernberg proposed a continuum of pathology, from chronically psychotic levels of functioning, through borderline functioning (severe PDs), through neurotic to normal functioning. In Kernberg's view, people with severe personality pathology are distinguished from people whose personality is organized at a psychotic level by their relatively intact capacity for reality testing (the absence of hallucinations, psychotic delusions, etc.) and their relative ability to distinguish between their own thoughts and feelings and those of others (the absence of beliefs that their thoughts are being broadcast on the radio; their recognition, though sometimes less than complete, that the persecutory thoughts they may hear inside

their heads are voices from the past rather than true hallucinations; etc.). Individuals with severe personality pathology are distinguished from people with "neurotic" (i.e., healthier) character structures by the former's 1) more maladaptive modes of regulating their emotions, through immature, reality-distorting defenses such as denial and projection (e.g., refusing to recognize the part they play in generating some of the hostility they engender from others), and 2) difficulty forming mature, multifaceted representations of themselves and significant others (e.g., believing that a person they once loved is really all bad, with no redeeming features, and is motivated only by the desire to hurt them). This level of severe personality disturbance, which Kernberg calls "borderline personality organization" (Kernberg 1996), shares some features with the DSM-IV BPD diagnosis. However, borderline personality organization is a broader construct, used to describe patients with paranoid, schizoid, schizotypal, and antisocial PDs, as well as some who would receive a DSM-IV diagnosis of narcissistic, histrionic, or dependent PD. (Some schizotypal and borderline patients may at times fall in the psychotic range.) More recent research supports the notion that patients fall on a continuum of severity of personality pathology (see Millon and Davis 1995; Tyrer and Johnson 1996), with disorders such as paranoid and BPDs representing more severe forms, and disorders such as obsessive-compulsive PD representing less severe forms (Westen and Shedler 1999a). This perspective is also represented in the Level of Personality Functioning Scale, which is part of the alternative DSM-5 model for personality disorders (see DSM-5 Section III, "Emerging Measures and Models"; American Psychiatric Association 2013). This dimensional measure is used to assess degree of impairment in areas of identity, self-direction, intimacy, and empathy. (Additional information on this model is available in Chapter 7, "Manifestations, Assessment, and Differential Diagnosis," and Chapter 24, "An Alternative Model for Personality Disorders: DSM-5 Section III and Beyond.")

Although many of Kernberg's major contributions have been in the understanding of borderline phenomena, his theory of narcissistic disturbance contributed substantially to the development of the diagnosis of narcissistic PD in DSM-III (American Psychiatric Association 1980), just as it did to the BPD diagnosis. According to Kernberg, whereas patients with BPD lack an integrated identity, patients with narcissistic PD are typically developmentally more advanced, in that they have been able to develop a coherent (if distorted) view of themselves. Narcissistic phenomena, in Kernberg's view, lie on a continuum from normal (characterized by adequate self-esteem regulation) to pathological (narcissistic PD) (Kernberg 1984, 1998). Individuals with narcissistic PD need to construct a grossly inflated view of themselves to maintain self-esteem, and they may appear grandiose, sensitive to the slightest attacks on their self-esteem (and hence vulnerable to rage or depression), or both. Not only are the conscious self representations of patients with narcissistic PD inflated but so, too, are the representations that constitute their ideal self. Actual and ideal self representations stand in dynamic relation to one another. Thus, one reason that patients with narcissistic PD must maintain an idealized view of self is that they have a correspondingly grandiose view of whom they should be, divergence from which leads to tremendous feelings of shame, failure, and humiliation.

The concept of a grandiose self is central to the self psychology of Heinz Kohut, a major theorist of narcissistic personality pathology, whose ideas, like those of Kernberg, contributed to the development of the diagnosis of narcissistic PD in DSM-III (Goldstein 1985). Kohut's theory grew out of his own and others' clinical experiences with patients whose problems (e.g., feelings of emptiness or unstable self-esteem) did not respond well to existing (psychoanalytic) models. Pathology, according to Kohut, results from faulty self development. The "self," in its particular Kohutian meaning, refers to the nucleus of a person's central ambitions and ideals and the talents and skills used to actualize them (Kohut 1971, 1977; Wolf 1988). It develops through two pathways (in Kohut's language, "poles"), which provide the basis for self-esteem. The first is what Kohut calls the *grandiose self*—an idealized representation of self that emerges in children through empathic mirroring by their parents ("Mommy, watch!") and provides the nucleus for later ambitions and strivings. The second he calls the *idealized parent imago*—an idealized representation of the parents, which provides the foundation for ideals and standards for the self. Parental mirroring allows the child to see his or her reflection in the eyes of a loving and admiring parent; idealizing a parent or parents allows the child to identify with and become like them. In the absence of adequate experiences with parents who can mirror the child or serve as appropriate targets of the child's idealization (e.g., when the parents are self-involved or abusive), the child's self structure cannot develop, preventing the achievement of cohesion, vigor, and normal self-esteem (which Kohut describes as "healthy narcissism"). As a result, the child develops a disorder of the self, of which pathological narcissism is a prototypical example.

Cognitive-Social Theories

Cognitive-social theories (Bandura 1986; Mischel 1973, 1979) offered the first comprehensive alternative to psychodynamic approaches to personality. First developed in the 1960s, these approaches are sometimes called social learning theory, cognitive-social learning theory, social cognitive theory, and cognitive-behavioral theory. Cognitive-social theories developed from behaviorist and cognitive roots. From a behaviorist perspective, personality consists of learned behaviors and emotional reactions that tend to be relatively specific (rather than highly generalized) and tied to particular environmental contingencies. Cognitive-social theories share the behaviorist beliefs that learning is the basis of personality and that personality dispositions tend to be relatively specific and shaped by their consequences. These theories share the cognitive view that the way people encode, transform, and retrieve information, particularly about themselves and others, is central to personality. From a cognitive-social perspective, personality reflects a constant interplay between environmental demands and the way the individual processes information about the self and the world (Bandura 1986).

Cognitive-social theorists have only relatively recently begun to write about PDs (e.g., Beck et al. 2004; Linehan 1993b; Pretzer and Beck 1996; Young 1990). In large part this relatively late arrival to the PD discourse reflected the assumption, initially inherited from behaviorism, that personality comprises relatively discrete, learned processes that are more

malleable and situation specific than implied by the concept of PD. Cognitive-social theories focus on a number of variables presumed to be most important in understanding PDs, including schemas, expectancies, goals, skills and competencies, and self-regulation (Bandura 1986, 1999; Cantor and Kihlstrom 1987; Mischel 1973, 1979; Mischel and Shoda 1995). Although particular theorists have tended to emphasize one or two of these variables in explaining PDs, such as the schemas involved in encoding and processing information about the self and others (Beck et al. 2004) or the deficits in affect regulation seen in patients with BPD (Linehan 1993b), a comprehensive cognitive-social account of PDs would likely address all of them.

For example, patients with PDs have dysfunctional schemas that lead them to misinterpret information (as when patients with BPD misread and misattribute people's intentions), attend to and encode information in biased ways (as when patients with paranoid PD maintain vigilance for perceived slights or attacks), or view themselves as bad or incompetent (pathological self-schemas). Related to these schemas are problematic expectancies, such as pessimistic expectations about the world, beliefs about the malevolence of others, fears of being mocked, and so forth. Patients with PDs may have pathological self-efficacy expectancies, such as the dependent patient's belief that he cannot survive on his own, the avoidant patient's belief that she is likely to fail in social circumstances, or the narcissistic patient's grandiose expectations about what he can accomplish. Equally important are competencies—that is, skills and abilities used for solving problems. In social-cognitive terms, social intelligence includes a variety of competencies that help people navigate interpersonal waters (Cantor and Harlow 1994; Cantor and Kihlstrom 1987), and patients with PDs tend to be notoriously poor interpersonal problem solvers.

Of particular relevance to severe PDs is self-regulation, which refers to the process of setting goals and subgoals, evaluating one's performance in meeting these goals, and adjusting one's behavior to achieve these goals in the context of ongoing feedback (Bandura 1986; Mischel 1990). Problems in self-regulation, including a deficit in specific skills, form a central aspect of Linehan's (1993a, 1993b) work on BPD. Linehan regards emotion dysregulation as the essential feature of BPD. The key characteristics of emotion dysregulation include difficulty 1) inhibiting inappropriate behavior related to intense affect, 2) organizing oneself to meet behavioral goals, 3) regulating physiological arousal associated with intense emotional arousal, and 4) refocusing attention when emotionally stimulated (Linehan 1993a). Many of the behavioral manifestations of BPD (e.g., impulsivity) can be viewed as consequences of emotional dysregulation. Deficits in emotion regulation lead to other problems, such as difficulties with interpersonal functioning and the development of a stable sense of self.

According to another cognitive-behavioral approach, Beck's cognitive theory (Beck 1999; Beck et al. 2004; Pretzer and Beck 1996), dysfunctional beliefs constitute the primary pathology involved in the PDs (Beck et al. 2001), which are viewed as "pervasive, self-perpetuating cognitive-interpersonal cycles" (Pretzer and Beck 1996, p. 55). Beck's theory highlights three aspects of cognition: automatic thoughts (beliefs and assumptions about the world, the self, and others), interpersonal strategies, and cog-

nitive distortions (systematic errors in rational thinking). Beck and colleagues have described a unique cognitive profile characteristic of each of the DSM-IV PDs. For example, an individual diagnosed with schizoid PD would have a view of himself as a self-sufficient loner, a view of others as unrewarding and intrusive, and a view of relationships as messy and undesirable, and his primary interpersonal strategy would involve keeping his distance from other people (Pretzer and Beck 1996). He would use cognitive distortions that minimize his recognition of ways relationships with others can be sources of pleasure. Studies of dysfunctional beliefs (as assessed by the Personality Beliefs Questionnaire [A.T. Beck, J.S. Beck, unpublished research instrument, The Beck Institute for Cognitive Therapy and Research, Bala Cynwyd, Pennsylvania, 1991]) have shown some support for the link between particular beliefs and the DSM-IV PDs (Beck et al. 2001; Bhar et al. 2012).

Building on Beck's cognitive theory, Young and colleagues (see Young and Gluhoski 1996; Young and Kellogg 2006; Young and Lindemann 2002; Young et al. 2003) have added a fourth level of cognition, early maladaptive schemas (EMSs), defined as "broad and pervasive themes regarding oneself and one's relationships with others, developed during childhood and elaborated throughout one's life" (Young and Lindemann 2002, p. 95). Young and colleagues distinguish these from automatic thoughts and underlying assumptions, noting that EMSs are associated with greater levels of affect, are more pervasive, and involve a strong interpersonal aspect. Young and colleagues have identified 18 EMSs, each comprising cognitive, affective, and behavioral components (Young and Kellogg 2006; Young et al. 2003). They also propose three cognitive processes involving schemas that define key features of PDs: schema maintenance, which refers to the processes by which maladaptive schemas are rigidly upheld (e.g., cognitive distortions, self-defeating behaviors); schema avoidance, which refers to the cognitive, affective, and behavioral ways individuals avoid the negative affect associated with the schema; and schema compensation, which refers to ways of overcompensating for the EMS (e.g., workaholism in response to an EMS of self as failure).

More recently, Young and colleagues (Young and Kellogg 2006; Young et al. 2003) have incorporated psychodynamic and attachment theories, as well as some strategies from emotion-focused approaches, resulting in a more integrative conceptualization and treatment of PDs. One feature of this revised approach has been the development of the concept of "modes" as central to PDs, especially to what Young and colleagues refer to as the more severe PDs (borderline, narcissistic, and antisocial). For example, five modes, or "aspects of self," are regarded as central to BPD: the abandoned and abused child, the angry and impulsive child, the detached protector, the punitive parent, and the healthy adult. Treatment strategies were designed to target each mode via four "mechanisms of healing and change": limited reparenting, emotion-focused work, cognitive restructuring and education, and behavioral pattern breaking. Research examining the effectiveness of schema therapy has largely focused on BPD and provides some support for the model (e.g., Lobbestael et al. 2005; Nadort et al. 2009).

Mischel and Shoda (1995) have offered a compelling social-cognitive account of personality that focuses on *if-then* contingencies—that is, conditions

that activate particular thoughts, feelings, and behaviors. Although Mischel and Shoda have not linked this model to PDs, one could view PDs as involving a host of rigid, maladaptive *if-then* contingencies. For example, for some patients, the first hints of trouble in a relationship may activate concerns about abandonment. These in turn may elicit anxiety or rage, to which the person with a PD responds with desperate attempts to lure the other person back (e.g., through manipulative statements and suicidal gestures) that often backfire. From an integrative psychodynamic-cognitive viewpoint, Horowitz (1988, 1998) has offered a model that focuses on the conditions under which certain states of mind become active, which he has tied more directly to a model of PDs. Similarly, Wachtel (1977, 1997) has described *cyclical psychodynamics,* in which people manage to elicit from others precisely the kinds of reactions of which they are the most vigilant and afraid.

Trait Theories

Trait psychology focuses less than psychodynamic or cognitive-social approaches on personality *processes* or *functions* and hence has not generated an approach to treatment, although it has generated highly productive empirical research programs. *Traits* are emotional, cognitive, and behavioral tendencies on which individuals vary (e.g., the tendency to experience negative emotions). According to Gordon Allport (1937), who pioneered the trait approach to personality, the concept of trait has two separate but complementary meanings: a trait is both an observed tendency to behave in a particular way and an inferred, underlying personality disposition that generates this behavioral tendency. In the empirical literature, traits have largely been defined operationally, as the average of a set of self-report items designed to assess them (e.g., items indicating a tendency to feel anxious, sad, ashamed, guilty, self-doubting, and angry, which all share a common core of negative affectivity or neuroticism).

Researchers have begun recasting PDs in terms of the most prominent contemporary trait theory, the five-factor model of personality (FFM; McCrae and Costa 1997; Widiger 2000; Widiger and Costa 1994). (We address other trait models that have been more closely associated with biological theories in the section "Biological Perspectives" below.) The FFM is a description of the way personality descriptors tend to covary and hence can be understood in terms of latent factors (traits) identified via factor analysis. On the basis of the lexical hypothesis of personality—that important personality attributes will naturally find expression in words used in everyday language—the FFM emerged from factor analysis of adjectival descriptions of personality originally selected from *Webster's Unabridged Dictionary* (Allport and Odbert 1936). Numerous studies, including cross-cultural investigations, have found that when participants in nonclinical (so-called normal) samples are asked to rate themselves on dozens or hundreds of adjectives or brief sentences, the pattern of self-descriptions can often be reduced to five overarching constructs: neuroticism or negative affect (how much the individuals tend to be distressed), extraversion or positive affect (the extent to which they tend to be gregarious, high energy, and happy), conscientiousness, agreeableness, and openness to experience (the extent to which they tend to be open to emotional, aesthetic, and intellectual experiences) (Costa and McCrae 1997; Goldberg 1993).

McCrae and Costa (1990, 1997) have proposed a set of lower-order traits, or *facets,* within each of these broadband traits, which can allow a more discriminating portrait of personality. Thus, an individual's personality profile is represented by a score on each of the five factors plus scores on six lower-order facets or subfactors within each of these broader constructs (e.g., anxiety and depression as facets of neuroticism). Advocates of the FFM argue that PDs reflect extreme versions of normal personality traits, so the same system can be used for diagnosing normal and pathological personality. From the perspective of the FFM, PDs are not discrete entities separate and distinct from normal personality. Rather, they represent extreme variants of normal personality traits or blends thereof.

In principle, one could classify PDs in one of two ways using the FFM. The first, and most consistent with the theoretical and psychometric tradition within which the FFM developed, is simply to identify personality pathology by extreme values on each of the five factors (and perhaps on their facets). For example, extremely high scores on the neuroticism factor and its facets (anxiety, hostility, depression, self-consciousness, impulsiveness, and vulnerability) all represent aspects of personality pathology. Matters of debate, however, are whether this strategy is appropriate for all factors and facets and when to consider extreme responses on one or both poles of a dimension to be pathological. Extreme extraversion, for example, may or may not be pathological, depending on the social milieu and the person's other traits. Similarly, extreme openness to experience could imply a genuinely open attitude toward emotions, art, and so forth, or an uncritical, "flaky," or schizotypal cognitive style. The advantage of this approach, however, is that it integrates the understanding and assessment of normal and pathological personality and establishes dimensions of personality pathology using well-understood empirical procedures (factor analysis).

Another way to proceed using the FFM is to translate clinically derived categories into five-factor language (Coker et al. 2002; Lynam and Widiger 2001; Widiger and Costa 1994; Widiger et al. 2002). For example, Widiger and colleagues (2002) describe antisocial PD as combining low agreeableness with low conscientiousness. Because analysis at the level of five factors often lacks the specificity to characterize complex disorders such as BPD (high neuroticism plus high extraversion), proponents of the FFM have often moved to the facet level. Thus, whereas all six neuroticism facets (anxiety, hostility, depression, self-consciousness, impulsivity, and vulnerability) are characteristic of patients with BPD, patients with avoidant PD are characterized by only four of these facets (anxiety, depression, self-consciousness, and vulnerability). Similarly, Widiger and colleagues (2002) describe obsessive-compulsive PD as primarily an extreme, maladaptive variant of conscientiousness. They add, however, that patients with obsessive-compulsive PD tend to be low on the compliance and altruism facets of agreeableness (i.e., they are oppositional and stingy) and low on some of the facets of openness to experience, as reflected in being closed to feelings and closed to values (i.e., morally inflexible). Numerous studies have shown predicted links between DSM-IV Axis II disorders and FFM factors and facets (Axelrod et al. 1997; Ross et al. 2002; Trull et al. 2001), although other studies have found substantial overlap among the FFM profiles of patients with very different PDs (e.g., borderline and obsessive-compulsive) using major FFM self-report inventories

(Morey et al. 2002). The alternative DSM-5 model for personality disorders includes a set of 25 maladaptive trait facets in five trait domains (see DSM-5, Table 3, pp. 779–781) reflecting, to a significant extent, the structure of the FFM.

Biological Perspectives

The first biological perspectives on PDs, which influenced the earlier DSM Axis II classification, stemmed from the observations of the pioneering psychiatric taxonomists in the early twentieth century, notably Bleuler (1911/1950) and Kraepelin (1896/1919). Bleuler, Kraepelin, and others noticed, for example, that the relatives of patients with schizophrenia sometimes appeared to have attenuated symptoms of the disorder that endured as personality traits, such as interpersonal and cognitive peculiarity. More recently, researchers have used the methods of trait psychology (particularly the reliance on self-report questionnaires and factor analysis) to study PDs from a biological viewpoint. In some cases, they have developed item sets with biological variables (e.g., neurotransmitters and their functions) in mind, or have reconsidered patterns of covariation among different traits in light of hypothesized neurobiological systems or circuits. In other cases, they have applied behavioral genetic approaches, and more recently neuroimaging techniques, to study personality traits as well as DSM-IV PDs. We explore each of these approaches in turn.

Traits and Neural Systems

Siever and Davis (1991) provided one of the first attempts to reconsider the PDs from a neurobiology perspective. They proposed a model based on core characteristics of symptom disorders relevant to PDs and related these characteristics to emerging knowledge of their underlying neurobiology. They focused on cognitive-perceptual organization (schizophrenic and other psychotic disorders), impulsivity/aggression (impulse control disorders), affective instability (mood disorders), and anxiety/inhibition (anxiety disorders). Conceptualized in dimensional terms, symptom disorders such as schizophrenia represent the extreme end of a continuum. Milder abnormalities can be seen in patients with PDs, either directly (as subthreshold variants) or through their influence on adaptive strategies (coping and defense).

Siever and Davis (1991) linked each dimension to biological correlates and indicators, some presumed to be causal and others to provide markers of underlying biological dysfunction (e.g., eye movement dysfunction in schizophrenia, which is also seen in individuals with schizotypal PD and in nonpsychotic relatives of schizophrenic probands). They also pointed to suggestive data on neurotransmitter functioning that might link personality disorders with syndromes such as depression. More recently, Siever and colleagues (New and Siever 2002; Siever et al. 2003) proposed an approach to BPD that tries to circumvent the problems created by the heterogeneity of the diagnosis by examining the neurobiology of specific dimensions thought to underlie the disorder (endophenotypes), especially impulsive aggression and affective instability.

The major attempt thus far to develop a trait model of PDs based on a neurobiological model is Cloninger's seven-factor model of personality (Cloninger 1998; Cloninger et al. 1993). Cloninger divided personality structure into two domains,

which he called temperament ("automatic associative responses to basic emotional stimuli that determine habits and skills") and character ("self-aware concepts that influence voluntary intentions and attitudes") (Cloninger 1998, p. 64). According to Cloninger, these domains are defined by a mode of learning and the underlying neural systems involved in each form of learning: temperament is associated with associative/procedural learning, and character is associated with insight learning. The temperament domain includes four dimensions, each theoretically linked to particular neurotransmitter systems: *novelty seeking* (exploration, extravagance, impulsivity), associated with dopamine; *harm avoidance* (characterized by pessimism, fear, timidity), associated with serotonin and γ-aminobutyric acid; *reward dependence* (sentimentality, social attachment, openness), associated with norepinephrine and serotonin; and *persistence* (industriousness, determination, ambitiousness, perfectionism), associated with glutamate and serotonin (Cloninger 1998, p. 70). The character domain includes three dimensions: *self-directedness* (responsibility, purposefulness, self-acceptance), considered the "major determinant of the presence or absence of personality disorder" (Cloninger et al. 1993, p. 979); *cooperativeness* (empathy, compassion, helpfulness); and *self-transcendence* (spirituality, idealism, enlightenment).

Cloninger (1998) proposed that all PDs are low on the character dimensions of self-directedness and cooperativeness. What distinguishes patients with different disorders are their more specific profiles. In broad strokes, the Cluster A PDs (schizotypal, schizoid, paranoid) are associated with low reward dependence; the Cluster B PDs (borderline, antisocial, narcissistic, histrionic), with high novelty seeking; and the Cluster C PDs (dependent, avoidant, obsessive-compulsive), with high harm avoidance. Individual PDs may be described more fully by profiles obtained from Cloninger et al.'s self-report Temperament and Character Inventory (TCI; Cloninger and Svrakic 1994; Cloninger et al. 1993). For example, BPD would consist of high harm avoidance, high novelty seeking, and low reward dependence, as well as low scores on the character dimensions.

More recently, Cloninger (2004, 2008) revised his psychobiological theory and related measurement instrument, now called the TCI-R (Cloninger 2004), resulting in a more precise and complex assessment of the subscales of temperament and character. In the revised model Cloninger proposes five layers of personality ("planes of being"): sexual, material, emotional, intellectual, and spiritual. Each plane includes five subplanes (sexual, material, emotional, intellectual, and spiritual), resulting in a 5×5 matrix that provides data on the basis of specific modules of temperament and character. The 25 modules of the matrix are regarded as sufficient descriptors of the key aspects of personality. (For a thorough description of this complex model, see Cloninger 2004.)

Depue, Lenzenweger, and colleagues (e.g., Depue and Collins 1999; Depue and Fu 2011; Depue and Lenzenweger 2001) have offered a dimensional neurobehavioral model that regards PDs as emergent phenotypes that arise from the interaction of basic neurobehavioral systems that underlie major personality traits (Depue and Lenzenweger 2001, p. 165). Through an extensive examination of the psychometric literature on the structure of personality traits, as well as a theoretical analysis of the neurobehavioral systems likely to be relevant to personality and personality dysfunction, they identified five trait dimensions (extra-

version, neuroticism, social closeness/agreeableness, constraint/conscientiousness, and social rejection sensitivity) and six neurobehavioral systems underlying these traits that they argue can account for the range of PD phenotypes (see Depue and Fu 2011). For example, the neurobehavioral system underlying the trait of extraversion is positive incentive motivation, which is common to all mammalian species and involves positive affect and approach motivation. The dopaminergic system has been strongly implicated in incentive-motivated behavior, such that individual differences in the former predict differences in the latter. In addition, Depue and colleagues emphasize the role of "epigenetics" in PDs, whereby environmental factors influence genes and neurobehavioral systems, thus having the potential, especially at critical developmental junctures, of mitigating or exacerbating PD phenotypes. Research on this model is promising in its integration of research on neural systems involved in fundamental functions common to many animal species (e.g., approach, avoidance, affiliation with conspecifics, inhibition of punished behavior) and individual differences research in personality psychology.

Behavioral Genetic Approaches

The vast majority of behavioral genetic studies of personality have focused on normal personality traits, such as those that comprise the FFM and Eysenck's (1967, 1981) three-factor model (extraversion, neuroticism, and psychoticism). These studies have generally shown moderate to large heritability (30%–60%) for a range of personality traits (Livesley et al. 1993; Plomin and Caspi 1999) of relevance to PDs. The most frequently studied traits, extraversion and neuroticism, have produced heritability estimates of 54%–74% and 42%–64%, respectively (Eysenck 1990).

Behavioral genetic data are proving increasingly useful in both etiological and taxonomic work (e.g., Krueger 1999; Livesley et al. 1998). Livesley et al. (2003) noted that behavioral genetic data can help address the persistent lack of consensus among trait psychologists regarding which traits to study by examining the *causes* of trait covariation (as opposed to simply describing it). Establishing congruence between a proposed phenotypic model of personality traits and the genetic structure underlying it would support the validity of a proposed factor model. The same holds true for models of PDs. To test this approach, Livesley et al. (1998) administered the Dimensional Assessment of Personality Pathology—Basic Questionnaire (DAPP-BQ) to a large sample of individuals with and without PDs, including twin pairs. The self-report DAPP-BQ consists of 18 traits considered to underlie PD diagnoses (e.g., identity problems, oppositionality, social avoidance). Factor analysis indicated a four-factor solution: emotional dysregulation, dissocial behavior, inhibition, and compulsivity. Results showed high congruence for all four factors between the phenotypic and behavioral genetic analyses, indicating strong support for the proposed factor solution. In addition, the data showed substantial residual heritability for many lower-order traits, suggesting that these traits likely are not simply components of the higher-order factors but include unique components (specific factors) as well. Similarly, Krueger and colleagues (e.g., Krueger 1999) found, using structural equation modeling with a large twin sample, that broad-

band *internalizing* and *externalizing* personality factors account for much of the variance in many common symptom disorders (e.g., mood, anxiety, substance use) and that genetic and environmental sources of variance are associated with many of both the higher- and lower-order factors they identified.

More recently, Livesley (2011) proposed a dimensional model of PDs based on the four factors mentioned above—slightly modified as emotional dysregulation, dissocial behavior, social avoidance, and compulsivity— which have emerged consistently across a number of studies, including behavioral genetic studies (e.g., Livesley et al. 1998). Within this model, individual differences in PD are described using 30 primary personality traits thought to underlie the four dimensions. For example, the primary traits attributed to the social avoidance domain include low affiliation, avoidant attachment, restricted emotional expression, self-constraint, inhibited sexuality, and attachment need (Livesley 2011). The structure of four higher-order dimensions and 30 primary traits is proposed to represent the genetic "architecture" of personality.

Compared with research on normal personality traits (as well as many symptom disorders), behavioral genetic studies of PDs are less common. The most typical designs have been family studies, in which researchers begin with the PD proband and then assess other family members. The major limitation of this method is that familial aggregation of disorders can support either genetic or environmental causes. As in all behavioral genetic research, twin and adoption studies provide more definitive data. A number of these studies have assessed heritability for a subset of DSM-IV PDs, and a few have examined all 10 of the DSM-IV PDs. The results have often demonstrated significant variability, most likely due to the range of samples and methods used. Although the precise heritability estimate may vary, several PDs have consistently shown heritability figures in the 0.40–0.60 range or above (see Torgersen 2009). The majority of studies have examined only a subset of the DSM PDs, particularly schizotypal, antisocial, and borderline PDs. These disorders appear to reflect a continuum of heritability (see Nigg and Goldsmith 1994), with schizotypal most strongly linked to genetic influences; antisocial linked both to environmental and genetic variables; and borderline showing the smallest estimates of heritability in the majority of studies, with some exceptions (e.g., Coolidge et al. 2001; Torgersen et al. 2000).

Research on the heritability of schizotypal PD provides the clearest evidence of a genetic component to a PD. (Schizotypal PD is defined by criteria such as odd beliefs or magical thinking, unusual perceptual experiences, odd thinking and speech, suspiciousness, inappropriate or constricted affect, and behavior or appearance that is odd or eccentric.) As noted above in "Biological Perspectives," Bleuler (1911/1950) and Kraepelin (1896/1919) identified peculiarities in language and behavior among some relatives of their schizophrenic patients. Bleuler called this presentation "latent schizophrenia" and considered it to be a less severe and more widespread form of schizophrenia. Further research into the constellation of symptoms characteristic of relatives of schizophrenic patients ultimately resulted in the creation of the DSM-III diagnosis of schizotypal PD (Spitzer et al. 1979). A genetic relationship between schizophrenia and schizotypal PD is now well established (Kendler and Walsh 1995; Lenzenweger 1998). In one study, Torgersen (1984) found that

33% (7 of 21) of identical co-twins had schizotypal PD, whereas only 4% (1 of 23) of fraternal co-twins shared the diagnosis. Data from a later twin study (Torgersen et al. 2000) using structural equation modeling estimated heritability at 0.61, whereas Kendler et al. (2007) found a heritability estimate of 0.72.

Antisocial PD, in contrast, appears to have both genetic and environmental roots, as documented in both adoption and twin studies (Cadoret et al. 1995; Torgersen et al. 2008). An adult adoptee whose *biological* parent has an arrest record for antisocial behavior is four times more likely to have problems with aggressive behavior than a person without a biological vulnerability. At the same time, a person whose *adoptive* parent has antisocial PD is more than three times more likely to develop the disorder, regardless of biological history. As is the case with other behavioral genetic findings, twin studies suggest that environmental genetic factors grow more predictive as individuals get older (Lyons et al. 1995). In considering the data on antisocial and other PDs, however, it is important to remember that all estimates of heritability are sample dependent. Turkheimer et al. (2003) found, for example, that genes account for most of the variability in IQ among middle-class children but that more than 60% of the variance in IQ in samples with low socioeconomic status reflects shared environment. Socioeconomic status may similarly moderate the relation between genes and environment and antisocial behavior.

Data on the behavioral genetics of BPD are mixed. Several studies have found only modest evidence of heritability (e.g., Dahl 1993; Nigg and Goldsmith 1994; Reich 1989). Twin studies focusing on the heritability of several PDs (Coolidge et al. 2001; Torgersen et al. 2000) found a substantial genetic component to several PDs, including BPD, with many heritability estimates between 0.50 and 0.60. Increasingly, researchers are suggesting that specific components of BPD may have higher heritability than the BPD diagnosis taken as a whole. For example, Nigg and Goldsmith (1994) and Widiger and Frances (1994) suggested that the personality trait neuroticism, which is highly heritable, is at the core of many borderline features (e.g., negative affect and stress sensitivity). Other components of BPD have shown substantial heritability as well (e.g., problems with identity, impulsivity, affective lability) (Distel et al. 2010; Livesley et al. 1993; Skodol et al. 2002). A caveat worth mentioning, however, is that behavioral genetic studies that systematically measure environmental influences directly (e.g., developmental toxins such as sexual abuse), rather than deriving estimates of shared and nonshared environment statistically from residual terms, often obtain very different estimates of environmental effects, and this may well be the case with many PDs. For example, if one child in a family responds to sexual abuse by becoming avoidant and constricted and another responds to the same experience by becoming borderline and impulsive, researchers will mistakenly conclude, unless they actually measured developmental variables, that shared environment has no effect because a shared environmental event led to nonshared responses to it (see Turkheimer and Waldron 2000; Westen 1998).

Integrative Theories

Of all the disorders identified in DSM-5, the PDs are likely to be among those that most require biopsychosocial perspectives. Our understanding of PDs may improve substantially by integrating data

from both clinical observation and research and from classical theories of personality that delineate personality *functions* and more contemporary research that emphasizes *traits.* The emergence of several integrative models is thus perhaps not surprising. We briefly describe three such models here: Millon's evolutionary-social learning model, Benjamin's interpersonal model, and Westen's functional domain model.

Millon's Evolutionary–Social Learning Model

Millon developed a comprehensive model of personality and PDs that he initially framed in social learning terms (Millon 1969) and eventually reframed in evolutionary terms (Millon 1990; Millon and Davis 1996). Millon initially described personality in terms of three polarities: pleasure/pain, self/other, and passive/active. These polarities reflect the nature of reinforcement that controls the person's behavior (rewarding or aversive), the source or sources that provide reinforcement (oneself or others), and the instrumental behaviors and coping strategies used to pursue it (active or passive). Millon later added a fourth polarity, thinking/feeling, which reflects the extent to which people rely on abstract thinking or intuition.

Millon (Davis 1999; Millon 1990; Millon and Davis 1996) eventually reconceptualized his original theory in evolutionary terms. He outlined four basic evolutionary principles consistent with the polarities described by his earlier theory: 1) aims of existence, which refer to life enhancement and life preservation and are reflected in the pleasure/pain polarity; 2) modes of adaptation, which Millon describes in terms of accommodation to versus modification of the environment (whether one adjusts or tries to adjust the world, particularly other people) and are reflected in the passive/active polarity; 3) strategies of replication or reproduction, which refer to the extent to which the person focuses on individuation or nurturance of others and are reflected in the self/other polarity; and 4) processes of abstraction, which refer to the ability for symbolic thought, and are represented by the thinking/feeling polarity.

Millon and colleagues (Millon 1977, 1987; Millon et al. 1994) identified 14 personality prototypes that can be understood in terms of the basic polarities noted above. For example, patients with schizoid PD tend to have little pleasure, to have little involvement with others, to be relatively passive in their stance to the world, and to rely on abstract thinking over intuition. In contrast, patients with histrionic PD are pleasure seeking, interpersonally focused (although in a self-centered way), highly active, and short on abstract thinking. Millon's theory led to the distinction between avoidant and schizoid PD in DSM-III. Whereas schizoid PD represents a passive-detached personality style, avoidant PD represents an active-detached style, characterized by active avoidance motivated by avoidance of anxiety. Millon also developed a comprehensive measure to assess the DSM PDs and his own theory-driven PD classification, the Millon Clinical Multiaxial Inventory (MCMI; Millon 1977). The instrument, now in its third edition (MCMI-III; Millon and Davis 1997), has been used in hundreds of studies and is widely used as an assessment tool in clinical practice (e.g., Espelage et al. 2002; Kristensen and Torgersen 2001).

Benjamin's Interpersonal Model

Benjamin's interpersonal theory, called Structural Analysis of Social Behavior

(SASB; Benjamin 1993, 1996a, 1996b), focuses on interpersonal processes in personality and psychopathology and their intrapsychic causes, correlates, and sequelae. Influenced by Sullivan's (1953) interpersonal theory of psychiatry, object relations approaches, and research using the interpersonal circumplex (e.g., Kiesler 1983; Leary 1957; Schaefer 1965), the SASB is a three-dimensional circumplex model with three "surfaces," each of which represents a specific focus. The first surface focuses on actions directed at another person (e.g., abuse by a parent toward the patient). A second surface focuses on the person's response to real or perceived actions by the other (e.g., recoiling from the abusive parent). The third focus is on the person's actions toward himself or herself, or what Benjamin calls the "introject" (e.g., self-abuse). The notion behind the surfaces is that the first two are interpersonal and describe the kinds of interaction patterns (self with other) in which the patient engages with significant others (parents, attachment figures, therapists, etc.). The third surface represents internalized attitudes and actions toward the self (e.g., self-criticism that began as criticism from parents). According to Benjamin, children learn to respond to themselves and others by identifying with significant others (acting like them), recapitulating what they experienced with significant others (e.g., eliciting from others what they experienced before), and introjecting others (treating themselves as others have treated them).

As with all circumplex models, each surface has two axes that define its quadrants. In the SASB (as in other interpersonal circumplex models), love and hate represent the two poles of the horizontal axis. Enmeshment and differentiation are the endpoints of the vertical axis. The SASB offers a translation of each of the DSM-IV PD criteria (and disorders) into interpersonal terms (Benjamin 1993, 1996b). In this respect, it has two advantages. The first is that it reduces comorbidity among disorders by specifying the interpersonal antecedents that elicit the patient's responses. For example, maladaptive anger is characteristic of many of the DSM-IV PDs but has different interpersonal triggers and meanings (Benjamin 1993). Anger in patients with BPD often reflects perceived neglect or abandonment. Anger in patients with narcissistic PD tends to follow from perceived slights or failures of other people to give the patient everything he or she wants (entitlement). Anger in antisocial patients is often cold, detached, and aimed at controlling the other person. The second advantage is that the SASB model is able to represent multiple, often conflicting aspects of the way patients with a given disorder behave (or complex, multifaceted aspects of a single interpersonal interaction) simultaneously. Thus, a single angry outburst by a patient with BPD could reflect an effort to get distance from the other, to hurt the other, and to get the other to respond and hence be drawn back into the relationship. Benjamin has devised several ways of operationalizing a person's dynamics or an interpersonal interaction (e.g., in a therapy hour), ranging from direct observation and coding of behavior to self-report questionnaires, all of which yield descriptions using the same circumplex model.

Westen's Functional Domain Model

Westen (1995, 1996, 1998) has described a model of domains of personality functioning that draws substantially on psychoanalytic clinical theory and observation as well as on empirical research in

personality, cognitive, developmental, and clinical psychology. Although some aspects of the model are linked to research on etiology, the model is less a theory of PDs than an attempt to delineate and systematize the major elements of personality that define a patient's personality, whether or not the patient has a PD. The model differs from trait approaches in its focus on personality processes and functions (e.g., the kinds of affect regulation strategies the person uses, the ways she represents the self and others mentally, as well as more behavioral dispositions, such as whether she engages in impulsive or self-destructive behavior). However, it shares with trait approaches the view that a single model should be able to accommodate relatively healthy as well as relatively disturbed personality styles and dynamics.

The model suggests that a systematic personality case formulation must answer three questions, each composed of a series of subquestions or variables that require assessment: 1) What does the person wish for, fear, and value, and to what extent are these motives conscious or unconscious, collaborating or conflicting? 2) What psychological resources—including cognitive processes (e.g., intelligence, memory, intactness of thinking processes), affects, affect regulation strategies (conscious coping strategies and unconscious defenses), and behavioral skills—does the person have at his or her disposal to meet internal and external demands? 3) What is the person's experience of the self and others, and how able is the individual—cognitively, emotionally, motivationally, and behaviorally—to sustain meaningful and pleasurable relationships?

From a psychodynamic perspective, these questions correspond roughly to the issues raised by classical psychoanalytic theories of motivation and conflict (Brenner 1982); ego-psychological approaches to adaptive functioning; and object-relational, self psychological, attachment, and contemporary relational (Aron 1996; Mitchell 1988) approaches to understanding people's experience of self with others. Each of these questions and subdimensions, however, is also associated with a number of research traditions in personality, clinical, cognitive, and developmental psychology (e.g., on the development of children's representations of self, representations of others, moral judgment, attachment styles, ability to tell coherent narratives, etc.) (see Damon and Hart 1988; Fonagy et al. 2002; Harter 1999; Livesley and Bromley 1973; Main 1995; Westen 1990a, 1990b, 1991b, 1994). Westen and Shedler (1999a) used this model as a rough theoretical guide to ensure comprehensive coverage of personality domains in developing items for the Shedler-Westen Assessment Procedure (SWAP-200) Q-sort, a personality pathology measure for use by expert informants, although the model and the measure are not closely linked (i.e., one does not require the other).

From this point of view, individuals with particular PDs are likely to be characterized by 1) distinct constellations of motives and conflicts, such as chronic worries about abandonment in BPD or a conflict between the wish for and fear of connectedness to others in avoidant PD; 2) deficits in adaptive functioning, such as poor impulse control, lack of self-reflective capacities (see Fonagy and Target 1997), and difficulty regulating affect (Linehan 1993b; Westen 1991a) in BPD or subclinical cognitive disturbances in schizotypal PD; and 3) problematic ways of thinking, feeling, and behaving toward themselves and significant others, such as a tendency to form simplistic, one-

dimensional representations of the self and others, to misunderstand why people (including the self) behave as they do, and to expect malevolence from other people (characteristics seen in many patients with PDs, such as paranoid, schizoid, and borderline) (Kernberg 1975a, 1984; Westen 1991a). In this model, a person's level of personality health-sickness (on a range from severe PD to relatively healthy functioning), which can be assessed reliably using a personality health prototype or a simple rating of level of personality organization derived from Kernberg's work (Westen and Muderrisoglu 2003; Westen and Shedler 1999b), reflects his or her functioning in each of these three domains.

People who do not have severe enough pathology to receive a PD diagnosis can similarly be described using Westen's approach. For example, a successful male executive presented for treatment with troubles in his marriage and his relationships at work, as well as low-level feelings of anxiety and depression. None of these characteristics approached criteria for a PD (or any symptom disorders, except the relatively nondescript diagnosis of adjustment disorder with anxiety and depressed mood). Using this model, one would note that he was competitive with other people, of which he was unaware (Question 1); had impressive capacities for self-regulation but was intellectualized, afraid of feelings, and often used his enjoyment of his work as a way of retreating from his family (Question 2); and had surprisingly noncomplex representations of others' minds for a person who could solve noninterpersonal problems in complex ways and consequently would often became angry and attack at work without stopping to empathize with the other person's perspective (Question 3). This is, of course, a highly oversimplified description, but it gives a sense of how the model can be used to describe personality dynamics in patients without a diagnosable PD (Westen 1998; Westen and Shedler 1999b).

Use of Theory in Case Formulation

To see how two models operate in practice, consider the following brief case description:

Case Example

Sean was a man in his early 20s who came to treatment for lifelong problems with depression, anxiety, and feelings of inadequacy. He was a kind, introspective, sensitive man who nevertheless had tremendous difficulty making friends and interacting comfortably with people. He was constantly worried that he would misspeak, would ruminate after conversations about what he had said and the way he was perceived, and had only one or two friends with whom he felt comfortable. He wanted to be closer to people, but he was frightened that he would be rejected and was afraid of his own anger in relationships. While interacting with people (including his therapist), he would often have a running commentary with them in his mind, typically filled with aggressive content. He was in a 2-year relationship with a woman who was emotionally and physically very distant, whom he saw twice a month and with whom he rarely had sex. Prior to her, his sexual experiences had all been anxiety provoking and short lived.

Sean tended to be inhibited in many areas of his life. He was emotionally constricted and seemed particularly uncomfortable with pleasurable feelings. He tended to speak in intellectualized terms about his life and history and seemed afraid of affect. He felt stifled in his chosen profession, which did not allow him to express many of

his intellectual abilities or creative impulses. He alternated between overcontrol of his impulses, which was his modal stance in life, and occasional breakthroughs of poorly thought out, impulsive actions (such as when he bought an expensive piece of equipment with little forethought about how he would pay for it).

Sean came from a working class family in Boston and had lost his father, a policeman, as a young boy. He was reared by his mother and later a stepfather, with whom he had a positive relationship. He also described a good relationship with his mother, although she, like several members of her extended family, struggled with depression, and she apparently had a lengthy major depressive episode after her husband's death.

For purposes of brevity, we briefly explicate this case from two theoretical standpoints that provide very different approaches to case formulation: the five-factor model and a functional domains viewpoint. (In clinical practice, a functional domains account and a psychodynamic account are similar because the former reflects an attempt to systematize and integrate with empirical research [and minimal jargon] the major domains emphasized by classical psychoanalytic, ego-psychological, and object-relational/self-psychological/relational approaches.)

A Five-Factor View

From a five-factor perspective (e.g., Widiger et al. 2002), the most salient features of Sean's personality profile were his strong elevations in neuroticism and introversion (low extraversion). He was high on most of the facets of neuroticism, notably, anxiety, depression, anger, self-consciousness, and vulnerability. He was low on most facets of extraversion as well, particularly gregariousness, assertiveness, activity, and happiness. This combination of high negative affectivity and low positive affectivity left him vulnerable to feelings of depression and captures his anxious, self-conscious social avoidance.

No other broadband factors describe Sean adequately, although specific factors provide insight into his personality. He was moderately high in agreeableness, being compliant, modest, and tender minded; however, he was not particularly high on trust, altruism, or straightforwardness (reflecting his tendency to behave passive-aggressively). He was moderately conscientious, showing moderate scores on the facets of orderliness and discipline. He similarly showed moderate openness to experience, being artistically oriented but low on comfort with feelings. His scores on facets such as intellectual curiosity would likely be moderate, reflecting both an interest and an inhibition. Indeed, this would be true of his facet scores on several traits, such as achievement orientation.

A Functional Domains View

A functional domains perspective would offer a similar summary diagnosis as a psychodynamic approach, along with a description of Sean's functioning on the three major domains outlined in the model. In broadest outline, from this point of view, Sean had a depressive, avoidant, and obsessional personality style organized at a low-functioning neurotic level. In other words, he did not have a PD, as evidenced by his ability to maintain friendships and stable employment, but he had considerable psychological impediments to love, work, and life satisfaction, with a predominance of depressive, avoidant, and obsessional dynamics.

With respect to motives and conflicts (and interpersonal issues, around which many of his conflicts centered), Sean had a number of conflicts that impinged on his capacity to lead a fulfilling life. He

wanted to connect with people, but he was inhibited by social anxiety, feelings of inadequacy, and an undercurrent of anger toward people that he could not directly express (and that emerged in his "running commentaries" in his mind). Although he worried that he would fail others, he always felt somehow unfulfilled in his relationships with them and could be subtly critical. He likely had high standards with which he compared himself and others and against which both frequently fell short. He also had trouble handling his anger, aggressive impulses, and desires for self-assertion. He would frequently behave in passive or self-punitive ways rather than appropriately asserting his desires or expressing his anger. This contributed in turn to a lingering hostile fantasy life and a tendency at times to behave passive-aggressively.

Sex was particularly conflictual for Sean, not only because it forced him into an intimate relationship with another person but because of his feelings of inadequacy, discomfort looking directly at a woman's body (because of his associations with sex and women's bodies), and worries that he was homosexual. When with a woman, he frequently worried that he would "accidentally" touch her anus and be repulsed, although, interestingly, his sexual fantasies (and humor) had a decidedly anal tone. Homosexual images would also jump into his mind in the middle of sexual activity, which led to considerable anxiety.

With respect to adaptive resources, Sean had a number of strengths, notably, his impressive intellect, a dry sense of humor, a capacity for introspection, and an ability to persevere. Nevertheless, his overregulation of his feelings and impulses left him vulnerable to breakthroughs of anger, anxiety, and impulsive action. He distanced himself from emotion in an effort both to regulate anxiety and depression and to regulate excitement and pleasure, which seemed to him both undeserved and threatening.

With respect to his experience of self and relationships, Sean's dominant interpersonal concerns centered around rejection, shame, and aloneness. He was able to think about himself and others in complex ways and to show genuine care and concern toward other people, although these strengths were often not manifest because of his interpersonal avoidance. He had low self-esteem, although he had some intellectual awareness that his feelings toward himself were unrealistically negative. He often voiced identity concerns, wondering what he was going to do with his life and where he would fit in, and feeling adrift without either meaningful work or love relationships that were sustaining. (This is, of course, a very skeletal description of functional domains for Sean; for a more thorough description and an empirical description using the SWAP-200 Q-sort, see Westen 1998.)

Conclusion

These highly schematic versions of what an FFM or a functional domains (or psychodynamic) account might have to offer in describing Sean's case provide some sense of how a therapist might conceptualize a case from two very different theoretical perspectives. Theory, research, and this brief case example all suggest the importance of indexing a broader range of personality pathology in any comprehensive personality classification system.

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CHAPTER 3

Articulating a Core Dimension of Personality Pathology

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Problems with the categorical approach to personality disorders presented in DSM-III (American Psychiatric Association 1980), DSM-IV (American Psychiatric Association 1994), and the DSM-5 (American Psychiatric Association 2013) Section II personality disorder (PD) classification (which is virtually identical to DSM-IV) have been well documented. Among the issues of greatest concern is the extensive co-occurrence of PDs, such that most patients who receive a PD diagnosis meet criteria for more than one (e.g., Grant et al. 2005; Morey 1988; Oldham et al. 1992; Zimmerman et al. 2005). Another concern is the relatively poor convergent validity of PD criteria sets, apparent when considering that patient groups diagnosed by different methods may be only weakly related to one another (Clark 2007; Hyler et al. 1989; Pilkonis et al. 1995). This unfortunate situation results in manifestations of putatively different "personality diagnoses" that are more highly associated than different phenotypic variations within the same "personality diagnosis" (e.g., Morey and Levine 1988).

Although extensive co-occurrence is perhaps the most consistently replicated result in the field of PDs, the various editions of DSM, including PDs in DSM-5 Section II ("Diagnostic Criteria and Codes"), have yet to offer any representation of PD that accounts for this phenomenon or provide a compelling explanation as to why it is so reliably found. At the outset of work on DSM-5, the Personality and Personality Disorders (P&PD) Work Group was charged with developing a new approach to the Personality Disorders section of DSM-5 that would begin to rectify the comorbidity problem (Kupfer et al. 2002; Rounsaville et al.

2002). As part of these deliberations, the work group sought to provide some representation of PD that would delineate the essential similarities, apparently shared by most, if not all, DSM PD categories, that were driving the remarkable comorbidity among these disorders. The DSM-IV general criteria for a PD indicate that an enduring pattern of inner experience and behavior is manifest by two or more of the following areas: cognition, affectivity, interpersonal functioning, and impulse control. These very broad criteria do not appear to be very specific for PDs, nor are they always consistent with the specific criteria for individual PDs in DSM, creating possible confusion about whether individual PDs always meet the general criteria. Finally, it is important to understand that these general PD criteria were introduced in DSM-IV without justification or any empirical basis—there is no mention of them in the PD chapters of the *DSM-IV Sourcebook* (Gunderson 1996; Widiger et al. 1996) or in papers that described the development of the revised classification (Frances et al. 1990, 1991; Pincus et al. 1992; Widiger et al. 1991). Consequently, the general criteria for PD in DSM have commonly been ignored in clinical practice and research, and they fail to provide any insight into the shared elements that are common to PDs and that differentiate them from other forms of mental disorder.

The proposal from the P&PD Work Group, found in DSM-5 Section III, "Emerging Measures and Models," consists of dimensional assessments of shared core impairments in personality functioning common to all PDs, as well as dimensional assessments of pathological personality traits that may be found to varying degrees across different patients. When combined with other DSM-IV-like inclusion and exclusion criteria, this combination of core impairments and pathological traits yields diagnoses that bear substantial empirical similarity to DSM-IV PDs (Morey and Skodol 2013) but have a clear conceptual structure that maps out the elemental "traits" that are present to an unusual degree, and also provides an essential assessment structure of the core features of personality dysfunction.

In this chapter we provide an overview of the notion of "core dysfunction" in PD, describing the history of such a concept and the instantiation of the concept in the DSM-5 Section III model. Research that helps articulate the concept and demonstrates its potential validity and utility is also reviewed, along with clinical illustrations of its utility.

Historical Background

It is somewhat ironic that there was a significant subgroup of PD experts opposing the DSM-5 Section III model on the grounds that it is a substantial departure from precedent, given that the notion of a unitary construct of personality disturbance greatly predates the DSM-III/DSM-IV representation of discrete personality disorder categories. In fact, in 1963, Menninger surveyed 2,000 years of the history of classification in psychiatry and identified "a steady trend toward simplification and reduction of the categories from thousands to hundreds to dozens to a mere four or five" (p. 9). Menninger thus proposed a revolutionary psychiatric classification that comprised a single class—a unitary conception of what he called "personality dysorganization," in contrast with "disorganization" in that personality organization has not been lost but only impaired to various

degrees. This "dysorganization" was manifest at five different levels of severity of impairment in adaptive control, impulse management, and ego failures.

Menninger and others (e.g., Rushton and Irwing 2011) have pointed out that the history of the study of personality is replete with such unitary, dimensional severity models. Sir Francis Galton (1887) described a general factor of personality in his paper "Good and Bad Temper in English Families," using ratings from family members across generations to group 15 adjectives indicative of "good temper" (e.g., self-controlled) and 46 markers of "bad temper" (e.g., proud, uncertain, vindictive) that could be arrayed along a single dimension. Although there were roughly three times as many markers of "bad" personality as "good," he felt that the ratio of the number of these markers present was distributed in a bell-shaped fashion with comparable numbers of individuals at each extreme (identified by Galton as those manifesting a 2:1 ratio of these adjectives, in either direction). In this description, Galton was echoing in many ways James Cowles Prichard's (1835) concept of *moral insanity,* which Prichard described as "a morbid perversion of the natural feelings, affections, inclinations, temper, habits, moral dispositions, and natural impulses, without any remarkable disorder or defect of the intellect or knowing and reasoning faculties, and particularly without any insane illusion or hallucination" (p. 24). Prichard acknowledged that this single class of mental disorder could take many forms, stating that "the varieties of moral insanity are perhaps as numerous as the modifications of feeling or passion in the human mind" (Prichard 1835, p. 24). These different forms could involve extremes in emotion (despondency or excitement), impulses, hostility, eccentricity, or "decay of social affection," but Rushton and Irwing (2011) noted that the common denominator to moral insanity was self-control ("will-power"), a lack of which could cause harm to oneself or to others.

In contrast to the taxonomic work of psychiatric writers such as Emil Kraepelin (1902), who delineated classes of disorder such as manic-depression and dementia praecox that were presented as qualitatively different phenomena, many personality-oriented writers continued to emphasize a more unitary approach that identified critical differences as existing between points along a single continuum. In many accounts, this continuum was thought to reflect a developmental process, and individuals could be grouped according to various "stages" in this process. Whereas Freud's models of development, including psychosexual stages (Freud 1905/1953) and the evolution of narcissism to object-love (Freud 1914/1957), were of considerable heuristic influence, many other theorists described stage models with considerable overlap in the indicators of placement along this continuum. Theorists such as Piaget (1932), Kohlberg (1963), Erikson (1950), and Loevinger (1976) all denoted developmental sequences that with maturation resulted in greater self-control and increased prosocial behavior.

Although Menninger (1963) obviously misread the trend that produced the explosion of diagnostic entities in DSM-III that descended from a Kraepelinian rather than a unitary tradition (Blashfield 1984), Menninger's overview of the historical evolution of this model provides a compelling reminder that the significance of a severity gradient in evaluating personality problems has been described for far longer than the specific personality entities introduced in DSM-III. For example, in the long history of

personality assessment research, the specter of a single, overarching dimension of personality dysfunction has repeatedly emerged in various empirical approaches to the study of personality. Early personality inventories such as the Minnesota Multiphasic Personality Inventory (Hathaway and McKinley 1943) were seemingly saturated with a large single source of variability, with repeated efforts to "eliminate" the contributions of this large component as an undesirable artifact (e.g., Meehl 1945; Tellegen et al. 2003) rather than as a personality characteristic of substantive significance. The "lexical" tradition of factor analysis of personality adjectives, pioneered by Norman (1963) and Digman (1990) and culminating in the five-factor model (FFM), began with a set of personality descriptors that purposefully sought to remove "evaluative" (i.e., good vs. bad) descriptors of personality as a basis for the resulting dimensional structure, presumably because of the compelling influence such a dimension had on subsequent factor analyses (Block 1995). Despite those efforts, it appears that a unitary dimension of dysfunction may underlie even putatively orthogonal factor structures such as the FFM. For example, research studying the different DSM PDs consistently finds that the various disorders display quite similar configurations on the FFM (Morey et al. 2000, 2002; Saulsman and Page 2004; Zweig-Frank and Paris 1995), a configuration particularly characterized by high neuroticism and low conscientiousness and agreeableness. A number of studies have concluded that the five factors themselves are subsumed under higher-order factors, such as the "Big Two" factors, labeled *alpha* and *beta* by Digman (1997) or *stability* and *plasticity* by DeYoung et al. (2002). However, there is evidence supporting the contention that even these two super factors are themselves subsumed by a higher-order dimension. In two meta-analyses of Big-Five interscale correlations, Rushton and Irwing (2008) and Van der Linden et al. (2010) concluded that there was strong evidence of what Rushton and Irwing described as a single "general factor of personality"; these meta-analyses included the data sets that Digman (1997) had used to establish the "alpha" and "beta" factors. Additional analyses found very poor fit of a model specifying that the Big Two were uncorrelated.

In addition to results from factor analysis studies, there are also theoretical accounts that support the contention of a "superfactor" of personality functioning. Block (2010) provided the interesting observation that the Big Two components of stability and plasticity, as two presumably desirable elements of personality, have important theoretical parallels to Piaget's (1932) notions of assimilation and accommodation, fundamental processes in the development of the child. Piaget identified these as the core principles by which the child constructs and modifies internal representations of objects and actions, allowing him or her to achieve equilibrium as well as adapt to the world. As Block (2010) noted, assimilation and accommodation represent manifestations of a single, central developmental process that continues to influence behavior throughout the life span, and research on social cognition supports the conclusion that these processes play a foundational role in shaping interactions with others. For example, Anderson and Cole (1990) demonstrated that when a new acquaintance is assimilated into a category of "significant-other representations," perceivers are quick to inappropriately apply preconceived notions that were, in some instances, quite inaccurate. Thus, maturation (or the fail-

ure thereof) of these representational processes has a powerful influence on one's view of self and of others.

Kernberg (1967) was one of the first contemporary writers to formulate a classification of character pathology that encompasses different forms of personality problems as being arrayed along a severity continuum reflecting what he terms different levels of "personality organization." Central to this concept was the notion of *identity,* comprising the various ways in which individuals experience themselves in relation to others (Kernberg 1984). Normal identity involves a self-view that is realistic and integrated, with a correspondingly realistic and stable experience of others. With increasingly problematic personality organization, identity becomes more diffuse, inflexible, unstable, and poorly integrated. Kernberg and Caligor (2005) offered an ordering of the different DSM categories of PD, as they could be arrayed along this continuum of personality organization severity.

Contemporary Status of Global Concept of Personality Impairment

Efforts to identify core elements of PD are found in numerous measures and scales designed to identify personality problems. In the process of attempting to identify these core impairments in personality functioning, Bender et al. (2011) reviewed a number of reliable and valid clinician-administered measures for assessing personality functioning and psychopathology and demonstrated that content relevant to representations of self and other permeate such instruments and that these instruments have solid empirical bases and significant clinical utility. For example, numerous studies using measures of self and interpersonal functioning have demonstrated their utility for determining the existence, type, and severity of personality pathology. These measures include clinician-completed rating scales or interviews, as well as patient self-report measures.

Representative clinician instruments are measures such as the Social Cognition and Object Relations Scale (SCORS; M. Hilsenroth, M. Stein, J. Pinsker, "Social Cognition and Object Relations Scale: Global Method [SCORS-G]," unpublished manuscript, The Derner Institute of Advanced Psychological Studies, Adelphi University, Garden City, NY, 2004; Westen et al. 1990) and the Structured Interview of Personality Organization (STIPO; Stern et al. 2010). The SCORS has different adaptations suitable for use with information from clinical interviews, Thematic Apperception Test (TAT) stories, and psychotherapy transcripts (Westen et al. 1990). The developers of the SCORS sought to integrate social cognition with object relations theory in providing assessments of four dimensions: 1) complexity of representations of people, 2) affect-tone of relationship paradigms, 3) capacity for emotional investment in relationships and moral standards, and 4) understanding of social causality. The underlying severity dimension ratings range from developmentally immature representations that are poorly differentiated, malevolent, and illogical to more mature personality functioning, in which representations are complex and predominantly positive, with autonomy in and appreciation for committed relationships with others. The STIPO is a semistructured interview based on the model of personality health and disorder advanced by Kernberg (Kernberg 1984; Kernberg and Caligor 2005). Questions were designed

to provide a dimensional assessment of identity, primitive defenses, and reality testing, and STIPO assessment of one's sense of self and significant others has been shown to be predictive of various measures of positive and negative affect.

Self-report measures of global personality functioning include instruments such as the Severity Indices of Personality Problems (SIPP; Verheul et al. 2008) and the General Assessment of Personality Disorder (GAPD; Hentschel and Livesley 2013). The SIPP is a dimensional self-report questionnaire designed to measure the severity and core components of personality pathology. The items, which the patient completes taking into consideration the previous 3 months, can be arranged into five broad domains: identity integration, self-control, relational functioning, social concordance, and responsibility. The GAPD is also a self-report questionnaire, designed to assess dimensions of self and interpersonal pathology central to the adaptive impairment model of personality pathology as suggested by Livesley and colleagues (Livesley 2003; Livesley and Jang 2000). The GAPD scales were developed by defining components of self pathology linked to failures in development of an integrated self-system or structure, as well as interpersonal pathology linked to failures in the capacity for intimacy, attachment, and cooperative behavior. Although there are multiple scales on the GAPD, Hentschel and Livesley (2013) found that a single-factor solution fit their clinical data better than multidimensional alternatives.

The literature review of these various measures by Bender et al. (2011) revealed that all such measures sampled content pertaining to distorted and maladaptive thinking about oneself and others. A synthesis of these common elements suggested that the components most central to effective personality functioning fall under the rubrics of *identity, self-direction, empathy,* and *intimacy,* with reliability estimates for measures of these constructs typically exceeding 0.75.

Empirically Articulating the Core Impairments

One of the central efforts of our research program has been to attempt to isolate common mechanisms that may underlie all PDs. In many respects, this pursuit was precipitated as a result of analyses conducted for a rather obscure 1989 conference presentation (Widiger et al. 1989). Those analyses involved a search for strategies to address the increasingly apparent high rates of co-occurring PD diagnoses in DSM-III (e.g., Morey 1988) and DSM-III-R (American Psychiatric Association 1987) that could be adopted by the in-development DSM-IV. Thus, we examined various diagnostic rules in a number of DSM-III/III-R PD data sets to determine whether alterations to the diagnostic criteria could lead to lower co-occurrence. At the time, we were surprised by the results of our analyses: efforts to make the DSM diagnostic rules more restrictive, thus narrowing the diagnostic rules to include only the most "prototypical" cases, had the seemingly paradoxical effect of increasing rather than decreasing PD comorbidity. In other words, the most "prototypical" patients with, say, avoidant PD—one who had all seven of the DSM-III-R criteria for that disorder—also tend to have more additional PD diagnoses than the "average" avoidant patient. Thus, narrowing the diagnostic rules by

implementing higher thresholds (e.g., requiring 5 of 7 rather than 4 of 7 features) or mandating the presence of one "pathognomonic" feature of a PD (such as, say, self-injury for borderline PD) ended up increasing comorbidity rates among those patients receiving a specific diagnosis. It also created an ever-expanding pool of patients diagnosed with personality disorder not otherwise specified, a designation that was largely uninformative because of the lack of clear definition of what the core features of PD actually were. As a result, PD diagnostic algorithms for DSM-IV were little changed from those in DSM-III-R, but for the most part the field paid little attention to this interesting phenomenon in which increased "prototypicality" equaled increased "comorbidity." However, given the consistency of the phenomenon across multiple data sets, we were intrigued by the phenomenon and determined to attempt to further describe the mechanisms underlying this finding.

Hence, a follow-up study (Morey 2005) examined three different data sets that each included information about every DSM-defined PD criterion. In these data sets, a score was calculated for each client that reflected the summed count of all PD criteria present in that client. In these three data sets, the coefficient alpha values were 0.81, 0.96, and 0.94, suggesting that the problematic behaviors and characteristics listed in the criteria for the various DSM PDs formed an internally consistent dimension that cuts across virtually all of the disorders. Given the nature of the DSM decision rules, it was apparent that higher "scores" on this single dimension would account for the widely observed comorbidity because the presence of additional symptom features would by definition increase the likelihood of any particular disorder. However, the high internal consistency values indicated that this was not simply a computational artifact but rather the operation of a substantive construct.

To elaborate the nature of this dimension, Morey (2005) reported the results of a Rasch scaling of criteria most reflective of this dimension in order to determine features that provide information at high and low ends of this continuum. The characteristic features represented the full spectrum of the DSM PDs, with the "anchor point" for the extreme high end of this global continuum involving the feature of *lack of empathy.* The conclusion from this paper was that failures in empathic relatedness, including the ability to accurately understand the perspective of others in shaping the self-concept, were present in varying degrees in all PDs. Furthermore, more severe and pervasive empathy problems are linked to the presence of more and diverse PD features and hence to assignment of multiple PD diagnoses to such patients.

Our work with the Collaborative Longitudinal Personality Disorders Study (CLPS; Gunderson et al. 2000; Skodol et al. 2005) provided an important opportunity to better understand the correlates and implications of this putative global personality pathology dimension. The CLPS study was a 10-year prospective, repeated-measures study that included patients with one of four specific DSM-IV-TR PDs (schizotypal, borderline, avoidant, or obsessive-compulsive) or patients with major depressive disorder in the absence of PD as a comparison group. Participants in the CLPS study were assessed with interview and questionnaire measures of PD symptoms, traits, and functioning regularly throughout the course of the study. In a set of CLPS analyses reported by Hopwood et al. (2011), we sought to disentangle elements of global personality severity from the stylistic expression of these problems because

these were confounded in the DSM-III and DSM-IV conceptualization of PD. Thus, that study had four aims: 1) to identify which DSM PD features comprise the best markers of "severity," 2) to isolate elements of personality style that are independent of general severity, 3) to examine whether the severity and stylistic elements of PD should be assessed in parallel, and 4) to determine whether each element provides incremental information about course and outcome of patients.

As in the various data sets described by Morey (2005), the severity composite representing the sum of all DSM-IV PD criteria was highly internally consistent (coefficient $\alpha = 0.90$). The PD criteria that demonstrated the largest item-total correlations with this severity composite consistently demonstrated problems in self (e.g., avoidant: "feelings of inadequacy"; borderline: "identity disturbance") or interpersonal (e.g., avoidant: "social ineptness" or "preoccupation with being rejected"; schizotypal: "paranoid ideation") domains. The analyses of predictive validity of this composite suggested that generalized personality pathology severity was the strongest predictor of concurrent and prospective dysfunction, although stylistic elements of personality pathology symptom expression proved incrementally useful for predicting specific kinds of dysfunction. Interestingly, most pathological personality traits and even those normative (i.e., FFM) traits thought to be most related to PD tended to be strongly related to global severity rather than to specific styles of dysfunction. Given that the global severity score accounted for most of the valid variance provided by PD concepts in predicting patient outcome, the authors offered the following recommendation for DSM-5:

> PD severity should be represented in the DSM-5 by a single quantitative dimension that accommodates a diverse array of elements, including dysfunction in social, emotional, and identity-related functioning, analogous to the GAF [Global Assessment of Functioning] score for general functioning but specifically linked to personality systems. (Hopwood et al. 2011, p. 317)

The DSM-5 P&PD Work Group explicitly attempted to follow through on these recommendations by reviewing relevant literature (Bender et al. 2011) and by analyzing additional existing data sets to further elaborate this dimension (Morey et al. 2011). Specifically, Morey et al. (2011) sought to identify items reflective of the core impairments in self and other representation described by the DSM-5 P&PD Work Group (Bender et al. 2011), with the aim of characterizing the manifestations of this impairment continuum at different levels of severity using item response theory (Lord 1980). The study derived a composite dimension of severity that was significantly associated with 1) the probability of being assigned any DSM-IV PD diagnosis, 2) the total number of DSM-IV PD features manifested, and 3) the probability of being assigned multiple DSM-IV PD diagnoses. The key markers of this dimension involved important functions related to self (e.g., identity integration, integrity of self-concept) and interpersonal (e.g., capacity for empathy and intimacy) relatedness—features that, as reviewed by Bender et al. (2011), play a prominent role in influential theoretical conceptualizations of core personality pathology (Kernberg and Caligor 2005; Kohut 1971; Livesley 2003). The patterning of markers along the putative severity continuum demonstrated a number of interesting features. Self-related features such as identity issues, low self-worth, and impaired self-direction appear to be central characteristics of milder levels of personality pathology, whereas interpersonal issues (in

addition to self pathology) become discriminating at the more severe levels of personality pathology. Such a finding is consistent with the view of Kernberg (e.g., Kernberg 1984) and others that identity issues play a foundational role in driving the characteristic interpersonal dysfunction noted in PDs.

Taking findings from these and other studies into account, the DSM-5 P&PD Work Group sought to synthesize various concepts across self-other models to form a foundation for rating personality functioning on a continuum, with the goal of creating a severity scale that could be easily applied by clinicians. This rating scale was refined through a focus on elements that could be assessed reliably in prior research (Bender et al. 2011) and that also emerged in various studies as discriminating markers of this dimension. The resulting scale, titled the Level of Personality Functioning Scale (LPFS; American Psychiatric Association 2013), was thus designed to serve as a basis for determining global level of impairment in personality functioning in DSM-5. This rating represents a single-item composite evaluation of impairment in the four self-other areas described in Table 3–1. The LPFS rating scale provides anchor points describing characteristics of five impairment levels (little or none, some, moderate, severe, and extreme). (The LPFS is provided in its entirety in the Appendix to this volume.)

To ascertain the utility and validity of clinician judgments using this scale, Morey et al. (2013) examined clinician-rated LPFS scores as applied to a broad sample of patients with and without prominent PD features. There were three important aspects to this study. First, it was assumed that LPFS ratings should be related to DSM-IV PD diagnoses, given the assumption that all PDs reflect impairment in this core self-other dimension, and that this rating would differentiate those receiving such diagnoses from those not diagnosed with PD. Second, the study explored whether LPFS ratings were significantly related to critical clinical judgments, such as estimates of broad adaptive functioning, risk for harm to self or other, long-term prognosis, and clinical appraisals of needed treatment intensity. Finally, the study sought to determine whether mental health professionals would view the LPFS ratings as clinically useful—that conceptualizing their patient in this way would be seen as relevant for patient description and treatment decision making. These questions were addressed using a national sample of 337 clinicians providing complete PD diagnostic information about a patient with whom they were familiar, which involved a full formulation of both DSM-IV and DSM-5 diagnostic judgments.

The results of the Morey et al. (2013) study demonstrated that, consistent with the assumption that these personality functioning deficits underlie all PDs, the single-item LPFS demonstrated solid sensitivity (0.846) and specificity (0.727) for identifying the presence or absence of DSM-IV PDs. Furthermore, the scale was also related to DSM-IV PD comorbidity, with those individuals receiving multiple DSM-IV diagnoses obtaining more severe ratings on the LPFS. Furthermore, analyses were conducted to compare the incremental validity of the DSM-5 LPFS rating with DSM-IV PD diagnoses with respect to their ability to predict clinical judgments of psychosocial functioning, short-term risk, estimated prognosis, and optimal level of treatment intensity. All predictive validity correlations for both LPFS ratings and DSM-IV diagnoses were statistically significant. However, results indicated that for three of the four validity variables, the single-item DSM-5 LPFS rating yielded adjusted multiple correla-

TABLE 3–1. Four self-other areas of personality functioning typically impaired in personality disorder

Self

Identity: Experience of oneself as unique, with clear boundaries between self and others; stability of self-esteem and accuracy of self-appraisal; capacity for, and ability to regulate, a range of emotional experience

Self-direction: Pursuit of coherent and meaningful short-term and life goals; utilization of constructive and prosocial internal standards of behavior; ability to self-reflect productively

Interpersonal

Empathy: Comprehension and appreciation of others' experiences and motivations; tolerance of differing perspectives; understanding of the effects of own behavior on others

Intimacy: Depth and duration of positive connection with others; desire and capacity for closeness; mutuality of regard reflected in interpersonal behavior

tions that were larger than those provided when considering all 10 DSM-IV PD diagnoses. In the areas of functioning, prognosis, and treatment intensity needs, the DSM-5 LPFS successfully captured an appreciable part of the valid variance contributed by DSM-IV PD diagnoses and significantly incremented that information as well. Only in the area of risk assessment did information about the specific PD diagnoses prove useful as a supplement to the LPFS rating of impairment in personality functioning.

Finally, immediately following completion of ratings for DSM-IV criteria and the LPFS rating, clinicians were asked six questions about perceived clinical utility of each set of information provided. Compared with the DSM-5 LPFS rating, DSM-IV was seen as easier to use and more useful for communication with other professionals. However, in every other respect—for treatment planning, patient description, and communicating to the patient—the DSM-5 LPFS had higher mean usefulness ratings than DSM-IV. Thus, clinicians perceive the single-item DSM-5 LPFS rating as being generally more useful in several important ways than the entire set of 79 DSM-IV PD criteria. This is in spite of these clinicians' greater presumed familiarity with DSM-IV over the past 18 years and their having no experience with the DSM-5 Section III proposal at the time of the study.

Level of Personality Functioning Case Illustrations

To demonstrate the enhanced utility of the DSM-5 Section III LPFS over the DSM-IV/DSM-5 Section II categorical approach to PDs, we offer a case comparison. As mentioned above, one of the problems with the categorical polythetic criteria approach to PDs is that there can be significant variations within the same diagnosis, causing important clinical information to be lost if one does not look beyond the limited information conveyed by a categorical diagnostic label. The following two clinical case examples show the importance of assessing the core LPFS elements of personality functioning.

Case Example 1

Madison is an intelligent, funny, talkative, attractive, age 20-something woman who sought psychotherapy

because she was determined to build a better life for herself than her family, particularly her emotionally volatile mother and sister, had managed. She also has been "too stressed out" at her job. Madison had done very well academically in college and succeeded in obtaining a good position with a large consulting firm. She works long hours but is often concerned that she is not doing her projects "perfectly," which makes her very anxious at times. Her perfectionism causes her to spend excessive effort trying to be completely thorough, adding unnecessary additional time at the office. She also refuses to take help from colleagues because she is sure they will make mistakes or not have high enough standards. In spite of her worries, she has gotten very positive reviews from her supervisors, but she does not derive much reassurance from that. She also attends a demanding master's program during the evenings and weekends, so most of her time is devoted to work, with little left for socializing.

Madison also impresses one as determined to be an engaged and productive "good patient." She talks in excessive detail and in a highly intellectualized manner, but strong emotions are very difficult for her to tolerate and talk about. She can explain very well how she thinks about things but has trouble considering how she feels. She described one occasion when it was apparent she had a panic attack rather than let herself know how angry she was at her colleagues. Although she is able to consider others' perspectives, she has little tolerance for those who do not agree with her or live up to her standards. These attitudes lead to additional stress and frustration for Madison in the workplace.

Madison has a close group of women friends she has known since the beginning of college, but she is sometimes critical of some of their life choices. She obviously values these friends and does what she can to socialize with them, given her overloaded schedule. She also has a boyfriend but is having some difficulty getting close to him and is inhibited in expressing her affection. She is jealous of other women as well, with likely unwarranted worries that her boyfriend will be unfaithful, but she does not understand why he finds it troublesome to be distrusted in that way.

Given her excessive devotion to work, perfectionism, overconscientious approach to tasks, and refusal to delegate tasks to others, Madison meets criteria for DSM-IV/DSM-5 Section II obsessive-compulsive PD. Looking more closely at her inner life and personality functioning using the LPFS, Madison's profile fits with level 1—some impairment. She has a relatively intact sense of self but has some difficulty handling strong emotions (identity); she is overly intellectualizing, is excessively goal-directed, and has unrealistically high standards (self-direction); she is resistant to appreciating others' perspectives, although she can, and does not quite understand why her jealousy bothers her boyfriend (empathy); and she has solid and enduring relationships, but they are somewhat compromised by her inhibitions in emotional expression and excessively high standards for others (intimacy).

Case Example 2

Ryan presented with a similar style to Madison's. He is a married, well-educated, highly intelligent and verbal 28-year-old engineer. Ryan greatly values his career and is proud of working for a prestigious firm. His presenting complaint was difficulty with completing work effectively, due to perfectionism that generates excessive anxiety. Ryan puts in long hours at his job attempting to make progress on his projects but often dwells on fairly insignificant points for days on end. He also experiences some friction at times with his coworkers because of his insistence that his opinions and approach to tasks are most correct. Ryan also reported that he is

very active in his church, at least on Sundays, the only day he does not work. He seemingly derives satisfaction from that community, with his and his wife's social life centering on their relationships there. However, Ryan has been very upset that his suggestions to the church leadership for changing procedures have not been accepted unconditionally. He is considering leaving the congregation because of this, but his wife has managed to convince him to stay thus far.

Like Madison, Ryan's perfectionism interferes with task completion and he is excessively devoted to work. He is stubborn and rigid in his collaborations with others and becomes too preoccupied with the small details of his projects. Given these characteristics, Ryan also meets criteria for obsessive-compulsive PD.

However, if one stopped the clinical interview of Ryan at this point, a great deal of very important information would be lost, and an inadequate treatment plan may be formulated. By probing about the LPFS areas of identity, self-direction, empathy, and intimacy, one discovers important differences between Madison and Ryan. Ryan reported that he often feels terrible about himself and has an ongoing terror of being criticized. He constantly seeks approval from his boss and feels miserable if he is not praised for his work. He sees himself as particularly gifted and entitled to special recognition and as much smarter than his colleagues. Similarly, his anger at his church for not taking his suggestions makes him feel "invisible" and indignant. "I have an Ivy League degree, and those dullards can't seem to appreciate what I have to offer." Clearly, he has some issues with regulating self-esteem and looks to others for ongoing approval (identity). It is also apparent that Ryan's slavish devotion to work is not motivated only by an internal set of high standards but is primarily a means to try to gain external approval (self-direction).

In the area of empathy, Ryan does not have a very good sense of how his stubborn, opinionated behavior might affect others, nor does he seem to care very much. He longs for praise and acceptance at work and at church, but he seems to lack the ability to consider why others might have a different opinion, and he has trouble having dialogues. When asked about his marriage and friendships, Ryan says his relationships often disappoint him because people do not appreciate him enough (intimacy). Not surprisingly, he was having some marital problems.

As can be seen in the comparison of these two cases, it is important to clinically explore the core components of personality functioning to get beyond surface behaviors and attitudes. Both of these patients meet criteria for obsessive-compulsive PD under the DSM-5 Section II criteria, but the significant differences in their character structures are identified by the LPFS assessment. Whereas Madison showed personality difficulties rated at level 1, indicating some impairment, Ryan had more marked problems, which would be scored 2, for moderate impairment. In addition, as assessed with the new Section III model, Madison would not meet full criteria for a PD because an LPFS level of 2 or greater is required for disorder status to be assigned. As a clinician, one would likely take a different approach with Madison, because her self-structure is more intact, than with Ryan, who has more vulnerable self-esteem. Furthermore, with the greater severity of Ryan's central personality issues, we begin to see indications of other PD diagnoses (such as attributes of narcissistic PD), which in DSM-IV/DSM-5 Section II would be portrayed as "comorbidity." However, rather than resulting in the confusing diagnosis of several disorders, the LPFS more effectively represents

these phenomena simply as increased impairment in the core components.

Conclusion

In contrast with any official representation of PD provided in various editions of DSM, the DSM-5 Section III PD diagnostic system delineates a specific continuum of core personality functioning that captures features underlying all PDs. This continuum was represented in the new system with a single-item rating that Morey et al. (2013) found to bear strong relationships to PD diagnosis and to important clinical judgments. The lack of a conceptualization of PD severity in the DSM-IV taxonomy (a lack that continues to pertain to DSM-5 Section II) represents a significant failure of an antiquated diagnostic system to adequately capture a primary source of variance in virtually all markers of clinical validity. Availability of such a PD-specific severity measure not only may assist in identifying central aspects of personality pathology but also will help guide treatment decisions and help stimulate research on the fundamental nature of PD. It is hoped that in future revisions, DSM will provide the field with official recognition of the importance of such an assessment.

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CHAPTER 4

Development, Attachment, and Childhood Experiences

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Attachment theory (Bowlby 1969) describes how individuals manage their most intimate relationships with their "attachment figures": their parents, children, and romantic partners. Attachment, at an evolutionary level, is an adaptation for survival—it is the mechanism by which babies elicit essential care. As more is understood about the interface of brain development and early psychosocial experience, however, it becomes clear that the evolutionary role of the attachment relationship goes far beyond giving physical protection to the human infant.

Beginning at birth, the infant's interactions with his or her primary caregivers will form a characteristic pattern that will shape personality development and affect close relationships in later life, as well as expectations of social acceptance and attitudes toward rejection. When the attachment figure responds appropriately to an infant who is undergoing a stressful experience by providing stability and safety, the infant is reassured, confident, and able to explore the surroundings. Through the consistent experience of this reassuring interaction, the child is able to build mental models of self and of others (internal working models), which often endure across life. These early attachment interactions are central to the development of the child's ability to regulate affect and stress, to mentalize, and to acquire attentional control and a sense of self-agency (Fonagy et al. 2010).

Attachment has traditionally been measured through assessments of characteristic patterns of relating. The most influential protocol for observing individual differences in infants' attachment security has been the Strange Situation (Ainsworth et al. 1978), during which an infant is briefly separated from the caregiver and left with a stranger in an unfamiliar setting. Three distinct attachment patterns have been identified in infants' behavior: secure (63% of children tested), anxious/resistant or ambivalent (16%), and avoidant (21%). The attachment styles in adults are secure/autonomous (58% of the nonclinical population), avoidant/dismissing (23%), and anxious/preoccupied (19%) (Bakermans-Kranenburg and van IJzendoorn 2009). The Adult Attachment Interview (AAI; George et al. 1994; Hesse 2008), which is based on reported attachment narratives of the subject's childhood, is the measure used to classify adults. A fourth pattern has now been identified, labeled as unresolved/disorganized for adults and disoriented/disorganized for infants (Levy et al. 2011); unresolved/disorganized adults are additionally classified within one of the three primary categories (Fonagy et al. 2010).

During the Strange Situation procedure, a securely attached infant curiously investigates his or her new surroundings in the primary caregiver's presence, appears anxious in the stranger's presence, is distressed by the caregiver's brief absence, rapidly seeks contact with the caregiver when the caregiver returns, and is easily reassured enough to resume exploration and investigation. Analogously, an adult categorized as secure/autonomous during the AAI coherently integrates attachment memories into a meaningful narrative and shows an appreciation for attachment relationships.

An avoidant infant appears less anxious at separation, may not seek contact with the caregiver on his or her return, and may not seem to prefer the caregiver over the stranger. In adults, avoidant/dismissing AAI narratives will seem incoherent; these adults will struggle to recall specific memories in support of general arguments and will idealize or devalue their early relationships (Fonagy et al. 2010). These behaviors are the result of a hyperdeactivation of the attachment system. The individual will characteristically appear inhibited when it comes to seeking proximity, seem determined to manage stress alone, and tend to adopt noninterpersonal strategies for regulating negative emotions and handling moments of vulnerability.

An anxious/resistant infant shows less interest in exploration and play in the new environment, becomes highly distressed by the separation, and struggles to settle after being reunited with the caregiver. Correspondingly, an anxious/preoccupied adult's AAI narratives will also lack coherence and will express confusion, anger, or fear in relation to early attachment figures. This strategy, entailing the hyperactivation of proximity-seeking and protection-seeking behaviors, is an adaptation to hypersensitivity toward signs of possible rejection or abandonment and to an intensification of undesirable emotions during these moments.

A disoriented/disorganized infant will show undirected or bizarre behavior, such as freezing, hand clapping, or head banging, or may try to escape the situation. An unresolved/disorganized adult's AAI narratives about bereavements or childhood traumas will contain semantic and/or syntactic confusions. This corresponds to the breakdown of strategies to cope with stress, which leads to emotion dysregulation.

These styles generally persist into adulthood: the correlation in attachment classification between infancy and adulthood is 68%–75% (Fonagy et al. 2010). The factors most likely to disrupt or modify attachment style are negative early life events: loss of a parent, parental divorce, life-threatening illness of parent or child, parental psychiatric disorder, physical maltreatment, or sexual abuse.

The influence of genetic factors in attachment security has been estimated at between 23% and 45% (Brussoni et al. 2000; Torgersen et al. 2007) and underscores the bidirectional nature of the development of attachment relationships: infants and children co-create patterns of relating with their caregivers. Nevertheless, to the extent that these are separable, environmental factors ubiquitously appear to be the most important influence in the development of attachment. Among these external factors, the most important is the secure presence of an effective primary caretaker who is sensitive to the infant's verbal and nonverbal cues and is able to respond to them without being overwhelmed by anxiety.

The persistent quality of attachment styles produces similarly enduring strategies for dealing with emotions and social contact. For example, the increased sense of agency in the secure child allows him or her to move toward the ownership of inner experience and toward an understanding of self and others as intentional beings whose behavior is organized by mental states, thoughts, feelings, beliefs, and desires. Consistent with this, longitudinal research has demonstrated that children with a history of secure attachment are independently rated as more resilient, self-reliant, socially oriented (Sroufe 1983; Waters et al. 1979), and empathic to distress (Kestenbaum et al. 1989) and as having deeper relationships and higher self-esteem (Sroufe et al. 1990). Securely attached individuals trust their attachment figures and do not exaggerate environmental threat; as a result, they can respond proportionately to challenges (Nolte et al. 2011).

Avoidant/dismissing individuals may have a higher tolerance for experiencing negative emotions, whereas anxious/preoccupied individuals, who tend to be wary following a history of inconsistent support from caregivers, are likely to have a lower threshold for perceiving environmental threat and, therefore, stress. This is likely to contribute to frequent activation of the attachment system, with the concomitant distress and anger such activation can cause being likely to manifest as compulsive care-seeking and overdependency. Unresolved/disorganized individuals—the adult analog of disoriented/disorganized infants—frequently have parents who are themselves abusive or unresolved regarding their own losses or abuse experiences.

Evidence linking attachment in infancy with more general personality characteristics is stronger in some studies than in others. Findings from the Minnesota Longitudinal Study of Parents and Children cohort show a prediction from infantile attachment insecurity to performance on adult measures of psychiatric morbidity, with many potential confounding factors controlled for, linking insecurity and adversity to indications of personality disorder (Carlson et al. 2009). A "dose-response" relationship between psychological disturbance and insecurity is suggested by the observation of Kochanska and Kim (2013), who found that children who are insecure with both parents tend to report more overall problems and to be rated by teachers as having more externalizing problems than those who are secure with at least one parent. However, in

contrast to Bowlby's (1980) prediction, the avoidant and resistant classifications tend not to be strongly related to later measures of maladaptation. It is the disoriented/disorganized infant category that appears to have the strongest predictive significance for later psychological disturbance (Fearon et al. 2010), although there is also some evidence to suggest a connection between avoidance and internalizing conditions (depression and anxiety) (Groh et al. 2012).

Attachment processes are, then, a necessary and universal mechanism for survival and development; they do not, for example, show gender differences or variations with language or culture. Attachment theory is also, however, increasingly thought to have a bearing on the understanding and treatment of personality disorders (PDs). With its integration of psychological, psychiatric, genetic, developmental, neuroscientific, and clinical perspectives, the theory is uniquely well placed to inform and develop our thinking about PDs, in all their enduring and pervasive complexity.

Attachment History and the Development of Personality Disorder

The characteristics, behaviors, and symptoms associated with insecurely attached adults are often also manifested by individuals with a PD (Adshead and Sarkar 2012). Studies of attachment patterns in people with PDs, particularly those in DSM-IV Cluster B (Bender et al. 2001), indicate that such individuals show higher rates of insecure attachment than the general population (Cassidy and Shaver 2008). Conversely, those diagnosed with borderline PD (BPD) and avoidant PD rarely fall into the secure attachment category (Westen et al. 2006). Adults presenting a preoccupied style are more sensitive to rejection and anxiety and are prone to histrionic, avoidant, borderline, and dependent PDs. The hypoactivation of attachment shown by individuals with a dismissing style explains the association with schizoid, narcissistic, antisocial, and paranoid PDs.

A high prevalence of childhood trauma occurs in both insecurely attached individuals and patients with PD. Childhood trauma is strongly correlated with an incoherent/disorganized adult attachment style more than just with the general category of attachment insecurity (Barone 2003; Westen et al. 2006). Rates of childhood trauma among individuals with PDs are high (73% report abuse, of which 34% is sexual abuse, and 82% report neglect). Compared with healthy adults, patients with PD are four times as likely to have suffered early trauma (Johnson et al. 1999). Childhood physical abuse increases the risk for adult antisocial, borderline, dependent, depressive, passive-aggressive, and schizoid PDs (McGauley et al. 2011). Infantile neglect is associated with risks for antisocial, avoidant, borderline, narcissistic, and passive-aggressive PDs (Battle et al. 2004; Johnson et al. 1999). BPD is more consistently associated with childhood abuse and neglect than are other PD diagnoses. Obsessive-compulsive PD has been associated with sexual abuse by noncaretakers (Battle et al. 2004).

However, not all people who have suffered childhood trauma develop adult psychopathology. The effects of trauma are influenced by attachment and by biological dispositions. For example, female victims of maltreatment and sexual abuse in adolescence or adulthood are at greater risk of developing posttraumatic symptoms if they have an anxious attachment style (Sandberg et al. 2010), and female

victims of childhood trauma are more likely to develop somatization symptoms if they are fearfully attached (Waldinger et al. 2006). If traumatic events provoke activation of the attachment system, then individuals who tend to respond to these experiences by the inhibition of mentalizing function and emotional regulation are less likely to resolve these events and more likely to manifest personality pathology later in life (Bateman and Fonagy 2012).

BPD is strongly associated with preoccupied attachment in the presence of unresolved trauma and with unresolved attachment patterns. Studies have found that 50%–80% of patients with BPD fit either or both of those two attachment styles (Agrawal et al. 2004; Barone et al. 2011); this makes sense in light of both the approach-avoidance social dynamics and sensitivity to rejection (preoccupied dimension) and the cognitive-linguistic slippage (incoherent/disorganized dimension) that are evident in patients with BPD. Misunderstanding of social causality and thought disturbances are distinctive features of BPD. In behavioral terms, patients with BPD exhibit angry withdrawal and compulsive care seeking. This implies their lack of capacity to use and obtain relief from new attachment figures, which has important implications within a close helping relationship like the therapeutic exchange: patients with BPD will be more attentive to the failures or perceived failures of the therapist than to the therapist's efforts to help (Aaronson et al. 2006).

Most research assessing the relationship between attachment and PDs does not control for comorbidity on either Axis I or Axis II of DSM-IV, which could result in diffuse patterns of association (Barone et al. 2011; Westen et al. 2006). For example, in the case of BPD, different symptom disorder comorbidities are associated with different attachment styles: BPD with comorbid anxiety or mood disorders tends to be associated with preoccupied attachment, whereas BPD with comorbid substance or alcohol abuse tends toward a dismissing style. In spite of these differences, the unresolved/disorganized attachment style seems to be common in patients with BPD overall, which explains the pathognomonic emotional dysregulation of these patients (Barone et al. 2011). These research limitations accentuate the value of the new efforts toward dimensional rather than categorical diagnostic systems (Cartwright-Hatton et al. 2011; Widiger et al. 2011) and toward person-centered rather than symptom-centered ways of addressing mental disorders. Such ways of understanding and conceptualizing psychopathology (and particularly PDs) are necessarily longitudinal because only a developmental perspective can offer an insight into the processes underlying symptomatic manifestations and allow clinicians to assess a particular patient's risks and strengths, account for high rates of comorbidity, tailor interventions, and maintain a fruitful therapeutic relationship. We review the alternative model for the classification of PDs that appears in DSM-5 Section III, "Emerging Measures and Models," later in this chapter (see section "An Attachment Theory of Borderline Personality Disorder Based on Mentalization").

Neuroscience of Attachment

The neurobiological processes at work in attachment are now fairly well understood. Two major neural systems have been shown to play a critical role in attachment behaviors: the dopaminergic re-

ward-processing system and the oxytocinergic system (Fonagy et al. 2011). The role of the dopaminergic reward system in attachment behavior is understood as an evolutionary mechanism to motivate reproductive mating, maternal care, and ultimately, offspring survival. This reward system leads individuals to seek close relations with other humans and produces satisfaction when they are attained. Oxytocin is a neuroactive hormone produced in the hypothalamus and projected to brain areas that are associated with emotions and social behaviors. It plays an important role in the activation of the dopaminergic reward system (oxytocin receptors are located in the ventral striatum, a key dopaminergic area) and in the deactivation of neurobehavioral systems related to social avoidance (Fonagy et al. 2011; see also Chapter 23, "Translational Research in Borderline Personality Disorder," in this volume). Oxytocin receptors are found in areas known to be recruited in attachment and other social behaviors, such as the bed nucleus of the stria terminalis, the hypothalamic paraventricular nucleus, the central nucleus of the amygdala, the ventral tegmental area, and the lateral septum. Oxytocin promotes dopamine pathways to and from the emotional brain (amygdala/thalamus), memory brain (hippocampus), and executive brain (frontal lobes).

"Knockout" laboratory animals with a genetic mutation rendering them devoid of oxytocin do not develop normally in terms of sociability and caregiving. Oxytocin helps promote social behavior; for example, monkeys without oxytocin do not read social cues as well as those with oxytocin, and they fall to the bottom of the troop status hierarchy. Oxytocin also promotes the "caregiver's bond." Female rats without oxytocin mother poorly, and this has downstream effects on their female offspring, which themselves grow to have limited competence in maternal behavior. Oxytocin is a facilitator of attachment: it enhances sensitivity to social cues, accelerates social connectedness (Bartz and Hollander 2006), improves social memory, and facilitates the encoding and retrieval of happy social memories. By attenuating activity in the extended amygdala, oxytocin also acts to neutralize negative feelings toward others and enhance trust. Oxytocin can inhibit hypothalamic-pituitary-adrenal (HPA) axis activity when the attachment system is activated (Fonagy et al. 2011): secure attachment leads to "adaptive hypoactivity" of the HPA axis, which, in turn, reduces social anxiety (Nolte et al. 2011).

It must be noted that these positive effects of oxytocin are not universal. The administration of oxytocin to adults has been shown to facilitate prosocial behavior toward members of their in-group only and to enhance trust toward reliable and neutral peers but not peers who have proven to be unreliable (De Dreu et al. 2010; Mikolajczak et al. 2010). Correspondingly, insecure attachment is closely bound to the divergent effects of oxytocin. The neuropeptide is found in lower concentrations among maltreated children and adults with a history of early separation and in insecurely attached mothers during the puerperal period, which further hampers the establishment of secure attachment in their children (Fonagy et al. 2011). In the case of insecurely attached patients with BPD, oxytocin *decreases* trust and the likelihood of cooperative responses, but it reduces dysphoric responses to social stress (Simeon et al. 2011).

Oxytocin, therefore, does not uniformly facilitate trust and prosocial behavior; its behavioral effects are mediated by the social context, personality traits, and the quality of early attachment

(Simeon et al. 2011). These interactions highlight the need to address mental health in general as an indivisible combination of environmental, psychological, and physical factors. For example, early maltreatment is more likely to produce adult antisocial behavior only in males with a polymorphism in the gene involved in the production of the neurotransmitter-metabolizing enzyme monoamine oxidase A (MAO A). Males with high MAO A activity show less antisocial behavior even if they have experienced early maltreatment, indicating that certain genotypes can moderate sensitivity to stressors. In monkeys, impulsive aggression is correlated with low cerebrospinal fluid concentrations of 5-hydroxyindoleacetic acid (5-HIAA), which is involved in serotonergic metabolism. However, this inherited characteristic is modulated by attachment experiences: monkeys reared by their own mothers show higher concentrations of 5-HIAA than those reared by peers (Barr et al. 2004). People with an avoidant attachment style show decreased activity of the striatum and the ventral tegmental area, suggesting lack of response to social rewards. Conversely, people with a preoccupied attachment style show increased activity in the left amygdala, suggesting increased sensitivity to social punishment (Vrticka et al. 2008).

Broadly speaking, we may envision three types of association between aspects of social cognition and attachment, created by attachment relationships based on intense romantic and maternal love or by attachment relationships based on threat or fear: 1) Love-related activation of the attachment system, mediated by dopaminergic structures of the reward system in the presence of oxytocin and vasopressin, can inhibit the neural systems that underpin the generation of negative affect. 2) Threat-related activation of the attachment system (e.g., triggered by perceived threat, loss, or harm) may evoke intense arousal and overwhelming negative affect, bringing about an activation of posterior cortical and subcortical areas and switching off of frontal cortical activity, including mentalization. 3) Meanwhile, a secure and predictable attachment relationship may be most effective in preempting threat, which possibly reduces the need for frequent activation of the attachment system.

It is perhaps worth noting that Bowlby (1969) considered fear, in particular, fear of the loss of the attachment figure, to be the primary reason for activation of the attachment system. An unpredictable, insecure caregiver-infant relationship is likely to result in frequent activation of the attachment system accompanied by the deactivation of neural structures underpinning aspects of social cognition. Evidence also suggests that the level of attachment anxiety is positively correlated with activation in emotion-related areas of the brain (e.g., the anterior temporal pole, which is activated when a person is sad) and inversely correlated with activation in a region associated with emotion regulation (the orbitofrontal cortex) (Gillath et al. 2005). These findings suggest that anxiously attached people might under-recruit brain regions normally used to downregulate negative emotions.

Attachment Experience and Mentalization

Mentalization, the impulse and ability to understand and imagine other people's thoughts, is one of humanity's most distinguishing and powerful characteristics. The first minds that are offered to infants to ponder on and attempt to decipher are,

of course, those of their closest family—primarily the major attachment figures. These individuals provide the earliest lessons in how other people think and also, through their reactions to the infant, formative lessons in how their thoughts are interpreted by others. The mentalization model concerns itself with the parent's understanding and reflection on the infant's internal world, and it claims a central relationship between attachment processes and the growth of the child's capacity to understand interpersonal behavior in terms of mental states (Fonagy et al. 2002).

Mentalization-based treatment has its roots in attachment theory. The focus of the approach is provided by attachment theory–inspired developmental research into the growth of understanding of mental states in self and other. The mentalization model was first outlined in the context of a large empirical study in which security of infant attachment with parents proved to be strongly predicted not only by the parents' security of attachment during the pregnancy (Fonagy et al. 1991) but even more by the parents' capacity to understand their own childhood relationships with their own parents in terms of states of mind (Fonagy et al. 1991). The capacity to mentalize is a key determinant of self-organization and affect regulation, and it emerges in the context of early attachment relationships. The concept of mentalization postulates that one's understanding of others depends on whether one's own mental states were adequately understood by caring, attentive, nonthreatening adults. Problems in affect regulation, attentional control, and self-control stemming from dysfunctional attachment relationships (Agrawal et al. 2004; Lyons-Ruth et al. 2005; Sroufe et al. 2005) are mediated through a failure to develop a robust mentalizing capacity (Bateman and Fonagy 2010). Mental disorders in general can be seen as the mind misinterpreting its own experience of itself and therefore of others (Bateman and Fonagy 2010).

Mentalization involves both a self-reflective component and an interpersonal component, is both implicit and explicit, and concerns both feelings and cognitions. In combination, mentalization skills enable a child to distinguish inner from outer reality, construct representations of his or her own mental states from perceptible cues (arousal, behavior, context), and infer and attribute others' mental states from subtle behavioral and contextual cues. The full development of mentalization depends on interaction with more mature and sensitive minds; there is growing evidence that links mentalization to the quality of attachment relationships.

Many studies support the suggestion that secure children are better than insecure children at mentalization (measured by Theory of Mind tasks) (see, e.g., de Rosnay and Harris 2002). Children with secure attachment relationships assessed by the Separation Anxiety Test do better than children with disorganized attachment on a test of emotion understanding. The first of these findings, reported from the London Parent-Child Project (Fonagy et al. 1997), found that 82% of children who were secure with the mother in the Strange Situation passed Harris's Belief-Desire Reasoning Task at 5.5 years, compared with 50% of those who were avoidant and 33% of the small number who were preoccupied. Findings along these lines are not always consistent (see, e.g., Meins et al. 2002), but it generally seems that secure attachment and mentalization are subject to similar social influences.

Two decades of research have confirmed parenting as the key determinant of attachment security; more recent work

additionally suggests that parenting can account for the overlap between mentalization and attachment security. Researchers describe the mother's capacity to take a psychological perspective on her child using different terms, including *maternal mind-mindedness*, *insightfulness*, and *reflective function*. These overlapping attributes appear to be associated with both secure attachment and mentalization (Sharp et al. 2006). Meins et al. (2001), Oppenheim and Koren-Karie (2002), and Slade et al. (2005) have sought to link parental mentalization with the development of affect regulation and secure attachment by analyzing interactional narratives between parents and children. Although Meins and colleagues assessed parents' quality of narrative about their children in real time (while the parents were playing with their children) and Oppenheim and Koren-Karie did this in a more "offline" manner (with parents narrating a videotaped interaction), both concluded that maternal mentalizing was a more powerful predictor of attachment security than, say, global sensitivity. Meins and colleagues found that mind-related comments by mothers when a child was age 6 months predicted attachment security at 12 months (Meins et al. 2001), mentalizing capacity at 45 and 48 months (Meins et al. 2002), and performance in a stream-of-consciousness task at 55 months (Meins et al. 2003). Oppenheim and Koren-Karie (2002) found that a secure mother-child relationship was predicted by high levels of mentalization about the child's behavior.

Slade et al. (2005) observed a strong correlation between infant attachment and the quality of the parent's mentalizing about the child. Rather than using an episode of observed interaction, these authors used an autobiographical memory–based interview about the child, the Parent Development Interview (PDI). High scorers on the PDI's mentalizing (Reflective Functioning) scale are aware of the characteristics of their infant's mental functioning, and they grasp the complex interplay between their own mental states and their child's putative inner experience. They are likely to have secure relationships with infants whom they describe in a mentalizing way. Low-mentalizing mothers were more likely to show atypical maternal behavior on the Atypical Maternal Behavior Instrument for Assessment and Classification (AMBIANCE) system, which relates not only to infant attachment disorganization but also to unresolved (disorganized) attachment status in the mother's AAI (Grienenberger et al. 2005).

Taken together, these results suggest that a mentalizing style of parenting facilitates the development of mentalization. Mindful parenting probably enhances both attachment security and mentalization in a child. Consistent with this is a range of findings covering aspects of parenting that have been shown to predict performance on Theory of Mind tasks. Precocious understanding of false beliefs is predicted by more reflective parenting practices, including the quality of parental control, parental discourse about emotions, the depth of parental discussion involving affect, parents' beliefs about parenting, and non-power-assertive disciplinary strategies that focus on mental states (e.g., a victim's feelings or the nonintentional nature of transgressions). All of these measures reflect concern with the child's subjective state.

One should, however, be cautious about these correlations. They are as readily explained by child-to-parent effects as by parent-to-child effects. For instance, less power-assertive parenting may be associated with mentalization not because it facilitates it but because less mentalizing children are more likely to

elicit controlling parenting behavior. Moreover, the same aspects of family functioning that facilitate secure attachment may also facilitate the emergence of mentalizing. For example, tolerance for negative emotions is a marker of secure attachment and precocious mentalizing. The process of acquiring mentalization is so ordinary and normal that it may be more correct to consider secure attachment as removing obstacles to it rather than actively and directly facilitating its development. Coherent family discourse characteristic of secure attachment helps to generate explanatory schemas with which the behavior of others can be understood and predicted. It is fair to say that in normal circumstances, conversations with frequent accurate elaboration of psychological themes may be the "royal road" to understanding minds (Harris 2005). Main's (2000) groundbreaking work has linked attachment to this kind of communication with words. The key to understanding the interaction of attachment with the development of mentalization may be to look at instances in which normally available catalysts for mentalization are absent.

Maltreatment disorganizes the attachment system. There is also evidence to suggest that it may disrupt mentalization. Young maltreated children manifest certain characteristics that could suggest problems with mentalization: 1) they engage in less symbolic and dyadic play; 2) they sometimes fail to show empathy when witnessing distress in other children; 3) they have poor affect regulation; 4) they make fewer references to their internal states; and 5) they struggle to understand emotional expressions, particularly facial ones, even when verbal IQ is controlled for. Maltreated children tend to misattribute anger and to show elevated event-related potentials to angry faces. Understanding sad and angry emotions at age 6 years predicts social competence and ability to avoid or cope with social isolation at age 8 (Rogosch et al. 1995).

In addition to reports of problems of emotional understanding, there have also been reports of delayed Theory of Mind understanding in maltreated children (Pears and Fisher 2005). The capacity to parse complex and emotionally charged representations of the parent and of the self might even deteriorate with development (Cicchetti et al. 2000).

Considered in relation to attachment, mentalization deficits associated with childhood maltreatment may be a form of decoupling, inhibition, or even a phobic reaction to mentalizing. The processes at work here are multiple: 1) adversity may undermine cognitive development in general; 2) mentalization problems may reflect arousal problems associated with exposure to chronic stress; and 3) the child may avoid mentalization to avoid perceiving the abuser's frankly hostile and malevolent thoughts and feelings about him or her.

Maltreatment can contribute to an acquired partial "mind blindness" by compromising open reflective communication between parent and child. Maltreatment may undermine the benefit derived from learning about the links between internal states and actions in attachment relationships (e.g., the child may be told that he or she "deserves," "wants," or even "enjoys" the abuse). This will more likely be destructive if the maltreatment is perpetrated by a family member. Even when this is not the case, parents' ignorance of maltreatment taking place outside the home may serve to invalidate the child's communications with the parents about his or her feelings. The child finds that reflective discourse does

not correspond to these feelings—a consistent misunderstanding that could reduce the child's ability to understand/mentalize verbal explanations of other people's actions. In such circumstances, the child is likely to struggle to detect mental states behind actions and will tend to see these actions as inevitable rather than intended. This formulation implies that treatments should aim to engage maltreated children in causally coherent psychological discourse.

These speculations clearly imply that the foundations of subjective selfhood will be less robustly established in individuals who have experienced early neglect. Such individuals will find it harder to learn about how subjective experiences inevitably vary between people. In some longitudinal investigations, low parental affection or nurturing in early childhood appears more strongly associated with elevated risk for borderline, antisocial, paranoid, and schizotypal PDs diagnosed in early adulthood than even physical or sexual abuse in adolescence (Johnson et al. 2006). A number of studies have pointed to the importance of neglect, low parental involvement, and emotional maltreatment rather than the presence of abuse as the critical predictor of severe PD (e.g., Johnson et al. 2001). Studies of family context of childhood trauma in BPD tend to see the unstable, non-nurturing family environment as the key social mediator of abuse (Bradley et al. 2005) and underinvolvement as the best predictor of suicide (Johnson et al. 2002) and personality dysfunction. Disturbance of attachment relationships, by inhibiting the capacity for mentalization, disrupts key social-cognitive capacities (the ability to conceive mental states as explanations for behavior in oneself and in others) and thus creates profound vulnerabilities in the context of social relationships. Mentalization appears to be the developmental mechanism for the connection between attachment problems and the difficulties often experienced in PD.

Natural Pedagogy and a Theory of the Differentiation of the Self

In the previous section, "Attachment Experience and Mentalization," we discussed how insecure and unpredictable attachment relationships may create an adverse social environment for the acquisition of mentalization. The theory of pedagogy explains how this acquisition or learning process is smoother for secure infants: it gives a theoretical and analytical underpinning to an understanding of the development of mentalizing and the growth of an agentive sense of self; conversely, it provides a powerful developmental explanation for how the social and interpersonal difficulties of PD might emerge.

Pedagogy theory predicts that young children will initially view everything they are taught as generally available cultural knowledge, shared by everyone (Csibra and Gergely 2006). Thus, when they are taught a word for a new referent, they do not need to check who else knows it. Young children assume that knowledge of subjective states is also common and that there is nothing unique about their own thoughts or feelings. A sense of the uniqueness of their own perspective develops only gradually.

The gradual nature of this development was underscored by developmental discussion of the phenomenon that has been termed the "curse-of-knowledge bias"; this refers to the common enough observation that if one knows something about the world, one expects

that everyone else should know it too (e.g., Birch and Bloom 2003). Young children commonly report that other children will know facts that they themselves have just learned. The curse-of-knowledge bias explains the apparent egocentrism of young children, who cannot appreciate another person's perspective: it is not the overvaluing of private knowledge, as Piaget's (1951) concept of egocentrism implies, but rather the undifferentiated experience of shared knowledge that hinders children from taking the perspective of the other. Children are correct to assume universal knowledge during development because their representations of their own subjectivity were indeed someone else's beliefs about the children before social mirroring enabled the children to make these representations their own. This phenomenon will gradually be less and less true as children mature, yet even as adults, individuals may occasionally catch themselves assuming that others think the same way they do.

Young children do not yet know that they can choose whether or not to share their thoughts and feelings with adults. Toddlers may be prone to tantrums because they fully expect other people to know what they are thinking and feeling and to see situations in the same way they do. Disagreement cannot yet be understood as the result of different points of view, so if adults thwart them, the adults must be either malign or willfully obtuse. Thus, conflict is not just hurtful but also intolerable and maddening because it denies this probably highly valued shared reality. What exists in the mind must exist "out there" and what exists out there must also exist in the mind. This "psychic equivalence," as a mode of experiencing the internal world, can cause intense distress because the projection of fantasy can be terrifying. The acquisition of a sense of the pretend in relation to mental states is therefore essential. Repeated experience of affect-regulative mirroring helps the child to learn that feelings do not inevitably spill out into the world: they are decoupled from physical reality. At first this decoupling is complete (what we have called the *pretend mode* [Fonagy and Target 2007]). While a child is focused on the internal, no connection with physical reality is possible. Only gradually, by engaging in playful interaction with a concerned adult who seriously entertains the child's pretend world, will the pretend and psychically equivalent modes integrate to form genuine subjectivity.

In understanding the emergence of mentalization, it is not necessary to account for how children come to understand that other people have minds. Children assume, once they acquire introspectively accessible representations, that this is always the case. Recent research on Theory of Mind using an adapted version of the displacement task suggests that awareness of other minds is present from as early as age 15 months (Kovacs et al. 2010). The new theoretical perspective of pedagogy theory focuses developmental attention on children's understanding that others have separate minds with different contents. The question is: What social conditions might help infants to learn when to suspend their default assumption of universal knowledge?

Pedagogy theory clarifies the role of early attachment relationships in the emergence of individual subjectivity and perspective taking. The establishment of subjectivity is linked to attachment via the overlap between consistent ostensive and accurate referential cueing and what attachment theorists have designated "sensitive parenting" (Fearon et al. 2006). By building second-order representations

on the one hand and providing mental reasoning schemes to make sense of action on the other, the relationship with the mind-minded reflective caregiver transforms the child's implicit and automatic mentalizing competence into an explicit, potentially verbally expressible, and systematized "theory of mind." Aspects of secure attachment (e.g., attunement sensitivity) appear to have a pedagogical function, teaching us what we cannot learn about the world through simple observation. Subjectivity, of course, belongs to this class of phenomena. Secure attachment and the mind-minded reflective mirroring environment extend awareness to include internal states, thereby making self-prediction and emotional self-control possible. Pedagogical referential communication applied to the domain of the emotional and dispositional/intentional states of the self creates the context wherein the caregiver can teach the child about the subjective self. The benign effects of secure attachment arise at least in part out of superior competence at ostensive cueing.

There is a second aspect of this process, however, in which the attachment relationship may play a crucial part: competition with other people, which is potentially a primary driver of the evolution of mentalization. The pedagogical function needs to be protected from deliberate misinformation by competitors who do not have genetic material in common with the infant and are therefore not invested in his or her survival. The 3- to 4-year-old child's sensitivity to false beliefs suggests that he or she has become aware not only that knowledge is not invariably shared but also that it is not necessarily communicated with benign intent. In Mascaro and Sperber's (2009) study, preschool children responded differentially to information supplied by a benevolent versus a malevolent communicator. Passing the false belief test—that is, "having a Theory of Mind"—was associated with sensitivity to information coming from positively versus negatively connoted sources.

A person monitors the mental states of others in part to establish the possible motivations behind any giving of information. The quality of the relationship between parent and child plays an important role in establishing one's capacity to do this. Children who have experienced disorganized attachment will be disadvantaged because of confusion about the possibility of trust. The secure child, by contrast, has already developed a robust sense of shared subjectivity and may also be most open to learn about the uniqueness and separateness of his or her self-experience. Attachment may well be a helpful behavioral marker of shared genetic makeup (Belsky and Jaffee 2006) and consequently a kind of "hallmark of authenticity of knowledge." The indications of generic cognitive benefits associated with secure attachment are in line with the assumption of more reliable processing of pedagogical information in caregiving environments that engender attachment security (Cicchetti et al. 2000).

In summary, we suggest that the advantage of secure attachment for the precocious development of mentalization and for the stronger establishment of an agentive sense of self is the consequence of the infant's general predisposition to learn from adults. As learning is triggered by ostensive cues that share characteristics with secure parenting, the teaching of secure infants may be smoother than that of insecure ones. By contrast, disorganized attachment interferes with ostensive cues and would be expected to disrupt learning. It is expected that the influence of secure attachment will be particularly crucial in

teaching the infant about his or her own subjectivity. Finally, the characteristics of communication associated with sensitive caregiving also reassure the infant about the trustworthiness of the information to be communicated. From an evolutionary standpoint, one may consider such ostensive cues (at least in infancy) to trigger a "basic epistemic trust" in the caregiver as a benevolent, cooperative, and reliable source of cultural information (Gergely 2007). This basic trust enables the infant to rapidly learn what is communicated without the need to test for social trustworthiness (Slade et al. 2005). Adults mainly teach infants they look after, whom they have genetic reasons to care for. Infants are also selective, identifying attachment figures to teach them what in the world is safe and trustworthy, and, furthermore, how they can think about their thoughts and feelings and how knowledge of such internal states can eventually make a bridge to understanding and prediction in the wider social world.

An Attachment Theory of Borderline Personality Disorder Based on Mentalization

To show that attachment theory can usefully be integrated to address clinical problems, we briefly review the mentalization-based theory and treatment of BPD (Bateman and Fonagy 2006; Fonagy and Bateman 2006). We consider the failure of mentalization within the attachment context to be the core pathology of BPD (Bateman and Fonagy 2004), and our treatment package aims to assist in its recovery (Bateman and Fonagy 2006).

The alternative model for PDs, provided in Section III of DSM-5 (American Psychiatric Association 2013), differs from the categorical approach expressed in DSM-IV and in DSM-5 Section II, "Diagnostic Criteria and Codes." This significant new model is pertinent here because it is conceptually quite congruent with key findings of attachment theory–based research on PDs. The alternative DSM-5 model describes PDs according to two primary criteria. Criterion A constitutes impairments in personality *functioning*, both personal self-functioning and interpersonal functioning. Functioning can be evaluated on a continuum that determines levels of impairment. Criterion B constitutes pathological personality *traits*—that is, tendencies to behave or think in certain ways, which may rise and fall across life according to circumstances and experience. Disturbances in self and interpersonal functioning (Criterion A) are thus central components in the conceptualization and diagnosis of PD. Self-functioning encompasses an individual's identity and sense of self-direction; interpersonal functioning encompasses empathy and the capacity for intimacy. Both of these fundamental elements of personality function are generated by attachment relations: secure attachment develops the clarity of identity and a distinct set of boundaries between self and other that are necessary for this aspect of healthy self-functioning. Similarly, the sense of agency in the secure child enables him or her to set and aspire to reasonable goals using appropriate behaviors and to reflect constructively on his or her own experience. In the arena of interpersonal functioning, secure attachment drives the development of mentalization—the ability to understand other people's emotions and motivations accurately—and provides a working model for forming intimate and enduring relationships. Conversely, impairments in

both self-functioning and interpersonal functioning are adaptations to insecure attachment experiences. Many of the features of insecure attachment in adulthood correlate with the impairments in functioning described in Section III of DSM-5: a weak or distorted self-image, a limited capacity to regulate affect, incoherent or unrealistic goal setting, the inability to consider and comprehend others' feelings or motivations (the inability to mentalize), and a diminished capacity for enduring and reciprocal intimacy in interpersonal relationships.

In cases of BPD, individuals have schematic, rigid, and sometimes extreme views, which make them vulnerable to powerful emotional storms and apparently impulsive actions and which can create profound problems of behavioral regulation, including affect regulation. In our model of the failure of mentalization in BPD, the role of the attachment environment is considered alongside constitutional vulnerabilities. The vulnerability reflected in the heritability of BPD may be directly linked to the capacity for mentalization or may represent the fragility of this capacity in situations of environmental deficiency, as exemplified by severe neglect, psychological or physical abuse, childhood molestation, or other forms of maltreatment.

As we considered earlier in the section "Attachment Experience and Mentalization," mentalization may be temporarily inhibited by strong emotional arousal, by the intensification of attachment needs, or by a defensive turning away from the world of hostile and malevolent minds in the context of severe maltreatment. Mentalization deficit associated with maltreatment may not necessarily reflect incapacity but rather a form of decoupling, inhibition, or even a phobic reaction to mentalizing in maltreated individuals. There are multiple possibilities, of which we list two examples here. First, the reluctance to conceive of mental states on the part of maltreated individuals might be understandable given the hostile and malevolent thoughts and feelings that the abuser must realistically hold to explain his or her actions against a vulnerable young person. Consistent with this assumption, forms of maltreatment that are most clearly malevolent and clearly target the child (i.e., physical, sexual, and psychological abuse) have the greatest impact on mentalization. Second, it could be argued that adversity undermines cognitive development in general. Certainly, there is strong evidence to suggest that addressing issues of maltreatment in parent-child relationships can facilitate the child's cognitive development (Cicchetti et al. 2000). Our current model stresses that minor experiences of loss or relatively small emotional upsets without expectation of being comforted may be enough to cause intense activation of the attachment system in these individuals. Their attachment system is hyperactivated, probably because of interpersonal experiences associated with childhood trauma. This state of arousal inhibits mentalization and, combined with an unstable capacity for affect regulation, triggers the typical symptoms of the disorder.

There is ample evidence that maltreatment puts children at risk of profound deficits in the skills required to negotiate social interactions with peers and friends. These deficits are broad ranging and may affect verbal ability, the comprehension of emotional stimuli and situations, and possibly also Theory of Mind. We have seen that the level of mental state understanding (particularly emotion understanding) is closely linked to the extent to which emotions are openly discussed in the mother-child dyad or can be discussed given the child's deficits and the parents' ability to overcome them. We

may then argue that maltreatment acts on mentalization in many ways; it compromises the unconstrained, open reflective communication between parent and child or indeed between child and child. Maltreatment undermines the parent's credibility in linking internal states and actions. This limitation in communication is not hard to comprehend and could hardly be otherwise if the maltreatment is perpetrated by a family member. However, even in cases where maltreatment is not perpetrated by a family member, the centrality of the maltreatment experience for the child, coupled with the oversight on the part of the parent of the maltreatment that the child encounters outside the home, could serve to invalidate the child's communications with the parent concerning the child's subjective state. Thus, apparently reflective discourse will not correspond to the core of the child's subjective experiences, and this discrepancy moderates or reduces the facilitative effect of mentalizing verbal rationalizations of actions in generating an intentional as opposed to a teleological orientation. The formulations advanced here imply that therapeutic interventions should aim to engage maltreated children in causally coherent psychological discourse within appropriate contexts. The more reliable processing of pedagogical information in the context of secure attachment would account for the broad and generic intellectual benefits that appear to accrue from secure attachment in infancy.

Insecure and unpredictable attachment relationships between parent and infant may create an adverse social environment for the acquisition of mentalization or "mind reading" in the child. This may to a limited extent be adaptive, in that within extreme social contexts mentalization is a less useful strategy. If parent-child interaction is in crucial respects not genuine, the child might well be deconditioned from using mentalization as his or her predictive strategy. Severely insecure, abusive, inconsistent, and disorganized attachment relations may well be detrimental for mentalization to survive as a dominant, predictive interpersonal strategy. However, within the same contexts of deprivation and risk, mentalization could hold the key to breaking the cycle of abuse and deprivation for that child growing up and for the children he or she may go on to produce.

We see the capacity to mentalize as particularly helpful when people have been traumatized. Mentalization of experiences of adversity can moderate their negative sequelae (Fonagy et al. 1996). The capacity to mentalize enables those who are subjected to traumatic experiences to hold back modes of primitive mental functioning. It makes conceptual sense, therefore, for mentalizing to be a focus for therapeutic intervention if therapists are to help patients with BPD bring primitive modes of mental functioning under better regulation and control.

Attachment and Treatment Outcome for Personality Disorders

A child who is securely attached has had his or her acute affective states consistently reflected back to him or her in an accurate, but not overwhelming, manner. This repeated mirroring enables the infant to develop an increasing capacity for mental processing, particularly mentalization. In other words, it allows the individual to imagine that others have a mind that is essentially like his or her own and to interpret and respond to oth-

ers' feelings. The emergence of spoken language about feelings seems to be related to the attachment figure's ability to put the child's mental experience into words. Securely attached children seem to acquire speech more rapidly and remain more verbally competent than insecure children. Conversely, insecure attachment leads to developmental impairment of the internal state lexicon and to subsequent alexithymia in adulthood. Effective therapies must therefore include a component that allows patients to recognize, label, and verbally communicate their feelings.

On the basis of empirical evidence demonstrating that insecure attachments are risk factors for PDs and other mental illnesses, researchers have taken an interest in the relationship between attachment and psychotherapeutic success. It is widely accepted that attachment characteristics influence psychotherapeutic outcomes, but results are inconsistent. Most studies show that securely attached patients obtain better results (Cartwright-Hatton et al. 2011), but others indicate better outcomes for avoidant and disorganized patients (Fonagy et al. 1996).

The largest meta-analysis on the influence of attachment on psychotherapeutic outcome in various diagnoses (including PDs) and heterogeneous psychotherapeutic orientations consistently found that although attachment anxiety negatively affects outcome, attachment avoidance has no effect. This meta-analysis confirmed that higher attachment security predicts better therapeutic outcomes (Levy et al. 2011).

In addition to affecting symptomatic outcomes, attachment is associated with treatment dropout. Adult avoidant attachment constitutes a risk for dropout because patients are not fully committed, attached, or engaged with the therapist or the treatment. Psychotherapy can be seen as a threat to these patients' defensive apathy, and a negative transference pattern may emerge. Contrastingly, preoccupied patients are at risk of dropout after perceived abandonments such as emergency cancellations or scheduled vacations. Fearfully preoccupied individuals are prone to dropout in response to feeling attached to or dependent on the therapist and treatment (Levy et al. 2011).

Attachment also influences the therapeutic alliance, which in turn has important effects on outcome. Whereas secure patients perceive their therapists as responsive and emotionally available, avoidant/fearful patients are reluctant to make personal disclosures, feel threatened, and suspect that the therapist is disapproving. Preoccupied patients wish for more contact with the therapist and may seek to expand the relationship beyond the bounds of therapy (Levy et al. 2011).

Following Bowlby's attachment theory, both protection-seeking *and* caregiving behavior are influenced by attachment (Bowlby 1988). Therefore, the therapist's attachment style also influences the process and outcome of treatment. Therapists with anxious attachment styles create strong therapeutic alliances, but the quality of the alliance decreases with time when patients show interpersonal distress. Sessions between an avoidant therapist and an anxious patient attain less depth.

Some studies have shown changes in patients' attachment resulting from treatment. Fonagy et al. (1995) reported on a sample of patients with BPD under psychodynamic treatment. After treatment, 40% of the patients were classified as secure; none of the patients had this classification before treatment. A multisite study of several inpatient group psychotherapies found consistent improvement

of attachment security after 9 weeks of treatment, compared with nonclinical controls, that was maintained at 1-year follow-up (Kirchmann et al. 2012). In a randomized controlled trial of transference-focused psychotherapy, dialectical behavior therapy, and supportive therapy, only transference-focused psychotherapy achieved an increased number of patients classified as secure after treatment (Levy et al. 2006). A successful treatment does not necessarily imply attaining a secure attachment style, however: female patients with BPD whose attachment style changed from ambivalent to avoidant have shown improved symptomatic results at the end of short-term therapy (Strauss et al. 2011).

Conclusion

Building on the scientific cogency and fruitfulness of attachment research, attachment theory is now being increasingly translated into clinical settings. Recent work has demonstrated how practitioners can profit from the use of simple measures of attachment in order to tailor their interventions to maximize gains and minimize iatrogenic effects, a common difficulty in the treatment of PDs (Adshead 2010; Adshead et al. 2012; Conradi et al. 2011; Davila and Levy 2006; Levy et al. 2011; Westen et al. 2006). Mental health interventions can often stimulate the attachment needs of patients but may not provide the necessary protection and structure required to deal with the consequences of activating attachment systems, ranging from dropout to suicide (Levy et al. 2012; Spinhoven et al. 2007). The concept of a "secure base"—from which to start a curative change in relationship representations—needs to be integrated into approaches to treatment.

Secure attachment is built on the confident expectation that distress will be met with comfort and reassurance. But beyond this, because secure attachment facilitates the emergence of psychic structures linked to emotion, the entire representational system is likely to be more stable and coherent with a history of generally secure attachment experiences. The way people experience thoughts, including attachment-related thoughts and the cognitive structures that underpin them, may be seen as linked to physical aspects of early infantile experience. Attachment immediately takes center stage once research recognizes the physical origins of thought. It is possible now to see insecure patterns of attachment as adaptations that maximize the chances of survival of the infant to reproductive maturity despite adverse conditions for child rearing: continuing to cry when comforted may bring vital resources when individual attention is a rare commodity.

Missing out on early attachment experience creates a long-term vulnerability from which the child may never recover; the capacity for mentalization is never fully established, leaving the child vulnerable to later trauma and unable to cope fully with attachment relationships. More importantly, by activating attachment, trauma will often disrupt mentalization. This, of course, is further exacerbated when the trauma is attachment trauma. Attachment is the evolutionary instrument for humanity's most defining feature: the capacity for a complex social understanding both of oneself and of others.

The resistant pattern of attachment, characterized by an exaggeration of distress to ensure care, is linked to preoccupied states of mind in relation to attachment, usually involving anger or passivity. The common markers in the AAI include unfinished, run-on, or entangled sentences. The gesture that is ex-

pressed is one of needing to hold on yet not being satisfied. Losing track of the interview question and rambling on to irrelevant topics is a mental gesture that expresses a feeling of being lost or perhaps the very act of losing. Loss is also expressed at gesture language level by both the listener and the speaker feeling lost in the narrative. Anger, aimed at involving the interviewer, is a hallmark of a subcategory of such interviews.

Work in cognitive science has increasingly shown that the brain is the organ of the mind and that disorders of the mind are also disorders of the brain. Attachment relationships have a unique brain representation, and empathy and sensitivity depend on the effective functioning of specific brain centers. Considerable evidence is accumulating that disorders of the capacity to form relationships with one's infants or in adulthood can be characterized meaningfully at the level of brain activation. Attachment turns out to be more firmly embedded in the interface of bodily and environmental contexts than was appreciated in the cognitive science of the 1970s.

Attachment theory draws together the psychological, psychiatric, social, and neuroscientific work on PDs. Across recent decades, the research base and explanatory importance of attachment theory have been consolidated. In drawing this information together in this chapter, we have sought to demonstrate how the difficulties expressed in PDs can be understood as mentalizing failures. Insecure attachment relations obstruct the development of the capacity for mentalization via the disturbance of infants' natural disposition to learn from their primary attachment figures: in other words, the "pedagogical function" is disrupted.

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CHAPTER 5

Genetics and Neurobiology

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In the last 30 years, there has been a rapid explosion in knowledge regarding the neurobiology of brain substrates of the severe personality disorders (PDs). Once conceived solely in traditional psychodynamic or behavioral terms, these disorders are increasingly understood as emerging from biological susceptibilities shaped by genetic dispositions in concert with environmental insults or constraints. These advancements have stimulated the development of interactional models of the PDs, ultimately leading to new forms of treatment in both the pharmacotherapy and the psychosocial treatment arenas. They also have opened the door to possible neurobiological as well as clinical predictors of responses to these treatments.

The PDs have traditionally been conceptualized in terms of categories that stem from a long-standing clinical tradition. Of the multiple PD categories included in versions of DSM from DSM-III (American Psychiatric Association 1980) through DSM-5 (American Psychiatric Association 2013), the categories of borderline, schizotypal, antisocial, and avoidant PDs emerge as having the greatest number of studies of external validators. Complementary to this categorical approach is a dimensional approach to PDs consonant with a long tradition in academic psychology of defining PDs as continuous dimensions of pathology or, at a more refined level, of multiple interactive traits. Both of these systems are acknowledged in "Alternative DSM-5 Model for Personality Disorders" in Section III, "Emerging Measures and Models," of the DSM-5 diagnostic manual.

In this chapter, we discuss the genetics and neurobiology underlying the catego-

ries of borderline, schizotypal, antisocial, and avoidant PDs. Major domains or dimensions of psychopathology that we acknowledge in this chapter include affect or emotion regulation, impulse/action modulation, interpersonal/social cognition, and anxiety related to defenses against its emergence.

Borderline Personality Disorder

The neurobiology of borderline PD (BPD) has been more extensively studied than that of any other PD. BPD is defined in DSM-5 by the presence of five of nine criteria, encompassing pervasive patterns of emotion dysregulation, impulsive aggression, unstable interpersonal relationships, and self-inflicted injury. An alternative conceptualization of BPD, focusing on pathological expressions of several personality traits and impairments in interpersonal and self-functioning, is introduced in DSM-5 Section III, "Emerging Measures and Models." The DSM-5 traits relevant to BPD include negative affectivity, disinhibition, and antagonism. Common to both diagnostic conceptualizations are the important borderline phenotypes of emotion dysregulation, impulsive aggression, and disturbed interpersonal functioning. The high incidence of self-injurious behavior, including nonsuicidal self-injury, in patients with BPD highlights the need to study pain-processing mechanisms in BPD. For each of these phenotypes, we review recent neuroimaging and genetic findings.

Emotion Dysregulation

Affective instability has been a defining criterion for BPD since the disorder was first introduced into the official nosology in DSM-III. Affective instability in BPD is marked by vulnerability to rapid and intense shifts in affect. Changes in affective state occur over intervals of hours to a few days at a time. These changes are often, but not always, triggered by identifiable psychosocial stressors. In BPD the instability is associated primarily with the affects of anger, anxiety, and depression (Koenigsberg et al. 2002).

Linehan (1993) has suggested that affective instability in BPD is a result of the combination of a high sensitivity to emotional stimuli coupled with a deficient ability to regulate emotions. Consistent with the notion of heightened sensitivity to emotion cues are reports that patients with BPD require less visual information than do healthy control (HC) subjects to correctly identify facial emotion. Others have suggested that patients with BPD are less accurate in identifying emotion because they have a bias to preferentially identify negative or hostile emotions (Domes et al. 2009). However, both observations are consistent with the oversensitivity of patients with BPD to facial cues of hostile or negative emotion.

Healthy individuals draw on a number of emotion regulatory mechanisms to maintain or restore emotional responses to tolerable levels. These include explicit regulation strategies such as cognitive reappraisal, in which a narrative is created to reframe an emotional situation in a less disturbing or more exciting fashion, and implicit regulation mechanisms such as habituation, in which the emotional intensity of a stimulus is reduced with repeated exposure to the stimulus. Top-down neural control processes facilitate the former, whereas bottom-up processes enable the latter. The reallocation of attention may play a role in both types of regulatory process.

Neuroimaging Findings

Structural and functional neuroimaging methods, such as magnetic resonance imaging (MRI), positron emission tomography (PET), functional MRI (fMRI), and diffusion tensor imaging (DTI), provide a window into the neurobiology underlying emotion regulation in BPD. To understand differences in the underlying neural substrates for emotion processing between patients with BPD and HC subjects, investigators have examined brain regions of interest that are known to play a role in emotion processing and also have examined whole-brain neural activity patterns and network connectivity during emotional tasks.

The amygdala is a structure particularly relevant to emotion processing. It is engaged during fear processing as well as during the assessment of emotional salience and in processing facial expressions. The fusiform gyrus is a structure specialized for face processing. The insula plays an important role in the integration of affective, cognitive, and interoceptive aspects of emotion, as well as a role in emotional appraisal and social emotion. Another region relevant for emotion processing is the anterior cingulate cortex (ACC). The rostral ACC has been implicated in emotion processing and the dorsal ACC in cognitive processing, cognitive modulation of emotion, and integration of emotional information for adaptively planning behavioral responses.

A series of studies comparing the volumes of brain structures involved in emotion processing have reported differences between patients with BPD and HC subjects. Patients with BPD have decreased cingulate gray matter (Hazlett et al. 2005; Minzenberg et al. 2008) and hippocampal volumes (Nunes et al. 2009) relative to HC subjects. Amygdala volumes in patients with BPD, compared with those of HC subjects, have been reported as increased (Minzenberg et al. 2008), the same (New et al. 2007), and decreased (Brambilla et al. 2004; Driessen et al. 2000; Nunes et al. 2009; Schmahl et al. 2003; Tebartz van Elst et al. 2003). These discrepancies in amygdala volume may be due to the confounding effect of comorbid depression in some subjects. However, a recent meta-analysis of amygdala and hippocampal volumes in BPD concluded that the volumes of these structures in patients with BPD are reduced compared with those of HC subjects (Nunes et al. 2009). Examining gender differences and correlates of the structural anomalies in BPD, Soloff et al. (2008) found decreased gray matter density in patients with BPD compared with HC subjects in the ventral cingulate and in a number of temporal lobe regions, including the amygdala, hippocampus, parahippocampal gyrus, and uncus in both genders. Controlling for the current level of depression, all of these differences remained except in the ventral cingulate. Only male patients with BPD showed decreased gray matter concentrations in the ACC (Soloff et al. 2008).

Studies that examined neural activity as patients with BPD and HC subjects viewed emotional faces or emotional scenes have identified functional anatomical features differentiating the subject groups. Patients with BPD show increased amygdala activation during passive viewing of fearful, sad, happy, and neutral faces. Increased amygdala and fusiform face region activity has also been identified in subjects with BPD viewing photographs depicting emotion-inducing scenes (Herpertz et al. 2001; Koenigsberg et al. 2009b). When viewing negative pictures compared with neutral pictures, patients with BPD

showed greater activation of the primary visual areas and the superior temporal gyrus (Koenigsberg et al. 2009b). Increased activation in the visual areas could contribute to the heightened sensitivity of patients with BPD to negative facial expressions. The superior temporal gyrus is thought to play a role in the assessment of another's intentions based on gaze, posture, and movement and is part of the fast-operating, nonreflective reflexive system posited by Satpute and Lieberman (2006). Increased activation of this region could then be a neural correlate of a tendency to reflexively judge the intentions of others.

One possible contributor to affective instability in patients with BPD could be impairment in processes used by healthy individuals to regulate emotion. One such process is cognitive reappraisal, one form of which is creating a narrative frame of reference that modifies the emotional valence of a given situation. For example, a healthy person who encounters someone looking ill in a hospital bed might think about the excellent medical resources available and focus on the likelihood of the patient's recovery. A second form of cognitive reappraisal is distancing, a process in which one focuses on one's own separateness from a distressing situation. Thus, the emergency room physician maintains a "clinical distance" from a seriously injured and suffering patient in order to be able to effectively help the patient. Such processes are ubiquitous and highly adaptive. The clinical observation that patients with BPD readily become emotionally overinvolved with others raises the possibility that they cannot engage the distancing process as effectively as healthy individuals can. In an fMRI study in which patients with BPD and HC subjects were asked to downregulate their emotional reactions to disturbing pictures by distancing, the patients with BPD were not able to activate the dorsal ACC or intraparietal sulcus, regions implicated in emotion regulation and attentional allocation, to the extent that HC subjects did (Koenigsberg et al. 2009a). In addition, the patients were not able to downregulate amygdala activity as HC subjects could. A subsequent study (Schulze et al. 2011) found that during distancing, patients with BPD did not decrease insula activity and did not increase orbitofrontal activity as HC subjects did. Thus, patients with BPD do not engage the same brain regions as HC subjects do when attempting to downregulate negative affect using cognitive reappraisal, and they do not downregulate amygdala and insula activity as HC subjects do.

In addition to explicit voluntary emotion regulatory processes such as cognitive reappraisal, implicit processes such as emotional habituation may engage spontaneously to downregulate negative affect. Such processes are highly adaptive and form the basis for desensitization-based psychotherapies. Patients with BPD do not behaviorally habituate to negative pictures. Imaging studies have shown that when repeatedly exposed to negative pictures, patients with BPD do not activate the dorsal ACC as strongly as HC subjects do and that the less they activate this region, the greater the level of affective instability that they display (Koenigsberg et al. 2013). Hazlett et al. (2012b) reported an increase in amygdala activation (i.e., a sensitization) in patients with BPD to repeated exposure to negative pictures. These findings suggest that patients with BPD do not habituate to negative stimuli as HC subjects do. Such a dysfunction of this implicit emotion regulatory mechanism could contribute to borderline affective instability.

Genetics

Although studies exist that implicate specific candidate genes in BPD, none has shown a relationship specifically with affective instability in BPD. Indeed, the one large twin study that specifically examined heritability of BPD and four main symptom domains associated with BPD (affective instability, identity problems, relationship disturbances, and self-harm) showed that heritability was best explained by a genetic common pathway model. This unitary latent heritability factor accounted for 51% of the variance, and the remainder was explained by unique environmental influences. For each BPD scale except self-harm, around 50% of its variance was explained by the latent unitary BPD factor. The remaining variance for each of the four scales was explained by genetic (4% for affective instability to 20% for self-harm) and environmental (38% for negative relationships to 67% for self-harm) factors (Distel et al. 2010).

Impulsive Aggression

Although some violence is the result of premeditated aggression, most acts of domestic violence and many acts of aggression in the workplace are impulsive responses to interpersonal interactions. Individuals who engage in impulsive aggression are typically remorseful about their acts and perceive the adverse consequences of these acts. Nevertheless, these individuals often have difficulty exerting control over their aggression. Impulsive aggression is a common feature of BPD, as identified in one of its DSM-5 criteria: "Inappropriate, intense anger or difficulty controlling anger (e.g., frequent displays of temper, constant anger, recurrent physical fights)."

Although common in BPD, impulsive aggression is clearly a symptom that cuts across diagnostic categories and is present across the PD spectrum as well as in mood disorders, posttraumatic stress disorders, and other disorders. What is less clear is whether impulsive aggression is present in most individuals with BPD or whether there is an "impulsive aggressive" subset of patients with BPD. This empirical question has not been completely answered and speaks to the need for research into the possibility of heterogeneity within the group of individuals with BPD. Early factor analyses of DSM-III-R criteria showed three predominant factors—disturbed relatedness, behavioral dysregulation, and affective dysregulation—in BPD; however, subsequent analyses showed that these factors were highly correlated with one another ($r = 0.90$, 0.94, and 0.99) (Clifton and Pilkonis 2007). Further support for a unitary construct underlying BPD came from a study in a mixed clinical and nonclinical sample ($N = 362$); this study revealed two latent classes (symptomatic and asymptomatic) and a single severity dimension that fit the BPD criteria (Clifton and Pilkonis 2007). However, a follow-up analysis, including not only DSM-IV criteria but also other symptom domains in 100 symptomatic subjects, suggested that there might be heterogeneity within BPD along the angry/aggressive, angry/mistrustful subtypes. Interestingly, this subclass did not differ in sex ratio from other patients with BPD. In general, this study provides some support for the idea that a subset of patients with BPD may be particularly at risk for impulsive aggression (Hallquist and Pilkonis 2012).

Behavioral Data

Self-report data have consistently shown that patients with BPD score higher than healthy individuals in impulsive aggression and anger. However, these self-re-

port measures do not distinguish well between patients with BPD and patients with other PDs. The most studied laboratory provocation of aggression in PDs is the Point Subtraction Aggression Paradigm (PSAP). The aim of behavioral provocation studies is to overcome the difficulty of studying a behavior that is intermittent in nature. A patient suffering from poor impulse control can appear normal until provoked, often by an interpersonal conflict, which then elicits a severe reaction with marked consequences both to the patient and to those around him or her. Individuals at risk for reactive aggression tend to respond aggressively to minor interpersonal provocation or stressful situations. The PSAP is a well-validated laboratory provocation of aggression that involves an experimental subject and a "confederate" (a computer) (Cherek et al. 1997). The experimental subject accumulates "points" that can be exchanged for money, and provocation occurs when the "confederate" removes points from the experimental subject. This has been shown to be a safe and effective way to measure the tendency to become aggressive in a laboratory setting, and it permits the assessment of a wide range of levels of aggression.

Studies in patients with BPD have shown that hospitalized female subjects with BPD were more aggressive on the PSAP than HC subjects. In a study of outpatients with PDs, both subjects with BPD and patients with other PDs made a higher proportion of aggressive button selections and a lower proportion of monetary button selections than did HC subjects. Aggressive responding on the PSAP correlated with symptoms of reactive aggression, and individuals with a high degree of aggression showed impaired recruitment of orbitofrontal cortex (OFC) during aggression provocation (New et al. 2009).

Although the behavioral tasks did show elevated impulsive aggression in patients with BPD, the PSAP was no better than self-report in distinguishing patients with BPD from patients with other PDs and did an equally good job in distinguishing patients with BPD and other PDs from controls. Thus, neither self-report data nor aggression provocation elicited BPD-specific responses. This finding may reflect that the symptom domain of impulsive aggression cuts across diagnostic categories and is not specific to BPD.

Neuroimaging Findings

Preclinical and human studies involving brain lesions suggest that the prefrontal cortex, particularly the prefrontal OFC and adjacent anterior cingulate gyrus (ACG), plays a central role in the regulation of aggressive behavior. Irritability and angry outbursts are associated with damaged OFC in neurological patients. Lesions of the OFC early in childhood can result in antisocial, disinhibited, and aggressive behavior later in life, and reduced prefrontal gray matter has been associated with autonomic deficits in aggressive individuals with antisocial PD (Raine and Lencz 2000). Decreased ACG volume as measured by structural MRI is associated with aggression in adults without psychiatric illness and in children. These studies suggest that the OFC and ACG are critical in modulating the emergence of aggression, especially in emotionally complex social situations (reviewed by Coccaro et al. 2011).

The concept that the prefrontal cortex controls and inhibits the amygdala and other limbic structures was proposed decades ago and is supported by abundant preclinical and clinical evidence (Roxo et al. 2011). Evidence for the involvement of the prefrontal cortex in modulating an aggressive response includes structural

imaging data. Volume reduction in OFC and ACG has been shown in individuals with impulsive aggression; interestingly, structural abnormalities in OFC and ACG have been reported in patients with BPD, but the relationship of those structural abnormalities to aggressive symptoms in BPD has not been clearly demonstrated. One study showed diminished regulatory input from medial OFC in healthy individuals during anger provocation (Pietrini et al. 2000). Functional amygdala-OFC connectivity has been shown in healthy individuals responding to aggressive faces. Disruption of amygdala-OFC coupling has been shown in BPD patients with impulsive aggression (New et al. 2007) and in PD patients with intermittent explosive disorder in response to angry faces (Coccaro et al. 2007). Few studies have used DTI to study the white matter tracts in patients with aggression. One DTI study showed decreased fractional anisotropy, an indication of decreased directional coherence in white matter tracts, in women with BPD and self-injury (Grant et al. 2007); another showed that increased mean diffusivity (another measure of white matter tract integrity) in inferior frontal white matter was associated with higher levels of anger and hostility (Rüsch et al. 2007). Recently, decreased fractional anisotropy has been shown in the white matter tracts in the temporal lobes of adolescents with BPD, but an adult sample studied in a similar manner did not show this anomaly (New et al. 2013). This finding raises the possibility of a developmental difference in white matter tract integrity in patients with BPD.

Peripheral evidence for decreased serotonergic responsiveness in patients with BPD led to brain imaging studies to explore central serotonergic responsiveness more directly. A number of studies have demonstrated decreased metabolic activity in OFC and ACG in response to serotonergic challenge in impulsive aggressive patients with BPD compared with HC subjects. One such study, using PET, found that whereas normal subjects showed increased metabolism in OFC and ACG following administration of D,L-fenfluramine, a serotonin-releasing agent, impulsive aggressive patients with PDs showed significant increases only in the inferior parietal lobe (Siever et al. 1999). A larger study confirming prefrontal hypometabolism in response to D,L-fenfluramine demonstrated that HC subjects showed increased metabolism in ACG and OFC following serotonergic stimulation, whereas patients with BPD showed decreased metabolism in these areas (Soloff et al. 2000). Our work employing 18-fluorodeoxyglucose PET to assess relative metabolic activity after administration of meta-chlorophenylpiperazine, a serotonin agonist, reuptake inhibitor, and releasing agent, showed reduced metabolic responses in medial OFC and ACG in impulsive aggressive patients, all but one of whom met criteria for BPD, compared with control subjects (New and Hazlett 2002). In addition, in patients with BPD, we found increased activity in the posterior cingulate both at rest and in response to a serotonergic challenge; posterior cingulate is a brain area that has been specifically implicated in the recognition of facial emotion and therefore is particularly interesting in BPD. Further support for serotonergically mediated hypometabolism in OFC in BPD comes from evidence of a normalization of OFC function with fluoxetine treatment in impulsive aggressive patients with BPD (New et al. 2004).

The mechanism of the serotonergic abnormality in BPD has been examined more closely with molecular neuroimag-

ing studies. A PET study of serotonin synthesis showed lower synthesis in men with BPD compared with control subjects in medial frontal gyrus, ACG, superior temporal gyrus, and corpus striatum; women with BPD had lower serotonin synthesis compared with controls in right ACG and superior temporal gyrus (Leyton et al. 2001). More recently, the serotonin transporter PET radiotracer [^{11}C]McN5652 was used to show reduced availability of serotonin transporter (5-HTT) in ACG of individuals with PD and impulsive aggression compared with HC subjects, suggesting reduced serotonergic innervation in this brain region (Frankle et al. 2005). These findings lend further support to serotonergic dysfunction in patients with BPD.

Genetics

Twin and family studies suggest that aggression, particularly impulsive aggression, has substantial heritability (44%–72%), consistent with a meta-analysis of more than 20 twin studies (Miles and Carey 1997), although gene-environment interactions also play an important role in aggression. Which specific genes are involved is less clear. Evidence for an association between genes and aggression, per se, is strongest for monoamine oxidase A (*MAOA*), serotonin transporter (*SLC6A4*), tryptophan hydroxylase 2 (*TPH2*), dopamine beta-hydroxylase (*DBH*), and catechol O-methyltransferase (*COMT*).

Studies of impulsive aggression in patients with BPD have also been promising. Tryptophan hydroxylase (TPH), the rate-limiting enzyme in serotonin 5-HT biosynthesis, has two isoforms, *TPH-1* and *TPH-2*. Studies associating aggression in BPD with *TPH-1* were inconsistent, and it was determined that the isoform of TPH present in brain is actually *TPH-2*. The allele *rs2171363T* and tryptophan-containing genotypes of *TPH-2* have been associated with BPD. A study of a well-characterized clinical sample of 103 HC subjects and 251 patients with PDs (109 with BPD) replicated the finding that the "risk" haplotype of *TPH-2* was significantly higher in patients with BPD than in HC subjects. Those with the "risk" haplotype had higher aggression and affect lability scores and more suicidal/parasuicidal behaviors than those without it (Perez-Rodriguez et al. 2010).

Single-gene study findings note an association with BPD diagnosis and genes for MAOA, a key regulator of serotonin metabolism and 5-HT$_{2C}$. However, 5-HT$_{2A}$ variants are associated with personality traits such as relational aggression but not with BPD diagnosis. Thus, genes associated with impulsive aggression, including *SLC6A4, TPH-2, MAOA, COMT,* and 5-HT receptor genes, are also implicated in BPD. However, these associations are not consistently replicated, and authors have suggested that gene variants may be associated with personality traits such as relational aggression rather than diagnosis.

Relationship Disturbances

An impaired capacity to engage in stable interpersonal relationships is a central and highly maladaptive feature of BPD. This impairment manifests as a pervasive inability to sustain rewarding relationships and recurring lapses into tumultuous interpersonal crises. Persons with whom the patient with BPD is engaged are often perceived in extremes of idealization or devaluation, often with rapid shifts from one perception to the other. Intimate relationships are troubled, and patients with BPD are often preoccupied with fears of abandonment. The relationship instability of patients with BPD could

be the result of disturbances in one or more of the sensory, cognitive, emotional, and behavioral systems that play a role in social processing. These include systems that read the emotional cues displayed by others (e.g., in facial expression or tone of voice), infer the intentions of others on the basis of their postures and movements, understand the mental states (wishes or desires) of others (often referred to as theory of mind), and communicatively signal to others one's own emotional state (e.g., by facial expression or tone of voice). Overlying these processes, social interaction is shaped by the attachment system, which shapes affiliative behavior, bonding, and the adaptation to separation (see Chapter 4, "Development, Attachment, and Childhood Experiences").

Behaviorally, patients with BPD describe their daily relationships as more disagreeable, angry, sad, ambivalent, and empty than do patients with other PDs or no PD. One characteristic feature of the interpersonal pattern of patients with BPD is a great emotional reactivity to interpersonal events and a hypersensitivity to interpersonal stressors (Gunderson and Lyons-Ruth 2008). This interpersonal hypersensitivity could result in part from a tendency to read emotional expressions in other persons' faces that are so subtle that they would go unnoticed by most individuals. The literature on reading facial emotion in BPD is mixed (Domes et al. 2009), with some studies suggesting that patients with BPD have an increased sensitivity to detecting emotions in faces, and other studies suggesting that patients with BPD do not read facial emotion as accurately as HC subjects. Patients with BPD also have a greater sensitivity to perceiving negative emotions and a bias toward interpreting neutral faces as negative. There is also evidence that patients with BPD are impaired in recognizing emotions when facial expression must be integrated with prosodic emotional information. Taken together, these findings support the notion that patients with BPD are more sensitive than healthy volunteers regarding detecting emotion in faces, tend to show a bias toward angry and fearful facial emotion, and have difficulty in accurately labeling the facial emotions they detect. Increased sensitivity in reading facial emotion is consistent with imaging studies that show increased blood oxygen level–dependent activity in the primary visual area and fusiform gyrus in patients with BPD compared with HC subjects when processing emotional social scenes (Herpertz et al. 2001; Koenigsberg et al. 2009b). Hypersensitivity to detecting emotions could lead patients with BPD to overreact to low-intensity emotional states in others (i.e., facial microexpressions that pass below the radar of healthy individuals). This pattern, combined with a tendency to overread anger and fear, could contribute to the interpersonal hyperreactivity of patients with BPD.

A second factor that could seriously disrupt the interpersonal interactions of patients with BPD is their defective ability to accurately infer the intentions and mental states of others. Patients with BPD often fail to appreciate the goals, subjective experience, or perspective of another person, or they emotionally over- or underresonate with the experience of others. Such disturbances have been described as deficits in mentalizing, theory of mind, or empathy—three somewhat overlapping constructs, each incorporating separable cognitive and affective components. One approach to quantifying cognitive and emotional empathy has relied on the Interpersonal Reactivity Index (IRI; Davis 1980), a 28-item self-report instrument with two cognitive empathy subscales

(Perspective Taking and Fantasy) and two emotional empathy subscales (Empathic Concern and Personal Distress). Patients with BPD show deficits in cognitive empathy, but the findings are mixed in terms of affective empathy. The discrepant findings among studies may be explained by the effect of the patient's current emotional state on his or her capacity for cognitive or affective empathy. In addition, patients with BPD have been shown to be alexithymic, and alexithymia could affect self-reports of emotional reactions to interpersonal situations (New et al. 2012). One approach to bypassing the limitations of relying on retrospective self-report is to engage subjects in a laboratory task in which they infer the feelings of individuals depicted in social photographs. One study employing this methodology found that patients with BPD were impaired in both cognitive and affective empathy compared with HC subjects (Dziobek et al. 2011), whereas another study did not distinguish patients with BPD from HC subjects (New et al. 2012). Imaging data in the study by Dziobek et al. (2011) revealed increased neural activity in the right superior temporal sulcus and right insula in patients with BPD compared with healthy volunteers during the emotional empathy subtask and decreased activity in the left superior temporal sulcus and superior temporal gyrus region in the patients with BPD during the cognitive empathy subtask.

One criterion for BPD in DSM-IV (American Psychiatric Association 1994) and DSM-5 is a pattern of desperate attempts to avoid real or imagined abandonment. Ecological momentary assessment has demonstrated that states of aversive tension in patients with BPD are likely to be preceded by feelings of being rejected or being alone. A desperate preoccupation with fear of rejection could seriously distort interpersonal relationships, leading to alternations among clinginess, aloofness, dependence, or controllingness. Rejection sensitivity can be studied in the laboratory by means of a computerized task, Cyberball, a computer game in which avatars representing the subject and two other players toss a ball back and forth. The actions of the other "players" are actually controlled by the experimenter. After three-way ball tossing is enacted for a time, the other "players" abruptly stop tossing the ball to the subject but continue tossing it back and forth between themselves. This change has been shown to consistently create a feeling of rejection in healthy individuals. When engaged in Cyberball, in comparison with HC subjects, players with BPD more readily reported feeling excluded, even when included. In addition, following this social rejection experience, subjects with BPD were more likely than healthy volunteers to display multiple emotional expressions simultaneously on the face (Staebler et al. 2011). This suggests that when under particular emotional stresses, patients with BPD may send confusing or ambiguous facial emotional signals to others (see Chapter 23, "Translational Research in Borderline Personality Disorder").

Impairments in the ability to maintain trust could also rapidly lead to a breakdown in interpersonal relationships. Trust may be studied in the laboratory by means of a multiround economic exchange game, the trust game, in which one participant (the investor) chooses how much money to invest with a trustee. The money is tripled, and the trustee then chooses how much of the current amount to return to the investor. The cycle repeats over multiple rounds. When patients with BPD played this game in the role of trustee interacting with healthy volunteer investors, trust rapidly broke down, as demonstrated by a re-

duction in the amount invested with a trustee with BPD versus a healthy volunteer trustee from early to late rounds in the game (King-Casas et al. 2008). Detailed examination of the investment/repayment behavior revealed that healthy trustees tended to "coax" the investor to invest following rounds of low investment by giving greater returns at those times, but trustees with BPD did not do this. Trustees with BPD also self-reported lower levels of trust in the investor than did healthy trustees. fMRI data reveal that during the time period in each round when healthy trustees learned how much was invested with them, the anterior insula activated in inverse proportion to the amount invested, signaling a perceived feeling of unfairness or violation of social norm. In contrast, trustees with BPD showed a flat insula response, suggesting an anomalous neural response to interpersonal norm violation. Lacking such a natural neural mechanism to monitor interpersonal unfairness, the patient with BPD may resort to a defensive stance, becoming hypervigilant to being taken advantage of, or even transiently paranoid. Disturbances in attachment/separation systems could also impair the quality of social interactions for the patient with BPD.

Because of the evidence of a multifaceted breakdown in social processes in patients with BPD that could contribute to interpersonal hypersensitivity, further work is needed to better delineate these disturbances and their neural correlates. A better understanding of the social processing disturbances could help shape treatment strategies to improve the quality of relationships in the lives of patients with BPD. Understanding the specific social process impairments could enhance the development of such treatment approaches as mentalization-based therapy, facial emotion–recognition training, social norm violation awareness training, or desensitization to perceived rejection.

Pain Processing

Self-injurious behavior, including nonsuicidal self-injury, is reported to occur in 70%–90% of patients with BPD (Reitz et al. 2012). Such behavior most often takes the form of skin cutting, but it can also include severe scratching, burning, punching, and head banging. Self-injurious behavior is often followed by a decrease in states of aversive tension in patients with BPD and may represent an emotion regulatory strategy. Moreover, compared with HC subjects, patients with BPD show decreased pain sensitivity, and this decreased sensitivity diminishes further under conditions of high stress.

Several neuroimaging studies have examined the neural response to painful stimuli in patients with BPD (see Chapter 23). When exposed to comparable subjective levels of thermal pain, patients with BPD, relative to HC subjects, showed increased activation of the dorsolateral prefrontal cortex and deactivation of the perigenual ACC and the right amygdala (Schmahl et al. 2006). The ACC is a component of the affective-motivational pain pathway, and the dorsolateral prefrontal cortex has been implicated in pain control. During pain processing, differences between patients with BPD and HC subjects have been observed in functional connectivity to nodes in the default mode network, a network implicated in internally preoccupied nontask-related processing and in self-referential thinking. Patients with BPD showed less connectivity between the retrosplenial cortex and the posterior cingulate cortex (PCC) and between the PCC and the dorsolateral prefrontal cortex. In addition, patients with BPD showed less of

a signal decrease compared with HC subjects in the posterior default mode network during pain processing (Kluetsch et al. 2012). Moreover, this decreased attenuation of default mode network signal in response to pain was correlated with BPD symptom severity and dissociation. Taken together, these connectivity findings are consistent with a model in which patients with BPD are more self-preoccupied during the experience of pain, experience pain as less aversive than HC subjects do, and do not engage emotion regulatory systems to address the pain to the extent that HC subjects do. Finally, to determine whether a neural mechanism was activated in patients with BPD to permit painful stimuli to reduce negative emotional states, fMRI images were obtained as subjects were shown emotionally negative pictures in the context of painful or control thermal stimuli. Thermal stimuli, both painful and control, reduced amygdala and insula activity in patients with BPD as well as HC subjects, suggesting that a nonspecific attentional mechanism decreases limbic activity in response to thermal sensory stimuli (Niedtfeld et al. 2010).

Schizotypal Personality Disorder

Schizotypal PD (STPD) is characterized by disturbances in the realms of cognition and reality testing, affect regulation, and interpersonal function.

Background and Factor Structure

Characterization of the neurobiology of any psychiatric condition is dependent on its taxometric validity. In DSM-III, schizotypal symptoms—originally subsumed by an earlier, broader iteration of the borderline personality syndrome—were reapportioned to establish a separate STPD. Numerous studies have subsequently validated the STPD construct as well as its relation to the schizophrenia spectrum.

Similar to other PDs, STPD has been demonstrated to be multifactorial, consisting of three or four symptom domains with varying degrees of colinearity. Three-factor models of schizotypy consist of *cognitive-perceptual, interpersonal,* and *oddness* (or *disorganization*) domains (Hummelen et al. 2012). Four-factor models have also been described that are similar to the three-factor models but differ primarily on 1) whether paranoia/suspiciousness represents a separate domain or is a subfactor of cognitive-perceptual disturbances and 2) whether social anxiety and social anhedonia are separate factors or belong to a single interpersonal domain. In a recent report, Hummelen et al. (2012) confirmed a three-factor model but argued that two factors—cognitive-perceptual (referential thinking, magical thinking, and unusual perceptual disturbances) and oddness (odd thinking and speech, odd appearance or behavior, and constricted affect)—are specific for STPD relative to other PDs; the interpersonal phenomena (social anhedonia, social anxiety, and certain manifestations of suspiciousness) are considered secondary elements because they are significantly present in other PDs. A question for further investigation is whether interpersonal symptoms are truly nonspecific or are in fact qualitatively distinct STPD spectrum difficulties of social anhedonia, social anxiety, and suspiciousness/paranoia that are difficult to distinguish phenomenologically from similar symptoms of asociality associated with avoidant, nar-

cissistic, or antisocial PDs or high-functioning autism spectrum conditions.

Genetics

A number of genes associated with STPD, schizotypy, and related schizophrenia spectrum endophenotypes have been identified (Roussos and Siever 2012). A number of studies indicate a role for the catechol O-methyltransferase gene, *COMT*. The COMT enzyme plays an important role in the catabolism of dopamine and other catechols. A common allele of *COMT* is a valine substitution for methionine at position 158 (Val158Met). Through at least two mechanisms, the Val allele leads to lower synaptic dopamine levels, owing to its relatively greater enzymatic activity and higher levels of expression compared with the Met allele. Greater levels of schizotypy have been observed in healthy young males with the *COMT* Val allele. Interestingly, in one study, there was no difference in the frequency of the Val or Met *COMT* alleles among STPD patients, PD patients without STPD, and healthy controls, but there was a significant association between allele status and tests of executive function and working memory—two neuropsychologically based endophenotypes of STPD/schizotypy (Minzenberg et al. 2006). As expected, being homozygous for the Val allele was related to worse cognitive function. In relatives of patients with schizophrenia, the Val allele was associated with greater levels of self-reported social and physical anhedonia, which are two important symptom dimensions of STPD; this association was not observed in HC participants or in relatives of patients with bipolar disorder. The *COMT* Val158Met polymorphism was also shown to possibly moderate the relationship between childhood trauma and schizotypal personality traits. In a study of participants with a family history of bipolar disorder, greater schizotypal personality traits were associated with the Val allele, specifically in those with higher levels of self-reported childhood trauma (Roussos and Siever 2012).

Consistent with the importance of genes involved in the dopaminergic system, a dopamine D_3 receptor (D3R) polymorphism has been implicated in STPD. The Ser9Gly polymorphism is a common variant of the D3R, which leads to significant functional differences of this receptor. Specifically, the Gly allele is associated with a more than fourfold increase in affinity for dopamine, along with an increase in second messenger signaling. Psychophysiological tests of sensorimotor gating have been used as quantitative endophenotypes of schizotypy and the schizophrenia spectrum and to identify gene-behavior relationships with greater resolution. Examining the prepulse inhibition (PPI) of the acoustic startle reflex (i.e., reduction of the reflexive motor response to a loud noise due to a preceding low-intensity auditory stimulus), it was determined that the Gly allele was associated with poorer prepulse processing (Roussos and Siever 2012).

A number of genes originally identified owing to a relationship with schizophrenia have, not surprisingly, been found to be related to schizotypal personality traits and symptom dimensions, as well as associated endophenotypes. Neuregulin 1 (*NRG1*), a member of the epidermal growth factor family involved in nervous system development, is a schizophrenia-associated gene. A functional polymorphism of *NRG1* was shown to be associated with results on the Perceptual Aberration Scale (PAS), a self-report measure

of a schizotypy symptom domain related to psychotic-like perceptual disturbances, in a large sample of adolescents (Lin et al. 2005). In a related manner, single-nucleotide polymorphisms of *NRG1,* in a population of young healthy men, were shown to be associated with smooth eye pursuit movements, another STPD-related endophenotype (Smyrnis et al. 2011). The disrupted in schizophrenia 1 gene, *DISC1*, which is involved in neuronal development and migration, has been shown to be related to the specific dimension of social anhedonia in a large human population. High-risk polymorphisms of proline dehydrogenase (*PRODH*), which have been implicated in schizophrenia, were shown to be related to a self-report measure of schizotypy, as well as the STPD-salient indices PPI, working memory, and trait-anxiety (Roussos and Siever 2012).

Cognition

Cognitive Impairment: Memory/Processing Deficits

Cognitive impairment, often associated with deficit symptoms, is characteristic of patients with STPD. The cognitive domains that have been reported to be impaired in patients with STPD, but not in comparable comparison groups with other PDs, include auditory and visual working memory, attention, verbal learning, and executive function (Mitropoulou et al. 2002). These deficits are less severe and more circumscribed and selective in patients with STPD (approximately 1 standard deviation below the mean of HC subjects) than in patients with schizophrenia (2 standard deviations below the mean of HC subjects). In addition to formal neuropsychological testing, psychophysiological paradigms can be used to evaluate cognitive or information processing deficits. PPI of a startle response is found not only in patients with schizophrenia but also in their first-degree relatives and, in some studies, in patients with schizophrenia spectrum PDs. Moreover, anomalies in P_{50} auditory-evoked potentials have been observed in patients with schizophrenia and STPD (Siever and Davis 2004).

Disordered eye movements have been used to assess frontal cortical sensorimotor processes. A large body of evidence suggests that smooth pursuit eye movements, in particular, are impaired in patients with STPD and in relatives of patients with schizophrenia. Additionally, antisaccades—the voluntary movements of eyes in the opposite direction of a target stimulus—which involve frontal mechanisms that inhibit prepotent responses, have also been described in patients with STPD, in high-schizotypy healthy subjects, and in unaffected first-degree relatives of patients with schizophrenia (Siever and Davis 2004).

The neural correlates of these cognitive, psychophysiological, and sensorimotor abnormalities have been the focus of a number of studies. Tests of executive function, smooth pursuit eye movements, and working memory are more correlated with volume reductions in the frontal lobe, whereas verbal learning may be more related to temporal lobe abnormalities (Hazlett et al. 2012a). These structural findings are also accompanied by alterations in brain function during cognitive tasks as well as under "baseline" steady-state conditions. A particular finding of interest in STPD is that frontal lobe–based deficits, specifically those of the dorsolateral prefrontal cortex, may lead to compensatory activity in other frontal regions, such as the medial frontal and anterior frontal pole (Hazlett et al. 2012a).

Structural connectivity between brain regions may also be compromised. Abnormalities in white matter tracts detected by DTI have been found, particularly in regions connecting the temporal and frontal lobes, such as the superior longitudinal fasciculus (Hazlett et al. 2012a). Preliminary, unpublished findings from our group, using resting-state functional connectivity MRI, indicate that differentiation between cognitive control networks and social-emotional networks (i.e., the default mode network) is attenuated in patients with STPD compared with HC subjects and psychiatric controls. We hypothesize that impaired differentiation of cognitive control networks from the default mode network may limit the ability of the cognitive control networks to optimally couple with other attentional networks (e.g., dorsal attention network), possibly contributing to cognitive deficits in patients with STPD (Rosell et al. 2013).

Cognitive-Perceptual Disturbances

In addition to having deficits in cognition, patients with STPD also have compromised reality testing, although not to the point of overt psychosis. Thus, people with STPD may exhibit signs of paranoia, sometimes to the point of referential ideas, such as believing people are staring at them or have a malevolent intent toward them. They often experience cognitive-perceptual distortions, such as hearing their mother's voice whispering their name, but they do not experience command or elaborate auditory hallucinations. Just as in patients with chronic schizophrenia, patients with STPD may respond to the neuroleptics (dopamine antagonists) with reductions in psychotic-like symptoms, suggesting that dopamine plays a role in the formation of these symptoms (Ripoll et al. 2011). Indeed, measures of dopamine metabolism, including plasma and cerebrospinal fluid homovanillic acid, suggest increases in patients with STPD that are accounted for by the psychotic-like symptoms rather than the other symptoms of this disorder, as shown in covariant analyses. Indeed, for both of these measures, there are significant correlations of psychotic-like symptoms with these metabolite measures (Siever and Davis 2004).

Patients with STPD also show increased release of dopamine in striatal structures, as indexed by amphetamine-induced displacement of [^{123}I]iodobenzamide (IZBM) binding (Abi-Dargham et al. 2004) as well as in raclopride displacement studies (Siever et al., unpublished data). Interestingly, although reductions in dopaminergic metabolites have been associated with negative or deficit-like symptoms, particularly in the relatives of patients with schizophrenia, evidence suggests that there is a bivariate relationship of dopamine with psychotic-like and deficit-like symptoms, such that increased activity is related to greater psychotic-like activity, whereas decreased dopaminergic activity is associated with increased deficit-like symptoms (Roussos and Siever 2012).

In studies of dopamine release using IBZM, however, people with STPD do not show the increased release associated with actively psychotic schizophrenia patients and are more similar to HC subjects and schizophrenia patients in remission (Abi-Dargham et al. 2004). Thus, to the extent that patients with STPD are better buffered with respect to subcortical dopaminergic activity, they may be protected against the severe psychosis of schizophrenia. The possibility that certain differences between STPD and schizophrenia reflect factors that limit the transition to overt psychosis is further supported by studies that have shown

metabolic activity in the striatum (namely, ventral putamen) is greater in STPD patients relative to control subjects, whereas in schizophrenia, striatal metabolic activity is lower compared with controls (Shihabuddin et al. 2001). Newer studies suggest that larger ventral striatal volumes in patients with STPD are associated with *less severe* symptoms of paranoia (Chemerinski et al. 2013).

Treatments in the Cognitive Domain

The cognitive deficits of the schizophrenia spectrum have been studied in relation to dopaminergic agents, α_2-adrenergic agonists, and cholinergic agents. Observations that stimulants such as amphetamine can cause improvement in some individuals with schizophrenia (Barch and Carter 2005) or with STPD (Siegel et al. 1996) have led to the investigation of more selective dopaminergic agents. The mixed dopamine D_1/D_2 agonist pergolide, administered over 6 weeks to subjects with STPD, resulted in improvements in working memory, verbal learning, and executive function (McClure et al. 2010). These findings are consistent with several decades of preclinical investigations suggesting that D_1 receptors play a critical role in modulation of working memory and that optimal concentrations of dopamine at D_1 receptors can improve working memory performance in animals with deficits (Williams and Castner 2006). According to this hypothesis, people with STPD might respond to D_1 agonists with improvement in working memory owing to putative low dopaminergic activity in the prefrontal cortex of people with this disorder. Consistent with this hypothesis, a PET study with the D_1 receptor radioligand [^{11}C]NNC 112 suggested that poorer working memory performance was associated with greater frontal cortical D_1 receptor availability, specifically in patients with STPD but not in controls (Abi-Dargham et al. 2002). This finding may reflect a compensatory, albeit insufficient, upregulation of the D_1 receptor in response to putative low frontocortical dopamine. Preliminary data obtained by our group from a pilot trial of dihydrexidine, a more specific D_1 agonist, showed promising improvements in working memory performance in individuals with STPD (Rosell et al. 2013).

Other agents demonstrated to improve cognitive performance are α_2-adrenergic agonists, such as guanfacine and clonidine. The α_2-adrenergic receptor has been shown to modulate working memory, and α_2-adrenergic agonists improve working memory in aging primates. The α_2-adrenergic agonist guanfacine improves cognitive function in attention-deficit/hyperactivity disorder and is now an approved medication for that indication. In our laboratory we have shown that guanfacine improved working memory in auditory as well as visual domains in persons with STPD (McClure et al. 2007).

The psychotic-like symptoms in STPD are hypothesized to be related to dopamine hyperfunction in the subcortex, although such activities are considerably lower than those observed in chronic schizophrenia. Several studies have demonstrated that the symptoms of STPD respond to neuroleptic medication (Ripoll et al. 2011). In a randomized controlled study from our laboratory, patients with STPD were shown to have improvement in the psychotic-like symptoms, particularly with risperidone (Koenigsberg et al. 2003). However, in the same study in an extended sample, there was no evidence of cognitive improvement with risperi-

done (McClure et al. 2009), although it might be hypothesized that 5-HT_{2A} antagonism may make more dopamine available in the prefrontal cortex (Ichikawa et al. 2001).

Affect Regulation

People with STPD are characterized by their bland, constricted affect with minimal reactivity to the environment, in contrast to people with many of the other PDs that are characterized by excessive reactivity to the environment. There may be a continuum along this variable in which individuals with greater psychotic-like symptoms have more reactivity to the environment and those with profound deficits and negative symptoms may be less affectively reactive, possibly on the basis of hypofunction of the dopamine system and related subcortical systems. There is a trend in imaging studies for alterations in dopamine receptors to be associated with anhedonia, but this could not be confirmed after tests for multiple comparisons. Presumably, the diminished affectivity in STPD is part of the constellation of social and cognitive deficits attributable to faulty structure and function of the cortex and reduced dopaminergic tone.

Impulse/Action Patterns

Individuals with STPD tend not to be particularly impulsive unless driven by a fixed psychotic-like belief. However, individuals with this disorder may also have comorbid borderline or antisocial PD, in which case the neurobiology of their impulsive aggression would be correspondent to that of the impulsive aggressive PDs. To the extent that the aggression in STPD with comorbid impulsive PDs has been studied, there have been no clear differences in the underlying pathophysiology of the comorbid and noncomorbid conditions.

Anxiety

Anxiety, particularly social anxiety, is a common concomitant of STPD. Although anxiety occurring in social contexts is common in other PDs, such as avoidant PD, there are important qualitative distinctions from the anxiety that occurs in patients with STPD. For example, social anxiety in STPD tends not to attenuate with familiarity with other persons or with greater experience within a particular social context. Moreover, social anxiety in STPD tends to be more global and concrete and is described by patients in terms such as "a negative energy in the room" or "feeling watched by everyone." In other PDs with social anxiety, there are more specific and characteristic feared interpersonal situations or associated maladaptive beliefs (e.g., "If I don't say something intelligent, everyone will think I'm dumb").

Little has been described in terms of the neural underpinnings of social anxiety in STPD and how it may differ from those of social phobia and avoidant PDs. A recent study, however, demonstrated a correlation between impaired facial affect recognition and schizotypal spectrum social anxiety in healthy individuals assessed with the Schizotypal Personality Questionnaire (Abbott and Green 2013). Since the dopaminergic system (Delaveau et al. 2005) and the *COMT* Val158Met allele (Soeiro-de-Souza et al. 2012) have more recently been implicated in facial affect recognition, an important area of focus for future studies would be determining their role in the social anxiety and other interpersonal deficits of STPD.

Interpersonal Function

People with STPD are marked by detachment, aloofness, and social discomfort. These traits are believed to be related to the underlying cognitive vulnerabilities associated with the disorder. For example, in a study of volunteers selected on the basis of smooth pursuit eye movement, an established biomarker for schizophrenia that presumably reflects cortical processing and efficiency, those selected by virtue of their impaired smooth pursuit eye movements tended to have fewer friends, had more trouble or discomfort in dating, and were uncomfortable socially. These characteristics were more clearly associated with inaccuracy of the smooth pursuit system than the psychotic-like symptoms of STPD (Siever and Davis 2004). These data raise the possibility that impaired cortical information processing can impede the development of accurate, empathic representations of others and can interfere with the interpretation of interpersonal cues, so that interpersonal interactions become problematic. Although there have been few studies explicitly evaluating these types of mechanisms in patients with STPD, one study showed that patients with STPD were impaired on a theory of mind task (Ripoll et al. 2013).

Antisocial Personality Disorder

In DSM-5 Section II, "Diagnostic Criteria and Codes," antisocial personality disorder (ASPD) is characterized as a pervasive pattern of disregard for and violation of the rights of others that has been occurring since age 15 years. The prevalence of ASPD has been estimated to be 3.6% in a nationally representative general population survey (Grant et al. 2004). ASPD is more common in men, and men are more likely than women to have a persistent course of antisocial behavior.

DSM-5 also includes a trait-specific classification system in Section III. In this section, the diagnosis of ASPD is characterized by impairments in personality (self and interpersonal) functioning and the presence of pathological personality traits, including disinhibition (characterized by risk taking, impulsivity, and irresponsibility) and antagonism (characterized by manipulativeness, callousness, deceitfulness, and hostility).

The trait focus will permit attention to the heterogeneity within the diagnosis of ASPD. One particularly notable area of heterogeneity within the ASPD diagnosis is that some individuals show predominantly impulsive aggression and emotional reactivity, whereas others appear to represent a distinct cohort in which comorbid psychopathy is more prominent. Psychopathy is a construct characterized by pronounced problems in emotional processing (reduced guilt, empathy, and attachment to significant others; callous and unemotional traits). Although individuals with psychopathy are at increased risk for displaying antisocial behavior, psychopathy is a distinct concept. Whereas most of those who are characterized as psychopathic will also meet criteria for ASPD, only about 10% of those with ASPD meet criteria for psychopathy (Hare et al. 2000).

Another essential difference between ASPD and psychopathy is the type of aggression characteristic of each condition. Individuals with psychopathy engage in aggressive behavior that is controlled/planned and that serves an instrumental, goal-directed end (e.g., a planned robbery to obtain the victim's money); this behavior is often called instrumental

aggression. Individuals with ASPD with predominantly emotional and behavioral disinhibition engage in aggressive behavior that is more retaliatory/impulsive (e.g., road rage) and is associated with negative affect (i.e., hostility or anger); this behavior is often called impulsive or reactive aggression. Impulsive aggression reflects a lack of impulse control (Dolan and Park 2002).

Cognitive-Behavioral Processing

Previous research investigating whether subjects with ASPD have impaired cognitive functioning has yielded inconsistent findings (Crowell et al. 2003; Morgan and Lilienfeld 2000). Although some authors have found a broad range of deficits in patients with ASPD with respect to their planning ability, mental flexibility, response inhibition, and visual memory, others have found only circumscribed deficits in processing speed or response inhibition. A large meta-analysis of 39 studies found that although *antisocial behaviors* and *psychopathic features* were associated with executive dysfunction, executive function deficits among subjects with ASPD were statistically significant but of such a minor degree as to be clinically imperceptible, and others could find no differences in executive function between ASPD and healthy or psychiatric control subjects (Morgan and Lilienfeld 2000). It should be noted that most authors did not define the rates of psychopathy among the ASPD subjects studied. Therefore, it is impossible to tease apart the respective contributions of psychopathy and ASPD to the deficits reported. One additional study found that among offenders with ASPD, there was no significant association between executive function impairment and scores on a measure of psychopathy (Dolan 2012).

In a study of inhibitory control during an emotional-linguistic go/no-go task, alterations were found that were specific to psychopathy (Verona et al. 2012). Event-related brain potentials were studied during this emotional go/no-go task in offenders with psychopathy, offenders with ASPD, and control offenders. In the control group, inhibitory control demands modulated frontal P3 amplitude to negative emotional words, indicating in response to appropriate prioritization of inhibition over emotional processing. In contrast, the psychopathic group showed blunted processing of negative emotional words regardless of inhibitory control demands. The ASPD group demonstrated enhanced processing of negative emotion words in both go and no-go trials, suggesting a failure to modulate negative emotional processing when inhibitory control is required. This group difference in inhibitory control during an emotion provocation task suggests an opposite effect of negative emotional stimuli in ASPD without psychopathy (enhanced response interfering with inhibitory control) than is observed with psychopathy (decreased response to negative emotional stimuli regardless of the demand for inhibitory control).

Social information processing was examined through a facial affect recognition task in criminals without psychopathy, criminals with psychopathy, and HC subjects (Pham and Philippot 2010). Both criminal groups were less accurate than controls in decoding facial expression of emotion, although this effect was accounted for by differences in participants' level of education. Criminals with and without psychopathy did not differ in facial affect recognition accuracy. Similarly, a meta-analysis showed substantial deficits in fear recognition in individuals with ASPD, and this was consistent regardless of the absence or presence of psy-

chopathy (Marsh and Blair 2008). Taken together, these data suggest that a deficit in facial affect recognition is broadly present across individuals with ASPD, and not only in those with comorbid psychopathy.

Neuroimaging

Impulsive or reactive aggression is common in ASPD, whereas instrumental aggression is characteristic of psychopathy (Blair 2007; Dolan 2010; Ostrov and Houston 2008). Preclinical studies point to a neural circuitry underlying these forms of aggression. Reactive aggression is part of a gradated response to threat: distant threats induce freezing, closer threats induce flight, and very close threats in which escape is impossible induce impulsive aggression. This progressive response to threat is mediated by a neural system that involves the amygdala, the hypothalamus, and the periaqueductal gray. It is believed that this system is regulated by medial, orbital, and inferior frontal cortices (Blair 2007, 2010). According to this threat system, those individuals at increased risk of showing impulsive aggression should show heightened amygdala responses to emotionally provocative stimuli and reduced frontal emotion regulatory activity (Blair 2010). Instrumental aggression, like any other form of motor response, is hypothesized to be mediated by the motor cortex and the caudate. For most individuals, the costs of instrumental aggression (e.g., harm to the victim or oneself, risk of punishment) outweigh the benefits, and prosocial behaviors are chosen instead of instrumental aggression. However, it is believed that individuals with psychopathy engage in instrumental aggression because of an impaired representation of the costs of the behavior, which may be related to amygdala and OFC dysfunction (Blair 2010).

Because of the hypothesized dysfunction in the amygdala and OFC, individuals with psychopathic traits have difficulty socializing (related to dysfunction in stimulus reinforcement learning) and make poor decisions (because of the OFC dysfunction). According to this model, individuals with psychopathic traits should show reduced amygdala and OFC responses to emotional provocation and during emotion-based decision-making tasks (Blair 2007, 2010).

Although the data strongly support a disruption of amygdala and prefrontal cortex functioning—specifically, in the OFC, ACG, and dorsolateral prefrontal cortex—in individuals with psychopathic traits and/or antisocial behavior, the data for ASPD itself are less conclusive (Nordstrom et al. 2011; Yang et al. 2009). This uncertainty may reflect the heterogeneity of the ASPD diagnosis itself and of the samples and control groups analyzed (e.g., different demographic groups, varied psychiatric comorbidities). The majority of studies and meta-analyses focus on broadly defined antisocial constructs, which includes some individuals with comorbid psychopathy and others without. We have shown that psychopathy and ASPD differ markedly in behavioral and neurobiological measures; the inclusion of a heterogeneous group of individuals with ASPD makes these studies hard to interpret. There is a paucity of data about ASPD specifically, and even fewer studies have assessed the effect of comorbid psychopathy on neuroimaging findings in ASPD subjects (Boccardi et al. 2010; Gregory et al. 2012; Tiihonen et al. 2008).

Structural imaging data show reductions in volume of the dorsolateral, medial frontal, and orbitofrontal cortices in

subjects with ASPD. The reduced prefrontal volumes in patients with ASPD are present even after controlling for the effects of substance use (Dolan 2010; Raine and Lencz 2000; Tiihonen et al. 2008). Raine et al. (2010) observed that individuals with cavum septum pellucidum, a marker of limbic neural maldevelopment, had significantly higher levels of antisocial personality, psychopathy, arrests, and convictions compared with controls, even after controlling for the effects of potential confounders, including prior trauma exposure, head injury, demographic factors, or comorbid psychiatric conditions. Most studies have examined ASPD without controlling for the presence of psychopathy. One study did examine psychopathy separately from ASPD, showing smaller gray matter volume in the anterior frontal pole (BA 10) in patients with ASPD with psychopathy than in patients with ASPD without psychopathy or in HC subjects (Gregory et al. 2012). This is particularly interesting because BA 10 has been implicated in the cognitive processes underlying evaluation of risk taking.

Studies have shown that in addition to having frontal lobe volume reduction, ASPD subjects have smaller temporal lobes, smaller whole brain volumes, larger putamen volumes, larger occipital and parietal lobes, larger cerebellum volumes, and decreased volumes in specific areas of the cingulate cortex, insula, and postcentral gyri (Tiihonen et al. 2008). Using DTI to examine white matter tracts, Raine and Lencz (2003) found that compared with HC subjects, psychopathic antisocial subjects had a longer, thinner corpus callosum with overall increased volume.

Most of the few functional neuroimaging studies with subjects diagnosed with ASPD suggest a dysfunction in brain regions involved in emotional processing and learning. The first functional neuroimaging study involving ASPD showed that compared with HC subjects, subjects with BPD or ASPD activated different neural networks during response inhibition in a go/no-go task (Völlm et al. 2004). Although HC subjects mainly activated right dorsolateral and left orbitofrontal cortex during response inhibition, patients with BPD and ASPD showed a more bilateral and extended pattern of activation across the medial, superior, and inferior frontal gyri extending to the ACG (Völlm et al. 2004). At least some of the neural abnormalities found in ASPD subjects may not be specific to this disorder but rather may be associated with aggressive traits that correlate with a tendency to violent behavior.

Genetic Vulnerability

Family, twin, and adoption studies suggest that antisocial spectrum disorders and psychopathy are heritable, accounting for about half of the variance in antisocial behavior and even a greater percentage in individuals with callous/unemotional traits. A twin study of the DSM-IV criteria for ASPD provided further support that the phenotypic structure of ASPD results largely from genetic and not from environmental influences. However, it did not reflect a single dimension of liability but rather showed two dimensions of genetic risk reflecting aggressive-disregard and disinhibition (Kendler et al. 2012).

In the last decade, considerable efforts have focused on identifying specific genetic factors involved in the development of aggressive behavior. However, despite great advances, the field of behavioral genetics has yet to elucidate specific genetic pathways that lead to ASPD and psychopathy, a situation similar to that seen in other psychiatric disorders (Gunter et

al. 2010). Association studies on single candidate genes have not yielded any loci with a major effect size, although some candidate gene association studies have been replicated and are noted in the following paragraphs. Future directions in the study of the genetics of ASPD and psychopathy will need to take into account gene-environment interactions, examine the genome more broadly, and examine the role of epigenetics. One of the challenges presented by the existing research is the heterogeneity of the phenotypes analyzed in different studies, which include individuals with ASPD with or without psychopathy; individuals with psychopathy with or without ASPD; individuals with antisocial behavior, conduct disorder, oppositional defiant disorder, or disruptive behavior disorder; criminals; violent offenders; or aggressive individuals. Only a handful of studies have focused on ASPD specifically (Gunter et al. 2010).

Several genome-wide linkage and association studies have suggested possible genomic locations in a number of chromosomes for antisocial spectrum disorders, but the results must be interpreted with caution because very few findings reach genome-wide significance, and even fewer have been replicated (Gunter et al. 2010). These studies have also focused on diverse phenotypes for aggression (Gunter et al. 2010). However, a large genome-wide association study examining ASPD specifically found no single hit implicating a gene or a chromosome region (Tielbeek et al. 2012).

The most widely studied candidate genes in ASPD have been those related to serotonergic and dopaminergic systems, including catechol O-methyltransferase (*COMT*), monoamine oxidase A (*MAOA*), dopamine β-hydroxylase (*DBH*), tryptophan hydroxylase 1 and 2 (*TPH1* and *TPH2*), dopamine receptors D_2 and D_4 (*DRD2* and *DRD4*), serotonin receptors 5-HT_{1B} and 5-HT_{2A} (*5HTR1B* and *5HTR2A*), the serotonin transporter (*SLC6A4*), and dopamine transporter gene (*SLC6A3*). Other targets include androgen receptors, based on the gender differences in frequencies of antisocial spectrum disorders, and novel sites such as *SNAP25,* which was identified as a region of interest in genome-wide studies (Gunter et al. 2010). Currently, the strongest evidence available points to *MAOA, TPH2*, and the serotonin transporter gene, *SLC6A4,* in antisocial spectrum disorders (Gunter et al. 2010).

Other interesting avenues of research include analysis of gene expression and epigenetic modification of gene expression via methylation and histone modification, but data on the antisocial spectrum are still very scarce (Gunter et al. 2010). In summary, there is compelling evidence that genes involved in the serotonergic system are implicated in impulsive aggression.

Future Directions

The population diagnosed with ASPD is heterogeneous, limiting neurobiological research efforts. However, considerable progress has been made in the understanding of impulsive aggression, a core dimension of antisocial spectrum disorders and psychopathy, including the roles of the prefrontal cortex, the amygdala, and neurocognitive deficits. Neural circuitry underlying ASPD suggests both smaller gray matter volume in areas of the prefrontal cortex and disruption of the circuit including the prefrontal cortex and amygdala. This finding is not specific to ASPD and in fact is quite similar to that found in BPD. However, one rather specific finding in psychopathy per se is the smaller volume in the anterior frontal pole, a brain region specifically implicated in the cog-

nitive processes underlying evaluation of risk taking. The strongest genetic evidence points to the MAO A, TH-2, and 5-HTT genes, and promising new approaches include genome-wide analyses, epigenetics, gene expression, and neuroimaging genetics.

Using an interdisciplinary research team and a systems approach to the biology of complex illnesses such as antisocial spectrum disorders and psychopathy may help to shed light on the interplay among genetic factors, neural networks, and behavior (Gunter et al. 2010).

Avoidant Personality Disorder

Avoidant PD (AVPD) is a prevalent disorder, occurring in 1%–2% of the population. The defining features of AVPD are social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation, which are associated with avoiding occupational and interpersonal situations because of fears of being criticized, shamed, or disapproved of and feeling socially inept and undesirable. AVPD can have serious functional consequences, with limitations in occupational success because of a need to choose highly circumscribed interpersonal settings and an inhibition in expressing ideas, opinions, and suggestions secondary to fears of being criticized. Similarly, the individual with AVPD has great difficulties engaging in intimate interpersonal relationships. The functional impairment of individuals with AVPD can be substantial and is greater than that of obsessive-compulsive PD, but impairment is more severe in BPD and STPD (Skodol et al. 2002).

The criteria for AVPD overlap considerably with those for social anxiety disorder (social phobia), and there is high comorbidity for the two disorders. The primary distinction in defining criteria for the two disorders is the centrality of anxiety. Fear of social situations and the occurrence of anxiety in such settings is a sine qua non for social anxiety disorder, whereas it is possible to meet criteria for AVPD by avoiding occupational and interpersonal situations, being interpersonally restrained, and feeling inadequate without necessarily experiencing anxiety. Nevertheless, it is unclear whether a substantial portion of patients with AVPD do or do not experience anxiety in social settings. At present, there is controversy about whether AVPD and social anxiety disorder are distinct disorders or fall on a continuum. Both disorders respond to similar psychotherapeutic and pharmacotherapeutic interventions. Further study of their neurobiological features may help to clarify the relationship between these disorders. Several studies of social anxiety disorder have been published, but far less research has been conducted on the neurobiological correlates of AVPD. We review this limited literature here.

One factor that could contribute to hypersensitivity to negative evaluation in AVPD would be a heightened sensitivity to detecting negative facial expressions in others. In one study, patients with AVPD and HC subjects were shown a series of emotional faces morphed by computer to generate 39 steps of gradation from neutral to full emotional expression (Rosenthal et al. 2011). Subjects were shown the graduated facial expressions in sequence, beginning with the neutral expression and leading up to the full emotional face. Trials were presented for six emotions: anger, fear, sadness, surprise, happiness, and disgust. Subjects were asked to specify the facial emotion at the earliest point when they

could identify it. Subjects with AVPD were more likely than controls to make errors in identifying fearful faces but were equally accurate at identifying the other emotions. They did not differ from controls in speed with which emotions were correctly identified. Interestingly, subjects with AVPD were not more sensitive to identifying anger or disgust, facial expressions that could signal social disapproval.

Psychophysiological measures provide a means of assessing emotional reactivity to stimuli, independent of self-report. The magnitude of the eye blink response to a white noise burst correlates with perceived valence (positive vs. negative) of the stimulus, whereas skin conductance response and heart rate correlate with arousal. These parameters were measured in a sample of female patients with AVPD and BPD and in HC subjects while they viewed negative, neutral, and positive emotional pictures (Herpertz et al. 2000). Subjects with AVPD showed higher baseline startle response magnitude relative to the other groups; however, they did not differ from the other groups in any of the physiological responses to viewing emotional pictures. This finding suggests that patients with AVPD have an increased contextual fear level and wariness, but it does not support that they have increased reactivity to specific emotional stimuli.

Habituation to aversive emotional stimuli (the decrease in negative response upon exposure to a repetition of the stimulus) is a highly adaptive mechanism in healthy individuals, which moderates the negative reaction to disturbing stimuli. Because patients with AVPD have difficulty accommodating to interpersonal situations, even over time or with repeated exposure, it could be hypothesized that they would have an impaired ability to behaviorally habituate to aversive social scenes. Patients with AVPD and HC subjects were presented with novel and repeat viewings of negative and neutral social pictures as fMRI images were obtained, and subjects were asked to rate their emotional reactions to the pictures. Preliminary analysis showed that the patients with AVPD did not demonstrate behavioral habituation to the negative pictures as the HC subjects did. In addition, the patients did not increase insula-amygdala connectivity as the HC subjects did when viewing pictures for the second time (Koenigsberg et al. 2013). These findings suggest that an inability to adequately engage behavioral habituation processes associated with altered neural network function may contribute to the difficulty that patients with AVPD have in adapting to social contexts.

Conclusion

The development of new technologies in neuroimaging and molecular genetics and of specific pharmacodynamic probes has led to exponential growth in research in the neurobiology of the PDs over the last three decades. Borderline, schizotypal, and antisocial PDs have been the most extensively studied. Much work remains to be done to examine the neurobiological correlates of the other PDs. In addition, few studies have applied the same research paradigms to several PDs within the same study, which would permit distinguishing between features shared among several PDs and those unique to a specific disorder. Some neurobiological features cut across several PD diagnoses and may be better understood as correlates of personality trait disturbances, such as those proposed in Section III of DSM-5. Much remains to

be learned about the relationship between the neurobiological features of the PDs and their relationship to gene-environment interaction. Finally, another important area for further research is the developmental trajectory of the biological features of PDs.

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CHAPTER 6

Prevalence, Sociodemographics, and Functional Impairment

Svenn Torgersen, Ph.D.

From clinical work therapists get an impression of which personality disorders (PDs) are more common and which are rarer. However, people with some types of PDs may be more likely to seek treatment and obtain treatment compared with people with other types of PDs. Consequently, to find out how prevalent different PDs are in the general population, one needs data about representative samples of the general population. Epidemiological research provides exactly that type of information.

Clinical work also gives therapists ideas about relationships between socioeconomic and sociodemographic factors and PDs. However, in clinical settings, therapists meet only those from an unfavorable environment who have developed a PD. Clinicians do not meet those from an unfavorable environment who have *not* developed a disorder. Furthermore, the combination of a specific PD and specific sociodemographic features may increase the likelihood that a particular person will seek treatment. These complexities mean that only population (epidemiological) studies can demonstrate the "true" relationship between PDs and socioeconomic and sociodemographic variables, or any other variables such as traumas, disastrous events, upbringing, or partner relationships.

Prevalence

A number of studies have been performed to estimate the prevalence of PDs in samples more or less representative of the general population. Table 6–1 presents the results of these studies. Many samples were relatively small. One study consisted of control groups in family studies (Maier et al. 1992), one was a study of relatives of patients with mood disorders

TABLE 6–1. Prevalence of personality disorders in different epidemiological studies

PD	Zimmerman and Coryell 1989	Maier et al. 1992	Moldin et al. 1994	Klein et al. 1995	Lenzenweger et al. 1997	Torgersen et al. 2001	Samuels et al. 2002
Number	797	452	303	229	258	2000	742
System	DSM-III	DSM-III-R	DSM-III-R	DSM-III-R	DSM-III-R	DSM-III-R	DSM-IV
Method	SIDP	SCID-II	PDE	PDE	PDE	SIDP-R	IPDE
Place	Iowa	Mainz, Germany	New York	New York	New York	Oslo, Norway	Baltimore, Maryland
PPD	0.9	1.8	0.0	1.8	0.4	2.2	0.7
SPD	0.9	0.4	0.0	0.9	0.4	1.6	0.7
STPD	2.9	0.4	0.7	0.0	0.9	0.6	1.8
ASPD	3.3	0.2	2.6	2.6	0.8	0.6	4.5
BPD	1.7	1.1	2.0	1.8	0.0	0.7	1.2
HPD	3.0	1.3	0.3	1.8	1.9	1.9	0.4
NPD	0.0	0.0	0.0	4.4	1.2	0.8	0.1
AvPD	1.3	1.1	0.7	5.7	0.4	5.0	1.4
DPD	1.8	1.6	1.0	0.4	0.4	1.5	0.3
OCPD	2.0	2.2	0.7	2.6	0.0	1.9	1.2
PAPD	3.3	1.8	1.7	1.8	0.0	1.6	
SDPD					0.0	0.8	
SAPD					0.0	0.2	
DEPD							
Cl A						3.9	3.0
Cl B						3.0	5.8
Cl C						9.2	2.7
Total PD	14.3	10.0	7.3	14.8	3.9	13.1	10.0

and schizophrenia (Zimmerman and Coryell 1989), and another was a study of subjects with nonspecific chronic back pain (Gerhardt et al. 2011). One consisted of young participants (Johnson et al. 2008), and another focused on a sample in which half the subjects were young children of the other half (Barnow et al. 2010). Many studies are from nearly the same place: New York City or upstate New York (Johnson et al. 2008; Klein et al. 1995; Lenzenweger et al. 1997; Moldin et al. 1994). Most are from urban areas (Gerhardt et al. 2011; Johnson et al. 2008; Klein et al. 1995; Lenzenweger et al. 1997; Lindal and Stefansson 2009; Maier et al. 1992; Moldin et al. 1994; Samuels et al. 2002; Torgersen et al. 2001). Semistructured or structured interviews were used in most studies, except that of Lindal and Stefansson (2009), who used a questionnaire, the DSM-IV and ICD-10 Personality Questionnaire (DIP-Q). One study (Zimmerman and Coryell 1989) was based on DSM-III (American Psychiatric Association 1980), others (Klein et al. 1995; Lenzenweger et al. 1997; Maier et al. 1992; Moldin et al. 1994; Torgersen et al. 2001) were based on DSM-III-R (American Psychiatric Association 1987), and some (Barnow et al. 2010; Coid et al. 2006; Gerhardt et al. 2011; Johnson et al.

TABLE 6–1. Prevalence of personality disorders in different epidemiological studies *(continued)*

	Coid et al. 2006	Lenzenweger et al. 2007	Johnson et al. 2008	Lindal and Stefansson 2009	Barnow et al. 2010	Gerhardt et al. 2011	Range	Median; mean
Number	656	214	568	420	745	110		
System	DSM-IV	DSM-IV	DSM-IV	DSM-IV	DSM-IV	DSM-IV		
Method	SCID-II	IPDE	SCID-II	DIP-Q	SCID-II	SCID-II		
Place	United Kingdom	United States	New York	Reykjavik, Iceland	Me.-Vor.	Heidelberg, Germany		
PPD	0.7	2.3	2.4	4.8	3.2	2.7	0.0–4.8	1.8; 1.7
SPD	0.8	4.9	1.3	3.1	0.8	0.0	0.0–4.9	0.8; 1.3
STPD	0.1	3.3	0.9	4.5	0.1	0.0	0.0–4.5	0.7; 1.3
ASPD	0.6	1.0	2.2	1.4	0.8	0.0	0.0–4.5	1.0; 1.8
BPD	0.7	1.6	2.2	4.5	2.3	3.6	0.0–4.5	1.7; 1.6
HPD	0.0	0.0	1.5	0.7	0.7	0.0	0.0–3.0	0.7; 1.2
NPD	0.0	0.0	1.1	1.2	0.7	0.9	0.0–4.4	0.7; 0.8
AvPD	0.8	5.2	3.7	5.2	2.3	4.5	0.0–5.2	2.3; 2.7
DPD	0.1	0.6	1.4	1.7	1.3	0.0	0.1–1.8	1.0; 1.0
OCPD	1.9	2.4	1.5	7.1	6.3	4.5	0.0–7.1	2.0; 2.5
PAPD			1.7			0.9	0.0–3.3	2.1; 1.7
SDPD							0.0–0.8	0.4
SAPD							0.0–0.2	0.1
DEPD			1.5				1.5	1.5
Cl A	1.6	6.2			3.8	2.7	1.6–6.2	3.4; 3.5
Cl B	0.5	2.3			3.9	4.5	0.5–5.8	3.5; 3.3
Cl C	2.6	6.8			8.6	9.1	2.6–9.2	7.7; 6.5
Total PD	4.4	11.9	13.3	11.1	12.8	15.5	3.9–15.5	11.9; 11.0

Note. ASPD=antisocial personality disorder; AvPD=avoidant personality disorder; BPD=borderline personality disorder; Cl A=Cluster A; Cl B=Cluster B; Cl C=Cluster C; DEPD=depressive personality disorder; DPD=dependent personality disorder; HPD=histrionic personality disorder; NPD=narcissistic personality disorder; OCPD=obsessive-compulsive personality disorder; PAPD=passive-aggressive personality disorder; PD=personality disorder; PPD=paranoid personality disorder; SAPD=sadistic personality disorder; SDPD=self-defeating personality disorder; SPD=schizoid personality disorder; STPD=schizotypal personality disorder.

DIP-Q=DSM-IV and ICD-10 Personality Questionnaire; IPDE=International Personality Disorder Examination; PDE=Personality Disorder Examination; SCID-II=Structured Clinical Interview for DSM-IV Axis II Personality Disorders; SIDP=Structured Interview for DSM-III-R Personality; SIDP-R=Structured Interview for DSM-III-R Personality—Revised.

2008; Lenzenweger et al. 2007; Lindal and Stefansson 2009; Samuels et al. 2002) were based on DSM-IV (American Psychiatric Association 1994). Some researchers used the Structured Interview for DSM-III-R Personality Disorders (SIDP) (Torgersen et al. 2001; Zimmerman and Coryell 1989), some used the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) (Barnow et al. 2010; Coid et al. 2006; Gerhardt et al. 2011; Johnson et al. 2008;

Maier et al. 1992), and others used versions of the Personality Disorder Examination (PDE) (Klein et al. 1995; Lenzenweger et al. 1997, 2007; Moldin et al. 1994; Samuels et al. 2002). Most studies are from the United States (Klein et al. 1995; Lenzenweger et al. 1997, 2007; Moldin et al. 1994; Samuels et al. 2002; Zimmerman and Coryell 1989), although some are from northwestern Europe (Barnow et al. 2010; Coid et al. 2006; Gerhardt et al. 2011; Lindal and Stefansson 2009; Maier et al. 1992; Torgersen et al. 2001). Surprisingly, the prevalence for any PD is very similar in these different studies: 10 of 13 studies reported the prevalence for any PD between 10% and 15%. On average, the prevalence was 11% or 12%, depending on whether the means or the medians were used in the calculations.

The table also shows prevalence information about the PD clusters. In five of the six studies that reported such data, Cluster C (anxious/fearful) disorders are reported to be the most frequent. The prevalence rates of Cluster A (odd/eccentric) and Cluster B (dramatic/emotional) disorders average around 3.5% each, and the prevalence of Cluster C disorders averages around 7.0%.

As to the specific PDs, the variation in prevalence across studies is relatively higher, not surprisingly, because the percentages are lower, and hence the relative standard errors are larger. However, the rank orders of the specific PDs are not so different from study to study. For obsessive-compulsive and avoidant PDs, the rank is between one and three for the majority of the studies. Borderline PD is between three and five, dependent PD between five and seven, schizoid PD between six and eight, and narcissistic PD consistently least or next to least frequent. Paranoid PD is also relatively stable between ranks two and five, whereas the ranks of schizotypal, antisocial, and histrionic PDs are spread over the whole range.

Avoidant and obsessive-compulsive PDs are the most frequent PDs, each affecting around 2.5% of the population. Next come paranoid, borderline, antisocial, and passive-aggressive PDs (if the latter from the DSM-IV appendix is included), affecting around 1.5% each. Schizoid, dependent, schizotypal, and histrionic PDs affect about 1.0% of populations. The prevalence of narcissistic PD is often below 1%. The few studies of the other PDs from either the DSM-III-R or DSM-IV appendixes showed very low prevalence rates for self-defeating and sadistic PDs and a high frequency for depressive PD. On average, the prevalence of specific PDs is around 1%–1.5%. Although there has not been definitive empirical work justifying retaining these "provisional" PDs in DSM-5 (American Psychiatric Association 2013), individuals who exhibit tendencies such as these can now be characterized with respect to personality functioning and pathological traits in the alternative DSM-5 PD model in Section III, "Emerging Measures and Models." I include data on the prevalence of these PDs for those clinicians and researchers who retain an interest in them.

There are no obvious differences depending on whether DSM-III, DSM-III-R, or DSM-IV is the basis for the prevalence or what kind of instrument is applied. However, the number of studies in each category is too low to draw any conclusions. In a comparison of studies from the United States and from northwest Europe, one finds that obsessive-compulsive and paranoid PDs, and possibly avoidant, schizoid, and dependent PDs, are more common in Europe, whereas antisocial and schizotypal PDs, and possibly histrionic and narcissistic PDs, are

more common in the United States. It may be the case, therefore, that an affectively inhibited, skeptical, and withdrawn personality style is more common in northwest Europe, whereas an affectively expressive, impulsive, flamboyant, and possibly eccentric style is more likely in America.

Lifetime Prevalence

Lifetime prevalence for disorders is necessarily higher than point prevalence. If the percentage of a population with a given disorder is measured during the past 2 weeks, 1 month, 1 year, 2 years, or 5 years, the percentage will be lower than if the population is followed throughout the whole lifespan. This obvious fact has long been established for many mental disorders, and the same will hold true for PDs, provided that the disorders are not present at an early age and do not remain chronic throughout life. Indeed, empirical research shows that many treated individuals are free of their PDs after a relatively short time (Grilo et al. 2004; Shea et al. 2002; Skodol et al. 2005; Zanarini et al. 2006). The same is true in the general population (Johnson et al. 2008; Lenzenweger 1999). At the same time, the 2- to 5-year point prevalence rates do not diminish much over age, as I discuss in the following paragraphs. The implication is that new cases have to debut in the population to replace those that disappear, even if some few reappear (Durbin and Klein 2006; Ferro et al. 1998; Zanarini et al. 2006).

A direct indication of the difference between the point prevalence of PDs and the lifetime prevalence is found in a study from New York of adolescents followed from age 14 to age 32 years (Johnson et al. 2008) (Table 6–2). Although the mean point prevalence of PDs over the four observation points—ages 14, 16, 22, and 33 years—was 13.4%, the cumulative prevalence over the four time points was 28.2%. The same relationship was observed for the specific PDs. The ratio between the cumulative prevalence and the average prevalence at a specific time was around 3.

In the National Epidemiological Survey on Alcohol and Related Conditions (NESARC), interviewers tried to obtain a lifetime assessment instead of a 2- to 5-year assessment of PD prevalence (Grant et al. 2004, 2008, 2012; Pulay et al. 2009; Stinson et al. 2008) (Table 6–2). When the prevalence of individual PDs is compared with the average for PDs in all published epidemiological studies, the lifetime prevalence (as far as the respondents can remember) is around three times as high. The implications are that the average lifetime prevalence of a specific PD will be at least 3%–4%, and the lifetime prevalence of any PD will be at least around 30% but probably much higher. Thus, according to the present criteria for PDs as defined in DSM-5 Section II, "Diagnostic Criteria and Codes," a large percentage of people at some point in their lives will qualify for having a PD. The rest of the time they may be only slightly below the level of a clinical disorder or perhaps far below the level for a shorter or longer time of their lifespan. The reason for this clinical course is the semicontinuous nature of PDs. An individual's personality dysfunction is not stable. Events and life situations bring the dysfunction up to the threshold for a PD usually during one period in life. The dysfunction often decreases back toward the mean in the population, although it does not necessarily reach the mean level in the population. However, it is below the level for a PD. Other individuals who previously met too few criteria for a diagnosis will display an increase and rise over the threshold. Many individuals will reach the above-threshold level at least

TABLE 6–2. Difference between point prevalence and lifetime prevalence for personality disorders

		Grant et al. 2004, 2008, 2012; Pulay et al. 2009; Stinson et al. 2008		Johnson et al. 2008			
Disorder	Mean, all studies, point prevalence	Lifetime	Ratio: lifetime/ point prevalence	Mean over 4 waves, ages 14–32 years	Cumulative over 4 waves, ages 14–32 years	Ratio: point prevalence/ cumulative	Average ratio
PPD	1.7	4.4	2.6	2.1	7.0	3.3	3.1
SPD	1.3	3.1	2.4	1.1	3.9	3.6	3.1
STPD	1.3	3.9	3.0	1.2	4.0	3.3	3.5
ASPD	1.8	3.6	2.0	2.2	(3.2)[a]	(1.6)[a]	(1.8)[a]
BPD	1.6	5.9	3.7	1.5	5.5	3.7	4.0
HPD	1.2	1.8	1.5	1.5	4.6	3.1	2.3
NPD	0.8	6.2	7.8	2.2	6.3	2.9	5.4
AvPD	2.7	2.4	0.9	2.4	8.1	3.4	2.2
DPD	1.0	0.5	0.5	0.8	3.2	4.0	2.3
OCPD	2.5	7.8	3.1	0.7	3.0	4.3	4.1
PAPD				1.9	5.6	2.9	
DEPD				0.8	3.0	3.8	
Average	1.6	4.0	2.8	1.5	4.8	3.2	3.1
Any PD				13.4	28.2	2.1	

Note. ASPD=antisocial personality disorder; AvPD=avoidant personality disorder; BPD=borderline personality disorder; DEPD=depressive personality disorder; DPD=dependent personality disorder; HPD=histrionic personality disorder; NPD=narcissistic personality disorder; OCPD=obsessive-compulsive personality disorder; PAPD=passive-aggressive personality disorder; PD=personality disorder; PPD=paranoid personality disorder; SPD=schizoid personality disorder; STPD=schizotypal personality disorder.

[a]Waves at ages 14 and 16 years do not include ASPD.

once in a lifetime. The waxing and waning of personality pathology argues for movement away from traditional categorical approaches to classification and diagnosis and toward more dimensional representations.

Prevalence in Clinical Populations

Knowledge about the prevalence of PDs in clinical populations is very important for clinicians and health administrators. Previously, most information available about the prevalence of PDs stemmed from such clinical populations. Today, much more is known about prevalence in the general population. A comparison between clinical and community prevalence rates provides meaningful information about the different tendencies to be treated among individuals with various PDs.

Table 6–3 presents a comparison between the prevalence in the general population and in nine clinical populations adapted from the *Oxford Handbook of Personality Disorders* (Torgersen 2012). Epidemiological studies of the general population make it possible to have a direct comparison of individuals who have been treated for psychological problems and those who have not been treated. As shown in the table, borderline and dependent PDs are much more prevalent in the clinical population than in the general population. Other PDs relatively highly more common in clinical populations are narcissistic, histrionic, avoidant, and schizotypal PDs. Passive-aggressive, paranoid, antisocial, and obsessive-compulsive PDs are relatively weakly more common in the clinical population, while schizoid PD does not seem to be more common in clinical populations than in the general population. Notably, narcissistic, dependent, and histrionic PDs are quite prevalent in clinical populations, although the quality of life is not so low for these individuals (Cramer et al. 2006, 2007), whereas schizoid and paranoid PDs are uncommon in clinical populations, although these individuals suffer a lot; obviously, strongly dependent and extroverted individuals seek help and support, whereas skeptical, introverted individuals prefer to be more self-reliant, try to solve problems themselves, and keep away from treatment. Thus, personality, more than psychological suffering, is a strong factor in illness behavior.

In summary, although the prevalence rates of PDs vary strongly from study to study, the number of published studies makes it possible to draw some conclusions. At least in the United States and Europe, the prevalence rates of specific PDs are around 1.5% (Table 6–1). The prevalence of "any PD" is 11%–12%. The sum of the percentages for the specific disorders is higher, close to 20%, pointing to the fact that a large number of individuals with one disorder also have one, two, three, or even more additional disorders.

Studies only of patients provide a distorted impression of the absolute and relative prevalence of PDs, because those with dependent and extroverted traits much more often seek treatment, whereas the opposite is the case for skeptical, introverted persons.

Sociodemographic Correlates

Gender

Gender differences are common among mental disorders. Women more often have mood and anxiety disorders, and men more often have substance-related disorders (Kringlen et al. 2001). For PDs, women and men also differ. Zimmerman

TABLE 6–3. Relative risk of attending or having attended psychiatric care for different personality disorders

					Common population, Oslo, Norway				
Disorder	Common population, international (median; mean)	Clinical population, international (median; mean)	Relative risk (median; mean)	Relative rank of risk	Nontreated	Treated	Relative risk	Relative rank of risk	Relative rank of relative risk, combined
PPD	1.8; 1.7	6.3; 9.6	3.5; 5.6	8	2.1	5.8	2.8	6	6
SPD	0.8; 1.3	1.4; 1.9	1.8; 1.5	11	1.4	7.2	5.1	4	8
STPD	0.7; 1.3	6.4; 5.7	9.1; 4.4	6	0.6	1.4	2.3	8	6
ASPD	1.0; 1.8	3.9; 5.9	3.9; 3.3	9	0.6	0.0	<0.2	11	11
BPD	1.7; 1.6	28.5; 28.5	17.8; 17.8	1	0.5	7.2	14.4	1	1
HPD	0.7; 1.2	8.0; 9.7	11.4; 8.1	4	1.8	4.3	2.4	7	5
NPD	0.7; 0.8	5.1; 10.1	7.3; 12.6	3	0.8	2.9	3.6	5	3
AvPD	2.3; 2.7	21.5; 24.6	9.3; 9.1	5	4.3	23.2	5.4	3	3
DPD	1.0; 1.0	13.0; 15.0	13.0; 15.0	2	1.3	8.7	6.7	2	2
OCPD	2.0; 2.5	6.1; 10.5	3.1; 4.2	10	1.9	2.9	1.5	9	10
PAPD	2.1; 1.7	10.1; 9.5	4.8; 5.6	7	1.6	1.4	0.9	10	9
Cl A	3.4; 3.5	11.2; 10.2	3.3; 2.9	3	3.6	13.0	3.6	2	3
Cl B	3.5; 3.3	32.1; 31.7	9.2; 9.6	1	3.3	8.7	2.6	3	2
Cl C	7.5; 6.5	27.6; 26.9	3.6; 4.1	2	7.0	26.1	3.7	1	1
Any PD	11.9; 11.0	65.6; 64.4	5.5; 5.9		12.5	31.9	2.6		

Note. ASPD=antisocial personality disorder; AvPD=avoidant personality disorder; BPD=borderline personality disorder; Cl A=Cluster A; Cl B=Cluster B; Cl C = Cluster C; DPD=dependent personality disorder; HPD=histrionic personality disorder; NPD=narcissistic personality disorder; OCPD=obsessive-compulsive personality disorder; PAPD=passive-aggressive personality disorder; PD=personality disorder; PPD=paranoid personality disorder; SPD=schizoid personality disorder; STPD=schizotypal personality disorder.

Source. Adapted from Torgersen 2012, p. 193, and Torgersen et al. 2001.

and Coryell (1989) observed a higher prevalence of any PD among males, as did Jackson and Burgess (2000) for ICD-10 screening when regression analysis was applied. However, differences between genders were very small, and Torgersen et al. (2001) did not observe any differences.

As to the PD clusters, Samuels et al. (2002) and Torgersen et al. (2001) reported that Cluster A and Cluster B disorders or traits were more common among men. Coid et al. (2006) found the same for Cluster B only.

Among the specific Cluster A disorders, Torgersen et al. (2001), Ullrich and Coid (2009), and Zimmerman and Coryell (1990) found that schizoid PD or traits were more common among men. Zimmerman and Coryell (1990) found this also for paranoid traits. Grant et al. (2004), however, observed that women more often had a paranoid PD. Neither Zimmerman and Coryell (1989, 1990) nor Torgersen et al. (2001) observed any gender difference for schizotypal PD, Pulay et al. (2009) found that schizotypal PD was more common among men, and Ullrich and Coid (2009) found it was more common among women. Among the Cluster B disorders, antisocial PD was much more common among men (Grant et al. 2004; Torgersen et al. 2001; Ullrich and Coid 2009; Zimmerman and Coryell 1989, 1990). Individuals with histrionic PD or traits were, it appears, more often women (Torgersen et al. 2001; Zimmerman and Coryell 1990). Narcissistic PD and traits were found more often among men (Stinson et al. 2008; Torgersen et al. 2001; Ullrich and Coid 2009; Zimmerman and Coryell 1989, 1990). Although there were few statistically significant gender differences for borderline PD or traits, Ullrich and Coid (2009) reported more among women.

Among the Cluster C disorders, dependent PD was much more common among women (Grant et al. 2004; Torgersen et al. 2001; Ullrich and Coid 2009; Zimmerman and Coryell 1989, 1990), and obsessive-compulsive PD or traits were found more often among men (Torgersen et al. 2001; Ullrich and Coid 2009; Zimmerman and Coryell 1989, 1990). Zimmerman and Coryell (1989, 1990), Grant et al. (2004), and Ullrich and Coid (2009) reported more avoidant PD and traits among women.

Regarding PDs "provided for further study" in DSM-III-R or DSM-IV, Torgersen et al. (2001), but not Zimmerman and Coryell (1989, 1990), found that men more often had passive-aggressive PD. Torgersen and colleagues also found that women more often presented with self-defeating traits, and men more often presented with sadistic traits.

The most clear-cut results from the studies are that men with PDs tend to be antisocial and narcissistic, and women with PDs tend to be histrionic and dependent. These results are perhaps not surprising. More surprising, however, are the few indications of gender differences for borderline traits even though borderline features are often considered to be more common in women than in men. In patient samples, borderline PD was not more prevalent among women than among men (Alnæs and Torgersen 1988; Fossati et al. 2003; Golomb et al. 1995). In one study of patients, borderline PD was, in fact, more common among men than among women (Carter et al. 1999). Reports that paranoid and schizotypal PDs do not show any gender bias, that men more often have schizoid and obsessive-compulsive PDs or traits, and that women more often have avoidant and histrionic PDs or traits are more in accord with common opinion.

Age

For an individual younger than age 18 years to be diagnosed with a PD, the features must have been present at least 1 year (American Psychiatric Association 2013). At the same time, it is assumed that PDs start early in life and are relatively stable. For some PDs, especially the dramatic types (Cluster B), it is also assumed that they are typical for young people. On the other hand, the older people are, the longer they have had to develop PDs, even though PDs may also disappear. Suicide and fatal accidents also may happen more often among those with PDs than among other individuals. These facts will influence the rate of specific PDs in older age.

Zimmerman and Coryell (1989) observed that individuals with PDs were younger than those without. Jackson and Burgess (2000) found the same age distribution using a short ICD-10 screening instrument, the International Personality Disorder Screener. Torgersen et al. (2001), however, observed the opposite. This difference can be explained by the high prevalence of introverted and the low prevalence of impulsive personality traits in Norway compared with the United States. Introverted PDs are more prevalent among older people, and impulsive PDs are less prevalent.

As to the clusters of PDs, Torgersen et al. (2001) found that individuals with Cluster A disorders were older, whereas Samuels et al. (2002), Coid et al. (2006), and Lenzenweger et al. (2007) did not find any age variations for these disorders. For the Cluster B disorders, Samuels et al. (2002), Coid et al. (2006), and Lenzenweger et al. (2007) found a higher prevalence among the younger subjects, whereas Torgersen et al. (2001) found that the Cluster B trait dimensions decreased with age. For the Cluster C disorders, no age trend was reported in any of the studies.

Among the Cluster A disorders, schizoid PD or traits were generally found to be associated with older people (Engels et al. 2003; Torgersen et al. 2001; Ullrich and Coid 2009; Zimmerman and Coryell 1989, 1990), although Grant et al. (2004) found them to be more common in younger people. In contrast, most researchers found schizotypal PD to be more common in younger individuals (Engels et al. 2003; Pulay et al. 2009; Ullrich and Coid 2009; Zimmerman and Coryell 1989, 1990), but Torgersen et al. (2001) found it to be more common in older individuals. Paranoid PD was observed more among younger people in two studies (Grant et al. 2004; Ullrich and Coid 2009).

Many study authors reported that younger people more frequently had Cluster B disorders or traits: borderline (Engels et al. 2003; Grant et al. 2004, 2008; Torgersen et al. 2001; Ullrich and Coid 2009; Zimmerman and Coryell 1989, 1990), antisocial (Grant et al. 2004, 2008; Torgersen et al. 2001; Ullrich and Coid 2009; Zimmerman and Coryell 1989, 1990), histrionic (Grant et al. 2004; Ullrich and Coid 2009; Zimmerman and Coryell 1990), and narcissistic (Stinson et al. 2008; Ullrich and Coid 2009; Zimmerman and Coryell 1990).

Individuals with obsessive-compulsive PD and traits appear to be older (Engels et al. 2003; Grant et al. 2012; Torgersen et al. 2001; Ullrich and Coid 2009). One study has found that individuals with avoidant PD are older (Torgersen et al. 2001), and another reported that they are younger (Ullrich and Coid 2009). One study has observed that those with dependent PD are younger (Grant et al. 2004).

Zimmerman and Coryell (1989) found that individuals with passive-aggressive

PD are typically of a younger age, and Torgersen et al. (2001) observed that such traits were negatively correlated with age. The latter study also examined self-defeating and sadistic traits and found that sadistic traits were associated with younger age.

To summarize, persons with borderline, antisocial, and possibly schizotypal, histrionic, and narcissistic PDs seem to be younger, whereas those with schizoid and obsessive-compulsive PDs are older. These findings are in accordance with those from a follow-up study by Seivewright et al. (2002) showing a strong developmental trend from Cluster B to Cluster A disorders and a somewhat weaker change to Cluster C disorders. The reason for the age difference may be that people become less impulsive and overtly aggressive as they age. Agreeableness and conscientiousness increase with age (Srivastava et al. 2003). Cluster B disorders are typically negatively correlated with agreeableness and conscientiousness (Saulsman and Page 2004).

Marital Status

Most of the results concerning marital status are from Zimmerman and Coryell (1989). Some of the data from Torgersen et al. (2001) have been calculated for this chapter to be comparable in format to the tables in Zimmerman and Coryell (1989) (Table 6–4).

As illustrated in Table 6–4, subjects with PDs have more often been separated or divorced compared with those without a PD. They are less frequently married (Jackson and Burgess 2000; Zimmerman and Coryell 1989), and they are more often never married (Zimmerman and Coryell 1989). If nonmarried persons living with a partner are considered, subjects with PD more often live alone without a partner than do subjects without a PD in the general population (Torgersen et al. 2001).

However, because the risk of having a PD is related to gender and age, the real effect of other sociodemographic variables such as marital status is difficult to determine. Younger people are less often married, and education is also related to gender and age. The best way to determine the independent effect of individual sociodemographic variables is to apply multivariate methods; however, these methods have been used in very few studies because they need large samples. In the study by Torgersen et al. (2001), such multivariate analyses have been carried out for living alone versus living with a partner.

Those with Cluster A disorders have more often been divorced or separated (Coid et al. 2006; Samuels et al. 2002); they are more often divorced when interviewed, and they have seldom been married (Samuels et al. 2002 and Table 6–4). Those with Cluster B disorders are also often unmarried and more often live alone (Torgersen et al. 2001), and they are more often separated or divorced (Coid et al. 2006). Those with Cluster C disorders are also less often married (Samuels et al. 2002) and more often live alone (Torgersen et al. 2001).

When examining the specific PDs, one encounters problems in comparing the different studies. Marital status does not seem to be as important in the Norwegian study (Torgersen et al. 2001), perhaps because many Norwegians live in stable relationships without being married. When one includes "living together with a partner" from the study of Torgersen et al. (2001) and considers this life situation as analogous to marriage, the findings of this study and the study by Zimmerman and Coryell (1989) are more similar. It is important to note that the observations in the study by Torgersen

TABLE 6–4. Marital status and personality disorders, calculated from Torgersen et al. 2001

Personality disorder	*N*	Single (never married) (%)	Married (%)	Separated[a] (%)	Divorced[a] (%)	Widowed (%)	Ever separated[b] (%)	Ever divorced[c] (%)
Paranoid	46	34.8	34.8	6.5	21.7[c]	2.2	15.8	36.7
Schizoid	32	56.3	31.3	0.0	6.3	6.3	20.0	28.6
Schizotypal	12	50.0	33.3	0.0	8.3	8.3	20.0	16.7
Antisocial	12	75.0[d]	8.3[d]	0.0	16.7	0.0	0.0	66.7
Borderline	14	57.1	35.7	7.1	0.0	0.0	20.0	16.7
Histrionic	39	46.2	35.9	0.0	17.9	0.0	0.0	47.6[d]
Narcissistic	17	35.6	52.9	0.0	5.9	5.9	10.0	9.1
Avoidant	102	45.1	36.3	1.0	14.7	2.9	7.5	28.6
Dependent	31	58.1[d]	25.8[d]	3.2	12.9	0.0	11.1	30.8
Obsessive-compulsive	39	41.6	43.6	0.0	10.3	5.1	5.6	21.7
Passive-aggressive	32	35.3	31.3	6.3	9.4	3.1	18.2	31.3
Self-defeating	17	35.3	17.6[d]	0.0	41.2[e]	5.9	25.0	63.6
Sadistic	4	50.0	56.0	0.0	0.0	0.0	0.0	0.0
Cluster A: eccentric	80	45.6	33.8[d]	3.8	15.0	2.5	13.8	34.1
Cluster B: dramatic	62	49.3	35.2	1.4	12.7	1.4	8.3	33.3
Cluster C: fearful	189	45.5	36.5[d]	1.3	14.1	2.6	8.2	28.2
Any personality disorder	269	43.9	36.8[f]	2.2	15.6[d]	1.5	7.9	33.1[f]
No personality disorder	1,784	38.8	46.5	2.4	10.4	1.8	5.1	23.2
Total	2,053	693.0	830.0	43.0	185.0	33.0	43.0	253.0

[a]At the time of interview.
[b]Excluding those who were never married.
[c]Excluding those who were never married and those who are divorced.
[d]χ^2 test, $P<0.05$.
[e]χ^2 test, $P<0.001$.
[f]χ^2 test, $P<0.01$.

and colleagues were based on logistic and linear regression analysis, taking into account a number of other sociodemographic variables.

Among individuals with Cluster A disorders, those with paranoid PD are more often single (never married) (Grant et al. 2004), divorced (Grant et al. 2004 and Table 6–4), or living alone (Torgersen et al. 2001). Those with schizoid PD are less often separated at time of interview (Zimmerman and Coryell 1989), more often ever separated/divorced/widowed or never married (Grant et al. 2004), and more often living alone (Torgersen et al. 2001). Those with schizotypal PD have more often been separated (Zimmerman and Coryell 1989) and more often living alone (Torgersen et al. 2001). They are more often separated/divorced/widowed or never married (Pulay et al. 2009), all compared with those without the specific PDs.

Among the Cluster B disorders, persons with histrionic PD have more often been separated or divorced (Zimmerman and Coryell 1989). They are also more often not married when interviewed (Zimmerman and Coryell 1989), more often divorced/separated/widowed or never married (Grant et al. 2004), and more often living alone (Torgersen et al. 2001). Those with antisocial PD also more often have been divorced, separated (Zimmerman and Coryell 1989), or never married (Grant et al. 2004 and Table 6–4); are less often married when interviewed; and are more often living alone (Torgersen et al. 2001). Persons with borderline PD also have more often been separated if married, are more often divorced, and are not married when interviewed (Zimmerman and Coryell 1989). They are more often never married (Zimmerman and Coryell 1989), are more often living alone (Torgersen et al. 2001), and are more often separated/divorced/widowed (Grant et al. 2008). Finally, those with narcissistic PD also more often live alone (Torgersen et al. 2001), and they are more often separated/divorced/widowed or never married (Stinson et al. 2008).

Among persons with Cluster C disorders, those with avoidant PD have more often been separated (Zimmerman and Coryell 1989). They are more often separated/divorced/widowed when interviewed and more often never married (Grant et al. 2004). Those with dependent PD more often have been separated when interviewed (Zimmerman and Coryell 1989), have never married (Grant et al. 2004 and Table 6–4), or are separated/divorced/widowed (Grant et al. 2004). Those with obsessive-compulsive traits are less often married (Torgersen et al. 2001), and females with obsessive-compulsive PD are less often separated/divorced/widowed when interviewed.

Among the proposed PDs, persons with passive-aggressive PD have more often been divorced and are less often married when interviewed (Zimmerman and Coryell 1989) and more often live alone (Torgersen et al. 2001). Those with self-defeating PD have more often been divorced (Zimmerman and Coryell 1989), are more often divorced (see Table 6–4) or not married when interviewed (Zimmerman and Coryell 1989), and more often live alone (Torgersen et al. 2001).

In conclusion, persons with PDs, and particularly those with self-defeating, borderline, or schizotypal PD, typically live alone. Those with obsessive-compulsive PD may be an exception. Never being married is often observed among those with antisocial and dependent PDs. The risk of divorce/separation is high among those with paranoid PD. In cultures where it is more common to live together unmarried, a breakup in the relationship is less easy to record. For what-

ever reason, living without a partner is very common among people with PDs.

Education and Income

Relatively few studies have investigated the relationship between PDs and education and income. Torgersen et al. (2001) observed that people with any PD had less education than those without a PD. The same was observed for those with disorders or traits in Clusters A, B, and C. Samuels et al. (2002) and Lenzenweger et al. (2007) confirmed that those with Cluster B disorders, but not those with Cluster A or Cluster C disorders, had less education. Coid et al. (2006), however, found lower education among those with Cluster A disorders.

In applying logistic regression analysis and taking into account a number of other sociodemographic variables, Torgersen et al. (2001) observed that paranoid and avoidant PDs and traits and schizoid, schizotypal, antisocial, borderline, dependent, and self-defeating personality traits were related to lower education. Interestingly, individuals with obsessive-compulsive PD or traits had higher education. Only histrionic, narcissistic, and passive-aggressive PDs or traits were unrelated to education. In Wave 1 of the NESARC, Grant et al. (2004) found that lower education was related to all the studied PDs (paranoid, schizoid, antisocial, histrionic, avoidant, and dependent), with the exception of obsessive-compulsive PD, which was related to higher education (as Torgersen et al. [2001] found). Also, in NESARC Wave 2, Grant et al. (2008) found that borderline PD was more common among those with lower education and income. The same was true for low income and schizotypal PD (Pulay et al. 2009) but not narcissistic PD (Stinson et al. 2008).

Coid et al. (2006) found that Cluster A disorders were related to unemployment and lower social class, Cluster B disorders were related to lower social class, and Cluster C disorders were related to being "economically inactive" but not unemployed. Grant et al. (2004) found that lower income was related to all of the studied (NESARC Wave 1) PDs except obsessive-compulsive PD. Lenzenweger et al. (2007) found that only borderline PD was related to unemployment.

Samuels et al. (2002) also investigated the relationship between income and PDs but did not find any association. Jackson and Burgess (2000) did not find any relationship between PDs and unemployment. It is important to note that these studies applied multivariate methods, taking into account other sociodemographic variables.

In summary, with a few exceptions, PDs are related to lower socioeconomic status and economic problems. This holds true for all of the Cluster A disorders (paranoid, schizoid, and schizotypal) and for at least two Cluster B disorders (antisocial and borderline). It is not true for narcissistic PD, and the socioeconomic status of those with histrionic PD is equivocal. As for Cluster C disorders, avoidant and dependent PDs imply poorer socioeconomic status, whereas the opposite is true for obsessive-compulsive PD. For the provisional disorders, there exists only one study (Torgersen et al. 2001), which suggests lower education for those with self-defeating and sadistic, but not passive-aggressive, PDs.

Urban Location

The study of Torgersen et al. (2001) showed that persons living in the populated center of the city more often had PDs. The same was true for all clusters of

PDs and all specific disorders except antisocial, sadistic, avoidant, and dependent PDs. In Wave 1 of the NESARC, Grant et al. (2004) found this to be true for paranoid and avoidant PDs but not for antisocial, histrionic, schizoid, dependent, or obsessive-compulsive PDs. The two studies agree that paranoid PD, but not antisocial and dependent PDs, is related to urbanicity. They disagree about schizoid, histrionic, avoidant, and obsessive-compulsive PDs, and the rest of the PDs were not included in the NESARC study at Wave 1.

Given that more people with PDs are found in the center than in the outskirts of a city, one may speculate about the reason for this. Quality of life is generally lower in the center of the city (Cramer et al. 2004), and there is a higher rate of symptom disorders in the city or in the center of the city (Kringlen et al. 2001; Lewis and Booth 1992, 1994; Marcelis et al. 1998; Sundquist et al. 2004; van Os et al. 2001). One reason may be that the concentrated urban life creates stress leading to PDs. Another reason may be that individuals with personality problems drift to the center, where they can lead an anonymous life. A third explanation may be that less social control in cities simply makes it easier to express the less socially acceptable aspects of one's personality. Previous belief held that excessive social control creates mental problems. Perhaps social control hinders the development of accentuated eccentric, narcissistic, and impulsive personality styles.

Quality of Life and Dysfunction

Central to the definition of PDs are the interpersonal problems, reduced well-being, and dysfunction that individuals with PDs experience. In the sample studied by Torgersen et al. (2001), quality of life was assessed by interview and included the following aspects: subjective well-being, self-realization, relation to friends, social support, negative life events, relation to family of origin, and neighborhood quality (Cramer et al. 2003, 2006, 2007). All aspects were integrated in a global quality-of-life index.

In the Torgersen et al. (2001) study, PDs turned out to be more strongly related to quality of life than Axis I mental disorders, somatic health, and any other socioeconomic, demographic, or life situation variable. Among the specific PDs, avoidant PD was most strongly related to poor quality of life, after the researchers controlled for all the aforementioned variables. Next came schizotypal, then paranoid, schizoid, borderline, dependent, and antisocial PDs, followed by narcissistic and self-defeating PDs to a lesser degree. Histrionic, obsessive-compulsive, and passive-aggressive PDs were unrelated to quality of life. Some may be surprised that borderline PD was not more strongly related to reduced quality of life. The reason for this is that the disorder is related to a number of other variables that are related to quality of life. Hence, the variables become weaker in a multiple regression analysis.

A dysfunction index was created by combining quality of life (reversed); the answer to the Structured Interview for DSM-III Personality Disorders—Revised question "Do you feel that the way you usually deal with people and handle situations causes you problems?"; the number of lifetime Axis I diagnoses; and any incidence of seeking treatment with varying degrees of seriousness, from private psychologists and psychiatrists—via outpatient and inpatient clinics—to psychiatric hospitals. The dysfunction index was related to PD, much as the global

quality-of-life index was. The only differences found in comparing results derived from the dysfunction index with those from the global quality-of-life index were that those persons with borderline, histrionic, dependent, or self-defeating PD appeared more dysfunctional, and those persons with antisocial PD appeared less dysfunctional. The reason for the differences is mainly that those with borderline, histrionic, dependent, and self-defeating PDs are more likely to seek treatment, and those with antisocial PD are less likely to seek treatment.

However, the most important result in this study was that for both quality of life and dysfunction, there was a perfect linear dose-response relationship to numbers of criteria fulfilled for all PDs together and to the number of criteria fulfilled for any specific PD (Torgersen et al. 2001). Thus, if a person has one criterion fulfilled for one or another PD, his or her quality of life is lower and dysfunction is higher than among those with no criteria fulfilled. Those with two criteria fulfilled for one or more specific disorders have more problems than those with one, those with three criteria have more problems than those with two, and so on. In other words, when those with zero criteria on all disorders were grouped together—that is, those with a maximum of one criterion on any disorder, those with a maximum of two, and so on—the relationship to global quality of life and dysfunction was perfectly linear (Figures 6–1 and 6–2). This result means that there are no arguments for any specific number of criteria to define a PD if one uses quality of life or dysfunction as validation variables. There is no natural cutoff point. These results are consistent with those of Hopwood et al. (2011), who found that a general dimension of severity of personality pathology based on counts of criteria met was the single strongest determinant of current and prospective (3-year) psychosocial dysfunction. In DSM-5 Section III, the Level of Personality Functioning Scale (LPFS) measures the overall severity of impairment in personality functioning on a continuum and is predictive of the presence of a PD, PD comorbidity, and the presence of a severe PD.

A high level of dysfunction and disability was also observed among those with schizotypal PD, followed by borderline and avoidant PDs, in a large-scale multicenter study (Skodol et al. 2002). It was also observed in this study that those with obsessive-compulsive PD showed much less disability, even though they had severe impairment in at least one area of functioning.

In another study, Ullrich et al. (2007) found that obsessive-compulsive PD was not related to poor functioning—in fact, it was quite the opposite. Also, histrionic PD was positively related to "status and wealth," whereas narcissistic and paranoid PDs were unrelated to this index as well as to "successful intimate relationships." Taken together, those with schizoid PD scored poorest on these two indexes, followed by those with antisocial, schizotypal, avoidant, borderline, and dependent PDs.

Zimmerman and Coryell (1989) also found a high frequency of psychosexual dysfunction among persons with avoidant PD. Surprisingly, this dysfunction was infrequent among persons with borderline PD; not surprisingly, it was also infrequent among those with antisocial PD.

Grant et al. (2004) applied a short form of a quality-of-life assessment, the 12-item Short Form Health Survey, Version 2 (SF-12v2; Ware et al. 2002), and found that those with dependent PD had the poorest quality of life, followed by those with avoidant, paranoid, schizoid, or antisocial PD. There was no reduction in quality of

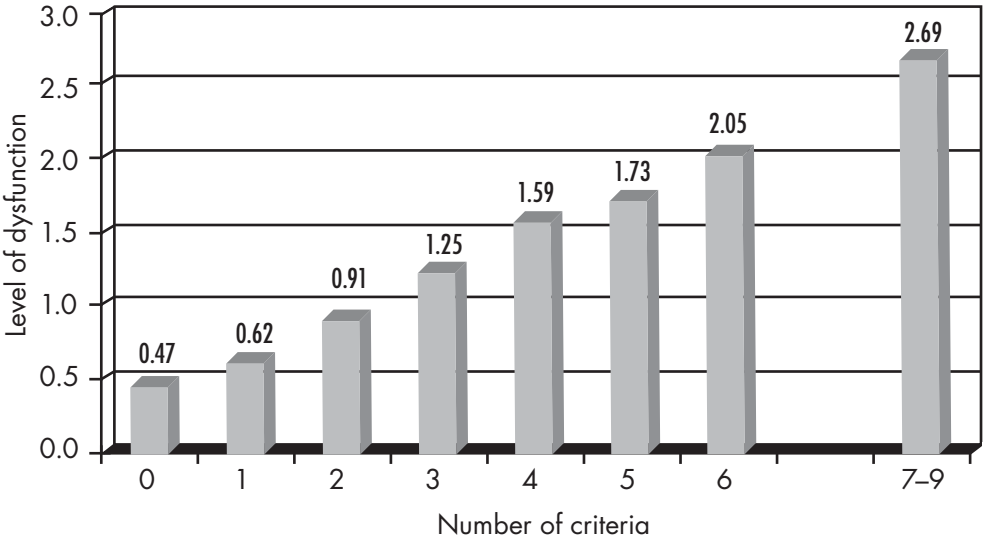

FIGURE 6–1. Relationship between maximum number of criteria fulfilled on any personality disorder and dysfunction.

Note. As explained in the text, the ordinate (dysfunction) is a composite of life quality (reversed), treatment seeking, the number of lifetime Axis I diagnoses, and the notion that one's behavior causes problems. The mean and standard deviation are 1.

life for those with histrionic PD and a reduction on only one of three scores for those with obsessive-compulsive PD.

Crawford et al. (2005) studied impairment using the Global Assessment of Functioning (GAF) scale. Subjects with borderline PD had the poorest functioning, followed by those with avoidant, schizotypal, narcissistic, antisocial, paranoid, histrionic, dependent, and schizoid PDs. Only those with obsessive-compulsive PD had no indication of dysfunction.

In conclusion, all studies taken together show that reduced quality of life and dysfunction are highest among persons with avoidant PD, followed closely by those with schizotypal and borderline PDs. Those with paranoid, schizoid, dependent, and antisocial PDs follow. There are few studies showing impaired quality of life for persons with histrionic, narcissistic, or obsessive-compulsive PD. The same is true for the quality of life of persons with the provisional passive-aggressive, self-defeating, and sadistic PDs.

There is reason to question, on the basis of quality-of-life and dysfunction studies, whether histrionic and obsessive-compulsive PDs, in spite of their long histories, deserve their status as PDs. Narcissistic PD was not included in ICD-10 (World Health Organization 1992), which some would view as a wise decision. All 10 of the DSM-IV PDs have been retained as specific disorders in DSM-5 Section II, although in Section III histrionic PD is diagnosed as *personality disorder—trait specified.* As mentioned previously in the section "Sociodemographic Correlates," there has been insufficient evidence established for retaining as full-fledged disorders the DSM-III-R and DSM-IV provisional disorders "provided for further study," but personality characteristics consistent with those de-

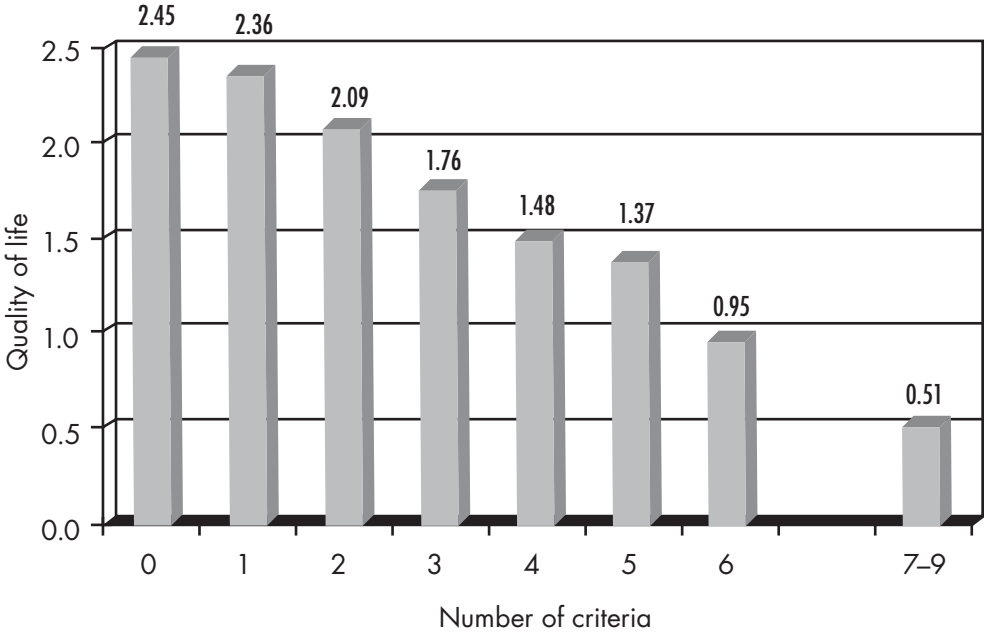

FIGURE 6–2. **Relationship between maximum number of criteria fulfilled on any personality disorder and quality of life.**

Note. As explained in text, the ordinate (quality of life) is a composite of subjective well-being, self-realization, social support, negative life events, and relation to family, friends, and neighbors. The mean is set to 2, and the standard deviation is 1.

scriptions may be specified by the new DSM-5 Section III model.

Conclusion

There is an even reduction in quality of life and an even increase in dysfunction for each PD criterion manifested. Thus, there is a continuous relationship between those with no or small personality problems, those with moderate problems, and those with severe problems. No natural cutoff point exists. Any definition of how many criteria are required for a personality disorder to be diagnosed is arbitrary. Even so, to have a definition is important for communication. However, a change in criteria will immediately change the prevalence estimates in the society. Consequently, correlations between personality disorders and other variables are more important than prevalence rates. These correlations appear to be independent of how strictly personality disorders are defined.

Because of the continuous nature of personality disorders, their tendency to disappear, and the even distribution of point prevalence over age, new personality disorders have to arise over the life span. Consequently, the likelihood of having a personality disorder once in the lifetime may be surprisingly high.

Epidemiological research has perhaps changed some stereotypical notions about personality disorders. These disorders are more frequent in the general population than we generally believed, especially the introverted personality disorders. Borderline personality disorder is not a "female disorder." Living without a

partner is a risk factor for personality disorders, but being unmarried is less a risk factor than many would have believed. Those living in a partnership without being married function well.

Care must be taken to avoid believing that correlations display one-directional causal relationships. Personality disorders may hinder obtaining higher levels of education and may create socioeconomic difficulties. Problematic personality traits may prevent a person from going into a relationship or may lead to the breaking up of relationships, rather than having relationship issues and problems causing problematic personality traits. Poor quality of life may be a consequence just as well as a cause of PDs. Future genetically informative, longitudinal epidemiological studies may disclose the causal pathways and hence promote the understanding of this important group of mental disorders.

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CHAPTER 7

Manifestations, Assessment, and Differential Diagnosis

Andrew E. Skodol, M.D.

In DSM-5 Section II, "Diagnostic Criteria and Codes" (American Psychiatric Association 2013), personality disorders (PDs) are defined by general criteria identical to those in DSM-IV (American Psychiatric Association 1994), despite the virtual absence of theoretical or empirical justifications for key aspects of these criteria. According to DSM-5 Section II, PDs are enduring patterns of inner experience and behavior that are inflexible and pervasive and cause clinically significant distress or impairment in social, occupational, or other areas of functioning. The patterns deviate markedly from the expectations of an individual's culture and are said to be manifested in two or more of the following areas: cognition, affectivity, interpersonal functioning, and impulse control. These features are not specific to PDs, however, and may characterize other chronic mental disorders, thereby contributing to problems in differential diagnosis. An alternative set of general criteria was proposed for DSM-5 (see Chapter 24, "An Alternative Model for Personality Disorders: DSM-5 Section III and Beyond" in this volume) and can be found in Section III, "Emerging Measures and Models," of the manual.

PDs are associated with significant difficulties in self-appraisal and self-regulation, as well as with impaired interpersonal relationships. Thus, the alternative criteria focus on impairments in aspects of what is called *personality functioning*, which has been shown to be at the core of personality psychopathology according to multiple personality theories and research traditions (Bender et al. 2011; Livesley and Jang 2000; Luyten and Blatt 2013). Impairments in personality functioning have been empirically demonstrated to discriminate PDs from other types of psychopathology (Morey et al.

2011), thereby facilitating differential diagnosis. In addition, for a PD diagnosis, the Section III general criteria require the presence of *pathological personality traits,* which describe the myriad variations in personality features that characterize PDs.

Because the Section II classification of PDs remains the official classification for clinical use, I provide guidance in this chapter on assessing personality psychopathology and diagnosing PDs using Section II concepts. The process of diagnosing PDs and distinguishing them from other mental disorders may be more difficult with DSM-5, which has discontinued the multiaxial recording system of DSM-IV (American Psychiatric Association 1994). Because of the many documented problems with the DSM-IV, and now DSM-5 Section II, categorical approach to personality pathology (see Chapter 24 in this volume), I also outline in this chapter the diagnostic process embodied by the Section III alternative hybrid dimensional-categorical PD model.

DSM-5 Section II includes criteria for the diagnosis of 10 specific PDs, arranged into three clusters based on descriptive similarities. Cluster A is commonly referred to as the "odd or eccentric" cluster and includes paranoid, schizoid, and schizotypal PDs. Cluster B, the "dramatic, emotional, or erratic" cluster, includes antisocial, borderline, histrionic, and narcissistic PDs. Cluster C, the "anxious and fearful" cluster, includes avoidant, dependent, and obsessive-compulsive PDs. DSM-5 Section II also provides the residual categories of other specified PD and unspecified PD. The former category is to be used when the general criteria for a PD are met and features of several different types of PD are present, but the criteria for a specific PD are not met (i.e., "mixed" PD features) or the patient has a PD not included in the official classification (e.g., self-defeating or depressive PD). The latter category is used when the general criteria for a PD are met but there is no further specification of the PD's characteristics (e.g., when insufficient information is available to make a more specific diagnosis).

DSM-5 Section III provides diagnostic criteria for those 6 of the 10 Section II categories—antisocial, avoidant, borderline, narcissistic, obsessive-compulsive, and schizotypal—that are judged to have the most empirical evidence of validity and/or clinical utility. The other four Section II PDs and all other presentations that meet the Section III general criteria for a PD are diagnosed in the alternative model as personality disorder—trait specified (PD-TS) (Table 7–1). The clinician notes the specific level of impairment in personality functioning and the specific pathological personality traits that describe the patient (see section "Defining Features of Personality Disorders" below). Thus, in all cases for which a PD is diagnosed using the Section III model, important descriptive information about personality functioning and pathological personality traits is recorded for treatment planning and prognosis.

This chapter considers the manifestations, assessment, diagnosis, and differential diagnosis of PDs. Included are descriptions of the clinical characteristics of the 10 DSM-5 PDs according to both Section II and Section III criteria. (In the case of the four Section II PDs represented by PD-TS in Section III, the descriptions are based on typical impairments in personality functioning and characteristic pathological personality traits—see Table 7–1.) Also included are approaches to clinical interviewing, along with discussions of problems in assessing a patient with a suspected PD, such as state versus trait discrimination, trait versus disorder distinctions, and

TABLE 7–1. Crosswalk of DSM-5 Section II personality disorders to Section III personality disorders and Criterion B pathological personality traits

DSM-5 Section II personality disorder	DSM-5 Section III personality disorder (Criterion B decision rules)	Pathological personality traits (domains)
Paranoid	PD-TS[a]	Suspiciousness (DET) Hostility (ANT)
Schizoid	PD-TS	Withdrawal (DET) Intimacy avoidance (DET) Anhedonia (DET) Restricted affectivity (DET)
Schizotypal	Schizotypal (4 or more)	Cognitive and perceptual dysregulation (PSY) Unusual beliefs and experiences (PSY) Eccentricity (PSY) Restricted affectivity (DET) Withdrawal (DET) Suspiciousness (DET)
Antisocial	Antisocial (6 or more)	Manipulativeness (ANT) Callousness (ANT) Deceitfulness (ANT) Hostility (ANT) Risk taking (DIS) Impulsivity (DIS) Irresponsibility (DIS)
Borderline	Borderline (4 or more; at least one of following traits is required: impulsivity, risk taking, hostility)	Emotional lability (NA) Anxiousness (NA) Separation insecurity (NA) Depressivity (NA) Impulsivity (DIS) Risk taking (DIS) Hostility (ANT)
Histrionic	PD-TS	Emotional lability (NA) Attention seeking (ANT) Manipulativeness (ANT)
Narcissistic	Narcissistic (both)	Grandiosity (ANT) Attention seeking (ANT)
Avoidant	Avoidant (3 or more; anxiousness trait is required)	Anxiousness (NA) Withdrawal (DET) Anhedonia (DET) Intimacy avoidance (DET)
Dependent	PD-TS	Submissiveness (NA) Anxiousness (NA) Separation insecurity (NA)
Obsessive-compulsive	Obsessive-compulsive (3 or more; rigid perfectionism trait is required)	Rigid perfectionism (C) Perseveration (NA) Intimacy avoidance (DET) Restricted affectivity (DET)

Note. ANT=Antagonism; C=Conscientiousness (opposite pole of DIS); DET=Detachment; DIS= Disinhibition; NA=Negative Affectivity; PD-TS=personality disorder—trait specified; PSY=Psychoticism.
[a]When a patient's level of impairment in personality functioning is moderate or greater, but the pattern of impairments or pathological personality traits do not correspond to one of the specific Section III personality disorders, a diagnosis of PD-TS is made.

the effects of gender, culture, and age. Despite limitations in the traditional categorical DSM approach to personality psychopathology, PDs diagnosed by this system have been shown since the 1980s to have considerable clinical utility in predicting functional impairment over and above that associated with other comorbid mental disorders, chronicity of other co-occurring mental disorders, extensive and intensive utilization of treatment resources, and, in many cases, adverse psychosocial outcomes. Thus, the recognition and accurate diagnosis of personality psychopathology should be an important clinical priority.

Defining Features of Personality Disorders

DSM-5 PDs are defined differently in Section II and Section III. Each section has a set of general criteria defining what is meant by a PD and individual criteria sets for each specific diagnosis. When a diagnosis is being made, it is useful to consider how the specific manifestations of each PD align with the general definitions according to each model.

DSM-5 Section II Patterns of Inner Experience and Behavior

The general diagnostic criteria for a PD in DSM-5 Section II indicate that a pattern of inner experience and behavior is manifested by characteristic patterns of 1) cognition (i.e., ways of perceiving and interpreting self, other people, and events); 2) affectivity (i.e., the range, intensity, lability, and appropriateness of emotional response); 3) interpersonal functioning; and 4) impulse control. Persons with PDs are expected to have manifestations in at least two of these areas. In contrast, Section III general criteria focus on impairment in personality functioning and the presence of pathological personality traits. Personality functioning consists of sense of self (identity and self-direction) and interpersonal relatedness (empathy and intimacy), capturing aspects of all four Section II areas. The Section III pathological trait domains of Negative Affectivity and Disinhibition (see subsection "Criterion B: Pathological Personality Traits" below) elaborate on two of the Section II areas. Although the general criteria of the two models overlap, the Section III general criteria have been shown empirically to be associated specifically with PDs (Morey et al. 2011, 2013a), whereas the Section II general criteria have not.

DSM-5 Section III Alternative Model for Personality Disorders

The general criteria for a PD according to DSM-5 Section III require two initial determinations: 1) an assessment of the level of impairment in personality functioning, which is needed for Criterion A, and 2) an evaluation of pathological personality traits, which is required for Criterion B. The impairments in personality functioning and personality trait expression are relatively inflexible and pervasive across a broad range of personal and social situations (Criterion C); relatively stable across time, with onsets that can be traced back to at least adolescence or early adulthood (Criterion D); not better explained by another mental disorder (Criterion E); not attributable to a substance or another medical condition (Criterion F); and not better understood as normal for an individual's developmental stage or sociocultural environment (Criterion G). All Section III PDs described by crite-

rion sets and PD-TS meet these general criteria, by definition. (The appendix to this textbook includes the complete wording of these general criteria.)

Criterion A: Level of Personality Functioning

Disturbances in *self* and *interpersonal* functioning constitute the core of personality psychopathology (Bender et al. 2011). In the alternative Section III diagnostic model, they are evaluated on a continuum, using the Level of Personality Functioning Scale (LPFS). The LPFS assesses capacities that lie at the heart of personality and adaptive functioning. Self functioning involves identity and self-direction; interpersonal functioning involves empathy and intimacy.

- *Identity* is defined as the experience of oneself as unique, with clear boundaries between self and others; stability of self-esteem and accuracy of self-appraisal; and the capacity for, and the ability to regulate, a range of emotional experience.
- *Self-direction* is the pursuit of coherent and meaningful short-term and life goals; the utilization of constructive and prosocial internal standards of behavior; and the ability to self-reflect productively.
- *Empathy* is the comprehension and appreciation of others' experiences and motivations; tolerance of differing perspectives; and an understanding of the effects of one's own behavior on others.
- *Intimacy* reflects the depth and duration of connection with others; a desire and capacity for closeness; and a mutuality of regard reflected in interpersonal behavior.

The LPFS utilizes each of these elements to differentiate five levels of impairment, ranging from *little or no impairment* (i.e., healthy, adaptive functioning; Level 0), to *some* (Level 1), *moderate* (Level 2), *severe* (Level 3), and *extreme* (Level 4) impairment.

Impairment in personality functioning predicts the presence of a PD, and the severity of impairment predicts whether an individual has more than one PD or one of the more typically severe PDs (Morey et al. 2011). A moderate level of impairment in personality functioning is required for the diagnosis of a PD based on empirical evidence that a moderate level of impairment maximizes the ability of clinicians to accurately and efficiently identify PD pathology (Morey et al. 2013a).

To use the LPFS, the clinician selects the level that most closely captures the individual's *current overall* level of impairment in personality functioning. The rating not only is necessary for the diagnosis of a PD (moderate impairment or greater) but also can be used to specify the severity of impairment present for an individual with any PD at a given point in time. The LPFS may also be used as a global indicator of personality functioning without specification of a PD diagnosis, in the event that personality impairment is subthreshold for a disorder diagnosis, or as a severity change measure during or following treatment. The full LPFS can be found in the appendix to this textbook.

Criterion B: Pathological Personality Traits

Pathological personality traits in DSM-5 Section III are organized into five broad *trait domains:* Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. Within these five broad domains are 25 specific *trait facets* that

have been developed initially from a review of existing trait models and then through iterative research on samples of persons who sought mental health services (Krueger et al. 2011a, 2011b, 2012). The full trait taxonomy can be found in the appendix to this textbook. Definitions of all personality domains and facets are provided in DSM-5 (American Psychiatric Association 2013, pp. 779–781). For example, the domain of Negative Affectivity is defined as "frequent and intense experiences of high levels of a wide range of negative emotions (e.g., anxiety, depression, guilt/shame, worry, anger), and their behavioral (e.g., self-harm) and interpersonal (e.g., dependency) manifestations" (p. 779). The trait facet of emotional lability, a component of Negative Affectivity, is defined as "instability of emotional experiences and mood; emotions that are easily aroused, intense, and/or out of proportion to events and circumstances" (p. 779). The B criteria for the specific PDs comprise subsets of the 25 trait facets, based on meta-analytic reviews (Samuel and Widiger 2008; Saulsman and Page 2004) and empirical data on the relationships of the traits to DSM-IV PD diagnoses (Hopwood et al. 2012; L.C. Morey: "Developing and Evaluating a DSM-5 Model for Personality Disorder Diagnosis: Data From a National Clinical Sample," unpublished manuscript, August 2012).

A *personality trait* is a tendency to feel, perceive, behave, and think in relatively consistent ways across time and across situations in which the trait may be manifested. The clinical utility of the Section III multidimensional personality trait model lies in its ability to focus attention on multiple areas of personality variation in each individual patient. Rather than attention being focused on the identification of one optimal diagnostic label, clinical application of the Section III personality trait model involves reviewing all five broad personality domains. This approach to personality assessment is similar to the well-known review of systems in clinical medicine.

Clinical use of the Section III personality trait model begins with an initial review of all five broad domains of personality. This systematic review may be facilitated by the use of formal psychometric instruments designed to measure specific domains and facets of personality. For example, the personality trait model is operationalized in the Personality Inventory for DSM-5 (PID-5; Krueger et al. 2012). The PID-5 can be completed in its self-report form by patients and in its informant-report form (Markon et al. 2013) by those who know the patient well (e.g., a spouse). A detailed clinical assessment might involve collection of data from both patients and informants on all 25 facets of the personality trait model. However, if this is not possible, because of time or other constraints, assessment focused at the five-domain level is an acceptable clinical option when only a general portrait of a patient's personality is needed. However, the more that personality-based problems are the primary focus of treatment, the more important it will be to assess individuals' trait facets as well as domains (Skodol et al. 2013).

Manifestations of Personality Psychopathology

Cognitive Features

PDs affect the ways persons think about themselves and about their relationships with other people. Most of the DSM-5 diagnostic criteria for paranoid PD (PPD) reflect a disturbance in cognition characterized by pervasive distrust and suspiciousness of others. Persons with PPD

suspect that others are exploiting, harming, or deceiving them; doubt the loyalty or trustworthiness of others; read hidden, demeaning, or threatening meanings into benign remarks or events; and perceive attacks on their character or reputation. PPD would be diagnosed as PD-TS in the alternative DSM-5 model for PDs (see Table 7–1). The level of impairment in personality functioning typically would be severe or extreme, in part because of serious distortions in sense of self, and relevant pathological personality traits would include suspiciousness and possibly hostility.

Among the major symptoms of schizotypal PD (STPD) are characteristic cognitive and perceptual distortions, such as ideas of reference; odd beliefs and magical thinking (e.g., superstitiousness, belief in clairvoyance or telepathy); bodily illusions; and suspiciousness and paranoia similar to those observed in persons with PPD. STPD is a specific PD in the alternative DSM-5 model. It is characterized by extreme impairments in personality functioning, such as confused boundaries between self and others, and by four or more of six pathological personality traits, which include cognitive and perceptual dysregulation, unusual beliefs and experiences, and suspiciousness—all cognitive manifestations.

Persons with borderline PD (BPD) may also experience transient paranoid ideation when under stress, but the characteristic cognitive manifestations of individuals with BPD are dramatic shifts in their views toward people with whom they are intensely emotionally involved. These shifts emanate from disturbances in mental representations of self and others (Bender and Skodol 2007) and result in the individual's overidealizing others at one point and then devaluating them at another point, when the individual feels disappointed, neglected, or uncared for. This phenomenon is commonly referred to as "splitting." BPD is also a specific PD in Section III, with severe impairments in personality functioning, including a markedly impoverished, poorly developed, or unstable self-image.

Persons with DSM-5 Section II narcissistic PD (NPD) exhibit a grandiose sense of self; have fantasies of unlimited success, power, brilliance, beauty, or ideal love; and believe themselves to be special or unique. DSM-5 Section III criteria for NPD reflect evolved conceptualizations of pathological narcissism in which exaggerated self-appraisal may be either inflated or deflated or vacillating between extremes, and grandiosity may be either overt or covert.

In the area of personal identity, persons with antisocial PD (ASPD), also a specific PD in Section III, exhibit notable egocentrism bordering on grandiosity (although the egocentrism may be masked by relative immunity to stress) and a concomitant sense of entitlement and invulnerability. Self-esteem is disproportionately high, leading to selfishness and overt or covert disregard for legal, moral, or cultural restrictions, because goals are based on "instant gratification."

Persons with avoidant PD (AVPD) have excessively negative opinions of themselves. They see themselves as inept, unappealing, and inferior, and they constantly perceive that they are being criticized or rejected. AVPD is a specific PD in the alternative DSM-5 model. Specific impairments in personality functioning are generally at a moderate level, characterized in part by low self-esteem associated with self-appraisal as socially inept, personally unappealing, or inferior.

Persons with dependent PD (DPD) also lack self-confidence and believe that they are unable to make decisions or to

take care of themselves. These individuals are characterized by moderate impairment in personality functioning according to the Section III model because of identities that are dependent on the presence of reassuring others.

Persons with obsessive-compulsive PD (OCPD) are perfectionistic and rigid in their thinking and are often preoccupied with details, rules, lists, and order. Their personality functioning is also at a moderate level of impairment, in part because of a sense of self that is derived predominantly from work or productivity.

Affective Features

Some persons with PDs are emotionally constricted, whereas others are excessively emotional. Among the constricted types are individuals with schizoid PD, who experience little pleasure in life, appear indifferent to praise or criticism, and are generally emotionally cold, detached, and unexpressive. Persons with STPD also often have constricted or inappropriate affect, although they can exhibit anxiety in relation to their paranoid fears. Persons with OCPD have considerable difficulty expressing loving feelings toward others, and when they do express affection, they do so in a highly controlled or stilted manner. Restricted affectivity is a trait in the Section III B criteria for both STPD and OCPD. Schizoid PD is diagnosed as PD-TS in the alternative model. The relevant pathological personality traits would include anhedonia and restricted affectivity, from the Detachment trait domain.

Among the most emotionally expressive persons with PDs are those with borderline and histrionic PDs. Persons with BPD are emotionally labile and react very strongly, particularly in interpersonal contexts, with a variety of intensely dysphoric emotions, such as depression, anxiety, or irritability. They are also prone to inappropriate, intense outbursts of anger and are often preoccupied with fears of being abandoned by those they are attached to and reliant upon. Emotional lability, depressivity, and hostility are three Criterion B personality traits in the alternative model rendition of BPD. Persons with histrionic PD often display rapidly shifting emotions that seem to be dramatic and exaggerated but are shallow in comparison to the intense emotional expression seen in BPD. Emotional lability would be a relevant trait for such patients diagnosed according to Section III. Persons with ASPD characteristically have problems with irritability and aggressive feelings toward others, as expressed in the context of threat or intimidation. Hostility is one of the trait criteria for ASPD in Section III. Persons with AVPD are dominated by anxiety in social situations; those with DPD are preoccupied by anxiety over the prospects of separation from caregivers and the need to be independent. Anxiousness also characterizes AVPD in the Section III criteria and would be a relevant trait for the PD-TS representation of DPD.

Interpersonal Features

Interpersonal problems are probably most obviously identifiable in PDs (Benjamin 1996; Gunderson 2007; Hill et al. 2008; Kiesler 1996). Other mental disorders are characterized by prominent cognitive or affective features or by problems with impulse control. All PDs, however, have interpersonal manifestations coupled with problems in sense of self, as captured by the Section III LPFS and the A criteria for the six specific PDs and PD-TS. Each of the six disorders has characteristic problems with empathy and intimacy.

Persons with ASPD deceive and intimidate others for personal gain. Sub-

stantially lacking in empathy, they have no concern for the feelings of others and lack remorse if they hurt someone. In the area of intimacy, they are incapable of having mutually intimate relationships, because they are exploitative or controlling of others. Pathological personality traits include manipulativeness, callousness, deceitfulness, and irresponsibility. Persons with histrionic and narcissistic PDs need to be the center of attention and require excessive admiration. Intimate relationships are generally shallow, and people are sought out predominantly in the service of bolstering self-esteem. Empathic concerns center on issues that have direct implications for the person with the PD. Both disorders would be characterized by the trait of attention seeking according to the Section III model. In addition, histrionic PD might also be characterized by the trait of manipulativeness.

Persons with OCPD have difficulties appreciating others' perspectives, and instead need to control them and have them submit to their ways of doing things. Intimacy is circumscribed by stubbornness and rigidity, and a preference for engaging in tasks rather than pursuing close relationships. Traits of rigid perfectionism and intimacy avoidance adversely affect the interpersonal relationships of individuals with OCPD.

The interpersonal relationships of persons with AVPD and DPD are impoverished as a result of fear and submissiveness. Individuals with AVPD are inhibited in interpersonal relationships because they are afraid of being shamed or ridiculed. Empathy is impaired because of a distorted sense of others' appraisal and acute rejection sensitivity. Intimacy avoidance and withdrawal are Criterion B personality traits for Section III AVPD. Individuals with DPD will not disagree with important others for fear of losing their support or approval and will actually do things that are unpleasant, demeaning, or self-defeating to receive nurturance from others. Because of the self-sacrificing approach to relationships, real intimacy and empathy are elusive. Submissiveness and separation insecurity would be relevant Section III personality traits.

The empathy of persons with BPD is biased toward the negative tendencies and vulnerabilities of others. Intimate relationships are extremely challenging, with a pattern of becoming "deeply" involved and dependent only to turn manipulative and demanding when their needs are not met. They have interpersonal relationships that are unstable and conflicted, and these individuals alternate between overinvolvement with others and withdrawal. Separation insecurity is a relevant Section III Criterion B trait.

The degree of detachment associated with persons with paranoid, schizoid, and schizotypal PDs serves as a pronounced impediment to empathy and intimacy in interpersonal relations. Individuals with schizoid PD manifest an apparent lack of need for closeness with others; those with PPD do not trust others enough to become deeply involved; and those with STPD have few friends or confidants, in part from a lack of trust and in part as a result of poor communication and inadequate relatedness. Section III traits of suspiciousness, withdrawal, and intimacy avoidance lead to social isolation.

Problems With Impulse Control

Problems with impulse control can also be viewed as extremes on a continuum. PDs characterized by a lack of impulse control include ASPD and BPD. Disorders involving problems with overcontrol include AVPD, DPD, and OCPD. ASPD is a prototype of a PD character-

ized by impulsivity. Persons with ASPD break laws, exploit others, fail to plan ahead, get into fights, ignore commitments and obligations, and exhibit generally reckless behaviors without regard for consequences, such as speeding, driving while intoxicated, having impulsive sex, or abusing drugs. Persons with BPD also show many problems with impulse control, including impulsive spending, indiscriminate sex, substance abuse, reckless driving, and binge eating. In addition, individuals with BPD experience recurrent suicidal thoughts and impulses. Suicide attempts and self-injurious behavior, such as cutting or burning, are common. Section III personality traits that predispose to these behaviors include impulsivity and risk taking from the Disinhibition trait domain and are among the B criteria for both ASPD and BPD. Finally, persons with BPD have problems with anger management, have frequent temper outbursts, and at times may even engage in physical fights. Hostility is a trait in the criteria for both ASPD and BPD.

In contrast to individuals with disinhibited behavior, persons with AVPD are excessively inhibited, especially in relation to people, and are reluctant to take risks or to undertake new activities. Persons with DPD cannot even make basic decisions and do not take initiative to start things. Persons with OCPD are overly conscientious and scrupulous about morality, ethics, and values; they cannot bring themselves to throw away even worthless objects and can be miserly. They are characterized by rigid perfectionism, which is the opposite of the traits characterizing the domain of Disinhibition.

The DSM-5 Section II PD clusters, specific PD types, and their principal defining clinical features are summarized in Table 7–2 and contrasted to DSM-5 Section III central features.

Pervasiveness and Inflexibility

For a PD to be present, the disturbances have to be manifested frequently through a wide range of behaviors, feelings, and perceptions and in many different contexts. In DSM-5 Section II, attempts are made to stress the pervasiveness of the behaviors caused by PDs. Added to the basic definition of each PD and serving as the "stem" to which individual features apply is the phrase "present in a variety of contexts." For example, the diagnostic features of PPD in DSM-5 Section II, preceding the specific criteria, begin as follows: "A pervasive distrust and suspiciousness of others such that their motives are interpreted as malevolent, beginning by early adulthood and present in a variety of contexts, as indicated by four (or more) of the following" (American Psychiatric Association 2013, p. 649). Similarly, for DPD, the criteria are preceded by this description: "A pervasive and excessive need to be taken care of that leads to submissive and clinging behavior and fears of separation, beginning by early adulthood and present in a variety of contexts, as indicated by five (or more) of the following" (American Psychiatric Association 2013, p. 675). The manifestations of Section III personality traits are pervasive by definition, in that they are tendencies or predispositions to think, feel, and behave in particular patterned ways.

Inflexibility is a feature that helps to distinguish personality traits or styles and PDs. Inflexibility is indicated by a narrow repertoire of responses that are repeated even when the situation calls for an alternative behavior or in the face of

TABLE 7–2. Defining features of DSM-5 Section II and Section III personality disorders

Personality disorder	Section II features	Section III features
Section II Cluster A	**Odd or eccentric**	
Paranoid	Pervasive distrust and suspiciousness of others such that their motives are interpreted as malevolent	See Table 7–1.
Schizoid	Pervasive pattern of detachment from social relationships and a restricted range of expression of emotions in interpersonal settings	See Table 7–1.
Schizotypal	Pervasive pattern of social and interpersonal deficits marked by acute discomfort with, and reduced capacity for, close relationships as well as by cognitive or perceptual distortions and eccentricities of behavior	Typical features are impairments in the capacity for social and close relationships, and eccentricities in cognition, perception, and behavior that are associated with distorted self-image and incoherent personal goals and accompanied by suspiciousness and restricted emotional expression.
Section II Cluster B	**Dramatic, emotional, or erratic**	
Antisocial	Pervasive pattern of disregard for and violation of the rights of others, occurring since age 15 years; current age at least 18 years	Typical features are a failure to conform to lawful and ethical behavior, and an egocentric, callous lack of concern for others, accompanied by deceitfulness, irresponsibility, manipulativeness, and/or risk taking.
Borderline	Pervasive pattern of instability of interpersonal relationships, self-image, and affects, and marked impulsivity	Typical features are instability of self-image, personal goals, interpersonal relationships, and affects, accompanied by impulsivity, risk taking, and/or hostility.
Histrionic	Pervasive pattern of excessive emotionality and attention seeking	See Table 7–1.
Narcissistic	Pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy	Typical features are variable and vulnerable self-esteem, with attempts at regulation through attention and approval seeking, and either overt or covert grandiosity.

TABLE 7–2. Defining features of DSM-5 Section II and Section III personality disorders *(continued)*

Personality disorder	Section II features	Section III features
Section II Cluster C	**Anxious or fearful**	
Avoidant	Pervasive pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation	Typical features are avoidance of social situations and inhibition in interpersonal relationships related to feelings of ineptitude and inadequacy, anxious preoccupation with negative evaluation and rejection, and fears of ridicule or embarrassment.
Dependent	Pervasive and excessive need to be taken care of that leads to submissive and clinging behavior and fears of separation	See Table 7–1.
Obsessive-compulsive	Pervasive pattern of preoccupation with orderliness, perfectionism, and mental and interpersonal control, at the expense of flexibility, openness, and efficiency	Typical features are difficulties in establishing and sustaining close relationships, associated with rigid perfectionism, inflexibility, and restricted emotional expression.

Source. Adapted from the *Diagnostic and Statistical Manual of Mental Disorders,* 5th Edition. Arlington, VA, American Psychiatric Association, 2013. Used with permission.

clear evidence that a behavior is inappropriate or not working. For example, a person with OCPD rigidly adheres to rules and organization even in recreation and loses enjoyment as a consequence. A person with AVPD is so fearful of being scrutinized or criticized, even in group situations in which he or she could hardly be the focus of such attention, that life becomes painfully lonely.

Onset and Clinical Course

Personality and PDs have traditionally been assumed to reflect stable descriptions of a person, at least after a certain age. Thus, the patterns of inner experience and behaviors described earlier are called "enduring." PD is also described as "of long duration," with an onset that "can be traced back at least to adolescence or early adulthood" (American Psychiatric Association 2013, pp. 646–647). These concepts persist as integral to the definition of PD despite a large body of empirical evidence that suggests that PD psychopathology is not as stable as the DSM definition would indicate. Longitudinal studies indicate that PDs, as defined by DSM-IV (and DSM-5 Section II) criteria, tend to improve over time, at least from the point of view of their overt clinical signs and symptoms (Gunderson et al. 2011; Johnson et al. 2000; Lenzenweger et al. 2004; Zanarini et al. 2012). These traditional PD criteria sets, however, consist of combinations of pathological personality traits and symptomatic behaviors (McGlashan et al. 2005; Zanarini et al. 2007). Some behaviors, such as self-mutilating behavior (a manifestation of one of the criteria for BPD), may be evidenced much less frequently than traits such as "views self as socially inept, personally unappealing, or inferior to others" (one of the criteria for AVPD). How stable individual manifestations of PDs actually are and what the stable components of PDs are have become areas of active empirical research. It may be that personality psychopathology waxes and wanes depending on the circumstances of a person's life (see Chapter 8, "Course and Outcome," in this volume). Personality traits (Hopwood et al. 2013) and impairments in personality functioning may be more stable than PDs themselves. In DSM-5 Section III, the course of PDs is described, in the criteria, as "relatively" stable to allow for some fluctuation in their manifestations.

Although the age at onset of PDs has traditionally been considered to be in childhood or adolescence, later onsets can be observed (e.g., Skodol et al. 2007), including onsets in late life (Oltmanns and Balsis 2011).

Impairment in Functioning

All PDs are maladaptive and are accompanied by functional problems in school or at work, in social relationships, or at leisure. The requirement for impairment in psychosocial functioning is codified in DSM-5 Section II in its Criterion C of the general diagnostic criteria for a PD: "the enduring pattern [of 'inner experience and behavior'—i.e., personality] leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning" (American Psychiatric Association 2013, p. 646).

A number of studies have compared patients with PDs with patients with no PD or with DSM-IV Axis I disorders and have found that patients with PDs were more likely to be functionally impaired (Skodol and Gunderson 2008). Specifically, they are more likely to be separated, divorced, or never married and to have had more unemployment, frequent job changes, or periods of disability. Fewer studies have examined quality of func-

tioning, but in those that have, poorer social functioning or interpersonal relationships and poorer work functioning or occupational achievement and satisfaction have been found among patients with PDs than among patients with other disorders. When patients with different PDs were compared with each other on levels of functional impairment, those with severe PDs, such as STPD and BPD, were found to have significantly more impairment at work, in social relationships, and at leisure than patients with less severe PDs, such as OCPD, or with an impairing other mental disorder, such as major depressive disorder without PD. Patients with AVPD had intermediate levels of impairment. Even the less impaired patients with PDs (e.g., those with OCPD), however, had moderate to severe impairment in at least one area of functioning (or a Global Assessment of Functioning rating of 60 or less) (Skodol et al. 2002). The finding that significant impairment may be in only one area suggests that persons with PDs differ not only in the degree of associated functional impairment but also in the breadth of impairment across functional domains.

Another important aspect of the impairment in functioning in persons with PDs is that it tends to be persistent even beyond apparent improvement in the PD psychopathology itself (Gunderson et al. 2011; Seivewright et al. 2004; Skodol et al. 2005). The persistence of impairment is understandable if one considers that PD psychopathology has usually been longstanding and, therefore, has disrupted a person's work and social development over a period of time (Roberts et al. 2003). The residua, or "scars," of PD pathology take time to heal or be overcome. With time (and treatment), however, improvements in functioning can occur (Zanarini et al. 2010).

DSM-5 Section III criteria for PDs do not include a requirement for impairment in psychosocial functioning. This change is in keeping with some other disorders in DSM-5, for which attempts have been made to separate the manifestations of a disorder (i.e., signs, symptoms, traits) from their consequences (i.e., impact on occupational, social, and leisure functioning). Furthermore, Section III PDs all include specific impairments in *personality functioning* at a moderate level or greater. This change is consistent with the distinction between mental *functions* that lead to *symptoms* (e.g., emotional regulation, reward dependence, reality testing) and the *disabilities* that accompany disturbances in these functions (Sartorius 2009).

Approaches to Clinical Interviewing

Interviewing a patient to assess for a possible PD presents certain challenges that are somewhat unique. Thus, the interviewer is likely to need to rely on a variety of techniques for gathering information to arrive at a clinical diagnosis, including observation and interaction with the patient, direct questioning of the patient, and interviewing of informants.

Observation and Interaction

One problem in evaluating a patient for a PD arises from the fact that many people are not able to view their own personality objectively (Zimmerman 1994). Because personality is, by definition, the way a person sees, relates to, and thinks about himself or herself and the environment, a person's assessment of his or her own personality must be colored by it.

The expression of other psychopathology may also be colored by personality style—for example, symptoms of depression are exaggerated by the histrionic personality or minimized by the compulsive personality—but the symptoms of most mental disorders are usually more clearly alien to the patient and more easily identified as problematic. People often learn about their own problem behaviors and their maladaptive patterns of interaction with others through the reactions or observations of other people in their environments.

Traditionally, clinicians have not conducted the same kind of interview in assessing patients suspected of having a personality disturbance as they do with persons suspected of having, for example, a mood or an anxiety disorder. Rather than directly questioning the patient about characteristics of his or her personality, the clinician, assuming that the patient cannot accurately describe these traits, looks for patterns in the way patients describe themselves, their social relations, and their work functioning. These three areas usually give the clearest picture of personality traits or style in general and of problems in personality functioning specifically. Clinicians have also relied heavily on their observations of how patients interact with them during an evaluation interview or in treatment as manifestations of their patients' personalities (Westen 1997).

These approaches have the advantage of circumventing the potential lack of objectivity patients might have about their personalities, but they also create problems. The clinician usually comes away with a global impression of the patient's personality but frequently is not aware of many of that patient's specific personality characteristics because the clinician has not made a systematic assessment of the manifestations of the wide range of PDs (Blashfield and Herkov 1996; Morey and Ochoa 1989; Zimmerman and Mattia 1999). In routine clinical practice, clinicians have tended to use the nonspecific diagnosis of PD not otherwise specified when they believed that a patient's presentation met the general criteria for a PD, because they often did not have enough information to make a specific diagnosis (Verheul and Widiger 2004). Alternatively, clinicians will diagnose PDs hierarchically: once a patient is seen as having one (usually severe) PD, such as BPD, the clinician will not assess whether traits of other PDs are also present (Herkov and Blashfield 1995).

Reliance on the clinician-patient interaction for personality diagnosis runs the risk of generalizing a mode of interpersonal relating that may be limited to a particular situation or context—that is, to the evaluation itself. Although the clinician-patient interaction can be a useful and objective observation, caution should be used in interpreting its significance, and the clinician must attempt to integrate this information into a broader overall picture of a patient's personality functioning.

Direct Questioning

In psychiatric research, a portion of the poor reliability of PD diagnosis has been assumed to be due to the variance in information resulting from unsystematic assessment of personality traits. Therefore, efforts have been made to develop various structured methods for assessing PDs (McDermut and Zimmerman 2008) comparable with those that have been successful in reducing information variance in assessing other mental disorders (Kobak et al. 2008). These methods include 1) self-report measures such as the Personality Diagnostic Questionnaire–4 (Hyler 1994), the Millon Clinical Multiax-

ial Inventory–III (Millon et al. 2009), the Minnesota Multiphasic Personality Inventory–2 (Butcher et al. 2001), and the aforementioned Personality Inventory for DSM-5 (Krueger et al. 2012), and 2) clinical interviews such as the Structured Interview for DSM-IV Personality (Pfohl et al. 1997), the International Personality Disorder Examination (Loranger 1999), the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (First et al. 1997), the Diagnostic Interview for DSM-IV Personality Disorders (Zanarini et al. 1996), and the Personality Disorder Interview–IV (Widiger et al. 1995).

The interviews have been based on the general premise that the patient can be asked specific questions that will indicate the presence or absence of each of the criteria of each of the 10 DSM-IV PD types. The self-report instruments are generally considered to require a follow-up interview because of a very high rate of apparently false-positive responses, but data from studies comparing self-report measures with clinical interviews suggest that the former aid in identification of personality disturbances (Hyler et al. 1990). Thus, the clinician can keep in mind that patients do not necessarily deny negative personality attributes. In fact, the evidence suggests that patients may even overreport traits that clinicians might not think are very important and that patients can, if asked, consistently describe a wide range of personality traits to multiple interviewers. A self-report inventory might be an efficient way to help focus a clinical interview on a narrower range of PD psychopathology. A semistructured interview is useful clinically when the results of an assessment might be subject to close scrutiny, such as in child custody, disability, or forensic evaluations. Both self-report questionnaires and semistructured interview PD diagnoses have been shown to have incremental validity in predicting psychosocial functioning prospectively after 5 years over diagnoses assigned by a treating clinician (Samuel et al. 2013). A semistructured interview for the DSM-5 Section III alternative model for PDs is under development.

Interviewing Informants

Frequently, an individual with a PD consults a mental health professional for evaluation or treatment because another person has found his or her behavior problematic. This person may be a boss, spouse, boyfriend or girlfriend, teacher, parent, or representative of a social agency. Indeed, some people with PDs do not even recognize the problematic aspects of their manner of relating or perceiving except as it has a negative effect on someone with whom they interact.

Because of these "blind spots" that people with PDs may have, the use of a third-party informant in the evaluation can be useful. In some treatment settings, such as a private individual psychotherapy practice, it may be considered counterproductive or contraindicated to include a third party, but in many inpatient and outpatient settings, at least during the evaluation process, it may be appropriate and desirable to see some person close to the patient to corroborate both the patient's report and one's own clinical impressions.

Of course, there is no reason to assume that the informant is free of bias or not coloring a report about the patient with his or her own personality style. In fact, the correspondence between patient self-assessments of PD psychopathology and informant assessments has generally been found to be modest at best (Klonsky et al. 2002). Agreement on pathological personality traits, tempera-

ment, and interpersonal problems appears to be somewhat better than on DSM PDs. Informants usually report more personality psychopathology than patients. Agreement on PDs between patient self-assessments and informant assessments is highest for Cluster B disorders (excluding NPD), lower for Clusters A and C, and lowest for traits related to narcissism and entitlement, as might be expected. Therefore, the clinician must make a judgment about the objectivity of the informant and use this as a part, but not a sufficient part, of the overall data on which to base a PD diagnosis. Which source—the patient or the informant—provides information that is more useful for clinical purposes, such as choosing a treatment or predicting outcome (e.g., Klein 2003), has yet to be determined definitively.

Problems in Clinical Interviewing

Pervasiveness

The pervasiveness of personality disturbance can be difficult to determine. When a clinician inquires whether a person "often" has a particular experience, a patient will frequently reply "sometimes," which then has to be judged for clinical significance. What constitutes a necessary frequency for a particular trait or behavior and in how many different contexts or with how many different people the trait or behavior needs to be expressed have not been well worked out. Clinicians are forced to rely on their own judgment, keeping in mind also that maladaptivity and inflexibility are hallmarks of pathological traits.

For the clinician interviewing a patient with a possible PD, data about the many areas of functioning, the interpersonal relationships with people interacting in different social roles with the patient, and the nature of the patient-clinician relationship should be integrated into a comprehensive assessment of pervasiveness. Too often, clinicians place disproportionate importance on a patient's functioning at a particular job or with a particular boss or significant other person. Therefore, it is very important to ask patients to describe their relationships and functioning across several different areas of life.

State Versus Trait

An issue that cuts across all PD diagnoses and presents practical problems in differential diagnosis is the distinction between clinical state and personality trait. Personality is presumed to be a relatively enduring aspect of a person, yet assessment of personality ordinarily takes place cross-sectionally—that is, over a brief interval in time. Thus, the clinician is challenged to separate out long-term dispositions of the patient from other more immediate or situationally determined characteristics. This task is made more complicated by the fact that the patient often comes for evaluation when there is some particularly acute problem, which may be a social or job-related crisis or the onset of an another mental disorder. In either case, the situation in which the patient is being evaluated is frequently a state that is not completely characteristic of the patient's life over the longer run.

Assessing an Enduring Pattern

DSM-5 Section II indicates that PDs are of long duration and are not "better explained as a manifestation or consequence of another mental disorder"

(American Psychiatric Association 2013, p. 647). Making these determinations in practice is not easy. First of all, an accurate assessment requires recognition of current state. An assessment of current state, in turn, includes knowledge of the circumstances that have prompted the person to seek treatment, the consequences in terms of the decision to seek treatment, the current level of stress, and any other psychopathology, if present.

It is not clear from the diagnostic criteria of DSM-5 how long a pattern of personality disturbance needs to be present, or when it should become evident, for a PD to be diagnosed. Earlier iterations of DSM stated that patients were usually 18 years or older when a PD was diagnosed because it can be argued that, up to that age, a personality pattern could neither have been manifest long enough nor have become significantly entrenched to be considered a stable constellation of behavior. DSM-5 states, however, that some manifestations of PD are usually recognizable by adolescence or earlier and that PDs can be diagnosed in persons younger than age 18 years who have manifested symptoms for at least 1 year. Longitudinal research has shown that PD symptoms evident in childhood or early adolescence may not persist into adult life (Johnson et al. 2000). Longitudinal research has also shown that there is continuity between certain disorders of childhood and adolescence and PDs in early adulthood (Kasen et al. 1999, 2001). Thus, a young boy with oppositional defiant or attention-deficit/hyperactivity disorder in childhood may go on to develop conduct disorder as an adolescent, which can progress to full-blown ASPD in adulthood (Bernstein et al. 1996; Lewinsohn et al. 1997; Rey et al. 1995; Zoccolillo et al. 1992). ASPD is the only diagnosis not given before age 18 years; an adolescent exhibiting significant antisocial behavior before age 18 is diagnosed with conduct disorder.

Regarding the course of a PD, DSM-5 states that PDs are relatively stable over time, although certain of them (e.g., ASPD and BPD) may become somewhat attenuated with age, whereas others (e.g., OCPD and STPD) may not or may, in fact, become more pronounced. As mentioned earlier (see the subsection "Onset and Clinical Course") and discussed in greater detail in Chapter 8 of this volume, this degree of stability may not necessarily pertain to all of the features of all DSM-5 PDs equally.

To assess stability retrospectively, the clinician must ask questions about periods of a person's life that are of various degrees of remoteness from the current situation. Retrospective reporting is subject to distortion, however, and the only sure way of demonstrating stability over time, therefore, may be to do prospective follow-up evaluations. Thus, from a practical, clinical point of view, PD diagnoses made cross-sectionally and on the basis of retrospectively collected data might be considered tentative or provisional pending confirmation by longitudinal evaluation. On an inpatient service, a period of intense observation by many professionals from diverse perspectives may suffice to establish a pattern over time (Skodol et al. 1991). In a typical outpatient setting in which encounters with the patients are much less frequent, more time may be required. Ideally, features of a PD should be evident over several years, but it is not practical to wait inordinate amounts of time before coming to a diagnostic conclusion. Interestingly, even PDs that improve with time are associated with adverse outcomes of a variety of other comorbid mental disorders (Ansell et al. 2011; Grilo et al. 2005).

Assessing the Effect of a Comorbid Disorder

The presence of another comorbid mental disorder can complicate the diagnosis of a PD in several ways (Zimmerman 1994). Another mental disorder may cause changes in a person's behavior or attitudes that can appear to be signs of a PD. Depression, for example, may cause a person to seem excessively dependent, avoidant, or self-defeating. Cyclothymic or bipolar II disorder may lead to periods of grandiosity, impulsivity, poor judgment, and depression that might be confused with manifestations of NPD or BPD.

The clinician must be aware of the other psychopathology and assess it within the context of an individual's personality. The clinician can attempt this by asking about aspects of personality functioning at times when the patient is not experiencing other mental disorder symptoms. This approach is particularly feasible when the other disorder is of recent onset and short duration or, if more chronic, if the course of the disorder has been characterized by relatively clear-cut episodes with complete remission and symptom-free periods of long duration. When the other disorder is chronic and unremitting, that psychopathology and personality functioning blend together to an extent that can make differentiating between them seem artificial. Nonetheless, research has shown that PDs diagnosed in the presence of another mental disorder, specifically major depressive disorder, have a clinical course and outcomes very similar those of PDs diagnosed in the absence of major depressive disorder (Morey et al. 2010).

Another example of the way in which other mental disorders and PDs interact to obscure differential diagnosis is the case of apparent personality psychopathology that in fact is the prodrome of another mental disorder. Distinguishing Cluster A PDs, such as paranoid, schizoid, and schizotypal, from the early signs of disorders in the schizophrenia spectrum and other psychotic disorders class can be particularly difficult. When evaluating a patient early in the course of the initial onset of a psychotic disorder, a clinician may be confronted with changes in the person toward increasing suspiciousness, social withdrawal, eccentricity, or reduced functioning. Because the diagnosis of psychotic disorders, including schizophrenia, requires that the patient have an episode of active psychosis with delusions, hallucinations, or disorganized speech, it is not possible to diagnose this prodrome as a psychotic disorder. In fact, until the full-blown disorder is present, the clinician cannot be certain if it is, indeed, a prodrome.

If a change in behavior is of recent onset, then it may not meet the stability criteria for a PD. In such cases, the clinician is forced to diagnose an other specified or unspecified mental disorder. If, however, the pattern of suspiciousness or social withdrawal with or without eccentricities has been well established, it may legitimately be a PD and be diagnosed as such.

If the clinician follows such a patient over time and the patient develops a full-fledged psychotic disorder, the personality disturbance is no longer adequate for a complete diagnosis because no PD includes frankly psychotic symptoms. This fairly obvious point is frequently overlooked in practice. All of the PDs that have counterpart psychotic disorders have milder or "attenuated" symptoms in which reality testing is, at least in part, intact. For instance, a patient with PPD may have referential ideas but not frank delusions of reference, and a patient with STPD may have illusions but not halluci-

nations. A possible exception is BPD, in which brief psychotic experiences (lasting minutes to an hour or two at most) are included in the Section II diagnostic criteria. In all cases, however, when the patient becomes psychotic for even a day or two, an additional psychotic disorder diagnosis is necessary.

For the patient with a diagnosis of STPD, the occurrence of a 1-month-long psychotic episode (active-phase symptoms) almost certainly means the disturbance will meet the criteria for schizophrenia, with the symptoms of STPD "counting" as prodromal symptoms toward the 6-month continuous duration requirement. Under these circumstances, the diagnosis of schizophrenia, with its pervasive effects on cognition, perception, functional ability, and so on, is sufficient, and a diagnosis of STPD is redundant. When the patient becomes nonpsychotic again, he or she would be considered to have "residual schizophrenia" instead of STPD.

Personality Traits Versus Personality Disorders

Another difficult distinction is between personality traits or styles and PDs. All patients—all people for that matter—can be described in terms of distinctive patterns of personality, but all do not necessarily warrant a diagnosis of PD. Overdiagnosing is particularly common among inexperienced evaluators. The important features that distinguish pathological personality traits from normal traits are their inflexibility and maladaptiveness.

DSM-5 acknowledges that it is important to describe personality style as well as to diagnose PDs. Therefore, instructions are included to list personality traits even when a PD is absent, or to include them as modifiers of one or more diagnosed PDs (e.g., BPD with histrionic features). In practice, however, this option has been seldom used, even though research has shown that in addition to the approximately 50% of clinic patients whose presentation meets criteria for a PD, another 35% warrant information descriptive of their personality styles (Kass et al. 1985). This issue is likely to become exacerbated by the elimination of Axis II in DSM-5, although the comprehensive pathological trait model in Section III gives the clinician more guidance about potentially relevant traits and explicitly states that they are intended to be used whether a person has a PD or not.

The following case example describes a patient with a mental disorder whose ongoing treatment was very much affected by personality traits, none of which met the criteria for a specific PD.

Case Example

Sara, a 25-year-old single female receptionist, was referred for outpatient therapy following hospitalization for her first manic episode. The patient had attended college for 1 year but dropped out in order to "go into advertising." Over the next 5 years, she had held a series of receptionist, secretarial, and sales jobs, each of which she quit because she wasn't "getting ahead in the world." Sara lived alone on the north side of Chicago in an apartment that her parents had furnished for her. She ate all of her meals, however, at her mother's house and claimed not even to have a box of crackers in her cupboard. Between her jobs, her parents paid her rent.

Sara's "career" problems stemmed from the fact that although she felt quite ordinary and without talent for the most part, she had fantasies of a career as a movie star or high fashion model. She took acting classes and singing lessons, but she had never had even a small role in a play or show. What she desired was not so much the careers themselves as the

glamour associated with them. Although she wanted to move in the circles of the "beautiful people," she was certain that she had nothing to offer them. Sara sometimes referred to herself as nothing but a shell and scorned herself because of it. She was unable to picture herself working her way up along any realistic career line, feeling both that it would take too long and that she would probably fail.

Sara had had three close relationships with men that were characterized by an intense interdependency that initially was agreeable to both parties. She craved affection and attention and fell deeply in love with these men. However, she eventually became overtly self-centered, demanding, and manipulative, and the man would break off the relationship. After breaking up, she would almost immediately start claiming that the particular man was "going nowhere," was not for her, and would not be missed. Between these relationships, Sara often had periods in which she engaged in a succession of one-night stands, having sex with half a dozen partners in a month. Alternatively, she would frequent rock clubs and bars—"in-spots," as she called them—merely on the chance of meeting someone who would introduce her to the glamorous world she dreamed of.

Sara had no female friends other than her sister. She could see little use for such friendships. She preferred spending her time shopping for stylish clothes or watching television alone at home. She liked to dress fashionably and seductively, but often felt that she was too fat or that her hair was the wrong color. She had trouble controlling her weight and would periodically go on eating binges for a few days that might result in a 10-pound weight gain. She read popular novels but had very few other interests. She admitted she was bored much of the time but also asserted that cultural or athletic pursuits were a waste of time.

Sara was referred for outpatient follow-up without a PD diagnosis. In fact, her long-term functioning failed to meet DSM-5 criteria for any specific type of PD. On the other hand, her presentation almost met the criteria for several PDs, especially BPD: the patient showed signs of impulsivity (overeating, sexual promiscuity), intense interpersonal relationships (manipulativeness, overidealization/devaluation), identity disturbance, and chronic feelings of emptiness. She did not, however, display intense anger, intolerance of being alone, physically self-damaging behavior, stress-related paranoia or dissociation, or affective instability independent of her mood disorder. Similarly, Sara had symptoms of histrionic PD: she was inappropriately sexually seductive and used her physical appearance to draw attention to herself, but she was not emotionally overdramatic. She had shallow expression of emotions and was uncomfortable when she was not the center of attention, but was not overly suggestible. Sara also had some features of narcissistic, avoidant, and dependent PDs. A DSM-5 Section II diagnosis of other specified PD (mixed features) could be made.

In terms of the DSM-5 alternative model of PDs, Sara might be best described as having PD-TS. Her level of impairment in personality functioning would be "severe," with impairment in identity, self-direction, empathy, and intimacy. She has a poor sense of autonomy and agency and experiences the lack of a true identity and emptiness. She vacillates between overidentification with and dependence on others and overemphasis on independence. She has fragile, incoherent self-esteem that includes both self-denigration and self-aggrandizement. She has difficulty establishing and achieving her goals in life. She is unaware of the effects of her own actions on others. Her relationships with others are based on her needs, with little mutuality, as others are in her life primarily to satisfy her fantasies and desires. Pathological

personality traits that describe her include attention seeking, manipulativeness, and grandiosity from the Antagonism domain, impulsivity and risk-taking from the Disinhibition domain, and submissiveness from the Negative Affectivity domain. The attention paid to personality functioning and traits in her evaluation can convey a vivid picture of Sara's complicated personality pathology, which would be the focus of her subsequent therapy.

Effects of Gender, Culture, and Age

Gender

Although definitive estimates about the sex ratio of PDs cannot be made because ideal epidemiological studies do not exist, some PDs are believed to be more common in clinical settings among men and others among women. PDs listed in DSM-5 as occurring more often among men are paranoid, schizoid, schizotypal, antisocial, narcissistic, and obsessive-compulsive PDs. Those occurring more often in women are borderline, histrionic, and dependent PDs. Avoidant PD is said to be equally common in men and women. Apparently elevated sex ratios that do not reflect true prevalence rates can be the result of sampling or diagnostic biases in clinical settings (Widiger 1998). True differences may be due to biological factors such as hormones, social factors such as child-rearing practices, and their interactions (Morey et al. 2005).

Culture

Apparent manifestations of PDs must be considered in the context of a patient's cultural reference group and the degree to which behaviors such as diffidence, passivity, emotionality, emphasis on work and productivity, and unusual beliefs and rituals are culturally sanctioned. Only when such behaviors are clearly in excess or discordant with the standards of a person's cultural milieu would the diagnosis of a PD be considered. Certain sociocultural contexts may lend themselves to eliciting and reinforcing behaviors that might be mistaken for PD psychopathology. Members of minority groups, immigrants, or refugees, for example, might appear overly guarded or mistrustful, avoidant, or hostile in response to experiences of discrimination, language barriers, or problems in acculturation (Alarcon 2005).

Age

Although PDs usually are not diagnosed prior to age 18 years, certain thoughts, feelings, and behaviors suggestive of personality psychopathology may be apparent in childhood. For example, dependency, social anxiety and hypersensitivity, disruptive behavior, or identity problems may be developmentally expected. Follow-up studies of children have shown decreases in such behaviors over time (Johnson et al. 2000), although children with elevated rates of PD-type signs and symptoms do appear to be at higher risk for personality and other mental disorders in young adulthood (Johnson et al. 1999; Kasen et al. 1999). Thus, some childhood problems may not turn out to be transitory, and PD may be viewed developmentally as a failure to mature out of certain age-appropriate or phase-specific feelings or behaviors. A developmental perspective on PDs is presented more fully in Chapter 4, "Development, Attachment, and Childhood Experiences," in this volume.

Until recently, little was known about the nature and importance of personality and PDs in later life. Anecdotal clinical information was abundant, but systematic data were sparse. Many important

issues persist concerning the prevalence of PDs in later life and their manifestations, development and course, and impact on aspects of living (Oltmanns and Balsis 2011). Personality pathology may not be accurately diagnosed in older populations if the clinician employs the same criteria that are used in younger ones. Modifications have to be made to account for changes in life circumstances, such as the loss of a spouse or friends, retirement from work, or physical infirmity, that make some criteria not applicable. Some early-onset PDs (e.g., BPD and ASPD) may improve with advancing age, whereas others (e.g., NPD and OCPD) may get worse. PDs may actually have an onset in later life. The long-term consequences of pathological versus adaptive personalities for health, longevity, marital and other social relationships, and the experience of important late-life events are currently under study (see, e.g., Oldham and Skodol 2013). Specific personality traits or types may represent risk factors for the development of depression, dementia, or other psychiatric syndromes in later life. In contrast, other traits or types serve as protective factors against the development of these conditions, or could even enhance healthy aging. The Section III personality functioning and personality trait model enhances the clinician's ability to assess and track important personality characteristics throughout the lifespan.

Differential Diagnosis

In this section, the focus is on differential diagnosis of PDs as defined by the DSM-5 Section III alternative model. The guidelines for the differential diagnosis of Section II PDs remain unchanged from DSM-IV and can be found in DSM-5. Differential diagnosis of PDs is facilitated by consideration of pathological trait domains, because these broad propensities toward particular ways of thinking, feeling, and behaving underlie certain PDs and other mental disorders (Krueger and Eaton 2010; Krueger et al. 2007) with which they are commonly comorbid.

At the broadest level, PDs and other mental disorders can be divided into externalizing and internalizing disorders (Krueger et al. 2011b). *Externalizing disorders* are characterized primarily by Disinhibition, that is, an "orientation toward immediate gratification, leading to impulsive behavior driven by current thoughts, feelings, and external stimuli, without regard for past learning or consideration of future consequences" (American Psychiatric Association 2013, p. 780). Externalizing disorders are also characterized by Antagonism, that is, "behaviors that put the individual at odds with other people, including an exaggerated sense of self-importance and a concomitant expectation of special treatment, as well as a callous antipathy toward others, encompassing both an unawareness of others' needs and feelings and a readiness to use others in the service of self-enhancement" (American Psychiatric Association 2013, p. 780). Disruptive behavior disorders (e.g., conduct disorder), substance-related and addictive disorders, and ASPD are representative of the externalizing "meta-cluster" of disorders.

Internalizing disorders are characterized by Negative Affectivity, that is, "frequent and intense experiences of high levels of a wide range of negative emotions (e.g., anxiety, depression, guilt/shame, worry, anger) and their behavioral (e.g., self-harm) and interpersonal (e.g., dependency) manifestations" (American Psychiatric Association 2013, p. 779). An internalizing meta-cluster of disorders would include depressive disorders, anxi-

ety disorders characterized by distress (e.g., generalized anxiety disorder) or fear (e.g., phobic disorders), and PDs such as AVPD. At least one PD—that is, BPD—appears to straddle both externalizing and internalizing spectra (Eaton et al. 2011). A third meta-cluster of disorders is characterized by Psychoticism; that is, they include "a wide range of culturally incongruent odd, eccentric, or unusual behaviors and cognitions, including both process (e.g., perception, dissociation) and content (e.g., beliefs)" (American Psychiatric Association 2013, p. 781). In this cluster would be found schizophrenia spectrum and other psychotic disorders, bipolar disorder, and STPD (Keyes et al. 2013).

Other DSM-5 trait domains are related more strongly to the principal domains within these large spectra. Detachment is correlated more strongly with Negative Affectivity than with Disinhibition (Morey et al. 2013b). Detachment has also been shown to correlate with Psychoticism. Individual PDs in Section III are characterized by different combinations of underlying trait domains: ASPD is a combination of Antagonism and Disinhibition; BPD is a combination of Negative Affectivity, Antagonism, and Disinhibition; AVPD is a combination of Negative Affectivity and Detachment; STPD is a combination of Psychoticism and Detachment; and OCPD is a combination of Conscientiousness (the opposite of Disinhibition), Negative Affectivity, and Detachment. Of the specific PDs in Section III, only NPD is characterized by a single trait domain (Antagonism). Thus, thinking about differential diagnosis in terms of underlying dispositions—with shared pathophysiologies (e.g., Iacono et al. 2002) and etiologies (e.g., Kendler et al. 2011)—helps the clinician to include all the disorders that should be under consideration and also to discern the critical differences between them, in order to arrive at the most accurate and appropriate diagnosis.

In general, the major issues for differential diagnosis of PDs are 1) distinguishing PDs from other PDs with similar features, 2) distinguishing personality pathology from the psychopathology of other mental disorders, and 3) distinguishing personality pathology warranting a PD diagnosis from personality pathology that arises from the use of a substance of abuse or from a co-occurring other medical condition. PDs can be distinguished from one another on the basis of their characteristic impairments in personality functioning, described by Criterion A for each specific disorder, or on the basis of their characteristic patterns of pathological personality traits, described by Criterion B. PDs can be distinguished from other mental disorders based on the presence of impairments in personality functioning at the moderate level or greater for the diagnosis of a PD. Applying the single-item LPFS as a first step in differential diagnosis can discriminate the presence of a PD with very good accuracy (i.e., sensitivity and specificity) (Morey et al. 2013a). In many cases, PDs and other mental disorders co-occur, based on shared trait vulnerabilities or predispositions, and in such cases both types of disorders should be diagnosed, because it has been shown that PDs worsen the course (i.e., longer time to remission, shorter time to relapse, more time in episodes) of disorders such as major depressive disorder, anxiety disorders, and substance use disorders (Ansell et al. 2011; Fenton et al. 2012; Grilo et al. 2005; Hasin et al. 2011; Skodol et al. 2011) and require special treatment. Comorbidity among other mental disorders and PDs has been shown to increase the risk

for negative prognoses with respect to adult attainments and functioning that can last 20 years (Crawford et al. 2008).

Substance- or medication-induced personality change is distinguished from PD primarily on the basis of the relationships in time of the personality disturbance to the exposure to the substance or medication. If there is a close historical association between the onset of the personality change and the exposure to substances (also corroborated when possible by physical examination or laboratory tests), then the personality pathology is probably due to the substance or medication. There is no diagnosis for substance/medication-induced PD in DSM-5, however, so a clinician would use the diagnosis of an "other substance-induced disorder" (specifying the substance, if possible). If the PD preceded involvement with substances or persists for a considerable time after the cessation of substance use, it most likely represents an independent disorder. Again, a substance use disorder can co-occur with a PD because of underlying traits of impulsivity or risk taking. In that case, both disorders should be diagnosed. Similarly, evidence from history, physical examination, and laboratory tests, coupled with a temporal sequence suggesting the primacy of another medical condition, distinguishes personality change due to another medical condition (Section II) from a PD.

Externalizing Personality Pathology

Antagonism and Disinhibition

Personality disorders. BPD has some trait features in common with ASPD (e.g., similarities in the domains of Antagonism [hostility trait] and Disinhibition [impulsivity and risk-taking traits]), but individuals with BPD show more Negative Affectivity (e.g., emotional lability, separation insecurity), whereas individuals with ASPD show a broader range of traits of Antagonism (e.g., callousness, manipulativeness) associated with imposing on and/or controlling others. Impulsivity in BPD is more often oriented toward self than toward others (i.e., self-harmful or suicidal behaviors). Suicide attempts and overall psychological distress are also higher in BPD.

Individuals with NPD and those with ASPD are both self-centered and lacking in empathy. Individuals with ASPD, however, are more manipulative, deceitful, callous, hostile, irresponsible, and impulsive than individuals with NPD. Those with NPD do use others to enhance self-esteem needs and for personal gain, but they are not as openly exploitative of others as are individuals with ASPD, and they are more likely to use charm or seduction than coercion or intimidation to get what they want from others.

NPD is characterized by self-appraisal that may be inflated or deflated, or that may vacillate between extremes. Individuals with BPD also have unstable self-images. Both disorders are characterized by problems with empathy. The absence of impulsivity, risk taking, separation insecurity, and fears of abandonment in NPD help to distinguish between the disorders. In addition, individuals with NPD tend to be disdainful and dismissive of others, especially when the others are not meeting the needs of the individuals with NPD, whereas individuals with BPD can be both disdainful and very interpersonally needy.

The entitlement and superiority seen in individuals with NPD may be confused with the rigid perfectionism (at the

opposite pole of the Disinhibition domain) of OCPD, which leads the individual to believe that there is only one right way to do things. Both disorders are also characterized by personal standards that may be unreasonably high. Individuals with either PD also have problems with empathy: their ability to recognize, understand, or identify with the feelings and needs of others is impaired, and relationships can be largely superficial. Individuals with NPD, however, rely on positive reactions from others for self-definition and self-esteem regulation and seek the attention of others, in contrast to individuals with OCPD, whose sense of self is derived predominantly from work or productivity, often at the expense of interpersonal relationships.

Individuals with NPD may also profess a commitment to perfection and believe that others cannot do things as well, but these individuals are preoccupied with striving for perfection as a means of shoring up a fragile self-image, whereas those with OCPD are concerned about receiving punishment or criticism for inadequate achievement. Individuals with AVPD are usually self-critical but lack the behavioral and cognitive rigidity that characterizes those with OCPD.

Other mental disorders. Impulsivity, irresponsibility, risk-taking behaviors (including law breaking), hostility, and self-centeredness can be seen in manic or hypomanic episodes of bipolar I or II disorders, but, compared with individuals with externalizing PDs, individuals with bipolar disorders frequently do not demonstrate callousness or manipulativeness and are more likely to exhibit behavioral disorganization of psychotic proportions. Agitated or anxious patients with major depressive disorder may present with an impulsive act (e.g., a suicide attempt) but also have morbid self-destructive tendencies of mood disturbances.

Posttraumatic stress disorder may be manifested by impulsive behaviors, antagonism/hostility, incapacity for intimacy, or unreliability, and a history of early traumatic experiences also seen in externalizing PDs. However, posttraumatic stress disorder has other well-defined clinical features (e.g., reexperiencing and intrusion symptoms; specific avoidance behaviors) that are not diagnostic of PDs.

Attention-deficit/hyperactivity disorder (ADHD), typically first detected in childhood or early adolescence, has also been described in adulthood. Characterized mostly by distractibility, motor restlessness, and cognitive performance deficits, ADHD does not include prominent antagonistic features such as callousness, deceitfulness, manipulativeness, or hostility. Conduct disorder, particularly in its adult version, must be distinguished from ASPD on the basis of an absence in the former of the severe manifestations (secondary to impulsivity, violence proneness, etc.) and serious consequences (e.g., behavioral, legal, ethical) seen in the latter.

The grandiosity that is frequently manifested in individuals with NPD may suggest a manic or hypomanic episode. The absence of other manic or hypomanic symptoms, such as decreased need for sleep, pressured speech, flight of ideas, and psychomotor agitation, helps to distinguish NPD from bipolar I or bipolar II disorder.

Despite the similarity in names, obsessive-compulsive disorder is usually easily distinguished from OCPD by the presence of true obsessions and compulsions in the former. When criteria for both personality and obsessive-compulsive spectrum disorders are met, both diagnoses should be recorded.

Substance use and other medical conditions. When externalizing behavior in an adult is associated with a substance use disorder, the diagnosis of ASPD is not made unless signs of the former were also present in childhood (i.e., conduct disorder) and have continued into adulthood. The onset of ASPD typically precedes, for example, that of alcohol dependence by several years. When substance use and antisocial behavior both began in childhood and continued into adulthood, both disorders should be diagnosed if the criteria for both are met, even though some antisocial behaviors may be a consequence of the substance use disorder (e.g., illegal drug selling, theft to obtain money for drugs). In adults, particularly older adults, the appearance or significant, unexpected worsening of antisocial behaviors (or isolated traits of them) should be the subject of a careful diagnostic assessment to rule out other medical conditions as triggering factors. Common conditions include brain tumors or other occult malignancies, sequelae of head injuries, degenerative neurological diseases, or late-life metabolic disturbances (e.g., affecting the liver, thyroid, parathyroid, pancreas, or hypothalamic-pituitary-adrenal axis).

Internalizing Personality Pathology

Negative Affectivity

Personality disorders. NPD and BPD may both be characterized by angry reactions to minor stimuli and fluctuations in self-image, but the lack of self-destructiveness, impulsivity, and separation insecurity in NPD distinguishes this disorder from BPD. AVPD and OCPD both are characterized by high Negative Affectivity, although different trait facets are required for diagnosis. In OCPD the core Negative Affectivity feature is perseveration—persistence at tasks long after the behavior has ceased to be functional or effective—whereas in AVPD the core Negative Affectivity feature is anxiousness, with particular apprehension in social situations and fears of embarrassment.

Other mental disorders. BPD often cooccurs with major depressive disorder or other disorders of anxiety or mood, and multiple disorders should be diagnosed when present. However, because the cross-sectional presentation of BPD can resemble an episode of a depressive, bipolar, or anxiety disorder, the clinician should use caution in giving multiple diagnoses based only on cross-sectional presentation.

The most important differential diagnosis for AVPD is social anxiety disorder (social phobia), and the two disorders are highly comorbid. There are no discernible qualitative differences between the two disorders with regard to demographic features (including age at onset), social skills deficits, cognitive features, physiological reactions, and comorbid depression, although the clinical picture of individuals with AVPD typically is more severe and is associated with a broader pattern of avoidance, including of positive emotions and novel situations. Importantly, in AVPD, the anxiousness from hypersensitivity to social evaluation is associated with core impairment in identity, specifically the belief that the self is inferior. Thus, an important distinction between the disorders is how social anxiety, which they have in common, relates to the self-concept. Although avoidant behavior also characterizes agoraphobia, in AVPD the focus is on social evaluation, whereas in agoraphobia it is on the diffi-

culty of escape or the lack of help in the event of incapacitation.

Detachment and Psychoticism

Personality disorders. Regarding Detachment traits, AVPD and STPD share (social) withdrawal, but STPD is further characterized by restricted affectivity (constricted emotional experience and expression), whereas AVPD is further characterized by anhedonia (deficits in the capacity to feel pleasure or take interest in things) and intimacy avoidance (avoidance of interpersonal attachments, especially romantic relationships). Also, in AVPD, withdrawal is driven by a fear of rejection and reluctance to enter into situations or relationships that may ultimately lead to rejection, whereas in STPD, Detachment is more pervasive, not easily reversed even when there are guarantees of acceptance, and characterized by extreme difficulty in negotiating the affective/cognitive complexities of interpersonal relationships. Finally, individuals with AVPD lack the traits of Psychoticism (e.g., cognitive and perceptual dysregulation, eccentricity, unusual beliefs and experiences) that characterize individuals with STPD.

Individuals with BPD may display psychotic-like symptoms, but such symptoms are more intense and transient, and more related to affective shifts, than the chronic, pervasive suspiciousness or typically less dramatic cognitive distortions in individuals with STPD. BPD, however, may be comorbid with STPD.

Some individuals traditionally diagnosed with AVPD may actually be better characterized as having covert/vulnerable narcissistic personality characteristics. Social withdrawal is a common factor among both individuals with AVPD and those with the covert presentation of NPD. However, whereas individuals with AVPD are afraid of not being liked or accepted, those with covert narcissistic tendencies crave admiration to bolster their fragile self-esteem and secretly or unconsciously feel entitled to it.

Other mental disorders. STPD is distinct from psychotic schizophrenia spectrum disorders, including schizophrenia itself, as well as other psychotic disorders such as delusional disorder or mood disorder with psychotic features, because individuals with STPD do not have overt persistent psychotic symptoms (i.e., delusions and hallucinations). Although psychotic symptoms may occur in the context of a discrete psychotic disorder in the course of STPD, this is unusual because STPD must have been present before the onset of the psychotic symptoms and persist even when the psychotic symptoms are in remission. If STPD features are observed for more than 6 months in an individual who later develops overt psychosis (i.e., delusions, hallucinations, or disorganized speech) of 1 month or longer and severe functional impairments required for a schizophrenia diagnosis, the schizotypal features would be considered a "premorbid" or prodromal state of schizophrenia rather than STPD. Individuals with STPD may exhibit restricted affect and have associated depression or dysphoria of mood disorders, but may not complain of any psychotic-like symptoms. In such individuals, STPD may be present but overlooked.

In children or adolescents, features of STPD may be difficult to discriminate from those of developmental disorders in the autism spectrum because both may be characterized by social isolation, eccentricity, and peculiarities of language and behavior. Individuals with autism spectrum disorder, however, often ex-

hibit stereotyped behaviors and interests that are not typical for STPD and social and nonverbal communication deficits and lack of emotional reciprocity that may be more prominent than in STPD.

Personality Disorder—Trait Specified

Personality disorder—trait specified vs. pathological personality traits. One major differential diagnostic issue with PD-TS is the determination of whether a diagnosis of PD is warranted, or whether one simply should note the individual's relevant pathological personality features. The DSM-5 personality trait model can be used to record personality features regardless of whether they are manifestations of a PD diagnosis. Therefore, the evidence for Criterion A (disturbances in self and interpersonal functioning) should be carefully assessed to determine whether a diagnosis of PD is warranted; the LPFS is provided to assist in this determination.

Personality disorder—trait specified vs. a specific personality disorder. A second important differential diagnostic issue with PD-TS is the determination of whether a diagnosis of one of the six specific PD types or of PD-TS should be made. This determination is based on the clinician's judgment of the degree to which the patient's 1) self and interpersonal disturbance (Criterion A) and 2) personality trait configuration (Criterion B) match the characterization of a specific PD. If an individual's specific personality disturbance and trait configuration match those of a specific PD well, that PD diagnosis should be made. If, however, there are notable discrepancies between the individual's specific personality disturbance and trait configuration and those of a specific PD, including the presence of additional prominent personality traits, then a PD-TS diagnosis should be made. For example, if an individual's personality functioning disturbance matches that of the AVPD well and the individual's trait profile is characterized by the traits comprising AVPD Criterion B (i.e., anxiousness, withdrawal, anhedonia, and intimacy avoidance), but the individual's personality also is characterized by other traits, it must be determined whether the most prominent features of the individual's personality are those of the AVPD or whether the additional personality features are also clinically relevant. In the former case, the diagnosis would be AVPD with additional features specified (e.g., with depressivity), whereas in the latter case, the more appropriate diagnosis would be PD-TS, with specification of all prominent traits (e.g., with depressivity, submissiveness, anxiousness, withdrawal, intimacy avoidance). PD-TS should be diagnosed if an individual meets the general criteria for PD but lacks one or more of the personality trait facets required for a diagnosis of a specific PD (e.g., subthreshold or other specified PD).

Comorbid specific personality disorders vs. personality disorder—trait specified. A third important differential diagnostic issue with PD-TS is the determination of whether a diagnosis of two or more of the six specific PDs or of PD-TS should be made. This determination also is based on clinician judgment of the degree to which the individual's self and interpersonal disturbance (Criterion A) and personality trait configuration (Criterion B) match the characterization of multiple specific PDs. If an individual's specific personality disturbance and trait configuration match those of multiple specific PDs, the specific PD diagnoses should be made. If,

however, there are notable discrepancies between the individual's specific personality disturbance and trait configuration and those of the multiple specific PDs being considered, then a PD-TS diagnosis should be made.

Other mental disorders. With regard to differential diagnosis of other conditions that may resemble PD-TS (e.g., major depressive disorder vs. PD-TS with Criterion B characterized by prominent depressivity and anhedonia), the major consideration is whether Criterion A features (disturbances in self and interpersonal functioning) are present or absent. In general, any and all personality trait features pertinent to the clinical presentation should be recorded, together with any major diagnoses for which the individual meets criteria. Personality change (e.g., increased Negative Affectivity) also can be an early sign of onset of dementia (Low et al. 2013), so consideration of whether the individual's personality trait expression is due solely to another medical condition is important.

Conclusion

The accurate diagnosis of PD presents many hurdles for the clinician. The assessment process is fraught with challenges, and learning how to recognize the psychopathology of personality and its relationship with other disorders requires care and diligence. The importance of personality pathology for the overall functioning of the individual patient and for his or her prognosis, however, cannot be overstated.

In this chapter, two DSM-5 models of personality pathology—the Section II categorical approach carried over from DSM-IV and the new Section III hybrid dimensional-categorical model—are reviewed from the perspectives of manifestations, assessment, diagnosis, and differential diagnosis. Although clinicians will continue to use the criteria of Section II for official purposes, they are encouraged to study and use the Section III model, which presents a coherent conceptual basis for all personality psychopathology, an efficient and effective approach to assessment, and a more empirically based formulation of PD criteria than Section II.

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CHAPTER 8

Course and Outcome

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In DSM-5 Section II, "Diagnostic Criteria and Codes," a personality disorder (PD) is defined as "an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment" (American Psychiatric Association 2013, p. 645). DSM-5 Section II specifies that the "enduring pattern" is manifested by problems in at least two of the following areas: cognition, affectivity, interpersonal functioning, and impulse control. The diagnostic construct of PD has evolved considerably over the past few decades, and substantial changes have occurred over time in the number and types of specific PD diagnoses and their criteria (see Skodol 1997 and Skodol 2012 for a detailed ontogeny of the DSM system). Until the introduction of the alternative model for PDs in DSM-5 Section III, "Emerging Measures and Models," one central tenet—that a PD reflects a persistent, pervasive, enduring, and stable pattern—has not changed. Although the concept of stability is salient in the two major classification systems, DSM-5 and ICD-10 (World Health Organization 1992), the two systems differ somewhat in their classifications and definitions of PDs and thus demonstrate only moderate convergence for some diagnoses (Ottosson et al. 2002). Empirical evidence regarding the extent of stability of PDs, however, has historically been mixed and the subject of debate (Grilo and McGlashan 1999; Grilo et al. 1998; Shea and Yen 2003).

The concept of stability has remained a central tenet of PDs through the various editions of DSM dating back to the first edition published in 1952 (American Psychiatric Association 1952). In DSM-III (American Psychiatric Association 1980), PDs were placed on a separate axis (Axis

II) of the multiaxial system. DSM-III indicates that the assignment to Axis II was intended, in part, to encourage clinicians to assess for additional disorders that might be overlooked when focusing on Axis I psychiatric disorders. Conceptually, this reflected, in part, the putative stability of PDs relative to the episodically unstable course of so-called Axis I psychiatric disorders (Grilo et al. 1998; Shea and Yen 2003; Skodol 1997; Skodol et al. 2002). The multiaxial system of recording diagnoses has been discontinued in DSM-5, and all mental disorders are now categorized in the same section (Section II). Although the concept of diagnostic stability of PD persists unmodified in DSM-5 Section II, the stability of trait pathology and impairment in functioning is emphasized in the Section III alternative model (see also Chapter 7, "Manifestations, Assessment, and Differential Diagnosis," and Chapter 24, "An Alternative Model for Personality Disorders: DSM-5 Section III and Beyond").

In this chapter, we first provide a brief review of the twentieth-century empirical literature on the stability of PDs. This period can be thought of as including the first generation (mostly clinical descriptive accounts) and the second generation (emerging findings based on attempts at greater standardization of diagnoses and assessment methods) of empirical research efforts on PDs. Second, we provide a brief overview of methodological problems and conceptual gaps that characterize this literature and that must be considered when interpreting ongoing research and designing future studies. Third, we summarize new findings from several major long-term longitudinal studies that have contributed much-needed information regarding the course of PDs and that call into question their inherent stability.

Overview of Early Literature

Previous reviews addressing aspects of the course and outcome of PDs (e.g., Grilo and McGlashan 1999; Grilo et al. 1998; McDavid and Pilkonis 1996; Perry 1993; Ruegg and Frances 1995; Stone 1993; Zimmerman 1994), although varied, have agreed on the pervasiveness of methodological problems characterizing much of the early literature, which precluded any firm conclusions about the nature of the stability of PDs. The reviews, however, have also generally agreed that the emerging research was raising questions regarding many aspects of the construct validity of PDs (Zimmerman 1994), including their hypothesized high degree of stability (Grilo and McGlashan 1999).

The few early (pre-DSM-III era) studies of the course of PDs reported findings that borderline PD (BPD) (e.g., Carpenter and Gunderson 1977; Grinker et al. 1968) and antisocial PD (ASPD) (Maddocks 1970; Robbins et al. 1977) PDs were highly stable. Carpenter and Gunderson (1977), for example, reported that the impairment in functioning observed for BPD was comparable to that observed for patients with schizophrenia over a 5-year period. Grilo et al. (1998) noted that the dominant clinical approach to assessing PD diagnoses based partly on treatment refractoriness naturally raises the question of whether these findings simply reflect a tautology.

The separation of PDs to Axis II in DSM-III (American Psychiatric Association 1980) contributed to increased research attention to these clinical problems (Blashfield and McElroy 1987). The development and utilization of a number of structured and standardized ap-

proaches to clinical interviewing and diagnosis during the 1980s represented notable advances (Zimmerman 1994). The greater attention paid to defining the criteria required for diagnosis in the classification systems and to developing standardized interviews greatly facilitated research efforts in this field.

In our previous reviews of DSM-III and DSM-III-R (American Psychiatric Association 1987) studies, we concluded that the available research suggested that "personality disorders demonstrate only moderate stability and that, although personality disorders are generally associated with negative outcomes, they can improve over time and can benefit from specific treatments" (Grilo and McGlashan 1999, p. 157). In our 1998 review (Grilo et al. 1998), we noted that the 20 selected studies of DSM-III-R criteria generally found low to moderate stability of any PD over relatively short follow-up periods (6–24 months). For example, studies that employed diagnostic interviews reported kappa coefficients between assessments for the presence of any PD of 0.32 (Johnson et al. 1997), 0.40 (Ferro et al. 1998), 0.50 (Loranger et al. 1994), and 0.55 (Loranger et al. 1991). Especially noteworthy is that the stability coefficients for specific PD diagnoses (in the few cases they could be calculated given the sample sizes) were generally lower. Follow-up studies of adolescents diagnosed with PDs also reported modest stability; for example, Mattanah et al. (1995) reported a 50% rate of stability for any PD at 2-year follow-up, and Grilo et al. (2001) reported modest stability for dimensional PD scores in a follow-up study of psychiatrically hospitalized adolescents. Squires-Wheeler et al. (1992), as part of the New York State high-risk offspring study, reported low stability for schizotypal PD (STPD) and features, although the stability was higher for the offspring of patients with schizophrenia than of those with mood disorders or controls. Subsequently, we (Grilo and McGlashan 1999) reviewed nine reports of longitudinal findings for PD diagnoses published from 1997 to 1998. In terms of specific diagnoses, the studies generally reported moderate stability (kappa coefficients of approximately 0.50) for BPD and ASPD. The studies in these reports, like those in most of the previous literature, had small sample sizes and infrequently followed more than one PD.

Two longitudinal studies assessed PD features using standardized interview and self-report methods to obtain complementary information on personality changes over time in nonclinical samples. In the first study, Trull et al. (1997, 1998) reported modest stability coefficients, ranging from 0.28 to 0.62, for both self-report and interview measures of borderline PD features using two different assessment instruments administered to a college student sample assessed twice over a 2-year period. Two-year stability coefficients for the self-report measures tended to be higher than those for interview-based measures of features. There was some heterogeneity in the borderline feature changes and reductions over time; negative affectivity, but not personal distress levels, moderated the stability of scores (Trull et al. 1998). Borderline PD features were associated with greater academic and interpersonal difficulties at 2-year follow-up. The Longitudinal Study of Personality Disorders (LSPD; Lenzenweger 1999) assessed 250 participants drawn from Cornell University at three points over a 4-year period. Of the 250 participants, 129 had presentations that met the criteria for at least one PD; 121 had presentations that did not meet the full criteria for any PD. Lenzenweger found that dimensional

scores for the PDs were characterized by significant levels of stability on both the interview and self-report measures of PD. Stability coefficients for total number of PD features ranged from 0.61 to 0.70, and PD dimensions showed significant declines over time, with the PD group showing more rapid declines than the group without PDs. Cluster B had the highest stability coefficients, and Cluster A had the lowest. Subsequent reanalyses of the LSPD data using individual growth curve methods revealed considerable variability in PD features across individuals over the 4-year period (Lenzenweger et al. 2004). The reanalyses also indicated that the course of PD features is heterogeneous, with different trajectories characterizing individuals considered symptomatic or meeting criteria for a diagnosis versus those not meeting criteria (Hallquist and Lenzenweger 2013).

The two nonclinical longitudinal studies (Lenzenweger 1999; Trull et al. 1997, 1998) demonstrated the value of using multiple assessment methods in repeated-measures longitudinal designs and highlighted that borderline features may be associated with poorer outcomes, even in nonclinical populations (Trull et al. 1997). These studies, however, were limited by their relatively homogeneous study groups of college students, narrow development time frames, and insufficient frequency of any specific PD diagnosis (i.e., at diagnostic caseness level), so meaningful analyses of clinical entities were not possible.

Conceptual and Methodological Issues

Previous reviews of PDs have raised various methodological concerns. Common limitations highlighted include small sample sizes; concerns about unstandardized assessments, interrater reliability, blindness to baseline characteristics, and narrow assessments; failure to consider alternative (e.g., dimensional) models of PDs; reliance on only two assessments typically over short follow-up periods; insufficient attention to the nature and effects of other co-occurring disorders; and inattention to treatment effects. Particularly striking is the absence of "relevant" comparison or control groups in the longitudinal literature. We comment briefly on a few of these issues.

Reliability

Reliability of assessments represents a central issue for any study of course and outcome. The emergence of standardized instruments for collecting diagnostic data on PDs was a major development of the 1980s (Zimmerman 1994). Such instruments, however, were less than perfect assessment methods and have been criticized for a variety of reasons (e.g., Westen 1997; Westen and Shedler 1999). It is critical, however, to recognize that interrater reliability and test-retest reliability represent the upper limits (or ceiling) for estimating the stability of a construct.

Previous reviews of diagnostic interviews for PDs (Grilo and McGlashan 1999; Zanarini et al. 2000; Zimmerman 1994) have generally reported median interrater reliability coefficients of roughly 0.70 and short-interval test-retest reliability coefficients of 0.50 for diagnoses. These reliability coefficients compare favorably with those generally reported for diagnostic instruments for other psychiatric disorders. Similar interrater and short-term test-retest findings have continued to characterize the reliability literature through DSM-IV (American Psychiatric Association 1994) and initially for

DSM-5 for mental disorder diagnoses determined using various assessment methods (Regier et al. 2013). Both interrater and test-retest reliability coefficients tend to be higher for dimensional scores than for categorical diagnoses of PDs. Although technically not a "reliability issue," a related point is that even when experts administer diagnostic interviews, the degree of convergence or agreement produced by two different interviews administered only a week apart is limited (Oldham et al. 1992). Also, the degree of concordance between different diagnostic interviews, clinical interviews, and self-report methods is limited (Samuel et al. 2013).

Reliability and "Change"

Test-retest reliability is also relevant for addressing, in part, the well-known problem of "regression to the mean" in repeated-measures studies (Nesselroade et al. 1980). It has been argued that the multiwave or repeated-measures approach lessens the effects of regression to the mean (Lenzenweger 1999). This might be the case in terms of the obvious decreases in severity with time (i.e., very symptomatic participants meeting eligibility at study entry are likely to show some improvement since by definition they are already reporting high levels of symptoms). However, other effects need to be considered whenever assessments are repeated within a study. For example, Shea and Yen (2003) noted that repeated-measures studies of both PD (Loranger et al. 1991) and other mental disorder (Robins 1985) diagnoses have found hints that participants systematically report or endorse fewer problems during repeated interviews to reduce interview time. Loranger et al. (1991), in their test-retest study of the Personality Diagnostic Examination (PDE) interview conducted between 1 and 26 weeks after baseline, observed significant decreases in PD criteria for all but two of the DSM-III-R diagnoses. The PDE, which requires skilled and trained research clinicians, has a required minimum duration stipulation of 5 years for determining persistence and pervasiveness of the criteria being assessed. Thus, the magnitude of changes observed during such a short period of time, which was shown to be unrelated to "state-trait effects," reflects some combination of the following: regression to the mean, error in either or both the baseline and repeated assessments, overreporting by patients at intake assessment, and underreporting during retest at follow-up (Gunderson et al. 2004; Loranger et al. 1991; Shea and Yen 2003). Therefore, in assessing patients for personality psychopathology, clinicians should be wary of incentives for overreporting (e.g., admission to a desirable treatment facility) and underreporting (e.g., discharge from a hospital).

Categorical Versus Dimensional Approaches

Long-standing debate regarding the conceptual and empirical advantages of dimensional models of PDs (Frances 1982; Livesley et al. 1992; Loranger et al. 1994; Skodol 2012; Widiger 1992) has accompanied the DSM categorical classification system. Overall, longitudinal studies of PDs have reported moderate levels of stability for dimensional scores for most disorders, and stability coefficients tend to be higher than for categorical or diagnostic stability (Ferro et al. 1998; Hopwood et al. 2013; Johnson et al. 1997; Klein and Shih 1998; Loranger et al. 1991, 1994; Morey et al. 2007). Dimensional assessments of personality psychopathology (functioning and traits) are highlighted in the hybrid dimen-

sional-categorical model of PDs in DSM-5 Section III. Recognizing that diagnostic thresholds for most PDs in Section II of DSM-5 are set without strong empirical bases, clinicians should regard "subthreshold" cases as possibly milder versions of full-blown disorders and treat these patients as such.

Comorbidity

Most studies have had some participants whose presentations met the criteria for multiple mental disorder diagnoses. This problem of diagnostic overlap or comorbidity represents a well-known, long-standing major challenge in working with clinical samples (Berkson 1946). One expert and critic of DSM (Tyrer 2001), in speaking of the "spectre of comorbidity," noted "the main reason for abandoning the present classification is summed up in one word, comorbidity. Comorbidity is the nosologist's nightmare; it shouts, 'You have failed'" (p. 82). We suggest, however, that such clinical realities (multiple presenting problems that are especially characteristic of treatment-seeking patients) represent both potential confounds and potential opportunities to understand personality and dysfunctions of personality better. Comorbidity begs the question: What are the fundamental personality dimensions and disorders of personality, and how do their courses influence (and conversely, how are their courses affected by) the presence and course of other psychiatric disorders?

Continuity

A related issue pertaining to course concerns longitudinal comorbidities (Kendell and Clarkin 1992) or continuities. An obvious example is that conduct disorder during adolescence is required for the diagnosis of ASPD to be given to adults. This definitional isomorphism is one likely reason for the consistently strong associations between conduct disorder and later ASPD in the literature. This is, however, more than an artifactual relationship, because longitudinal research has documented that children and adolescents with early-onset behavior disorders have substantially elevated risk for antisocial behavior during adulthood (Moffitt 1993; Robins 1966). More generally, studies with diverse recruitment and ascertainment methods found that disruptive behavior disorders during the adolescent years prospectively predicted PDs of various types during young adulthood (Bernstein et al. 1996; Lewinsohn et al. 1997; Myers et al. 1998; Rey et al. 1995). In addition, children with conduct disorder are at risk for other externalizing and internalizing mental disorders, not only for ASPD (e.g., Kim-Cohen et al. 2003). Moreover, other childhood disorders, in addition to conduct disorder, increase the risk of ASPD (e.g., Kasen et al. 2001). Thus, the relationship between conduct disorder and ASPD is not specific. The Yale Psychiatric Institute follow-up study found that PD diagnoses in adolescent inpatients prospectively predicted greater drug use problems but not global functioning (Levy et al. 1999).

The importance of considering comorbidity is underscored in the findings of the longitudinal study by Lewinsohn et al. (1997). These authors found that the apparent longitudinal continuity for disruptive behavioral disorders during adolescence and subsequent ASPD in adulthood was predicted, in part, by the presence of other mental disorder comorbidity. More recently, analyses from the National Epidemiologic Survey on Alcohol and Related Conditions comparing adults with ASPD with adults whose presentation met all the criteria for

ASPD except the requirement that conduct disorder be present before age 15 differed little in 3-year course of antisocial behaviors after adjusting for differences in psychiatric comorbidity (Goldstein and Grant 2009). A longitudinal study of young adult men found that PDs predicted the subsequent onset of psychiatric disorders during a 2-year follow-up, even after the researchers controlled for previous psychiatric history (Johnson et al. 1997).

Comorbidity and Continuity Models

Certain disorders may be associated with one another in a number of possible ways over time. A variety of models have been proposed for the possible relationships between personality and other mental disorders (e.g., Dolan-Sewell et al. 2001; Lyons et al. 1997; Shea et al. 2004; Tyrer et al. 1997). These include, for example, the predisposition or vulnerability model, the complication or scar model, the pathoplasty or exacerbation model, and various spectrum models. We emphasize that these models do not necessarily assume categorical entities. Indeed, an especially influential spectrum model proposed by Siever and Davis (1991) posits four psychobiological dimensions to account for all types of psychopathology. The Cloninger et al. (1993) psychobiological model of temperament and character represents another valuable approach that considers dimensions across personality and other psychopathology. More broadly, Krueger (1999; Krueger and Tackett 2003) noted that although most research has focused on pairs of constructs (i.e., personality and other disorder associations), it seems important to examine the "multivariate structure of the personality-psychopathology domain" (p. 109).

Age (Early Onset)

As stressed by Widiger (2003), PDs need to be more clearly conceptualized and carefully characterized as having an early onset. However, the validity of PDs in adolescents remains controversial (Krueger and Carlson 2001). It can be argued, for example, that determining early onset of PDs is impossible because adolescence is a period of profound changes and flux in personality and identity. A critical review of the longitudinal literature on personality traits throughout the life span revealed that personality traits are less stable during childhood and adolescence than they are later in life (Roberts and DelVecchio 2000). Roberts and DelVecchio's (2000) meta-analysis of data from 152 longitudinal studies of personality traits revealed that rank-order consistency for personality traits increased steadily throughout the life span; test-retest correlations (over 6.7-year time intervals) increased from 0.31 during childhood to 0.54 during college, to 0.64 at age 30, to a high of 0.74 at ages 50–70.

Nonetheless, if childhood precursors of PDs could be identified (as in the case of early-onset conduct disorder for ASPD), they could become part of the diagnostic criteria, creating some degree of longitudinal continuity in the diagnostic system. More generally, temperamental vulnerabilities or precursors to PDs have been posited as central in a variety of models (e.g., Cloninger et al. 1993; Siever and Davis 1991). Specific temperamental features evident in childhood have been noted to be precursors for diverse PDs (Paris 2003; Rettew et al. 2003; Wolff et al. 1991), as well as for differences in interpersonal functioning (Newman et al. 1997) in adulthood. For example, studies have noted early odd and withdrawn patterns preceding STPD in adults (Wolff et al. 1991) and shyness pre-

ceding avoidant PD (AVPD) (Rettew et al. 2003). Speaking more generally, although the degree of stability for personality traits is higher throughout adulthood than throughout childhood and adolescence (Roberts and DelVecchio 2000), longitudinal analyses of personality data have revealed that the transition from adolescence to adulthood is characterized by greater personality continuity than change (Roberts et al. 2001).

Age and the Aging Process

Another age issue concerns the aging process. Considerable research suggests that personality remains relatively stable through adulthood (Heatherton and Weinberger 1994; Roberts and DelVecchio 2000) and is highly stable after age 50 (Roberts and DelVecchio 2000). Little is known, however, about PDs in older persons (Abrams et al. 1998), although this topic has recently become the focus of increasing research attention (Oldham and Skodol 2013).

A 12-year follow-up of PDs as part of the Nottingham Study of Neurotic Disorders (Seivewright et al. 2002) documented substantial changes in trait scores based on blind administration of a semistructured interview. Seivewright et al. (2002) reported that two Cluster B PD diagnoses (antisocial, histrionic) showed significant improvements, whereas diagnoses in Cluster A (schizoid, schizotypal, paranoid) and Cluster C (obsessional, avoidant) appeared to worsen with age. The Seivewright et al. (2002) findings, however, are limited by the two-point cross-sectional assessment, which could not address the nature of changes during the intervening period. These findings echo somewhat the results of the seminal Chestnut Lodge follow-up studies (McGlashan 1986a, 1986b), which found decreases in impulsivity and interpersonal instability but increases in avoidance occur with age. There exist other reports of diminished impulsivity with increasing age in patients with BPD (Paris and Zweig-Frank 2001; Stevenson et al. 2003), although this was not observed in a prospective analysis of individual borderline criteria (McGlashan et al. 2005). Galione and Oltmanns (2013), using data from a large-scale epidemiological study, reported significant associations between BPD and major depression in older adults and found that a history of major depression is particularly associated with stable BPD features related to distress, which are more common than acute features among older adults. Schuster et al. (2013), in another large epidemiological study, found that PDs are both common and strongly associated with various forms of disability and medical/psychiatric comorbidities among older adults.

Clinicians may have to adjust their thresholds for diagnosis of PDs in elders, because some of the standard criteria may not be applicable because of life events (e.g., death of a spouse) or circumstances (e.g., retirement). The DSM-5 Section III personality functioning and trait-based criteria may be easier to use in assessing the elderly, because these criteria do not depend as heavily on specific exemplars, which are often age dependent, as do the Section II criteria.

Summary and Implications

To resolve the various complex issues discussed in this section, complementary research efforts are required with large samples of both clinical and community samples. Prospective longitudinal studies with repeated assessments over time are needed to understand the course of PDs. Such studies must consider (and cut across) different devel-

opmental eras, broad domains of functioning, and multimodal approaches to personality and PDs. These approaches have, in fact, been performed with personality traits (Roberts et al. 2001) and with other forms of psychiatric problems, such as the National Institute of Mental Health (NIMH)–funded multisite effort on depression, the Collaborative Depression Study (NIMH-CDS; Katz et al. 1979), and have yielded invaluable insights. Over the past two decades, such advances have come to characterize the PD longitudinal literature, to which we turn next.

Review of Major Empirical Advances and Understanding of Stability

Of particular relevance for our literature review are three large-scale long-term prospective studies on the longitudinal course of PDs funded by NIH throughout the 1990s and continuing into the twenty-first century. The three studies are the multi-site Collaborative Longitudinal Personality Disorders Study (CLPS; Gunderson et al. 2000); the McLean Study of Adult Development (MSAD; Zanarini et al. 2003); and the Children in the Community Study (CICS; D.W. Brook et al. 2002; Cohen et al. 2000), a community-based prospective longitudinal study of personality, psychopathology, and functioning of children/adolescents and their mothers that began in 1983. These studies, which corrected for many of the limitations that characterized the previous literature, have provided valuable data for understanding the natural life course of persons with PDs. These long-term studies utilized multiple and standardized assessment methods, carefully considered training and reliability, and—perhaps most notably—employed multiwave repeated assessments that are essential for determining longitudinal change. They have employed, to varying degrees, multiple assessment methods and have considered personality and PDs, as well as other mental disorders and psychosocial functioning. Collectively, these studies have provided valuable insights into the complexities of personality (features, traits, and disorders) and its vicissitudes over time.

Collaborative Longitudinal Personality Disorders Study

The CLPS (Gunderson et al. 2000; McGlashan et al. 2000; Skodol et al. 2005b) is a prospective, longitudinal, repeated-measures study designed to examine the natural course and outcome of PDs, with a primary focus on patients whose presentation met DSM-IV criteria for one of four specific PDs: STPD, BPD, AVPD, or obsessive-compulsive PD (OCPD). The CLPS includes a comparison group of patients with major depressive disorder (MDD) without any PD. This comparison group was selected because of the purported episodic and fluctuating course of MDD (thought to distinguish what were called Axis I from Axis II disorders in DSM-III through DSM-IV) and because MDD has been carefully studied in similar longitudinal designs (e.g., the NIMH-CDS; Katz et al. 1979; Solomon et al. 1997). The CLPS employed multimodal assessments (Gunderson et al. 2000; Zanarini et al. 2000) to prospectively follow and capture various aspects of the fluctuating nature of PDs and dimensions (both interviewer based and self-report representing different conceptual models) (Morey et al. 2007, 2012; Samuel et al. 2011), other psychiatric disorders

and symptoms (Cain et al. 2012; Grilo et al. 2005, 2007), psychosocial functioning (Markowitz et al. 2007; Skodol et al. 2005a, 2005c), and treatment utilization (Bender et al. 2007).

Studies of course and outcome of many disorders have generally employed concepts of *remission* or *recovery* (Frank et al. 1991), although these concepts have not, until recently, been applied much in PD research, likely because of the "presumption of stability" (Skodol 2012). Frank et al. (1991) defined *remission* as a brief period of improvement with no more than minimal symptoms and *recovery* as improvement lasting for an indefinite amount of time, implying recovery from the disorder. The CLPS (e.g., Grilo et al. 2004) employed the concept of *remission* using two definitions in order to allow direct comparison of the PD groups to the group of patients with MDD without PD, given the established methodology in the depression literature used by the National Institute of Mental Health (NIMH)–CDS (Solomon et al. 1997). To parallel the NIMH-CDS conventions, one definition of *remission* required at least 8 consecutive weeks (2 months) with two or fewer criteria of the diagnosis being present, and one definition required a longer time requirement of 12 consecutive months with no more than two criteria of the diagnosis being present. The latter 12-month definition was adopted to provide a much more stringent definition of *remission* to reflect a more clinically significant change in PD psychopathology. The CLPS adopted a parallel definition of *relapse,* defined as the return to diagnostic threshold for at least 2 consecutive months for PDs and all other disorders, again to parallel the NIMH-CDS conventions. The CLPS prospectively evaluated time to remission and relapse using a PD interview assessment modeled after the Longitudinal Interval Follow-Up Evaluation (Keller et al. 1987) methodology used in the NIMH-CDS (Solomon et al. 1997), which was also used by the CLPS to prospectively evaluate MDD and other mental disorders.

The CLPS has reported on different concepts of categorical and dimensional stability of the four PDs over 12 months (Shea et al. 2003), 24 months (Grilo et al. 2004), and 10 years (Gunderson et al. 2011), using prospective data obtained for 668 patients recruited from diverse settings at four universities. Shea et al. (2002) reported that a significantly greater proportion of patients in each of the four PD groups (BPD, STPD, AVPD, and OCPD) remained at diagnostic threshold throughout the first 12 months of follow-up than did those in the MDD group; the majority of patients with PDs, however, did not consistently remain above diagnostic threshold. Grilo et al. (2004) reported that on the basis of the traditional test-retest approach, blinded repeated administration of a semistructured interview conducted 24 months after baseline revealed remission rates (based solely on falling below DSM-IV diagnostic thresholds) ranging from 50% (AVPD) to 61% (STPD). Grilo et al. (2004), using life table survival analyses of prospective data regarding time to remission for the PD and MDD groups (based on parallel definitions of 2 consecutive months with minimal symptoms), found that compared with the four PD groups, the MDD group had significantly shorter time to—and higher rates of—remission. These findings represent the first definitive empirical demonstration of the central tenet that PDs are characterized by greater degree of stability than the hypothesized episodic course of other mental disorders (see Shea and Yen 2003). Surprisingly, however, although PDs were more "stable" than MDD, a substantial number of remissions occurred during the 24 months

of follow-up. When the 2-month definition of remission was used, rates ranged from 33% (STPD) to 55% (OCPD). Importantly, even when the stringent definition of 12 consecutive months with two or fewer criteria was used, remission rates ranged from 23% (STPD) to 38% (OCPD). These early CLPS findings highlighted that substantial improvements in PD psychopathology are not uncommon, even when stringent criteria for improvement are applied.

Gunderson et al. (2011) reported the primary CLPS 10-year outcome findings regarding both diagnostic stability and psychosocial functioning. In this report, two definitions of *remission* were considered: 1) 12-month duration at two or fewer criteria for comparing BPD with other PDs (OPD, comprising AVPD and OCPD) and 2) 2-month duration for comparing BPD with MDD. By 10 years, 85% of patients with BPD attained a remission using the 12-month duration definition and 91% attained a remission using the 2-month definition; most changes occurred during the first 2 years (Grilo et al. 2004). Remission of BPD was significantly slower than remission of MDD and significantly, albeit less markedly, slower than remission of OPD. Only 12% of patients with BPD experienced a relapse, and this rate was lower, and the time to relapse slower, than that observed for MDD and for OPD. Gunderson et al. (2011) also reported that all BPD criteria declined at similar rates over time. Importantly, and in sharp contrast to the substantial and durable reductions in BPD-specific psychopathology over time, social functioning measures continued to evidence severe impairment with only modest clinical, albeit statistically significant, improvements over time. Social functioning in patients with BPD remained persistently more impaired than observed in both the MDD and OPD groups. Collectively, these findings—based on 10 years of prospective yearly multimethod follow-up—indicate that the course of BPD is characterized by high rates of diagnostic remission and low rates of relapse (return to diagnostic threshold), but severe and enduring social functioning impairment (Gunderson et al. 2011).

The CLPS also provided complementary analyses using various dimensional approaches and alternative models for PD psychopathology for 12-month (Shea et al. 2003), 24-month (Grilo et al. 2004; Samuel et al. 2011), 5-year (Morey et al. 2007), and 10-year (Hopwood et al. 2013; Morey et al. 2012) follow-ups. Grilo et al. (2004) documented a significant decrease in the mean proportion of criteria met in each of the PD groups over 2 years, later confirmed and extended through 10 years (Gunderson et al. 2011), which is suggestive of sustained decreased severity. However, when the relative stability of individual differences was examined across the multiwave assessments (at baseline and at 6-, 12-, and 24-month time points), a high level of consistency was observed, as evidenced by correlation coefficients ranging from 0.53 to 0.67 for proportion of criteria met between baseline and 24 months. Grilo et al. (2004) concluded that it appears that patients with PDs are consistent in terms of their rank order of PD criteria (i.e., that individual differences in PD features are stable), although there may be fluctuation in the severity or number of features over time. McGlashan et al. (2005) found that individual criteria across the four PDs studied in the CLPS had varied patterns of stability and change over time. Overall, within PDs, the relatively fixed (least changeable) criteria were generally more traitlike (and attitudinal) whereas the more fluctuating criteria were generally behavioral (or reactive). McGlashan et al. (2005) posited that per-

haps PDs are hybrids of traits and symptomatic behaviors, and that it is the interaction of these over time that help to define the observable diagnostic stability versus instability.

Hopwood et al. (2013) extended these findings in several notable ways through 10 years of follow-up by testing rank-order stability of normal traits, pathological traits, and PD dimensions, while correcting for both test-retest dependability and internal consistency. Dependability-corrected stability estimates ranged from 0.60 to 0.90 for normal/abnormal traits but only 0.25 to 0.65 for PDs. Hopwood and colleagues suggested that the relatively lower stability observed for PD symptoms could reflect differences between unstable/episodic PD pathology and more stable normal traits. Such findings highlight the need to consider both personality traits and symptoms for a fuller understanding of the longitudinal course of personality and personality disturbances (Hopwood et al. 2013). Warner et al. (2004) used a series of latent longitudinal models to test whether changes in specific traits prospectively predicted changes in relevant PDs and reported significant cross-lagged relationships between changes in specific traits and subsequent (later) changes for STPD, BPD, and AVPD, but not for OCPD. Morey et al. (2007, 2012) compared alternative models for PDs (Five Factor Model, Schedule for Nonadaptive and Adaptive Personality, and DSM-IV PDs) for predicting important clinical outcomes (functioning, Axis I psychopathology, medication use) over time. Morey et al. (2012) reported that approaches that integrate both normative traits and PD pathology show the greatest predictive utility. Sanislow et al. (2009) examined the latent structure and stability of the four CLPS PDs and reported that they became less differentiated over time as their mean levels decreased and stability increased. Sanislow and colleagues suggested that the higher correlations among the constructs over time might reflect a greater shared base of pathology for PDs.

In contrast to their symptomatic improvement, however, patients with PDs showed less significant and more gradual improvement in their functioning (Gunderson et al. 2011), and this seemed particularly so for social relationships (Markowitz et al. 2007; Skodol et al. 2005d). Because personality psychopathology usually begins in adolescence or early adulthood, the potential for delays in occupational and interpersonal development is great, and even after symptomatic improvement, it might take time to overcome deficits and make up the necessary ground to achieve "normal" functioning. However, Shea et al. (2009) found that although age was not associated with differential improvement in BPD criteria over 6 years of prospective follow-up, age was significantly associated with differential course in functioning, with older patients with BPD showing some declines in functioning over time.

Several reports from the CLPS are also relevant here in regard to the issue of longitudinal comorbidities and continuities. Shea et al. (2004) examined the time-varying (longitudinal) associations between PDs and psychiatric disorders, in part guided by the Siever and Davis (1991) model of cross-cutting psychobiological dimensions. The course of BPD demonstrated significant associations with the course of certain other mental disorders (MDD and posttraumatic stress disorder), whereas the course of AVPD was significantly associated with the course of two anxiety disorders (social phobia and obsessive-compulsive disorder). Although these findings were consistent with predictions based on the Siever and

Davis (1991) model, other PDs did not demonstrate significant longitudinal associations. Gunderson et al. (2004) followed up on the Shea et al. (2004) findings regarding changes in BPD and MDD by performing a more fine-grained analysis of specific changes in the two disorders using 3 years of longitudinal data. Changes (reductions) in BPD severity preceded improvements in MDD, but not vice versa (Gunderson et al. 2004). Studies of the predictive significance of PDs on other mental disorder psychopathology over time revealed complex and mixed findings. PDs predicted significantly worse course for MDD (Grilo et al. 2005, 2010) and for some but not other anxiety disorders (Ansell et al. 2011), but not for eating disorders (Grilo et al. 2007). Collectively, comorbid PDs appear to be negative prognostic indicators of many important psychiatric disorders (Grilo et al. 2010). This finding has since been extended to an epidemiological sample and confirmed particularly for the negative impact of BPD on MDD persistence (Skodol et al. 2011).

Case Example

Roberta is a 23-year-old, single, white female whose first psychiatric hospitalization occurred during her freshman year in college at a large state university. She had been an average student in a medium-sized high school, somewhat isolated from most of her peers except for a small group of friends who shared similar interests in goth clothing, music, and books. Her only ostensible problems in high school resulted from alcohol and marijuana use, which caused her to be truant frequently, leading to angry rows with her parents and to her being "grounded" for periods of time. Roberta attributed her use of substances, however, to seeking relief from unpredictable "bad moods" and her tendency to "blow up" in the face of disappointments or perceived slights from her friends. She had had a few "counseling" sessions on a number of occasions while in high school, at the instigation of her parents, but would stop therapy after a few weeks because she felt misunderstood by the therapists, who did not "get" her, and she believed that the therapy was "not helping."

Within the first months of college, Roberta became significantly depressed. She felt that she did not fit in with her average fellow student. She became increasingly isolated, attended classes only sporadically, and, after a rebuff from the only boy with whom she had become friends and to whom she had proposed "hooking-up," began to abuse substances more frequently, and ended up taking an overdose of over-the-counter sleeping pills. Following a brief 3-day hospitalization, she took a leave of absence from college and returned home to live with her parents. She entered a self-help treatment program for substance abuse and outpatient treatment with a psychiatrist, who prescribed antidepressant medications. For the ensuing 4 years, she lived at home and tried to work at various retail sales positions, which she would continue for several months at a time before quitting out of anger at an "asshole" customer or from "boredom." Initially, she had little sense of herself beyond her identification with a couple of former high school friends she clung to, who had never left town; she had no long-term plans or goals of her own, she remained very sensitive to perceived slights by her friends or at her jobs, and she became temporarily "obsessed" with a couple of men she met at bars, only to feel rejected and abandoned by them after sleeping with them, when they did not call her immediately on the next day. She frequently thought about suicide but did not make another suicide attempt.

Roberta remained in therapy, however, because she believed that her psychiatrist at least "tried to understand" her. Although initially diagnosed as having BPD, she went long

stretches of time not meeting full criteria, because she curtailed her substance use and did not attempt suicide. Her depression gradually improved and her moodiness stabilized over the initial years of treatment. Her tendencies to be insecurely attached to others and to fear abandonment were more persistent, however. In addition, she became more socially isolated, not wanting to risk rejection, and less inclined to try to find work. After 4 years of therapy, she was "in remission" from her personality disorder but was completely dependent financially on her parents and continued to live at home.

This case illustrates improvement in BPD psychopathology (and depression), persistence of problematic borderline "traits," and a disconnection between the remission of personality psychopathology and the persistence of poor psychosocial functioning.

McLean Study of Adult Development

The MSAD (Zanarini et al. 2003, 2005a) is an ongoing prospective longitudinal study comparing the course and outcome of hospitalized patients with BPD to those with "other" PDs utilizing repeated assessments performed every 2 years (Zanarini et al. 2003) and has reported outcomes through 6 (Zanarini et al. 2003, 2005a, 2005b), 10 (Zanarini et al. 2010b), and 16 years (Zanarini et al. 2012) of follow-up. Zanarini et al. (2003) assessed PDs in 362 inpatients (290 with BPD and 72 with other PDs) with two complementary semistructured diagnostic interviews administered reliably, and administered assessments to characterize other psychiatric disorders, psychosocial functioning domains, and treatment utilization. The authors reported remission rates for BPD of 35%, 49%, and 74% by years 2, 4, and 6, respectively. Reporting on findings consistent with those in the early CLPS reports, Zanarini et al. (2003) concluded that "symptomatic improvement is both common and stable, even among the most disturbed borderline patients, and that the symptomatic prognosis for most, but not all, severely ill borderline patients is better than previously recognized" (p. 274). Zanarini and colleagues also reported, on the basis of findings that were generally consistent with findings from the NIMH-CDS, that personality traits and BPD psychopathology had predictive prospective utility (Hopwood and Zanarini 2010), and that BPD had negative prognostic significance for some other mental disorders, although they later reported that other mental disorders are less common over time in patients with BPD, particularly among those whose BPD remits (Zanarini et al. 2004). The MSAD also found BPD to be associated with significant psychosocial impairment (Zanarini et al. 2009); however, in contrast to findings from the CLPS, much of the impairment was associated with vocational rather than social impairment (Zanarini et al. 2009, 2010a).

In their report of 16 years of prospective follow-up, Zanarini et al. (2012) showed that patients with BPD were significantly slower to achieve remission (defined in the MSAD as good social and vocational functioning, in addition to minimal PD symptoms) than the comparison group with other PDs. After 16 years, however, remission rates ranged from 78% to 99% for patients with BPD and from 97% to 99% for patients with other PDs, but those with BPD had lower recovery rates (40%–60%) than those with other PDs (75%–85%). Relapses occurred significantly faster and at a higher rate among patients with BPD than among those with other

PDs. Zanarini et al. (2012) concluded that remission is more common than recovery from BPD and that recovery is more difficult to sustain for patients with BPD than for those with other PDs. Patients with BPD should continue with psychotherapy after symptomatic remission to guard against relapse and to help promote improvement in psychosocial functioning.

Children in the Community Study

The CICS (D.W. Brook et al. 2002; J.S. Brook et al. 1995; Cohen et al. 2000; Cohen et al. 2005a, 2005b) is an especially impressive ongoing longitudinal effort that has already provided a wealth of information about the course of personality and behavioral traits, psychiatric problems, substance abuse, and adversities. The CICS is a prospective study of nearly 1,000 families with children ages 1–10 years when originally recruited in 1975 in New York State using a random sampling procedure. The CICS researchers have performed repeated multimodal assessments and followed over 700 participants through the developmental eras of childhood, adolescence, and early adulthood. This landmark study—which has reported 20-year outcomes (Crawford et al. 2008)—has provided data that speak to the critical issues of longitudinal comorbidities and continuities. In a series of papers, the collaborating researchers have documented important findings that speak to many issues raised in this review, but especially to the critical issues of continuity of risk and functioning across developmental eras. Important findings include 1) documentation of the validity of certain forms of dramatic-erratic PDs in adolescents (Crawford et al. 2001a, 2001b); 2) age-related changes in PD symptoms, including their moderate levels of stability throughout adolescence and early adulthood (Crawford et al. 2008; Johnson et al. 2000a, 2000b, 2005); 3) the association between PD psychopathology in adolescents and impairments in educational achievement (Cohen et al. 2005a; Johnson et al. 2005) and greater interpersonal and partner conflicts (Chen et al. 2004); and 4) indications that early forms of behavioral disturbances predict PD in adolescents and that PDs during adolescence, in addition to demonstrating significant levels of continuity into adulthood, also predict other mental disorders and suicidality (Johnson et al. 1996), as well as violent and criminal behavior (Johnson et al. 2000b) during young adulthood. The continuity of these persistent forms of impairment associated with PD pathology into young and middle adulthood has also been reported by the CICS. Skodol et al. (2007) reported that young adults (mean age 33 years) with persistent forms of PD had significantly poorer functioning and greater impairment than those whose PD had gone into remission. Collectively, these findings support the continuity and persistence of personality disturbances, although their mutual developmental pathways are not yet understood (Cohen et al. 2005b; Crawford et al. 2001a, 2001b; Johnson et al. 2000a, 2000b; Skodol et al. 2007). Although many children and adolescents with personality psychopathology may be expected to improve, the most severely affected are likely to have problems in later life and should be followed closely. They may require ongoing treatment to prevent the development of later impairments in functioning. All PDs in DSM-5 Section II and Section III can be diagnosed in children or adolescents except ASPD, which requires a minimum age of 18.

Conclusion

We have reviewed the literature regarding the stability, course, and outcome of PDs, focusing particular attention on recent findings from three methodologically rigorous, prospective, longitudinal studies with periods of follow-up ranging from 10 to 20 years. We conclude that PDs as defined in Section II of DSM-5 demonstrate only moderate stability and that they can improve over time, with the reductions in pathology persisting in many cases. We also conclude that PDs represent negative prognostic factors for many types of other psychiatric disorders and are associated with persistent impairments in social functioning. These conclusions are offered with more confidence than in our previous reviews, given the notable methodological advances in the empirical literature on the clinical course and outcome of PDs.

The results of the studies reviewed here have had implications for the alternative model of PDs presented in Section III of DSM-5. First, the longitudinal course of PDs is described as "relatively" stable in the revised general criteria for personality disorder in the alternative model, to allow for the likelihood of a more fluctuating course in patients diagnosed with PDs. Second, individual PDs are redefined in Section III by typical impairments in core elements of personality functioning shared by all PDs, and by sets of pathological personality traits derived from the Five Factor Model of personality (FFM) and the Personality Psychopathology Five (PSY-5). Both personality functioning and personality traits are dimensional in nature and are expected from the longitudinal research reviewed here to be more stable than traditional diagnostic categories of PDs, whose criteria are amalgams of symptoms, traits, and consequences. Third, elements of personality functioning and personality traits are expected to increment each other in predicting important clinical outcomes over time. Fourth, by representing PDs in terms of a broad hierarchical trait structure known to underlie most of psychopathology (i.e., internalization, externalization, and their lower-order factors), the ubiquitous comorbidity and homotypic continuity between PDs and other psychiatric disorders become understandable on the basis of shared liabilities (for more details of the alternative model and its derivation, see Chapter 7 and Chapter 24 in this volume). Future longitudinal studies should compare the stability of Section III PD conceptualizations both with traditional categorical definitions and with other types of dimensional or hybrid representations of personality psychopathology.

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PART II

Treatment

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CHAPTER 9

Therapeutic Alliance

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Any patient beginning treatment enters a relationship, whether it is for a short time during a hospital stay or over many years in long-term psychotherapy. This relationship with the clinician has the potential for improving the patient's quality of life, perhaps through the alleviation of symptoms or more profoundly through shifts in character structure. It is sometimes difficult to determine a priori who will benefit from what treatment with whom, but one factor—therapeutic alliance—has stood out in the research literature as the most robust predictor of outcome (Horvath et al. 2011; Safran et al. 2011).

Because establishing a productive alliance arises within the matrix of a relationship between patient and therapist, when considering personality disorders (PDs) one must note that all such disorders are associated in some way with significant impairment in interpersonal relations. Speaking about the nature of relationships of individuals characterized by certain types of personality pathology, Masterson (1988) noted the following:

> Each type of pathology produces its own confusion and its own distorted version of loving and giving. The borderline patient defines love as a relationship with a partner who will offer approval and support for regressive behavior.... The narcissist defines love as the ability of someone else to admire and adore him, and to provide perfect mirroring.... Psychopaths seek partners who respond to their manipulations and provide them with gratification. The schizoid... finds love in an internal, autistic fantasy. (pp. 110–111)

In fact, several studies have shown that rather than categorical diagnosis, the preexisting quality of the patient's relationships is what most significantly affects the quality of the therapeutic alliance (Cookson et al. 2012; Gibbons et al. 2003; Hersoug et al. 2002; Piper et al. 1991). For example, it has been suggested that patients' attachment styles and internal working models of therapy expectations significantly influence the process of alliance development (Diener and Monroe 2011; Hatcher 2010). Consequently, the clinician must consider an individual's

characteristic way of relating so that appropriate interventions can be employed to effectively retain and involve the patient in the treatment, regardless of modality. Forming an alliance is often difficult, however, particularly in work with patients with severely narcissistic, borderline, or paranoid proclivities, because troubled interpersonal attitudes and behaviors will also infuse the patient's engagement with the therapist. For example, narcissistic patients may not be able to allow the therapist to act as a separate, thinking person for quite a long time, whereas someone with borderline issues may exhibit wildly fluctuating emotions, attitudes, and behaviors, thwarting the potential helpfulness of the clinician.

Definition of Therapeutic Alliance

The concept of the therapeutic alliance is often traced back to Freud, who observed very early in his work the need to convey interest in and sympathy to the patient to engage him or her in a collaborative treatment endeavor (Meissner 1996; Safran and Muran 2000). Freud (1912/1958) also delineated an aspect of the transference—the unobjectionable positive transference—which is an attachment that should not be analyzed because it serves as the motivation for the patient to collaborate: "The conscious and unobjectionable component of [positive transference] remains, and brings about the successful result in psychoanalysis as in all other remedial methods" (p. 319). This statement is an early precursor to the modern empirical evidence showing that alliance is related to treatment outcome across modalities.

Several contemporary definitions of alliance might be useful to further this discussion of treating patients with PDs. One conceptualization, using psychoanalytic language, was posited by Gutheil and Havens (1979): The patient's ability to form a rational alliance arises from "the therapeutic split in the ego which allows the analyst to work with the healthier elements in the patient against resistance and pathology" (p. 479). This definition is useful vis-à-vis PDs in two regards: 1) the recognition that there will be pathological parts of the patient's personality functioning that may serve to thwart the attempted helpfulness of the clinician, and 2) the need for the clinician to be creative in enlisting whatever adaptive aspects of the patient's character may avail themselves for the work of the treatment.

Another definition that was developed in an attempt to transcend theoretical traditions is Bordin's (1979) identification of three interdependent components of the alliance: bond, tasks, and goals. The *bond* is the quality of the relationship formed in the treatment dyad that then mediates whether the patient will take up the *tasks* inherent in working toward the *goals* of a particular treatment approach. At the same time, the clinician's ability to negotiate the tasks and goals with the patient will also affect the nature of the therapeutic bond. This multifaceted view of the alliance underscores the complexity of the factors involved (Safran and Muran 2000).

Arguably, if the goal of treatment is fundamental character change, the Bordin (1979) definition specifies necessary, but not sufficient, elements of alliance. Adler (1980) observed that patients with borderline and narcissistic difficulties may not be able to establish a mature working alliance until much later in a successful treatment. Others who typically work with more disturbed patients have noted that establishing a therapeu-

tic alliance may be one of the primary goals of the treatment and that there may be different phases in alliance development as treatment progresses. Gunderson (2000) observed the following alliance stages in the course of conducting long-term psychotherapy with patients with borderline PD:

> 1) Contractual (behavioral): initial agreement between the patient and therapist on treatment goals and their roles in achieving them (Phase I); 2) Relational (affective/empathic): emphasized by Rogerian client-centered relationships; patient experiences the therapist as caring, understanding, genuine, and likable (Phase II); 3) Working (cognitive/motivational): psychoanalytic prototype; patient joins the therapist as a reliable collaborator to help the patient understand herself or himself; its development represents a significant improvement for borderline patients (Phases III–IV). (p. 41)

Progression through these stages, if successful, typically takes a number of years. The implication is that to reach a point at which work leading to substantive and enduring personality change can occur may require a lengthy initial alliance-building period. As Bach (2006) noted, "Perhaps the primary problem when engaging the challenging patient is to build and retain what Ellman (1998a) has called analytic trust. These challenging patients have generally lost their faith not only in their caregivers, spouses, and other objects but also in the world itself as a place of expectable and manageable contingencies" (p. 35).

Alliance Strains and Ruptures

Although a strong positive alliance can predict a successful treatment outcome, the converse is also true: problems in the treatment alliance may lead to premature termination if not handled in a sensitive and timely manner. Evidence has shown that strains and ruptures in the alliance are often related to unilateral termination (Safran et al. 2011). Thus, negotiating ruptures in the alliance is another issue that has garnered increasing attention in the psychotherapy literature. For example, Strauss et al. (2006) demonstrated that skillfully addressing ruptures strengthens the alliance, leading to better treatment outcome for a group of patients with avoidant or obsessive-compulsive PD.

Disruptions in the alliance are inevitable and occur more frequently than may be readily apparent to the clinician (Hill 2010; Safran et al. 2011). In one study (Hill et al. 1993), patients were asked to report about thoughts and feelings that they were not expressing to their therapists. Most things that were not discussed were negative, and even the most experienced therapists were aware of uncommunicated negative material only 45% of the time. It has also been suggested, however, that therapist awareness of patients' negative feelings may actually create problems; therapists, rather than being open and flexible in response, may at times become defensive and negative or may become more rigid in applying treatment techniques (Hill 2010).

Safran and Muran (2000) outlined a model specifying two subtypes of ruptures: withdrawal and confrontation. Withdrawals are sometimes fairly subtle. One example is a therapist who assumes that treatment is progressing but may be unaware that a patient is withholding important information because of lack of trust or fear of feeling humiliated. Other types of withdrawal behaviors include such things as intellectualizing, talking excessively about other people, or chang-

ing the subject. Withdrawal behaviors may be more common in patients who are overly compliant at times, such as those with dependent or obsessive-compulsive PD or those who are uncomfortable about interpersonal relations, such as patients with avoidant PD.

Confrontations, on the other hand, are usually more overt, such as complaining about various aspects of therapy or criticizing the therapist. Some may be rather dramatic, as with a patient who storms out of session in a rage or leaves an angry message on the therapist's answering machine. Confrontation ruptures are likely to be more frequently experienced with more brittle patients, such as those with borderline, narcissistic, or paranoid PD. In any event, clinicians are best served by being alert to ruptures and adopting the attitude that these are often excellent opportunities to engage the patient in a collaborative effort to observe and learn about that patient's own style (Eubanks-Carter et al. 2010).

Personality Functioning, Traits, Diagnoses, and Alliance Considerations

There are two models of conceptualizing personality psychopathology in DSM-5 (American Psychiatric Association 2013). The first approach, in Section II ("Diagnostic Criteria and Codes"), retains the DSM-IV PD diagnostic clusters and categories (American Psychiatric Association 1994). However, there is considerable evidence demonstrating that this approach is limited in its capacity to adequately capture the complexity of character pathology traits and symptoms. For instance, patients often meet criteria for at least two PDs, perhaps spanning different clusters, such as the co-occurrence of schizotypal PD with borderline PD or borderline PD with avoidant PD (McGlashan et al. 2000). In other cases, a patient's presentation may not meet full criteria for any one disorder but includes prominent features associated with one or several PDs.

The second, alternative DSM-5 model, presented in Section III ("Emerging Measures and Models"), is organized around the conceptual framework that personality dysfunction emanates from disturbances in self and interpersonal capacities. This approach for assessing PD adds a functioning/severity of impairment scale (Level of Personality Functioning Scale) and a set of 25 trait dimensions to more broadly and flexibly represent the range of psychopathology that might occur in the personality realm. Six specific PDs are also featured, comprising relevant aspects of functioning and constituent traits. Personality diagnosis can be specified by designating 1) the level of personality functioning impairment and 2) the presence of one or more pathological traits or a specific PD that best characterizes the individual's presentation. (For more detailed consideration of this model, please refer to Chapter 3, "Articulating a Core Dimension of Personality Pathology," and Chapter 7, "Manifestations, Assessment, and Differential Diagnosis," in this volume.)

In practical terms, it must be understood that personality is a complex amalgam of characteristic ways of thinking about oneself and others, and that how one conceptualizes the interpersonal world influences behavior. Whether using PD diagnostic categories, or considering aspects of personality functioning and dominant traits, a clinician considering salient elements of the therapeutic al-

liance should determine which aspects of a patient's personality pathology are dominant or in ascendance at intake and at various points over the course of treatment. It has been suggested that the nature of the alliance established early in the treatment is an especially powerful predictor of outcome (Horvath and Luborsky 1993). One example of the relationship of early alliance and outcome regarding PDs was demonstrated in a study of long-term psychotherapy with a group of patients with borderline PD: therapist ratings of the alliance at 6 weeks predicted subsequent dropouts (Gunderson et al. 1997). As Horvath and Greenberg (1994) noted, "It seems reasonable to think of alliance development in the first phase of therapy as a series of windows of opportunity, decreasing in size with each session" (p. 3).

The following discussion is arranged according to the DSM-5 Section II cluster and category system. However, this approach should be considered in the context of the limitations discussed in the previous paragraphs. The most important data for understanding one's patients in forging an alliance is how an individual typically thinks about himself or herself and other people. In the Section III alternative DSM-5 PD model, personality functioning—based on characteristic mental representations of self and others—comprises aspects of identity, self-direction, empathy, and intimacy. Personality functioning, assessed using the Level of Personality Functioning Scale, can be determined independent of PD diagnosis and used to inform thinking about the therapeutic alliance. Nevertheless, to bridge DSM-5 Section II categories and the new model, the author has suggested typical functioning patterns for each diagnosis. In addition, prominent problematic traits can be considered in determining salient aspects of patients' personality profiles. Table 9–1 presents DSM categorical personality diagnoses with corresponding self and interpersonal functioning elements and traits from the new model. For each diagnosis, tendencies that may serve to challenge early collaboration building are presented, as well as points of possible engagement.

Cluster A

Cluster A—the so-called odd or eccentric cluster—comprises paranoid, schizoid, and schizotypal PDs. What is most relevant for alliance building is the profound impairment in interpersonal relationships associated with these disorders. Because there are often pronounced paranoid or alienated features, people with these characteristics often do not seek treatment unless dealing with acute symptom disorders such as substance abuse. There is evidence that patients with these disorders who do seek treatment have great difficulty establishing a working alliance (e.g., Lingiardi et al. 2005).

Paranoid

The "paranoid" label speaks largely for itself. Paranoid individuals are incessantly loaded for bear and see bears where others do not—that is, they are vigilantly on the lookout for perceived slights, finding offense in even the most benign of circumstances. Alliance-building challenges are obvious. However, it has also been noted that paranoid individuals are often acting in defense of an extremely fragile self concept and may possibly be reached over time in treatment with an approach that includes unwavering affirmation and careful handling of the many possible ruptures (Benjamin 1993).

TABLE 9–1. Alliance-relevant aspects of each personality disorder style

Personality disorder category	DSM-5 alternative model: self and interpersonal functioning	DSM-5 alternative model: traits	Alliance challenges	Points of possible engagement in treatment
Paranoid	*Identity:* Serious distortions in sense of self, which is organized around defending against perceived mistreatment (e.g., attacks on his or her character or reputation that are not apparent to others); dominant affect is reactive anger, which may be accompanied by aggression. *Self-direction:* Goals are reactive rather than proactive, oriented toward self-protection rather than productivity, and thus lack coherence and/or stability. Thoughts and actions may be confused, and capacity to reflect on internal experience is compromised by firmly held view that life is dangerous. *Empathy:* A self-focused perspective in the service of harm avoidance significantly compromises ability to appreciate and understand others' motivations and perceptions (e.g., frequently believes, without sufficient basis, that others are exploiting or deceiving him or her). *Intimacy:* Significantly limited by reluctance to confide in others because of unwarranted fear that the information will be used maliciously against him or her; relationships and even cooperative efforts are disrupted due to persistent, unjustified doubts about the loyalty or trustworthiness of friends or associates, including suspicions regarding fidelity of spouse or partner.	• Suspiciousness • Hostility	Expectations of harm or exploitation Hypersensitivity to perceived criticism Inclination to withdraw or attack	**Underlying need for affirmation:** Paranoia arises from patient's disowned aggression; ideas about harm and persecution are projected. Appreciating the patient's fundamental wish for safety and respect may help the therapist empathically find ways of connecting. Tolerance and nonretaliation of hostility are essential.

TABLE 9–1. Alliance-relevant aspects of each personality disorder style *(continued)*

Personality disorder category	DSM-5 alternative model: self and interpersonal functioning	DSM-5 alternative model: traits	Alliance challenges	Points of possible engagement in treatment
Schizoid	*Identity:* Rigid, idiosyncratic self-definition with overemphasis on independence from others; emotional expression is highly restricted. *Self-direction:* Personal goals are highly constrained and focused on pursuing solitary activities; little insight into own mental processes; greatly impaired prosocial motivation. *Empathy:* Significant deficits and disinterest in understanding others' experiences and perspectives, as well as effect of own behavior on others, associated with apparent indifference to mutual relationships. *Intimacy:* Does not manifest desire for close relations, including being part of a family; cooperative efforts may be minimal, based only on necessity to meet basic needs.	• Withdrawal • Intimacy avoidance • Restricted affectivity • Anhedonia	Social detachment Emotional aloofness	**Hidden neediness and sensitivity:** Therapist's tacit recognition of patient's deep-seated vulnerabilities, along with sensitive interventions, may create opportunity for building some trust. Therapist must tolerate patient's defensive distance.
Schizotypal	*Identity:* Confused boundaries between self and others; distorted self-concept; emotional expression often not congruent with context or internal experience. *Self-direction:* Unrealistic or incoherent goals; no clear set of internal standards. *Empathy:* Pronounced difficulty understanding impact of own behaviors on others; frequent misinterpretations of others' motivations and behaviors. *Intimacy:* Marked impairments in developing close relationships, associated with mistrust and anxiety.	• Cognitive and perceptual dysregulation • Unusual beliefs and experiences • Eccentricity • Restricted affectivity • Withdrawal • Suspiciousness	Suspiciousness / paranoia Profound interpersonal discomfort Bizarre thinking	**Possible motivation for human connection:** Therapist may become a key support for a person who lacks a social network. Helping the patient feel heard, appreciated, and understood in spite of off-putting presentation offers an experience different from daily encounters.

TABLE 9–1. Alliance-relevant aspects of each personality disorder style *(continued)*

Personality disorder category	DSM-5 alternative model: self and interpersonal functioning	DSM-5 alternative model: traits	Alliance challenges	Points of possible engagement in treatment
Antisocial	*Identity:* Egocentrism; self-esteem derived from personal gain, power, or pleasure. *Self-direction:* Goal setting based on personal gratification; absence of prosocial internal standards associated with failure to conform to lawful or culturally normative ethical behavior. *Empathy:* Lack of concern for feelings, needs, or suffering of others; lack of remorse after hurting or mistreating another. *Intimacy:* Incapacity for mutually intimate relationships, as exploitation is a primary means of relating to others, including by deceit and coercion; use of dominance or intimidation to control others.	• Manipulativeness • Callousness • Deceitfulness • Hostility • Risk taking • Impulsivity • Irresponsibility	Controlling Tendency to lie and manipulate No empathy or regard for others Use of pseudo-alliance to gain some advantage	**Possible attendance at treatment if in self-interest or if symptoms such as depression cause sufficient distress:** Points of engagement may at first be found in speaking to the patient's immediate personal benefit. It is important to communicate in a straightforward and honest manner, addressing reality, keeping a firm handle on frame issues such as session time and fee, and being consistent and nonpunitive.
Borderline	*Identity:* Markedly impoverished, poorly developed, or unstable self-image, often associated with excessive self-criticism; chronic feelings of emptiness; dissociative states under stress. *Self-direction:* Instability in goals, aspirations, values, or career plans. *Empathy:* Compromised ability to recognize the feelings and needs of others associated with interpersonal hypersensitivity (i.e., prone to feel slighted or insulted); perceptions of others selectively biased toward negative attributes or vulnerabilities. *Intimacy:* Intense, unstable, and conflicted close relationships, marked by mistrust, neediness, and anxious preoccupation with real or imagined abandonment; close relationships often viewed in extremes of idealization and devaluation and alternating between overinvolvement and withdrawal.	• Emotional lability • Anxiousness • Separation insecurity • Depressivity • Impulsivity • Risk taking • Hostility	Unstable emotional and cognitive states Extremely demanding Proneness to acting out	**Relationship seeking, responding to warmth and support:** Understanding the suffering, vulnerability, and inherent loneliness of patient with borderline problems can help therapist tolerate emotional storms and alliance ruptures. It is important to express ongoing appreciation of the patient's experience through communicating empathically and maintaining a supportive stance, and to assist the patient in reflecting on his or her thoughts, emotions, and needs.

TABLE 9–1. Alliance-relevant aspects of each personality disorder style *(continued)*

Personality disorder category	DSM-5 alternative model: self and interpersonal functioning	DSM-5 alternative model: traits	Alliance challenges	Points of possible engagement in treatment
Histrionic	*Identity:* Excessive dependence on physical appearance for identity definition; sense of self is lacking in detail and easily influenced by others or circumstances. *Self-direction:* Suggestibility leads to difficulty establishing and/or achieving enduring personal goals; impaired capacity to reflect on internal experience, as cognitions tend to be impressionistic and lacking in detail. *Empathy:* Excessive self-focus with limited ability to or interest in trying to appreciate or understand others' experiences, or to consider alternative perspectives. *Intimacy:* Personal relationships may be numerous but are largely superficial, and often are considered to be more intimate than they actually are.	• Attention seeking • Emotional lability • Manipulativeness	Attempts to charm and entertain Emotionally labile Unfocused cognitive style	**Relationship seeking, responding to warmth and support:** Therapist needs to appreciate the patient's fragile sense of self that leads to sometimes dramatic attempts to bolster self-esteem, along with a sense of obligation to charm and entertain. Therapist should adopt an empathic and supportive stance and gently assist the patient in learning to reflect on his or her thoughts, emotions, and needs.
Narcissistic	*Identity:* Excessive reference to others for self-definition and self-esteem regulation; exaggerated self-appraisal may be inflated or deflated, or may vacillate between extremes; emotional regulation mirrors fluctuations in self-esteem. *Self-direction:* Goal setting is based on gaining approval from others; personal standards are unreasonably high in order to see oneself as exceptional, or too low based on a sense of entitlement; often unaware of own motivations. *Empathy:* Impaired ability to recognize or identify with the feelings and needs of others; excessively attuned to reactions of others, but only if perceived as relevant to self; over- or underestimation of own effect on others. *Intimacy:* Relationships largely superficial and exist to serve self-esteem regulation; mutuality constrained by little genuine interest in others' experiences and predominance of a need for personal gain.	• Grandiosity • Attention seeking	Need for constant positive regard Contempt for others Grandiose sense of entitlement	**Response over time to empathy and affirmation:** Narcissistic problems stem from a significant impoverishment of the self that is coped with by looking to others for approval. Patience, affirmation, and empathic mirroring of the patient's experience are important components of the treatment.

TABLE 9–1. Alliance-relevant aspects of each personality disorder style *(continued)*

Personality disorder category	DSM-5 alternative model: self and interpersonal functioning	DSM-5 alternative model: traits	Alliance challenges	Points of possible engagement in treatment
Avoidant	*Identity:* Low self-esteem associated with self-appraisal as socially inept, personally unappealing, or inferior; excessive feelings of shame. *Self-direction:* Unrealistic standards for behavior associated with reluctance to pursue goals, take personal risks, or engage in new activities involving interpersonal contact. *Empathy:* Preoccupation with, and sensitivity to, criticism or rejection, associated with distorted inference of others' perspectives as negative. *Intimacy:* Reluctance to get involved with people unless being certain of being liked; diminished mutuality within intimate relationships because of fear of being shamed or ridiculed.	• Anxiousness • Withdrawal • Anhedonia • Intimacy avoidance	Expectations of criticism or rejection Proneness to shame and humiliation Reluctance to disclose information	**Response to warmth/empathy, desiring relationships in spite of vulnerabilities:** If the therapist is very cognizant of the patient's vulnerability to shame, a sensitive approach to discussing the patient's longing for connection may be effectively pursued. Patience must be employed toward the patient's reluctance to open up. Expressed appreciation of the patient's difficulties is important, and attunement to possible perceived slights is essential.
Dependent	*Identity:* Identity definition and emotion regulation are excessively dependent on the presence of reassuring others, frequently with compromised boundary delineation. *Self-direction:* Difficulty establishing, pursuing, or achieving personal goals without significant support from others; unable to make everyday decisions or to initiate or sustain projects without an excessive amount of advice or reassurance; need for others to assume responsibility for most major areas of his or her life. *Empathy:* Hyperattuned to the experience of others, but only with respect to perceived relevance to self; attention to others' perspectives is associated with excessive emphasis on fulfilling own needs; constantly monitors effect of own behavior on others for fear of loss of care, attention, or approval. *Intimacy:* Intimate relationships largely based on unrealistic expectations of being completely cared for by others; feelings about intimate involvement with others are centered around extreme fear of rejection and desperate desire for connection.	• Submissiveness • Separation insecurity • Anxiousness	No value placed on independence/taking initiative Submission leading to pseudo-alliance	**Friendly and compliant, and likely to stay in treatment:** The clinician should be aware that abandonment is feared above all else, and the patient is terrified of negative consequences of self-assertion. Careful encouragement of the patient in learning about his or her own thoughts and feelings is very important. Pushing the patient prematurely toward independence should be avoided, and it is crucial to monitor the patient's "going through the motions" of therapy merely to please.

TABLE 9–1. Alliance-relevant aspects of each personality disorder style *(continued)*

Personality disorder category	DSM-5 alternative model: self and interpersonal functioning	DSM-5 alternative model: traits	Alliance challenges	Points of possible engagement in treatment
Obsessive-compulsive	*Identity:* Sense of self derived predominantly from work or productivity; constricted experience and expression of strong emotions. *Self-direction:* Difficulty completing tasks and realizing goals associated with rigid and unreasonably high and inflexible internal standards of behavior; overly conscientious and moralistic attitudes. *Empathy:* Difficulty understanding and appreciating the ideas, feelings, or behaviors of others. *Intimacy:* Relationships seen as secondary to work and productivity; rigidity and stubbornness negatively affect relationships with others.	• Rigid perfectionism • Perseveration • Intimacy avoidance • Restricted affectivity	Need for control Perfectionistic toward self and others Fear of criticism from therapist Restricted affect Stubbornness	**Conscientious and will try to be a "good patient":** Clinicians should be tolerant of the patient's need for control and should resist becoming embroiled in power struggles or becoming a critical authority figure. A kind and playful acceptance of nonperfection may help the patient develop greater trust. Appreciate the patient's intellectualizing stance, while eventually gently encouraging consideration of emotions.

Schizoid

Benjamin (1993) noted that schizoid personality is consistently associated with a lack of desire for intimate human connection. She described that some people with schizoid character can be found living very conventional lives on the surface, having families, jobs, and so on. However, usually things are arranged such that people are kept at an emotional distance. There may also be a pronounced lack of conflict, with associated affective coldness or dullness, such that a truly schizoid person is unlikely to become anxious or depressed and thus is usually totally lacking any motivation to seek treatment. Nonetheless, Akhtar (1992) suggested that underlying all of this apparent detachment is an intense neediness for others and the capability of interpersonal responsiveness with a few carefully selected people. Patients who may have more access to these latter attributes have a greater likelihood of forming an alliance in therapy if they choose to seek treatment.

Schizotypal

Schizotypal phenomena are thought by some to lie on the schizophrenia spectrum, given the associated disordered cognitions and bizarre beliefs. Because it is almost always the case that individuals with such cognitions have one or no significant others outside family members, it is often assumed that schizotypal individuals have no desire to become involved in relationships. However, in many cases, it is more a matter of being excruciatingly uncomfortable around people than a lack of interest in connection. This discomfort may not be readily apparent, so establishing an alliance with such patients may require being attentive to clues about what is not being said. The therapist may be a player in some elaborated fantasy that is making it difficult for the patient to find some minimum level of comfort. Bender et al. (2003) assessed various attributes of how patients with PD think about their therapists. Interestingly, results showed that patients with schizotypal PD had the highest level of mental involvement with therapy outside the session, missing their therapists and wishing for friendship while also feeling aggressive or negative. One man with schizotypal PD (who had also become attached to the female research assistant) revealed the following view of his therapist:

> Very beautiful and attractive in a sense that I yearn to have a sexual relationship with her. She's very smart and educated. She knows what she wants out of life and I wish I were working for I could take her out to the movies and dinner. She turns me on and I desperately want to make love to her eternally. She's my life and knowing she doesn't feel the same, I live in dreams. (Bender et al. 2003, p. 231)

Cluster B

Cluster B, the "dramatic" cluster, includes antisocial, borderline, histrionic, and narcissistic PDs. Each of these character styles is associated in some way with pushing the limits, and great care is needed by clinicians to avoid crossing inappropriate lines in a quest to build an alliance. Thus, many patients with Cluster B PDs present some of the most daunting treatment challenges.

Antisocial

Antisocial personality is associated with ongoing violation of society's norms, manifested in such behaviors as theft, intimidation, violence, or making a living in an illegal fashion such as by fraud or selling drugs. Also narcissistic by definition, people with antisocial PD have little or no regard for the welfare of others.

Clearly, this PD is found extensively among inmates within the prison system. Stone (1993) suggested that there are gradations of the antisocial style, with the milder forms being more amenable to treatment. However, within the broader label of *antisocial* is a subset of individuals who are considered to be psychopathic. Those who are psychopathic are sadistic and manipulative pathological liars; show no empathy, compassion, or remorse for hurting others; and take no responsibility for their actions. The most dramatic form is manifested by individuals who torture or murder their victims. Those who perpetrate such violence reside on the extreme end of the spectrum of antisocial behavior and would be the most difficult to treat (see Chapter 20, "Antisocial Personality Disorder and Other Antisocial Behavior," in this volume for more detail).

In keeping with the notion that there is a spectrum of antisocial psychopathology, empirical evidence shows that some patients with antisocial PD are capable of forming a treatment alliance resulting in positive outcome (Gerstley et al. 1989). Consequently, it has been recommended by some that a trial treatment of several sessions be applied with these patients who may typically be assumed to be untreatable. However, there is always the risk that such patients, particularly within an institutional context (e.g., a hospital or prison), may exhibit a pseudo-alliance to gain certain advantages (Gabbard 2005). For example, there could be a disingenuous profession of enhanced self-understanding and movement toward reform as an attempt to manipulate the therapist into recommending inappropriate privileges.

There is some indication that depression serves as a moderator in the treatment of patients with antisocial PD. One study demonstrated that depressed patients with antisocial PD are more likely to benefit from treatment compared with nondepressed patients with antisocial PD (Shea et al. 1992). Thus, the presence of depression may serve as motivation for these patients to seek and comply with treatment.

Borderline

Kernberg (1967) described the borderline personality as being riddled with aggressive impulses that constantly threaten to destroy positive internal images of the self and others. According to this model, the person with borderline PD does not undergo the normal developmental process of psychological integration. Rather, as a defensive attempt to deal with aggression resulting from caregiver misattunements or failures, this person creates "splits" in the mind to protect the good images from the bad. This splitting leads to a fractured self concept and the identity problems associated with this disorder. Thus, a therapist can expect the alliance-building work to be rather rocky because these patients frequently exhibit pronounced emotional upheaval, self-destructive acting-out, and views of the therapist that alternate between idealization and denigration. Within relationships, such individuals are very needy and demanding, often straining the boundaries of the treatment relationship and exerting pressure on clinicians to behave in ways they normally would not. Research has demonstrated that such pressures can impair the clinician's ability to reflect on his or her mental states and those of the patient (Diamond et al. 2003). Furthermore, clinicians who work with such patients must be able to tolerate and productively discuss anger and aggression. However, because patients with borderline PD are, in most cases, relationship seeking, this is a positive indicator for engagement in treatment.

One treatment study of patients with borderline personality examined alliance development over time (Waldinger and Gunderson 1984). Psychodynamic psychotherapy was employed using largely noninterpretive interventions in the initial alliance-building period (the issue of intervention choice is discussed later in the section "Alliance Considerations Within Different Treatment Paradigms"). The authors observed that a strong alliance and good treatment outcome were linked to two factors: 1) a solid commitment by the participating therapist to remain engaged in the treatment until significant gains had been made by the patients and 2) special emphasis on facilitating the patients' expression of aggression and rage without fear of retaliation. Other studies that have undertaken detailed analysis of alliance ruptures in the treatment of patients with borderline PD have demonstrated the importance of the therapist vigilantly attending to the alliance (e.g., Bennett et al. 2006; Horwitz et al. 1996). As Horwitz et al. (1996) noted, "Clinical observation of our cases revealed that the repair of moment-to-moment disruptions in the alliance often was the key factor in maintaining the viability of the psychotherapy" (p. 173). Bateman and Fonagy (2012) have outlined specific techniques for maintaining the integrity of the alliance through tracking and responding to fluctuations in patients' mentalizing status—the ability to reflect on the mental and emotional states of self and others (see Chapter 10, "Psychodynamic Psychotherapies and Psychoanalysis," in this volume for more information on this approach to treatment).

Histrionic

An individual with histrionic personality needs to be the center of attention and may behave in seductive ways in an attempt to keep the clinician entertained and engaged. At the same time, emotional expressions are often shallow and greatly exaggerated, and the histrionic patient assumes a deep connection and dependence very quickly. Details are presented in vague and overgeneralized ways. There is very little tolerance for frustration, resulting in demands for immediate gratification. As opposed to the better integrated, higher-functioning, neurotic "hysterical personality" often written about in the psychoanalytic literature, the DSM histrionic PD organization more closely resembles the borderline personality organization. Particular borderline aspects include a tendency to use splitting defenses, rather than repression, and a marked degree of identity diffusion (Akhtar 1992). The attention-seeking attribute can be helpful in establishing a preliminary alliance. However, with patients with histrionic pathology, as with patients with borderline pathology, the clinician must be prepared to manage escalating demands and dramatic acting-out.

Narcissistic

Narcissistic character traits have received considerable attention in the clinical literature. Kohut (1977) described individuals in whom there is a fundamental deficit in the ability to regulate self-esteem without resorting to omnipotent strategies of overcompensation or overreliance on admiration by others. People who are narcissistically vulnerable have difficulty maintaining a cohesive sense of self because of ubiquitous shame, resulting from a sense that they fundamentally fall short of some internal ideal. They look for constant reinforcement from others to bolster their fragile self-images. This combination of traits has been referred to alternatively as *vulnerable*, *deflated*, or *covert narcissism.*

On the other side of the narcissistic "coin"—what the DSM-5 Section II narcissistic PD diagnosis captures—are tendencies toward intense grandiosity, and attempts to maintain self-esteem through omnipotent fantasies and defeating others. Needing others is defended against by maintaining fusions of ideal self, ideal other, and actual self-images. Thus, there is an illusion maintained whereby this manifestation of narcissism is associated with a sense that because he or she is perfect, love and admiration will be received from other "ideal people," and thus there is no need to associate with inferiors. In its most extreme form, this manifestation of character pathology has been referred to as *malignant narcissism* (Kernberg 1984).

It is important to note that narcissism is not necessarily exhibited in distinctive or rigid inflated or deflated types (Bender 2012; Levy 2012). Self-esteem oscillation is associated with pathological narcissism more generally, and both grandiose and vulnerable styles can be observed within the same individual. Moreover, there is evidence that narcissistic difficulties are dimensional—that is, they vary in severity or degree—and are present across all PDs (Morey and Stagner 2012).

In any event, it is obvious that narcissistic personality traits pose significant challenges in alliance building (Ronningstam 2012). It is often the case that the patient will need to keep the therapist out of the room, so to speak, for quite a long time by not allowing the therapist to voice anything that represents an alternative view to that of the patient's. For such patients, other people, including the therapist, do not exist as separate individuals but merely as objects for gratifying needs. The clinician must tolerate this state of affairs, at times for a lengthy period of time. As Meissner (1996) observed, "Establishing any degree of trust with such patients may be extremely difficult, but not impossible, for a consistent respect for their vulnerability and a recognition of their need not to trust may in time undercut their defensive need" (p. 228).

Cluster C

Cluster C, the "anxious or fearful" cluster, comprises avoidant, dependent, and obsessive-compulsive PDs. Individuals whose personality functioning is most closely characterized by Cluster C disorders are emotionally inhibited and averse to interpersonal conflict and are often considered to be the treatable "neurotics" on the spectrum of PDs. These patients frequently feel very guilty and internalize blame for situations even when it is clear there is none. This latter tendency often facilitates therapeutic alliance building, because the patient is willing to take some responsibility for his or her dilemma and will somewhat more readily engage in a dialogue with the therapist to sort it all out, compared with patients with more severe Cluster A or B diagnoses (Stone 1993).

Avoidant

The individual with avoidant personality is extremely interpersonally sensitive, afraid of being criticized, and constantly concerned about saying or doing something foolish or humiliating. In spite of an intense desire to connect with others, an avoidant person does not let anyone get close unless absolutely sure the person likes him or her. Because of this acute sensitivity, there is some evidence that some patients with avoidant personality are somewhat difficult to retain in treatment. One study showed that patients with avoidant PD were significantly more likely than patients with ob-

sessive-compulsive PD to drop out of a short-term supportive-expressive treatment (Barber et al. 1997). Clinicians who work with patients with avoidant personality need to be constantly mindful of the potentially shaming effects of certain comments but can also work with the patients' underlying hunger for attachment to enlist them in building an alliance.

Furthermore, preliminary evidence supports the notion that at least some patients diagnosed with avoidant PD are actually better characterized as demonstrating vulnerable narcissist tendencies. These patients covertly crave admiration to bolster their fragile self-esteem and secretly or unconsciously feel entitled to it rather than simply being afraid of not being liked or accepted (Dickenson and Pincus 2003). Gabbard (2005) referred to this style as *hypervigilant narcissism*, emphasizing extreme interpersonal sensitivity, other-directedness, and shame proneness aspects. An underlying unrecognized narcissism in avoidant PD has significant treatment implications, changing the nature of the forces affecting the alliance as well as shaping the types of treatment interventions that are indicated.

Dependent

Fearing abandonment, individuals with dependent personality tend to be very passive, submissive, and needy of constant reassurance. They go to great lengths not to offend others, even at great emotional expense, agreeing with others' opinions when they really do not or volunteering to do unsavory chores to stay in someone's good graces. In the context of treatment, patients with dependent PD are easily engaged, at least superficially, but often withhold a great deal of material for fear of alienating the therapist in some way. The following is an example of how this might play out:

> A patient [with dependent PD] was chronically depressed, and the doctor tried her on a new antidepressant. She did not improve and had a number of side effects, but did not mention them to the doctor. Fortunately, the doctor remembered to ask for the specific side effects. The patient acknowledged the signs, and the doctor wrote a prescription for a different antidepressant. The patient was willing to acknowledge the signs of problems…, but she did not offer the information spontaneously. The doctor asked her why she did not say anything. She explained, "I thought that maybe they were just part of the way the drug worked.… I figured you would know what was best." (Benjamin 1993, p. 405)

Benjamin (1993) also observed that one difficulty in working in psychotherapy with such patients is the reinforcement gained by the patient's behavior. That is, because the passivity and submissiveness usually result in being taken care of, despite the associated cost, patients with dependent personality are loath to see the value in asserting some independence. Furthermore, there is a deeply ingrained assumption by these patients that they are actually incapable of functioning more independently and that being more assertive will be experienced by others as alienating aggressiveness. Thus, a therapist must be very alert to the withdrawal types of strains and ruptures, such as withholding information, and to the challenge to the alliance that may occur when the therapist attempts to encourage more independence.

Obsessive-Compulsive

The obsessive-compulsive character is associated with more stable interpersonal relationships than some other styles, but typical defenses are centered on repression, with patterns of highly regulated gratification and ongoing denial of in-

terpersonal and intrapsychic conflicts (Shapiro 1965). Self-willed and obstinate, with a constant eye toward rules and regulations, individuals with obsessive-compulsive attributes guard against any meaningful consideration of their impulses toward others. Maintaining control over internal experience and the external world is a top priority, so rigidity is often a hallmark of this character type. Except in its most severe manifestations, obsessive-compulsive character pathology is less impairing than some of the others and more readily ameliorated by treatment. Although stubborn and controlling and averse to considering emotional content, individuals with obsessive-compulsive PD also generally try to be "good patients" and therefore can be engaged in a constructive alliance that is less rocky than that with patients who have other types of PD.

Case Example 1

Quentin, a 25-year-old graduate student in philosophy, began twice-weekly psychotherapy. His presenting complaint was difficulty with completing work effectively, particularly writing tasks, due to excessive anxiety and obsessionality (he met criteria for obsessive-compulsive PD and generalized anxiety disorder). When he came for treatment, he was struggling to make progress on his master's thesis. Although Quentin socialized quite a bit, he reported that intimate relationships often felt "wooden." He was usually overcommitted, with an endless list of "shoulds" that he would constantly mentally review and that triggered thoughts of how much he was failing to satisfy his obligations. A central theme throughout treatment was his tendency to be self-denigrating, loathing himself as a person deserving of punishment in some way yet being extremely provocative (sadomasochistic trends). He also held very strong political beliefs, sure that his way of viewing things was superior to that of others.

Establishing a productive alliance with Quentin was not easily accomplished at first. In the early phase of treatment, he was extremely controlling and challenging in sessions, talking constantly and tangentially, often losing the core point of his statements because of a need to present excessive details. Any statement the therapist made was experienced as an intrusion or interruption. For example, if the therapist attempted to be empathic using a word Quentin had not used, such as saying, "That sounds difficult," he would respond, "Difficult? I don't know if I'd choose the word difficult. Challenging, maybe, or daunting, but not difficult." Thus, for a number of months in the initial phase of the treatment, the therapist chose her words carefully, which eventually paved the way for increased dialogue about his problems. Quentin also began to tolerate a discussion of his emotional life, a topic that previously had been very threatening to him.

Quentin's case is also an example of the limitations of categorical diagnosis. Although Quentin's personality functioning ostensibly meets the diagnostic criteria for obsessive-compulsive PD, there are also clear indications of narcissistic disturbance. His problems tolerating his therapist's presence and interventions and his unreasonably high personal standards are consonant with a narcissistic level of personality functioning.

Sadomasochistic Character

Cases in which difficult patients take a prominent role in orchestrating situations to sabotage a potentially helpful treatment are ubiquitous in the clinical literature. This type of dynamic points to an additional element commonly overlooked

in treatments in general but of particular relevance when trying to establish and maintain an alliance with patients with character pathology: sadomasochism (Drapeau et al. 2012; Rosegrant 2012). Most dramatically overt in patients with borderline, narcissistic, and/or antisocial issues, relational tendencies that range from tinged to saturated by sadomasochistic trends span the spectrum of PD pathology. The presence of sadomasochistic patterns means not that overt sexual perversions will be present, although they may be, but rather that the patient has characteristic ways of engaging others in a struggle in which one party is suffering at the hands of the other. Patients with a sadomasochistic approach to relationships make it very difficult for the clinician working in any modality to be a helpful agent of change. Furthermore, it is sometimes the case with such patients that at the foundation of the alliance is a very subtle, or not so subtle, sadomasochistic enactment.

For example, a patient may, on the surface, be agreeing with the therapist's observations but is actually experiencing them as verbal assaults while masochistically suffering in silence and showing no improvement in treatment. Another patient may be highly provocative, attempting to bait the therapist into saying and doing things that may prove to be counterattacks. There are also patients who act out in apparently punishing ways, such as by attempting suicide, using a newly prescribed medication, when it seemed as though the treatment had been progressing.

Bach (1994) described a sadomasochistic way of relating as arising as "a defense against and an attempt to repair some traumatic loss that has not been adequately mourned" (p. 4). This trauma could have come in the form of an actual loss of a parent, loss of love as a result of abuse or neglect, or some experience of loss of the self due to such things as childhood illness or circumstances leading to overwhelming anxiety. From this perspective, the cruel behavior of the sadist may, for instance, be an attempt to punish the object for threatened abandonment. The masochistic stance involves a way of loving someone who gives ill treatment—the only way of maintaining a connection is through suffering. Early in development, this way of loving is self-preservative—the sadism of the love object is turned upon the self as a way of maintaining a needed relationship. However, in an adult, this masochistic solution, with its always-attendant aggressive-sadistic elements, serves to cause significant interpersonal dysfunction.

Case Example 2

Elena, a single woman in her 40s, was referred for psychotherapy after she had gone to see four or five other therapists, staying with each for no more than several sessions because she found them all to be incompetent in some way. An avid reader of self-help literature, she considered herself an expert on the helping professions. Highly intelligent and extremely articulate, Elena was aspiring to be a filmmaker. She had gone through a series of "day jobs" with corporations, reporting that her women supervisors were predictively untalented, unreasonable, and critical of her. Her interpersonal relations were always tumultuous, her moods were very unstable, and it was apparent that she had been grappling with narcissistic and borderline PD issues for decades.

Sadomasochistic trends became apparent very quickly. In the first meeting, Elena launched the first of many critiques, reporting that she had found the therapist's greeting to be too upbeat but then also criticizing the therapist for not reassuring her that she would have a successful treatment. She ultimately announced that the

> therapist was "gifted," so she would continue with this treatment, but there were many sessions in which she would find fault or deliver lectures on technique and theory. At the same time, she was extremely brittle and incapable of reflecting on this type of behavior, feeling as a victim if there was any vague hint that she might be doing something questionable. Thus, while attacking the therapist, she was doing it in the service of collecting grievances. (As Berliner [1947] observed about such patients, she "would rather be right than happy" [p. 46].) Hence, both the sadistic and masochistic sides of the same coin were in evidence.

With patients such as Elena, it is very important to be able to tolerate the expression of aggression. Consequently, to maintain an alliance with this very difficult woman, the therapist had to constantly assess whether the attacks represented a rupture in the alliance that had to be addressed or whether Elena simply needed to give voice to some of her tremendous anger at the world. When judging that the alliance was in jeopardy, the therapist would discuss Elena's reaction to the therapist's interventions, acknowledging Elena's distress and telling Elena that the therapist would reflect on what had led the therapist to make the comments that had upset Elena. Elena usually found great relief in this approach, appreciating the therapist's willingness to reflect on the situation.

What is central is that the therapist withstood being portrayed as bad or incompetent in the patient's mind without retaliating as though it were true. If the therapist had had a different psychology, it would have been rather easy to take up the role of sadist, perhaps wrapped in the flag of "interpreting the patient's aggression"; however, Elena and this therapist were a good match, because such retributive behavior would have been a sadomasochistic enactment and would have caused Elena to take a hasty departure.

Alliance Considerations Within Different Treatment Paradigms

Clearly, no matter what treatment paradigm one adopts for working with patients who have PD, attention to the alliance is of utmost importance. Thoughts and feelings on the part of the therapist must be monitored closely, because interactions with many patients may often be provocative, inducing reactions that must be carefully managed. (See Chapter 17, "Boundary Issues," in this volume for a discussion of some of the most serious consequences of treatments gone awry.) Although this topic is usually discussed as countertransference in the psychoanalytic/psychodynamic tradition, it is also quite applicable across all treatments (Gabbard 1999).

Treatment approach and technique must be flexible so that interventions can be made appropriate to each individual patient's style. Otherwise, the alliance may be jeopardized and the patient will not benefit or may leave treatment altogether. For example, Spinhoven et al. (2007) found an interaction between alliance and therapeutic techniques that influence course and outcome in a group of patients with borderline PD. Furthermore, it is likely that noticeable improvements in symptoms and functioning in patients with PDs will require a significantly longer period of treatment than is required for patients with no character pathology. Although the application of specific treatment approaches is dis-

cussed at length in other chapters of this book, it is worth mentioning here a few alliance-relevant considerations pertaining to each broad treatment context.

Psychodynamic Psychotherapies and Psychoanalysis

One long-standing issue within the psychodynamic psychotherapy tradition involves the application of particular techniques. Interpretation of the transference was long considered the heart of the psychoanalytic approach. However, as the application of this treatment evolved and clinicians gained more experience with more disturbed patients—most notably those with borderline and narcissistic trends—it became apparent that in many cases, transference interpretations with such patients were often counterproductive. Refraining from making deep, interpretive interventions early on is consistent with notions of writers such as Winnicott (1965) and Kohut (1984), who asserted that certain patients cannot tolerate such interpretations in the initial phase of treatment.

Gabbard (2005) stressed the importance of understanding that there is usually a mixture of supportive and expressive (interpretive) elements in every analysis or psychodynamic psychotherapy. That is, the expressive, insight-oriented mode of assisting patients in uncovering unconscious conflicts, thoughts, or affects through interpretation or confrontation may be appropriate at times, whereas a more supportive approach of bolstering the patient's defenses and coping abilities is preferable in other circumstances.

For instance, it may be difficult to focus on more insight-oriented interventions with a patient with borderline impairments until that patient is assisted in achieving a safe, more stable alliance. Similarly, the patient with severe narcissistic impairment may not be able to accept the analyst's interpretations of his or her unconscious motivations for quite a long time, so that supportive, empathic communications may be more effective interventions in building an alliance by helping the patient feel heard and understood. Conversely, some obsessional patients may benefit earlier in treatment by interpretations of the repressed conflicts that may underlie the symptoms.

The results of the Psychotherapy Research Project of The Menninger Foundation, which included patients with PDs, led Wallerstein (1986) to conclude that both expressive and supportive interventions can lead to character change. At the same time, there is empirical evidence supporting the notion that a fairly solid alliance must be present to effectively utilize transference interpretations per se. Bond et al. (1998) demonstrated with a group of patients with PDs in long-term treatment that for those patients whose alliance was weak, transference interpretations caused further impairment to the alliance. Conversely, when already solidly established, the alliance was strengthened by transference interpretations. At the same time, supportive interventions and discussions of defensive operations resulted in moving the therapeutic work forward with both the weak- and strong-alliance patient groups.

These findings are consistent with a study conducted by Horwitz et al. (1996) exploring the effect of supportive and interpretive interventions on the therapeutic alliance with a group of patients with borderline PD. The authors concluded that although therapists are often eager to pursue transference interpretations, such interventions are "high-risk, high-gain" and need to be employed carefully. These

interventions may damage the alliance with patients who are vulnerable and prone to feelings of shame and humiliation. Therefore, the therapist must be flexible in adjusting technique according to the dynamics of a particular patient at a particular time, taking into account the patient's capacities and vulnerabilities, and appropriately balance both supportive and expressive interventions.

Case Example 3

Rebecca sought treatment when she was in her early 30s. She was referred for psychotherapy from her graduate school's counseling center. Rebecca presented in a major depressive episode and met eight out of nine criteria for borderline PD. The initial phase of the twice-weekly psychodynamic treatment focused on her depression and on helping her to stabilize her sometimes devastating affective instability. She also reported intermittent, but not life-threatening, instances of cutting herself, particularly after some unsatisfactory encounter with a friend or colleague.

Rebecca's lack of object constancy, her affective instability, and a fragmented sense of self contributed to great variations in the nature of her presence in sessions. At times she would be overwhelmed by fatigue, whereas at other times she would be engaging, funny, and analytical. She would often defend against undesirable thoughts or emotions by spending the session recounting the details of her day-to-day life in great detail. The disjunctions in self-states made it difficult at times to maintain continuity in the process, because Rebecca did not remember what happened from session to session.

A Kernbergian formulation (Kernberg 1967) of this patient was theoretically informative in describing some of her dynamics (defensive splitting had been one prominent theme in the treatment). However, the technical implications of this particular approach, with its direct confrontation of aggression in the transference early in the treatment (Kernberg 1987), would have endangered the sometimes fragile working alliance being forged. In fact, a few times when transference interpretations were attempted in the first phase of treatment, Rebecca became confused and distressed, quickly changing the subject away from a discussion of her relationship with the therapist, talking about ending treatment, or becoming very sleepy and shut down for several sessions. On one occasion early on, when the therapist attempted to address something in their relationship, Rebecca became very angry and said, "Why is any of this about here? These are my problems and I don't see what any of this has to do with you!" (Clearly, in the beginning phase of treatment with some patients, one needs a different way of entering the patient's psychic world [Ellman 1998b].) However, Rebecca was responsive to gentle interpretations of her defenses, such as the therapist's pointing out to her that her self-harm behaviors were a way of "being mean" to herself instead of channeling anger toward those who had upset her.

Thus, for most of the first 3–4 years of this treatment, the therapist's primary tasks were to develop a working alliance and establish a "holding environment" (Winnicott 1965) within which Rebecca could begin to feel safe to explore her history, her feelings, and her own mind. This approach paid off, because it eventually became possible to uncover, in ways that were meaningful and transformative to Rebecca, some of the split-off rage and despair underlying the identity instability and distorted cognitive functioning. Deeper experience and exploration of these feelings paved the way for further integration and less disjunctive experiences in her life and from session to session, and working with the transference increasingly became both possible and very productive. Rebecca has not been depressed for years and no longer meets any borderline criteria.

Cognitive-Behavioral Therapies

In recent years, work has been done to apply to PDs the cognitive and cognitive-behavioral treatments that have typically been used to treat symptoms such as depression and anxiety. However, Tyrer and Davidson (2000) observed that the approaches generally taken in these therapies for "mental state disorders" cannot be simply transferred to treating PDs without certain adjustments. Most cognitive and cognitive-behavioral therapies are based prominently on a therapist-patient collaboration that is assumed to be present from very early in the treatment. Such a collaboration, which revolves around the patient undertaking specific activities and assignments, depends on the establishment of a solid working alliance; however, it is sometimes very difficult to engage certain patients with PDs in the therapeutic tasks. Facilitating this alliance with patients with PDs requires work that directly addresses patient-therapist collaboration with clearly set boundaries and that focuses on the therapeutic relationship itself when appropriate, as well as lengthier periods to complete these treatments (Tyrer and Davidson 2000).

For example, regarding the use of the initial sessions of dialectical behavior therapy to begin establishing a working relationship, Linehan (1993) observed, "These sessions offer an opportunity for both patient and therapist to explore problems that may arise in establishing and maintaining a therapeutic alliance" (p. 446). Even though dialectical behavior therapy is a manualized treatment with clearly elaborated therapeutic tasks, it is quickly evident, particularly in working with patients with borderline PD, that a great deal of flexibility must be maintained within this paradigm to achieve an alliance (see Chapter 12, "Cognitive-Behavioral Therapy II: Specific Strategies for Personality Disorders," in this volume). More specifically, there may be frequent occurrences of therapy-interfering behaviors ranging from ambivalence causing missed sessions to multiple suicide attempts that prevent the treatment from progressing as the method outlines.

Case Example 4

Lourdes, a young woman with dependent PD, was referred for behavioral treatment of a phobia of all forms of transportation (her other issues were already being addressed in an ongoing psychotherapy). The behavioral therapist spent several sessions with Lourdes outlining the exposure techniques recommended for treating her phobia, but the patient was resistant to beginning any of the activities described. At the same time, while trying to pursue a classically behavioral approach, the therapist realized that it was very important for Lourdes to spend some of the time talking about her life and the impact the phobia symptoms had for her. This approach helped Lourdes to feel a connection to the therapist. The therapist made this relationship-building aspect explicit with Lourdes by agreeing to take a part of each session to talk about her situation, but the therapist also made it clear that it was necessary to reserve enough time for the exposure activities. This approach fostered an alliance sufficiently to begin the behavioral tasks. By being flexible, while setting clear tasks and boundaries, the therapist was able to engage Lourdes in the treatment, and she began taking short rides with the therapist on the bus, eventually overcoming these fears completely.

Psychopharmacology Sessions

One large-scale depression study (Krupnick et al. 1996) comparing several different psychotherapies with medication and placebo showed that the quality of the alliance was significantly related to outcome for all of the study groups. This finding demonstrates the importance of considering the alliance not only in psychotherapies but also in medication sessions. Gutheil (1982) suggested that there is a particular aspect of the therapeutic alliance—what he calls the *pharmacotherapeutic alliance*—that is relevant to the prescription of medications. In this formulation of the alliance, it is recommended that the physician adopt the stance of *participant prescribing*—that is, rather than adopting an authoritarian role, the clinician should make every effort to involve the patient as a collaborator who engages actively in goal setting and in observing and evaluating the experience of using specific medications. Such collaboration, like other therapeutic processes, may be affected by the patient's transference distortions of the clinician.

This notion of collaborative prescribing can be more broadly applied in transtheoretical terms to PDs, because it is appropriate to consider how the patient's characteristic style may influence his or her attitudes and behaviors toward taking psychiatric medications. Some patients may become upset if medication is not prescribed, feeling slighted because they think their problems are not being taken seriously. Others with paranoid tendencies may think the physician is trying to put something over on them, or worse. Some patients who are prone to somaticizing, such as those with borderline or histrionic tendencies, might be hypersensitive to any possible side effects (real or imagined) and argue with the prescriber about his or her competence. The following is another example illustrating the importance of being mindful of how patients with PD might react around issues of medication.

> A patient [with avoidant PD] overdosed one evening on the medicine her doctor had prescribed for her persistent depression. She liked and respected him a lot. She was discovered comatose by a neighbor who wondered why her cat would not stop meowing. The neighbor was the patient's only friend. It turned out that that morning her doctor had wondered aloud whether she had a personality disorder. The patient was deeply humiliated by that idea but secretly agreed with it. She felt extremely embarrassed and was convinced that her doctor now knew she was a completely foolish person.... Rather than endure the humiliation of facing him again, she decided to end it all. (Benjamin 1993, p. 411)

Psychiatric Hospital Settings

Across the spectrum of PDs, psychiatric hospitalizations—both inpatient and day treatment programs—are most common for those patients with borderline PD (Bender et al. 2001). The central consideration regarding the alliance in this treatment context is that there is always a team of individuals responsible for the patient. With patients who have borderline issues, splitting tendencies frequently are quite pronounced. That is, as a way of trying to cope with inner turmoil, the patient's mental world is often organized in black-and-white, good-and-bad polarities, and through complicated interaction patterns with various staff members, this internal world is over time replayed externally, dividing staff member against staff member.

Gabbard (1989) observed that this dynamic is often set up because the patient will present one self-representation to one or several team members and a very different representation to another. One of these staff factions may be viewed as the "good" one by the patient and the other as the "bad" one—although these designations can flip precipitously in the patient's mind—and this split becomes enacted among team members as they begin to work at cross-purposes. It can be seen rather readily that trying to develop a constructive alliance with such a patient can be extremely precarious, particularly given the ever-decreasing length of hospital stays under managed care. That means that communication and close collaboration among the members of the team are vital during every phase of the hospital treatment.

Matters are complicated further at times by the need to find a productive way for hospital staff to collaborate with clinicians providing ongoing outpatient psychotherapy and/or psychopharmacology treatments. Although the hospitalization may represent a significant rupture in the outpatient treatment alliance, this rupture does not necessarily indicate that the outpatient treatment was ineffective and must be terminated but rather demonstrates that work will be needed to reestablish the continuity of the treatment relationship. However, it is not uncommon for the hospital staff, seeing the patient's current condition, to conclude that the outpatient clinicians were somehow not doing a competent job (this conclusion may, of course, be fueled by further splitting on the part of the patient). Moreover, at times it may be obvious that the outpatient treatment was inadequate or inappropriate. In any event, it becomes rather dicey for all parties concerned to sort out the proper role of hospital staff versus outpatient staff over the course of the inpatient or day treatment program.

Case Example 5

Meghan, a young woman with borderline PD, was admitted to a psychiatric inpatient unit after coming to the emergency department reporting acute suicidal ideation. This patient had been hospitalized several times previously, worked in the mental health field, and "knew the ropes" quite well. She had been assigned a psychiatrist who was responsible for overall case management and a psychologist who was to provide short-term psychotherapy on the unit.

The initial psychotherapy session was extremely difficult, with Meghan refusing to speak very much and regarding the therapist with rageful contempt. However, after several more encounters, there was some softening by Meghan and she began to discuss the upsetting circumstances that led to her hospitalization. It appeared there might be the beginnings of a working alliance. Indeed, as she opened up more about her life, she reported feeling slightly more hopeful and less fragmented.

However, at the same time, she had created quite a bit of trouble with the rest of the staff by being very demanding and uncooperative and attempting to initiate discharge procedures even while refusing to deny that she would kill herself. Having reached a point of needing to take some action in the courts to keep Meghan hospitalized, the psychiatrist hastily called a meeting that included himself, the psychologist, and the patient. Having had no opportunity to confer with other team members on the matter, the psychiatrist proceeded to tell Meghan that he was initiating legal proceedings to keep her in the hospital. Mindful of the splitting tendencies of such patients, the psychiatrist was careful to make it clear that he represented the viewpoint of the entire team, including the psychologist. However, he unwittingly

created another split. Meghan, feeling betrayed, stared hatefully at the psychologist, the fragile working alliance was shattered, and she subsequently refused to participate in psychotherapy or any other therapeutic activities for the rest of the hospitalization. It is possible this rupture could have been ameliorated had there been adequate consultation among treatment team members so that a less alienating approach could have been formulated.

Conclusion

Establishing an alliance in any treatment paradigm requires a great deal of empathy and attunement to a patient's way of seeing the world. Attention to alliance building is even more important when working with patients with PDs, because these individuals present with problematic self-assessments linked with disturbed patterns of interpersonal relations. Research has shown not only the importance of building an alliance but also the vital role this alliance plays in the earliest phase of treatment. One cannot rigidly pursue the dictates of one's treatment paradigm without being prepared to make frequent adjustments to address the various ruptures that may occur. Gleaning clues from the patient's accounts of his or her relationships can serve to guide the clinician's general interpersonal stance. Furthermore, monitoring the therapeutic alliance in response to clinical interventions is a useful way to assess the effectiveness of one's approach and is informative in determining appropriate adjustments in the style and content of the therapist's interactions with the patient.

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CHAPTER 10

Psychodynamic Psychotherapies and Psychoanalysis

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Psychodynamic means "the mind in motion." *Psychodynamic psychotherapy* refers to psychotherapies that stem from the psychoanalytic tradition and focus on the role of conflicting forces within the mind—competing desires, impulses, emotions, fears, and prohibitions—and their interface with external reality as sources of suffering and symptoms. The psychoanalytic tradition centers on the understanding of the mind elaborated initially by Freud (1923/1961) that emphasizes the role of unconscious aspects of mental functioning and the interaction of constitutional biological predispositions and environmental influences in the course of psychological development. As psychoanalysis evolved, its focus shifted to character pathology (Gabbard 2005a). More recently, with the emphasis on evidence-based treatments, models of psychodynamic therapy to treat specific types of personality disorder (PD) have been developed and researched (Bateman and Fonagy 2012; Clarkin et al. 2006). As the field continues to evolve, the dialogue between evidence-based models and clinical analytic practice is enriching both.

In this chapter, we summarize psychoanalytic and psychodynamic concepts and describe psychoanalysis and different models of psychodynamic psychotherapy for PDs. Although psychoanalysis historically preceded the psychodynamic therapies, we begin with discussion of the latter because some have been developed specifically to address the challenges of working with patients with PDs. As the field evolves, the bound-

ary between psychoanalysis and psychodynamic therapies is becoming less precise.

Shedler (2010) listed how psychodynamic therapy differs from other therapies. In the following description, we borrow from and add to his list: psychoanalysis and the psychodynamic therapies are characterized by 1) an emphasis on the role of unconscious mental forces (e.g., urges, fantasies, prohibitions) and the notion that an individual's conscious mind is only a slice of his or her mental activity and that unconscious forces influence the individual's feelings, thoughts, and actions in ways beyond his or her awareness; 2) an emphasis, to varying degrees, on the past and development—as filtered through and registered in the mind—as determining the individual's experience of the present; 3) a focus on affect and expression of emotion; 4) exploration of attempts to avoid distressing feelings and thoughts; 5) identification of recurring themes and patterns; 6) a focus on interpersonal relations; 7) a focus on the therapy relationship; 8) exploration of fantasy life; and 9) the goal of deep change in the personality to improve the overall quality of the patient's life experience beyond symptom change.

Psychodynamic therapies vary along a number of dimensions. First, these variations reflect the fact that the categorization of therapies into distinct models, such as psychodynamic and cognitive-behavioral, is somewhat artificial because most therapists practicing dynamic therapy include some elements of cognitive-behavioral therapy (CBT), and vice versa (Ablon and Jones 2002). Second, some psychodynamic therapies, such as self psychology and the intersubjective-interpersonal approaches, are more open-ended and unstructured and thus seem closer to psychoanalysis per se. Others, such as contingency contracting, are more structured in a way that might seem to include elements of CBT. Across these variations, the principles of technical intervention within a psychoanalytic framework are 1) interpretation, 2) transference analysis, 3) a technically neutral stance, and 4) use of countertransference awareness. Psychoanalysis and the different forms of psychodynamic therapy can be categorized according to the degree to which they employ each of these four technical principles (O.F. Kernberg, personal communication, November 2012). One can also consider a spectrum across psychodynamic therapies from those that stress the importance of verbal communication and interpretation as the motor of change to those that emphasize the experience of a containing and reflective relationship as the main element in change (Gabbard and Westen 2003; Winnicott 1965).

The development of a model of therapy is closely linked to the conceptualization of the disorder to be treated, yet the concept of PD is complex and controversial. Personality can be thought of in terms of a set of personality traits (McCrae and Costa 1997) or in terms of a style of processing information (Mischel and Shoda 1995). PDs can be conceptualized categorically or dimensionally. The categorical approach to classification, which has continued from DSM-IV (American Psychiatric Association 1994) to DSM-5 Section II, "Diagnostic Criteria and Codes" (American Psychiatric Association 2013), has led to considerable overlapping of diagnostic categories, comorbidity, and use of the personality disorder not otherwise specified diagnosis. An alternative approach is found in the *Psychodynamic Diagnostic Manual* (PDM Task Force 2006). The DSM-5 Work Group on Personality and Personality Disorders developed broad-ranging changes that are included in DSM-5 Section III, "Emerging

Measures and Models," as an alternative model for additional study. In this model, impairments in self and interpersonal functioning constitute the core of personality psychopathology (American Psychiatric Association 2013). The model emphasizes consideration of the level of personality functioning as essential to the understanding of an individual's PD, using the Level of Personality Functioning Scale as its measure for assessing severity of impairment. This understanding is compatible with Kernberg's (1984) long-standing structural model of PDs, a model that is based on psychoanalytic concepts and guides treatment techniques according to the level of the pathology (Bender et al. 2011). The model will be discussed below in the subsection "Object Relations Theory." Of course, the conceptualization of the disorder has an impact on treatment approach, such as whether one addresses symptoms more directly or focuses on underlying processes.

In the overall field of psychotherapy, since the 1990s there has been an increasing emphasis on evidence-based treatments. There exists a misunderstanding that the body of evidence for CBT treatments far outweighs that for psychodynamic treatments. A series of meta-analyses (see Shedler 2010 for a review) has corrected that misunderstanding. The current emphasis on evidence-based treatments has important implications for students of therapy. This emphasis has intensified divisions in the field of psychotherapy between researchers and clinicians. Some researchers have raised questions about the neglect of science by practitioners (Baker et al. 2008). Some clinicians have experienced researchers as imposing findings from studies that do not represent real-world clinical settings and have called for more clinically relevant research. Among psychotherapy researchers, there are divisions between those who narrowly construe evidence as consisting of findings exclusive to randomized controlled trials (Chambless and Ollendick 2001) and those who seek to broaden what is considered evidence to a range of findings from diverse data (see Norcross 2011). These researchers point out that narrow conceptions of evidence usually include nongeneralizable samples in which patients lack the complexity usually experienced in psychotherapy practice (Westen and Morrison 2001). Another area of tension within psychotherapy research is the use of treatment manuals. Some researchers criticize manuals for promoting rigid therapies that do not respect either the complexity of the patient as an individual or therapy as a process unique to each patient-therapist dyad. These authors tend to espouse clinically based models of treatment that are difficult to study empirically because they are not manualized. Arguments for manualizing a treatment, in addition to its providing systematic guidelines for therapists, include that it makes it possible to demonstrate adherence to the model across therapists. Some applaud this, saying it leads to clearer and more effective delivery of services, whereas others criticize it, saying that it ties the hands of the therapist. A moderate position sees evidence-based psychodynamic therapies as principle driven so that the therapist can use his or her best clinical judgment within the structure and principles of the therapy.

Psychotherapy research is a broad field. The most publicized studies to date involve randomized controlled trials designed to compare a model of treatment with a control to establish the efficacy of treatment. However, an emerging area of

research investigates the impact of specific elements within a therapy. An example of this is Høglend et al.'s (2008) work that studied transference interpretations in contrast to interpretations that did not address the transference. His findings turned traditional clinical thinking on its head: transference interpretations were found to have the greatest impact on patients who were at a lower level of self-other relatedness. This research supports the utility of thinking in terms of level of pathology and the implications for clinical practice. The work of Høglend and colleagues also challenges the conventional wisdom that psychodynamic therapies are only helpful to those who are psychologically minded. It seems that in working with lower-level patients, basing interpretations on the experience shared by the patient and therapist can make tangible those aspects of the patient's psychological functioning that had previously been beyond their grasp. Further research is consistent with Høglend's findings in that transference-focused psychotherapy (TFP), a transference-based psychotherapy described below (see subsection "Object Relations Theory"), was found to be particularly good for patients with low mentalizing capacities as compared with dialectical behavior therapy or supportive psychotherapy (Levy et al. 2012).

In this chapter, as we explore different psychodynamic models in terms of their understanding of PDs and then describe the application of these models in treatment, we first address those therapies that have an evidence base and then discuss those based more on clinical experience and theory. The psychodynamic literature has historically focused more on describing the underlying dynamics of PDs than on describing treatment techniques in a detailed and methodical way. This tendency has begun to change with the introduction of manualized treatments. Traditionally, as in classical psychoanalysis, therapists tended to avoid setting a specific agenda, to follow the patient's associations, and to keep the treatment open-ended with little attention to specific treatment goals. Early psychodynamic literature often assumed that an understanding of the characteristic unconscious conflicts in a patient with a given PD allowed the therapist to use the psychoanalytic method of free association and interpretation to treat the patient. However, psychodynamic therapists and analysts who treat patients with severe character pathology have increasingly realized that effective treatment of PDs requires specific treatment modifications of general analytic technique. The trend of a more specific focus on technique and the development of treatment manuals began with the detailed description of psychodynamic treatments for patients with interpersonal difficulties (Luborsky 1984; Strupp and Binder 1984) and recently has been expanded with descriptions of psychodynamic treatments for those with severe PDs (Bateman and Fonagy 2012; Clarkin et al. 2006).

Psychoanalytic explorations of character pathology not only predate but also attempt to go beyond the descriptive focus on signs and symptoms of DSM-III (American Psychiatric Association 1980) and its successors. The alternative model in DSM-5 connects with some of this thinking. DSM-III started the trend of taking the American Psychiatric Association's diagnostic system away from a conceptual understanding of psychiatric illnesses to one based on signs and symptoms, with the goal of increasing the reliability of diagnosis. However, a side effect of this approach has been to increase the number of personality disorder diagnoses per patient. From the

phenomenological vantage point of DSM-IV, there are 10 different and supposedly distinct PDs. We do not think it is conceptually valid, however, to describe psychodynamic treatments for each of the 10 PDs as if they are separate and distinct. Many patients who appear for evaluation with PD have multiple PD diagnoses according to DSM-IV and might be better conceptualized by considering the overall severity of their personality dysfunction as laid out in the alternative model. In most cases, it is not clinically relevant to think of assessment and treatment for one of the 10 PDs as separate from the others. We will therefore consider how a psychodynamic therapy addresses the underlying psychological structures that subtend many of the PDs and their specific symptoms.

Psychodynamic Perspectives on the Nature of Personality Pathology

Psychoanalysis has spawned many branches. The psychodynamic models of psychological developments most relevant to the treatment of character pathology are 1) ego psychology, 2) object relations theory, 3) self psychology, and 4) attachment theory. These psychodynamic models can be contrasted with and complemented by other models of pathology, such as the cognitive, interpersonal, evolutionary, and neurocognitive models (Lenzenweger and Clarkin 2005). Psychodynamic approaches do not espouse a purely "psychological" understanding of psychopathology and do incorporate brain findings as research advances. Psychodynamic concepts such as affects and drives have a clear grounding in biology (Valzelli 1981). What distinguishes a psychodynamic approach is the further elaboration of mental functioning that focuses on both the conscious and unconscious meanings of experience as biological forces interact with interpersonal (social, cultural, and linguistic) influences. Beyond these commonalities, the various schools of psychodynamic thinking lend different emphases to libidinal/affiliative drives or to aggressive drives, to drives as a whole or to defenses, and to the role of conflict among intrapsychic forces or to deficits in the development of psychic structures and psychological capacities. Most of these differences are not either/or debates but rather "degree of emphasis" debates.

Ego Psychology

Ego psychology stems directly from the Freudian "structural model" (Freud 1923/1961). This model provides many fundamental concepts incorporated into other psychoanalytically based therapies but provides the least specific formulation of PDs. In this model the id, ego, and superego are the key psychic structures that interact in ways that lead either to successful or unsuccessful resolution of competing pressures. Unsuccessful resolution results in psychopathology such as anxiety, depressive affect, obsessive symptoms, or sexual inhibition. The id is the seat of pleasure seeking and aggressive drives and strives for their immediate satisfaction. The ego is the more largely conscious system that mediates contact with the constraints of reality, involving perception and the use of reason, judgment, and other "ego functions." The ego also includes defense mechanisms, which are unconscious ways of attempting to resolve or deal with the anxiety stemming from the conflicts between the competing psychic agencies.

Certain defense mechanisms are more mature and successful, whereas others are more primitive and provide a suboptimal decrease in anxiety and/or a reduction in anxiety that is at the expense of successful adaptation to life. If the defense mechanism is "mature"—such as humor or sublimation—the conflict may be dealt with in a way that does not interfere with the individual's functioning or feeling state. However, less mature, or neurotic, defense mechanisms—such as repression or reaction formation—tend to result in psychological symptoms, such as anxiety or impaired functioning, and related behaviors, such as compulsive behaviors. The most primitive defenses—such as splitting or projective identification—characterize the rigid and distortion-prone psychological structures found in severe PDs. The superego is the largely unconscious set of rules (a combination of prohibitions and ideals) that often oppose the strivings of the id for unbridled drive satisfaction. Broadly speaking, ego psychology addresses the question of what are the individual's psychological resources—ego functions and defenses—for adapting to internal and external demands. It views character pathology as the result of the habitual use of maladaptive defense mechanisms, with corresponding problems in functioning such as impulsive behavior, poor affect control, and an impaired capacity for accurate self-reflection.

Object Relations Theory

With object relations theory, psychoanalysis transitioned from a one-person system concerned primarily with drive forces and prohibitions against them to a more complex system considering the drives in relation to their objects—that is, the object of the positive or negative affect related to the drive (Fairbairn 1952; Jacobson 1964; Kernberg 1980, 1995; Klein 1946/1975). Within this model, internalized representations of relationships are referred to as "object relation dyads." Each dyad comprises a particular image of the self as it experiences an affect connected to a libidinal or aggressive drive in relation to a particular image of the other who is the object of that affect. An example is the contented, satisfied self in relation to a nurturing other linked by an affect of warmth and love. An opposite example is the abandoned self in relation to the neglectful other linked by an affect of fear and anger. In the course of development, opposing experiences of gratification or frustration with others are internalized, and these dyads, laid down as memory traces, become the building blocks of psychic structure which then influence the individual's perceptions of the world and, in particular, of relationships.

In normal psychological development, representations of self and others become increasingly differentiated to better correspond to the individuality of real external objects and become integrated so that they better match the complexity of real beings. These mature, integrated representations allow for the realistic blending of good and bad, positive and negative, and the tolerance of ambivalence, difference, and contradiction in oneself and others. For Kernberg (1984), the degree of differentiation and integration of these representations of self and other determines the level of personality organization. He describes a range of PDs from neurotic to high-level borderline to low-level borderline. Borderline organization—which is a broader concept than the DSM-5 borderline PD but fits with the alternative model of levels of severity—is a psychological struc-

ture based on simplistic representations of self and other divided into purely good and purely negative segments, in contrast to more integrated and complex representations of self and other that characterize healthier personality organization and better functioning in the world.

Given the fragmented nature of this psychological makeup, borderline organization is characterized by three features: 1) the use of primitive defense mechanisms (e.g., splitting, projective identification, dissociation), 2) identity diffusion (an inconsistent view of self and others in contrast to a coherent one), and 3) generally intact but unstable reality testing. The borderline level of organization includes the paranoid, schizoid, schizotypal, borderline, narcissistic, antisocial, histrionic, and dependent PDs of DSM-5, as well as other patterns of personality pathology referred to as sadomasochistic, hypochondriachal, cyclothymic, and hypomanic (Kernberg 1996). In this system of classification, the obsessive-compulsive, hysterical, and depressive-masochistic PDs are at the more highly organized neurotic level; they are characterized by a more integrated sense of self and others, defense mechanisms based on repression rather than splitting, and accurate reality testing. This classification system has treatment implications: those PDs organized at the neurotic level may be treated by psychoanalysis or a modified psychoanalytic psychotherapy (Caligor et al. 2007), whereas those organized at a borderline level need a more structured form of psychodynamic therapy such as TFP (Clarkin et al. 2006) or mentalization-based therapy (MBT; Bateman and Fonagy 2012).

To understand how psychic structure leads to symptoms, one can consider the primitive defense mechanisms that devolve from the split psychic structure: splitting, idealization-devaluation, primitive denial, projective identification, and omnipotent control. These defense mechanisms are attempts to wall off intense feelings, affects, and impulses that the individual has difficulty accepting in himself of herself. This walling off does not eliminate these feelings, but instead leads to dealing with them in ways that interfere with functioning. For instance, because the split prevents the integration of aggressive feelings and libidinal/affectionate feelings into a more complex whole, the individual may alternate abruptly between extremely positive and extremely negative feelings toward other people in his or her life. This underlies the instability in interpersonal relations seen in many patients with PDs. An individual may also deal with split-off feelings by subtly inducing them in another person and then experiencing an awareness of them as though they originated in the other person (projective identification). This leads to chaos and confusion in relationships as well as in the ability to deal with one's own feelings. We return to concepts of object relations in discussing the specific therapies below.

Self Psychology, Relational, and Interpersonal Schools

The self psychology model, developed by Kohut (1971, 1977), is distinguished by an emphasis on the centrality of the self as the fundamental psychic structure and by the view of narcissistic and most other character pathologies as resulting from a deficit in the structure of the self without giving a role to conflict among structures within the psyche (Ornstein 1998). Adler and Buie (Adler 1985; Buie and Adler 1982) applied this model specifically to

patients with borderline PD. Self psychology focuses on the cohesiveness and vitality versus weakness and fragmentation of the self and on the role that external relationships play in helping maintain the cohesion of the self. It posits that primary infantile narcissism, or love of self, is disturbed in the course of development by inadequacies in caretaking. In the course of development, in an effort to safeguard a primitive experience of perfection, the infant places the sense of perfection both in an image of a *grandiose self* and in an *idealized parent imago,* which are considered the archaic but healthy nuclei of the *bipolar self.* In the subsequent normal development of the bipolar self, the grandiose self evolves into self-assertive ambitions and involves self-esteem regulation, goal-directedness, and the capacity to enjoy physical and mental activities. The idealized parental imago becomes the individual's internalized values and ideals that function as self-soothing, self-calming, affect-containing structures that maintain internal psychological balance. Problems in either of these evolutions lead to psychopathology. Although self psychology does not emphasize diagnostic distinctions, it targets primarily narcissistic pathology and some types of borderline pathology. Inadequate development of the grandiose self results in low self-esteem, lack of motivation, anhedonia, and malaise. Inadequate development of the idealized parental imago results in difficulty regulating tension and in the many behaviors that can attempt to achieve this function (e.g., addictions, promiscuity), as well as a sense of emptiness, depression, and chronic despair.

Pathology stems from deficits in the development of the bipolar self. The individual responds to these deficits in psychic structure by developing defensive structures that attempt to fill that gap and lead to the manifest pathology. The anger and rage that often accompany narcissistic pathology are seen as reactions either to attacks on the grandiose self or to disillusionment in the idealized imago. Because the rage is not considered related to an innate constitutional psychological aggression, the therapeutic focus is not on the rage itself but on the external circumstances that occasioned it. Self psychology stresses the importance of early deficits in contrast to unconscious conflicts and disregards the existence of aggressively invested internalized object relations, seeing the negative transference as reflecting the traumatic disruption of a "self-selfobject relationship" rather than an activation of negative introjects. The therapist's task is to facilitate the consolidation of the grandiose self with later elaboration of more mature forms of the self upon that foundation.

The relational and interpersonal schools also focus on the importance of the relationship and consider that the personality of both patient and therapist contribute to the experience that needs to be analyzed in the therapy (Gill 1982; Greenberg 1991; Mitchell 1988). This is in contrast to the view that the therapist's establishing a neutral frame for the therapy and maintaining a position of neutrality (i.e., not taking sides with any of the forces or pressures involved in the patient's conflicts) create a field in which the "map" of the patient's internal world is reproduced in the experience with or of the therapist (the transference), in which case the material to be analyzed is more purely the patient's. There is an emphasis on emotional attunement as a basic attitude to help the patient's own subjectivity develop as a means of change. Whereas self psychology was developed to help patients with a type of narcissistic personality, the relational and interpersonal approaches do not focus on diagnosis;

therefore, although it is relevant to mention these two models in a review of major psychodynamic models, it is less important to flesh them out in terms of clear models for PDs. Like self psychology, these approaches tend to see negative transference not as the manifestation of constitutional aggressive affects within the patient but as a response to the empathic failures, or a breakdown of the positive relation in the patient-therapist interaction. This brings us to the last difference we will mention between these approaches and an object relations approach: the understanding of empathy. These approaches describe empathy with the patient's conscious experience in contrast to a deeper empathy with both the conscious experience and the elements of the patient's mind that the patient is not aware of because of defenses such as projection and dissociation.

Attachment Theory

Attachment theory, first formulated by Bowlby (1969, 1973, 1980), emerged from the object relations tradition. However, in contrast to object relations theorists who retained much of Freud's emphasis on sexual and aggressive drives and fantasies, Bowlby stressed the centrality of the affective bond developed in close interpersonal relationships. Although this perspective has led to much interesting developmental and clinical work, it has emphasized the importance of the attachment system with little attention to the other main motivational systems, such as the sexual and assertive/aggressive systems. Although Bowlby's work fell within the framework of psychoanalysis, he also turned to other scientific disciplines, including ethology, cognitive psychology, and developmental psychology, to explain affectional bonding between infants and their caregivers and the long-term effects of early attachment experiences on personality development and psychopathology.

Central to attachment theory is the concept of internal working models or mental representations that are formed through repeated transactions with attachment figures (Bretherton 1987; Shaver et al. 1996). These working models subsequently act as heuristic guides in relationships, organizing personality development and the regulation of affect. They include expectations, beliefs, emotional appraisals, and rules for processing or excluding information. These working models are partly conscious and partly unconscious and need not be completely consistent or coherent. The reader may be reminded of the concept of the object relations dyad discussed above; indeed, the similarities speak to underlying conceptual similarities between object relations theory and attachment theory. For instance, although Bowlby (1973) stressed that internal working models "are tolerably accurate reflections of the experiences those individuals actually had" (p. 20), he also realized that internal working models could be distorted as Kernberg emphasized in arguing for the centrality of transference interpretation. Moreover, both object relations dyads and internal working models include representations of self and others that are complementary and mutually confirming and include unconscious and emotional aspects of representation. Both theories note that these representations need not be consistent or coherent and that, to the degree that multiple inconsistent representations exist, the individual will have difficulty behaving consistently. Both Kernberg and Bowlby note that these multiple and inconsistent representations could oscillate in the individual's consciousness. Finally, both authors discuss defensive processes for excluding repre-

sentational information that is difficult to integrate with conscious representations of self and others; Kernberg (1984) called this *splitting,* whereas Bowlby referred to this process as *defensive exclusion."*

Bowlby (1973) postulated that insecure attachment lies at the center of disordered personality traits, and he tied the overt expression of felt insecurity to specific characterological disorders. For instance, he connected anxious ambivalent attachment to "a tendency to make excessive demands on others and to be anxious and clingy when they are not met, such as is present in dependent and hysterical personalities," and avoidant attachment to "a blockage in the capacity to make deep relationships, such as is present in affectionless and psychopathic personalities" (Bowlby 1973, p. 14). Many of the symptoms of borderline PD, such as the unstable, intense interpersonal relationships, feelings of emptiness, chronic fears of abandonment, and intolerance of aloneness, have been reinterpreted as sequelae of insecure internal working models of attachment (Blatt and Levy 2003; Diamond et al. 1999; Fonagy et al. 1995; Gunderson 1996; Levy and Blatt 1999).

The work of Fonagy and colleagues (Fonagy et al. 1995, 2003) has elaborated on attachment theory and led to the development of MBT for borderline PD. *Mentalization,* defined as the capacity to think about mental states in oneself and in others, is seen as a form of social cognition—that is, an imaginative mental activity that enables one to perceive and interpret human behavior in terms of intentional mental states, such as needs, desires, feelings, goals, and so forth (Bateman and Fonagy 2012). Fonagy and colleagues' developmental research suggests that the capacity for reflective awareness in a child's caregiver increases the likelihood of the child's secure attachment, which in turn facilitates the development of mentalization in the child. The authors proposed that a secure attachment relationship with the caregiver gives the child a chance to explore his or her own mind and the mind of the caregiver. The caregiver's having the child's mind in mind contributes to the child's understanding of himself or herself as a thinker. This model includes an understanding of the relationship between PDs and childhood abuse. Individuals who experience early trauma may defensively inhibit their capacity to mentalize to avoid having to think about their caregiver's wish to harm them. This inhibition of mentalizing is associated with an absence of adequate symbolic representations of affects and self-states and creates a subjective experience of internal chaos typical of severe PDs.

Failures to mentalize are seen as underlying the characteristics of borderline PD and also as central to other PDs and other types of psychopathology. In cases of maltreatment, the child internalizes the self-directed attitudes of the abusive attachment figure into the child's own self-structure. In such a case, however, the internalized other and its aggressive characteristics remain alien and unconnected to the rest of the self; the self is "colonized" by an aggressive element that is not actually a part of the self. Although lodged within the self, this alien self is projected outside—both because it does not match the rest of the self and because of its persecutory nature. This projection and the attempt to control the object of the projection are seen as the basis for many symptoms of borderline PD.

Fonagy and colleagues (2012) have expanded their concept of mentalization along four functional spectra that can be considered in evaluating and treating patients: 1) automatic (reflexive and implicit) to controlled (explicit, reflective)

mentalizing, 2) internally focused to externally focused, 3) self-oriented to other oriented, and 4) cognitive processing to affective processing.

Indications for Psychodynamic Treatment

In general, patients with the less severe PDs such as obsessive-compulsive, hysterical, avoidant, and dependent, are suited for psychoanalytic or general psychodynamic treatment (Caligor et al. 2009; Gabbard 2005a, 2005b). These patients would be seen as neurotically organized, as compared with patients who have the more severe PDs with borderline organization (Kernberg 1984). Neurotic psychological organization involves a generally integrated sense of self but with a consistently rigid repressive defensive system that does not allow for adequate integration of an element of psychological life, such as aggressive affects in the case of obsessive-compulsive PD or sexual affects in the case of hysterical PD. The decision whether to recommend psychoanalysis or psychodynamic therapy for these disorders depends on a number of factors. One consideration is the patient's motivation for deep change influencing all areas of his or her life versus seeking more specific relief from anxiety or resolution of problems in specific areas. Other considerations include psychological mindedness,[1] propensity to regress without becoming disorganized, impulse control, frustration tolerance, and financial resources.

Patients with the more severe PDs are seen by some researchers (Bateman and Fonagy 2012; Clarkin et al. 2006; Kernberg 1984) as potentially responsive to modified, more highly structured, empirically based psychodynamic treatments (Bateman and Fonagy 1999, 2001; Clarkin et al. 2007; Levy et al. 2006). In parallel to the development of these manualized treatments, psychoanalytic practice in general is broadening to incorporate modifications in technique to work more effectively with this patient population. Kernberg (1984) cautioned, however, that borderline patients with a high level of narcissistic, paranoid, and antisocial traits, a syndrome termed *malignant narcissism*, are the most challenging to treat and that even with a highly structured treatment have a poorer prognosis than other patients organized at the borderline level. Patients with antisocial PD (those with no capacity for remorse or for nonexploitative relationships) may be beyond the reach of psychodynamic, or any, psychotherapy.

Across the spectrum of the PDs, psychodynamic clinicians utilize nondiagnostic patient variables as indicators of psychodynamic treatment. In general, the presence and capacity for meaningful relationships and attachments to others, investment in work at the level of one's capacities and training, normal intelligence or higher, the capacity to reflect on one's experience, relatively good impulse control, absence of secondary gain of illness (i.e., lack of practical illness-related benefits such as disability payments or extra attention), and intact reality testing would be good prognostic signs for psychodynamic psychotherapy

[1]Assessing patients for psychological mindedness may require a period of working with the patient, because apparent lack of these capacities may serve as an initial defense against insight and may change with interpretation.

(Gabbard 2005b). Lack of meaningful relations or investment in work, presence of secondary gain, and impaired impulse control or reality testing are not contraindications to psychodynamic therapy but rather present challenges in the framing and execution of the therapy. Nonetheless, patients with low intelligence, those who lack psychological mindedness (in contrast to defensive nonreflectiveness), and those who will not give up secondary gain of illness may be referred to psychodynamically informed supportive treatment (Rockland 1992) in contrast to a more exploratory one.

Descriptions of Psychodynamic Treatments of Personality Disorders

We described the principal psychodynamic models of personality pathology earlier in this chapter in the order of their historical development. In this section, we describe both some specific treatments that have derived from these models and the more eclectic expressive-supportive model of therapy. The most fully articulated treatments include a clinical description of the pathology, a treatment manual, and empirical research. Psychodynamic thinking about treating character pathology has historically centered on narcissistic (Kernberg 1984; Kohut 1971), borderline (Fonagy et al. 1995, 2003; Gunderson 1984; Kernberg 1980, 1984), hysterical (Kernberg 1980; Zetzel 1968), obsessive-compulsive (Reich 1972), and schizoid (Fairbairn 1952) character pathology. Others (e.g., Gabbard 2005b) have more specifically addressed the individual PDs as defined by DSM-IV, sometimes gearing treatment techniques to the Cluster A, B, and C groupings of the disorders. At present there are an increasing number of studies of psychotherapy for PDs, along with a long-standing history of case reports and a number of uncontrolled trials, all contributing to the evidence for the effectiveness of psychodynamic therapy (Abbass et al. 2006; American Psychiatric Association 2001; Leichsenring and Leibling 2003; Leichsenring and Rabung 2008; Levy et al. 2012; Shedler 2010).

It is difficult to address treatment of all the specific DSM-5 PD diagnoses separately, because most research to date has focused on a mix of PDs, avoidant PD, or borderline BD, and because, as mentioned in the introduction to this chapter, there is extensive co-occurrence among DSM personality categories. Therefore, the therapist should have an understanding both of the basic psychological structure that underlies severe PDs as reflected in the DSM-5 discussion of sense of self and quality of relations with others as core axes underlying the PDs and of the particular dynamic issues that distinguish the different disorders.

Waldinger (1987) described a set of common characteristics of dynamic therapies for patients with borderline PD, beyond the fundamental characteristics of dynamic therapies in general that were listed in the introduction to this chapter. Waldinger's list, which generalizes to those PDs with borderline organization or Cluster B disorders other than antisocial PD, includes the following characteristics: 1) emphasis on the stability of the frame of the treatment; 2) increase in the therapist's participation during sessions as compared with therapy with neurotic patients; 3) tolerance of the patient's hostility as manifested in the negative transference; 4) use of clarification and confrontation to discourage self-destructive behaviors and render them

ego-dystonic and ungratifying; 5) use of interpretation to help the patient establish bridges between actions and feelings; 6) blocking acting-out behaviors by setting limits on actions that endanger the patient, others, or the treatment; 7) focusing early therapeutic work and interpretations on the here and now rather than on material from the past; and 8) careful monitoring of countertransference feelings.

Taking into account these common modifications to general psychodynamic technique, we review below how different specific models address the treatment of PDs. While we discuss these models separately, in practice many therapists use their clinical judgment to combine elements of the different models.

Object Relations Theory

Among object relations models of therapy (Gabbard 2005b; Strupp 1984), TFP is the most fully elaborated (Clarkin et al. 2006; Yeomans et al. 2002) and evidence based (Clarkin et al. 2007; Doering et al. 2010; Levy et al. 2006). TFP combines an emphasis on the structure of the treatment, established through the contracting process, with the exploration of the patient's internal world of representations of self and others.

The goal of TFP is to help patients with severe PDs change from a state of identity diffusion to a coherent identity, a process that involves increased reflective functioning and is accompanied by improved modulation of affects. The therapist focuses on the patient's principal representations of self and of others as they unfold in the transference and helps the patient become more consciously aware of them in order to then integrate them. Because patients with character pathology have chronic difficulties in tolerating their emotions in the context of relationships with others, including with the therapist, this model emphasizes the need for a clear understanding of the conditions of treatment to be established between therapist and patient before beginning the actual therapy. The verbal contract is the foundation for containing acting out, for communicating that feelings can be contained and experienced in contrast to being acted out, and for observing and interpreting the patient's interactions within a clear frame.

This twice-weekly individual therapy emphasizes the therapist's empathy with the entire range of the patient's affective responses, including negative affects as they inevitably arise in the transference, with the implicit message that even the most intense and disturbing affects can be contained and reflected on. Addressing the negative transference early on is felt to create a fuller alliance with the patient by indicating that the therapist can tolerate, and help the patient tolerate, the expression of the patient's most difficult internal states in order to move on to helping integrate them with the aid of the interpretive process.

Mutative Techniques

TFP advocates early interpretation of transference as the patient stabilizes in the treatment frame. This involves elaborating the patient's experience of the therapist at different moments as it is distorted by the patient's internal representations, encouraging reflection on those representations, and helping the patient develop internal representations that are richer, more nuanced, and more flexible in their ability to adapt to shifting external realities (Caligor et al. 2009). This strategy focuses on the affect experienced in the here and now with the therapist in contrast to early interpretation of the patient's past.

Transference interpretation is a process. The ground for it is set by clarification of the patient's feeling states—that is, by helping the patient symbolically and cognitively represent or describe his experience of self in relation to the therapist. The work then helps the patient observe that forms of acting out represent identifications with parts of himself—usually of an aggressive nature, but sometimes of a loving nature—that the patient sees in others but typically does not accept in himself. The therapy moves on to explore contradictions in the patient's presentation over time. These contradictions are considered reflections of the split, unintegrated internal world underlying borderline pathology that keeps positive and negative representations of self, and of others, separate. The therapist brings these dyads more fully into the patient's awareness and explores the unconscious motivations for keeping distinctly different, often opposite, dyads separated. Key moments in therapy occur when the patient becomes aware of an aspect of himself that, up to now, he had only expressed in behavior, with no awareness, and/or has projected and seen in others.

For example, when a patient was vigorously accusing, even verbally attacking, her therapist for being both neglectful and useless because she still experienced unfair rejection and criticism from her classmates, the therapist said, "I understand the conviction in what you're saying, but I wonder if you could take a step back and reflect on what is going on here right now." The patient paused and acknowledged that she might seem as if she were being "mean and critical" to the therapist. The therapist pointed out that the patient had every right to be critical, and even mean, if she chose to, but that she appeared to not see this aspect of herself and to see such things as coming only from others. He added that two things might happen if the patient were aware of these feelings in herself: first, she might find ways to express them in a healthier way, and second, she might be in a better position to see her contribution to difficult relations that she tended to experience as always originating in the other party. However, the therapist also expressed empathy with the fact that gaining this awareness would be a painful step. The working through of a theme such as this consists of repeatedly analyzing the dyads that appear first in the transference and then analyzing them as they appear in the patient's life outside the therapy and in the patient's past.

Mechanisms of Change

Change comes both from interpretations that increase the patient's awareness of aspects of himself or herself that are split off and projected onto others and from the patient's eventual ability to experience the relationship with the therapist as different from his or her prior "repertoire" of relations and to generalize this more full-bodied experience of self and other to relationships outside the therapeutic setting.

Mentalization-Based Therapy

MBT, rooted in attachment theory, has been developed for Cluster B PDs; it was initially practiced as a day hospital treatment and generally combines individual sessions with group sessions. MBT was developed as a basic model of therapy to be delivered largely by nurse therapists in the British National Health Service and does not aim to achieve structural personality change or to alter cognitions and

schemas. Rather, its goal is to enhance mentalization so that the individual is more equipped to solve problems and manage emotional states, especially mental states stimulated in interpersonal situations (Bateman and Fonagy 2012).

The emotional instability of Cluster B disorders is seen as secondary to failures in an individual's capacity to *mentalize*—or to reflect on and appreciate intentions, feelings, and motivations in self and others. It is the role of psychotherapy to challenge automatic, distorted, and simplistic assumptions about self and others and to reflect and reevaluate the assumptions in the context of the relationship between therapist and patient. In this sense, MBT shares TFP's focus on helping the patient achieve accurate, in contrast to inaccurate distorted, perceptions of self and others. However, MBT restricts its emphasis to helping the patient repair failures in mentalizing without addressing the resolution of intrapsychic conflicts and therefore can be situated toward the cognitive end of the spectrum on psychodynamic therapies.

Failures in mentalization are believed to be related to attunement difficulties between infant and caretaker that impede the development of a secure sense of attachment. The therapist's efforts to increase the patient's capacity to mentalize help the patient move from a disorganized attachment, in which affects are volatile and unpredictable and the patient's subjectivity is vulnerable to collapse, toward a more secure attachment in which they are less capricious and more stable. Identifying and fostering appropriate expression of affect is integral to this process. Within the range of affects, anger and aggression are seen as responses to neglect and abuse rather than primary affects that eventually need to be integrated into the self as part of treatment.

Central to the MBT process, especially with borderline patients who are seen as readily destabilized in their attachment relationships, is the ability of the therapist to titrate the shifting attachment process between therapist and patient so that the level of emotional arousal in the patient is modulated without destabilizing intensity. Contrary moves are used by the therapist so that, for example, if the patient is internallyfocused and self-focused, the therapist inquires about how such mentation or action would affect others. A sequence of intervention is suggested, progressing from supportive and empathic clarification (i.e., clarifying the patient's perception of self in relation to others), to challenge (i.e., not to confront but to question the patient's perception), to affect focus (i.e., focus on the current affect shared by patient and therapist), to mentalizing the transference (Bateman and Fonagy 2012). Mentalizing the transference refers to a collaborative process of exploring alternative perspectives on the current patient-therapist relationship, seeing this as a rehearsal of mentalizing ability in other intimate relationships in the patient's life.

Mutative Techniques

The MBT technique centers on identifying moments when mentalization is lost and the patient reverts to thinking in terms of psychic equivalency, pretend mode, or teleological mode. The therapist rewinds to the moment before the break, focusing on the momentary affects between patient and therapist (e.g., love, desire, hurt, catastrophe, excitement), slowly clarifying and naming the affects, and including identification of the therapist's contribution to the break. The focus remains on the mind rather than behavior, relating affects to the current event or activity and the "mental reality," using

the therapist's mind as a model with the option of disclosure. The work may include the therapist's accepting, through projection and countertransference, aspects of the alien self (described earlier in this chapter in the attachment theory subsection of "Psychodynamic Perspectives on the Nature of Personality Pathology") so that elements of the patient's mind can be better reflected on. Throughout the process, the therapist uses concise "sound bite" interventions because of the patient's current absence of symbolic representation (and consequent difficulty taking in interpretations) and to avoid intellectualization.

Mechanisms of Change

The mechanism of therapeutic action in MBT is based on developing the patient's ability to have an awareness of mental states and thus find meaning in his or her own and other people's behavior. Transference interpretations are avoided because of concern that 1) they excessively activate the attachment system (arouse affect to levels that interfere with cognition) and 2) direct transference interpretation is at too high a level of abstraction for patients with BPD to understand. Bateman and Fonagy therefore recommend using "transference tracers"—that is, comments that predict likely future action on the basis of the patient's previous experience in a way that heightens the patient's ability to begin to see transference patterns. In this sense, one difference between this approach and the TFP approach described in the previous subsection on object relations theory is that the MBT therapist would tend to "hold the projection" of certain elements of the patient's internal world within himself of herself longer before interpreting the projection or would even complete the therapy without bringing these elements back to the patient.

The core of the work is helping patients understand their intense emotional reactions in the context of the treatment relationship. The patient is urged to "rewind" and consider who engendered the feeling that is being experienced and how and to ask, "What feeling may I have engendered in someone else even if I am not conscious of it that may have made him behave that way toward me?" An important part of this is focusing the patient's attention on the therapist's experience, with the goal of the exploration of a mind by a mind within an interpersonal context. This involves "mental closeness" in the sense of representing accurately the feeling state of the patient and its accompanying internal representations, distinguishing the state of mind of self and other, and helping the patient appreciate this distinction.

A clinical example of MBT involves a patient who came into a session looking agitated and frightened and remained silent. The therapist proposed, "You appear to see me as frightening today." The patient replied, in a challenging way, "What makes you say that?" The therapist provided the immediate evidence: "You had your head down and avoided looking at me." The patient responded, "Well, I thought that you were cross with me." The therapist then proposed to explore a bit more deeply within the patient: "I am not aware of being cross with you, so it may help if we think about why you were concerned that I was" (Bateman and Fonagy 2003, pp. 198–199).

The strength of the MBT approach is implied by impressive outcome data, both at the end of treatment and on long-term follow-up. The ability of MBT to reduce symptoms, and the maintenance of that symptom reduction, would be better understood with research data showing patient increase in aspects of mentaliza-

tion as related to symptom change in treatment.

Self Psychology

Self psychology is described (Kohut 1971; Ornstein 1998) as a form of psychoanalysis whose principles can be applied to therapy as well. The therapist's task is to help the patient resume an arrested developmental path by facilitating the consolidation of the grandiose self with later elaboration of more mature forms of the self on that foundation. To this end, the main emphasis at the beginning of therapy is facilitating the development of selfobject transferences in which the therapist accepts being an object that the patient can utilize to complete the arrested development of his or her self. This process creates the precursors of a therapeutic alliance. This model sees the patient's eventual capacity for a true therapeutic alliance as evidence that he or she has resolved his or her borderline or narcissistic PD and has advanced to a neurotic level of difficulty (Adler 1985). The model does not emphasize establishing the treatment frame through contracting as a separate process, but in the case of acting-out borderline patients, it describes the therapist's need to set limits and participate in protecting the patient.

Mutative Techniques

The self psychology model emphasizes the role of therapist empathy in facilitating the selfobject transferences that can lead to developing a more adequate sense of self. These transferences are the *mirror transference* and the *idealizing transference.* The former involves experiencing the therapist as an affirming, approving, validating, and admiring presence and is believed to provide a "psychic glue" that holds the patient's fragile self together. The therapist helps the patient analyze the patient's reactions to inevitable empathic failures on the therapist's part. These failures can lead to disruptions in this transference that result in the fragmenting of the self and the return of symptomatology, often in the form of rage. In the idealizing transference, the therapist is put on a pedestal so that the patient may borrow some of the therapist's "perfectness" to achieve the grandiose self that is necessary for further psychological development. This transference also provides some cohesiveness to the patient's experience of self. Again, therapeutic attention is focused on inevitable disappointments occasioned by empathic failures on the part of the therapist and the rage and symptomatology that may follow.

Mechanisms of Change

The selfobject's responsiveness (in the case of treatment, the therapist's) catalyzes this transformation by activating the individual's innate potential. Empathy is at the center of the therapeutic process. The patient's transference is seen as including a positive striving for a new beginning (Ornstein 1998) in addition to the repetition and distortion based on past experiences. Therapy proceeds not by challenging or focusing on the specific features of the patient's psychopathology but by focusing on the matrix, the vulnerable self, from which it emerged, with more of a focus on past history than in TFP or MBT. The therapist's role is seen as that of facilitating the therapeutic reactivation of the patient's original need for appropriate selfobject responses. The therapist generally empathizes with the patient's need for resistances rather than interpreting them. The therapist addresses defenses by helping to see what function the defense/defensive behavior serves in maintaining some degree of cohesiveness in the fragile, fragmentation-prone self.

Once the patient experiences appropriate selfobject responses, he or she will be able to end therapy and establish appropriate selfobjects in life outside therapy.

An example emphasizes the need for the therapist to provide a perfect mirroring attunement in order for a patient to delve behind his or her defensive wall and experience and reveal the affects at the core of his or her dysfunction. In discussing a case, Ornstein (2009) describes that the patient's experiencing full emotional receptivity from the therapist—in the therapist's tone as well as his words—allowed the patient to accept the analyst as a "validating witness" and to connect to his inner feelings in a milieu of safety. This sense of acceptance, in contrast to an experience of rejection, was required in addition to an emphasis on insight for a process of change to occur. The therapist helped the patient see what—in the therapist's attitude, tone of voice, or behavior—the patient had experienced as hurtful. The patient could then understand that his behavioral response to the therapist had included a feeling of being assaulted. The patient went on to elaborate on the poisonous family atmosphere in which he grew up. This exploration helped clarify how the situation in analysis could inadvertently replicate this early environment. From the beginning of the treatment, the analyst viewed the patient's dysfunctions in life as behavioral expression of rage and revengefulness at his parents. In the course of the work together, the analyst's task was to perfectly reflect the patient's inner experiences with the goal of "making them real" and thereby giving the patient a chance to "let go of them."

Although this example has clear differences from the illustrations provided in the earlier sections on TFP and MBT, it is another demonstration of the centrality of the importance of sense of self and other within the PDs.

Supportive-Expressive Therapy

The most widely practiced version of psychodynamic psychotherapy of PDs is probably expressive-supportive therapy (Gabbard 2005b; Gunderson 2001; Luborsky 1984). Wallerstein (1986), in analyzing the Menninger Foundation Psychotherapy Research Project, concluded that most therapy included a mix of the more formal elements of psychoanalysis, termed *expressive* (e.g., the therapist's neutrality and use of interpretation, with the goal of helping the patient become more aware of internal conflicts and resolving them to become more integrated, harmonious, and effective), and of elements described as *supportive* (e.g., the therapist at times supporting rather than interpreting the patient's current defenses so that the patient makes more effective use of coping skills and relies on the healthier in contrast to the more primitive of the defenses within his or her repertoire). Supportive-expressive therapy refers to an eclectic therapeutic stance of selecting interventions from any of the more specific theoretical models according to what seems to be the best fit with a given patient at a given moment in the treatment. Therapeutic goals can vary from more analytic (e.g., gaining insight and achieving resolution of internal psychological conflict, increasing the cohesiveness of the self, improving the quality to interpersonal relationships) to more supportive (e.g., helping the patient to adapt to stresses while not directly addressing the split psychological structure that underlies severe PDs). This form of therapy proposes the "expressive-supportive continuum of interven-

tions" (Gabbard 2005b). Moving from the supportive to the expressive end, this continuum includes affirmation, giving advice and praise, empathic validation, encouragement to elaborate, clarification, confrontation, and interpretation.

The expressive-supportive approach allows the therapist to modulate between more analytic exploration and more supportive involvement according to what he or she feels will be tolerated by and helpful for the patient in the moment. A risk, however, is that the therapist may unconsciously collude with the patient in avoiding certain "hot" areas by shifting from an analytic focus to a supportive one when that area comes up. Awareness of this risk, and appropriate supervision, are the best guarantees against this collusion. Supportive-expressive therapy emphasizes establishing the alliance as the sine qua non of the therapeutic process, a view that is supported by research (Luborsky et al. 1980). Therefore, the central task, especially early in therapy, is primarily supportive and relationship building, with the fostering of positive or even idealizing aspects of the transference (Buie and Adler 1982). Alliance building takes precedence over focusing on the contract and conditions of treatment out of concern that emphasis on these latter might elicit negative transference or too quickly challenge the patient's defenses. Luborsky's (1984) manual for expressive-supportive therapy summarizes many aspects of the treatment.

Mutative Techniques

Depending on the relative expressiveness versus supportiveness of the therapy, the therapist would either directly offer interpretations to the patient (these could address the transference, defenses, impulses, and/or the patient's past) or use the therapist's own awareness to guide an understanding of the patient while avoiding interpretation. Similarly, the therapist can choose between a more expressive approach to resistance—exploring unconscious material by interpreting and helping the patient understand the function of the resistance—and a supportive approach—bolstering resistances to disturbing material in the service of reinforcing weak defensive structures in the patient.

The supportive-expressive therapist gears interventions to the particular defensive structure of the patient. For instance, in treating a patient with paranoid PD (Gabbard 2005b), the therapist would be informed by an awareness of the patient's tendency to perceive attack from the therapist and thus to evoke the therapist's defensive responses. Resisting these responses, the expressive psychodynamic therapist would leave the patient's suspicious accusations and projections "hanging," neither denying nor interpreting them. In this way, the projections of hatred and badness are contained by the therapist. The hope is that as this lack of defensiveness, combined with empathy for the patient's subjective state, creates a sense of alliance, the patient will become more open and revealing. In this process, the therapist helps the patient label feelings and distinguish better between internal emotions and reality (Meissner 1976). A more supportive intervention would involve guiding the patient's perceptions of reality by questioning his or her assumptions. ("You assumed that when your friend didn't wave back from the other side of the theater that he was trying to avoid you. But are you sure that he saw you in that crowd?")

The fact that the therapist does not respond in the way anticipated, and provoked, by the patient is meant to lead the patient to a "creative doubt" (Meissner 1986) about the way the patient per-

ceives the world. This questioning of his or her own way of thinking will help the patient develop a better capacity to accurately reflect on and perceive himself or herself in relation to others.

Mechanisms of Change

The traditional psychoanalytic principle of bringing subconscious aspects of the patient's mind into consciousness still holds. However, the expressive-supportive model emphasizes both the role of increasing the patient's understanding through interpretation and the role of the experience of a new type of relationship with the therapist as mechanisms of change. Another way to consider supportive-expressive therapy is that it promotes the therapist's independence to delve into the toolbox of the common factors of therapy elements and techniques. Judging what is the best combination for a given patient requires great skill at assessing the person's level of personality pathology in order to determine what degree of deep change and improvement versus stabilization at the current level of psychological structure can be expected.

Psychoanalysis

The proposal to conceptualize the severity of PDs along the lines of sense of self, relations with others, and characteristic defense mechanisms informs thinking about referral to psychoanalysis. Psychoanalysis developed around the treatment of "neurotic" disorders, a term no longer included in official psychiatric nomenclature, but evolved to focus on character pathology. Currently, patients with higher-level PDs may be referred for psychoanalysis or forms of psychodynamic psychotherapy (Caligor et al. 2007; Gabbard 2005a, 2005b). Nonetheless, psychoanalytic training is increasingly including technical modifications for working with lower-level PDs as well, and it is important to refer more disturbed patients to clinicians who have this training.

The higher-level PDs that might be optimally helped by psychoanalysis differ from more severe PDs in that the individual has a generally integrated—in contrast to fragmented—sense of self but with one element of his or her internal experience that is not integrated into the rest. In addition, the individual uses repression-based defenses that tend to keep the unintegrated element of the mind successfully at bay at the price of constricting his or her fullness of experience of life. This is in contrast to the splitting-based defense mechanisms of the more severe PDs that allow quicker access to the defended-against psychological elements as they emerge in a discontinuous sequential disarray. An example of a patient with a higher-level PD would be the office worker, husband, and father whose life appears stable but who experiences bouts of depression and anxiety, along with a constricted engagement in life. Analytic treatment would focus on moments when dreams, jokes, fantasies, or slips of the tongue might reveal aggressive strivings that are walled off from the rest of the patient's identity and whose integration will leave him with more comfort in asserting himself and in competitive strivings, and with greater engagement in love and work.

Conclusion

Psychoanalysis and psychodynamic therapy have long traditions of addressing understanding and treatment of PDs. Psychodynamic models may differ in certain areas, such as the degree to which

PDs are considered the result of intrapsychic conflict or of a deficit in psychic structure or self-structure. According to a model's position on this issue, the technical approach may put more emphasis on interpretation versus empathy. Nevertheless, it is important to keep in mind a common theme: the individual's biological temperament, in combination with aspects of development, can create a psychic structure—especially in terms of experience of and reactions to self and others—that does not adapt well to dealing with the complexities of the real world in ways that involve aspects of the person that are unconscious to him or her. Psychoanalysis and psychodynamic therapy can provide the tools to help the individual integrate or complete that psychic structure and thereby replace failure and frustration in life with a realistic measure of satisfaction and achievement. Psychoanalysis and psychodynamic therapy continue to evolve and enrich each other as more is learned about the mind and about the brain from clinical experience and from research.

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CHAPTER 11

Cognitive-Behavioral Therapy I: Basics and Principles

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In general, cognitive, cognitive-behavioral, and metacognitive interventions are some of the most empirically supported and widely practiced types of psychosocial interventions (Hollon and Beck 2013). Traditional cognitive-behavioral approaches are based on the assumption that dysfunctional and maladaptive thinking play a major role in the etiology and persistence of personality disorders (PDs), and these approaches aim to change maladaptive beliefs, automatic thoughts, and related behavior. Two major dimensions have extended the traditional field of cognitive-behavioral therapy (CBT) in recent years and have influenced the conceptualization of psychosocial treatments focusing on PDs: 1) the increasing importance of emotions and emotion regulation as outlined in dialectical behavior therapy (DBT) (Linehan et al. 2007) and 2) the importance of metacognitive processing as manifested in the so-called third wave of CBT (e.g., acceptance and commitment therapy [ACT; Hayes and Smith 2005]) (Wells 2003). Thus, modern CBT no longer primarily aims to change basic assumptions and cognitions but rather encourages patients to learn how to observe their emotions and cognitions from a metacognitive perspective, accept them as they are, anticipate the impact of action tendencies on short- and long-term goals, and learn how to practice goal-oriented behavior in the face of dysfunctional cognitions.

From a scientific perspective, empirically validated treatment recommendations currently exist only for three specific PDs: borderline, antisocial, and avoidant (American Psychiatric Association 2001; Andrews and Dowden 2006; Emmelkamp et al. 2006; Herpertz et al. 2008; Stoffers et al. 2012). On the basis of the empirical data, it surely makes sense to apply disorder-specific treatment

strategies for these patient groups. However, in clinical practice, therapists trained in CBT usually treat far more than these three groups of specific PDs. Thus, the focus of this chapter is mainly on general principles, strategies, and methods of modern CBT as applicable for patients with PDs or pathological personality traits.

Case Example

Consider a psychotherapist who applies a cognitive-behavioral standard intervention: He motivates his patient, Jim, to check the validity of his dysfunctional assumptions regarding explicitly assumed hostility of his colleagues. It has taken a long time for the therapist to develop a good therapeutic relationship and to help Jim recognize his paranoid assumption that the world is uncontrollable and hostile. Jim was even able to identify his automatized major coping strategies: suspiciousness and attack, especially against apparently friendly neighbors and colleagues. After a long debate with this gifted therapist, Jim dares to try a new behavioral strategy: He invites two colleagues for an after-work drink. Unfortunately, both of the colleagues turn him down, rejecting his invitations and making him look rather silly in front of others. Jim immediately leaves the office, heading for the next bar, where he drinks heavily, becomes highly aggressive, and picks a fight with other customers. As a result, his face is decked out with a shiner when he comes to the next therapy session: "How was it?" the therapist asks. "Everything as expected," the patient replies.

Did the therapist make a mistake? Not necessarily. He might have done a better job anticipating potentially negative reactions of the colleagues, but the variability of human behavior in the social environment is broad and rather unpredictable, and unpredictable sequelae can happen in any psychotherapy. The question, then, is whether it is really possible to develop general treatment algorithms for such complex problems as PDs.

To address this question I will start with general considerations regarding controllability and the handling of complex dynamic systems and then provide an overview of the general structures and principles of cognitive-behavioral psychotherapy with patients meeting criteria for the PDs.

Handling Dynaxity

Principles

Dynaxity is a cybernetic neologism describing the close interaction of dynamics and complexity in modern management theory; from a cybernetic perspective, psychotherapy of PDs can be considered as a professional attempt to solve problems within a complex network governed by semitransparent dynamics (Gonzalez et al. 2005). Psychotherapists work with problems that are generally controlled by multiple variables, which are mostly unknown and which are interacting with each other at the same time. As in Jim's case, mentioned above, mechanisms and vectors of controlling variables are mostly unknown, making it impossible to predict the precise impact of a psychotherapeutic intervention on the complexity of the system. Unfortunately, psychotherapists and their patients have to handle real-time problems driven by complex dynamics. Crises can occur, sometimes requiring immediate interventions by the therapist, often based only on some intuitive assumptions. Fortunately, most psychotherapists handle these critical situations intuitively without major discomfort, and they can

consult with numerous experts who have experience treating PDs.

Elucidation of the principles and rules of how to control complex dynamic systems is a major issue in international research (e.g., Tiltmann et al. 2006). It might be useful to consider some basic principles and rules of this research as they apply to psychotherapy of complex problems such as PDs:

1. Therapists should be aware that they are handling a dynamic and highly complex system, so any intervention impacts an unknown number of variables with unknown impact on each other.
2. Therapists should be aware that any of their assumptions about a patient and the patient's cognitive, emotional, motivational, biographical, and social aspects represent nothing more than a *model of reality.* Mostly, these models comprise more implicit than explicit components. Usually, these models are incomplete and represent only small aspects of the patient's reality.
3. The best way to operate a complex dynamic system is not to change this system but to define clear goals within this system.
4. Translating this axiom to cognitive-behavioral psychotherapy has far-reaching consequences: the idea of changing the basic assumptions of patients might be idealistic but not very realistic. Habits, by definition, are strongly self-perpetuating and not necessarily linked to specific cues; they can persist even in the face of negative consequences. Thus, traditional behavioral treatment tools, such as behavior analyses or contingency management, can often fail (e.g., Dahlstrand and Biel 1997).

Rules

Helping the patient to conceptualize and to realize clear goals, related to internal values, shifts the therapeutic focus from dysfunctional components to a more resource-oriented perspective. Processing of goals in complex dynamic systems can be portrayed by an algorithm such as that shown in Figure 11–1.

Elucidating Individual Values

In social sciences, values can be defined as relatively stable conceptions that influence the way people select action, evaluate events, activate motivation, and construct meaning (e.g., Schwartz and Bilsky 1987). Examples for individual values include benevolence, security, stimulation, hedonism, achievement, power, and conformity, among others. Because values are relatively stable over time, the uppermost priority of psychotherapy is helping the patient process values rather than change them. It has been shown that life satisfaction is strongly correlated to the process of value driven (self-concordant) goals (Judge et al. 2005). Values have strong motivational power. Thus, behavior change, which can be aversive and sometimes exhausting, should be closely linked to the individual values of the patient so as to benefit from the strong motivational forces of values.

Defining an Overarching Aim

In general, overarching aims describe something like "missions" or "motives," transposing individual values into the social environment. For instance, the value *benevolence* can be transposed to an overarching aim such as "I want to be a good father" or the value *achievement* to "I want to be successful in my job." As outlined

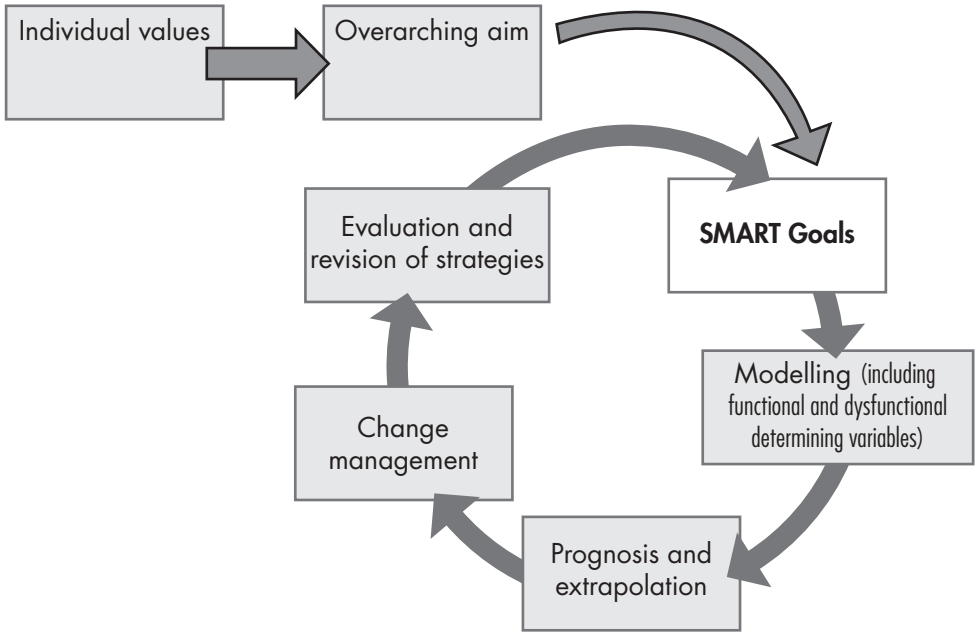

FIGURE 11–1. The process of "dynaxity" in psychotherapy: a general algorithm.

below (see "Individual Expectations, Values, and Aims of the Patient"), in psychotherapy these aims should be based on situational analyses and follow some clearly defined principles.

Defining SMART Goals

Aims are good for talking but mostly insufficient for accomplishment. Thus, aims have to be broken into small pieces that can be called SMART goals. SMART stands for Significant, Measurable, Attainable, Relevant, and Time-bound (e.g., Siegert and Taylor 2004). *Significance* stresses the need for a specific goal rather than a general one; *measurability* involves establishing concrete criteria for assessing progress toward the attainment of the goal; *attainability* stresses the importance of setting realistic goals that are neither out of reach nor below standard performance; *relevance* highlights the importance of choosing goals that are linked to overarching goals; and *time-bound* stresses the importance of grounding SMART goals within a time frame, giving them a target date.

Establishing a Model of the Determining Variables

Once a goal is defined, the current determining variables, both functional and dysfunctional—the threats, barriers, and challenges to achieving the end state—should be analyzed. Not all determining variables identified are within the direct and immediate control of the patient to change. Therefore, a review of the patient's resources and the required support is used to prioritize which antecedent conditions will be targeted first.

Prognosis and Extrapolation

Once a sufficient model of the relevant determining variables has been established, the therapist should be able to answer the following questions: If a patient indeed accomplishes a goal within the defined time frame, what will be different in the patient's life? Will accomplishing this specific goal actually help the patient to reach the overarching aims

and indeed improve the patient's quality of life? Considering questions like these helps to ensure that the therapist does not engage in "activity traps" ("feel-good" activities that will not lead to desired changes) and does not overlook goals with higher priorities.

Change Management

Strategies are then developed to target the prioritized determining variables and to cope with the reasonably foreseeable obstacles. In psychotherapy the main focus is on 1) intrapsychic variables, such as dysfunctional expectations, automatic thoughts, or problems in behavior planning, and 2) external variables, such as partnerships, occupational conditions, and other socioeconomic parameters. Psychotherapists can have a strong tendency to underestimate the importance and pertinence of social environments and their inherent influence against change for individual patients. Even patients with the most eccentric behavior usually are embedded in social environments to which they are accustomed. Thus, the social environments 1) reinforce habits and behaviors of the patient and 2) demand this behavior, if the patient dares to change. Thus, change management should consider that changing habits and behavioral strategies not only challenges the patient's intrapsychic system but also threatens the social environment.

Evaluating and Revising Strategies

Once the strategies are defined, performance measures and indicators are sought to track progress toward and impact on the desired end state. Tracking and assessing progress is essential in order to consecutively adapt and improve the strategies.

Dynamics of the Loops

It is a characteristic of dynamic complex systems that it is simply impossible to analyze in depth all antecedent and determining components that would help or hinder a patient in reaching a goal. To be clear, most therapists have only a slight idea of these components at the beginning of the treatment, but they learn from the trial-and-error experiences of their patients. However, determining why a plan did not work and what has been learned requires 1) a plan, 2) an assessment, 3) skills of failure analysis, and 4) motivational skills to encourage the patient and the therapist to continue trying. The dynamic of these loops (→goal definition→analysis of determining components→change management→ evaluation→failure analysis→strategy adaptation→ change management) is of critical importance. There are two sorts of failures: 1) goals and strategies can be expected to change too quickly, or 2) they can be placed on a timetable that is too long. The first kind of mistake may result in instability or chaos, whereas the second kind of mistake may result in rigid perseveration.

The art of therapy involves the need to define clear goals, models, and strategies; to rely on them a certain amount of the time; and to revise them if they do not work. From a cybernetic perspective, this process can be described as a spiral more than a linear process. In addition, the diameter of this spiral (i.e., how often one has to revise or adapt strategies) is determined by the urgent needs of the patient: suicidal patients need clear goals, highly frequent assessments, and immediate revisions (i.e., spirals with small diameters), whereas highly functioning patients can be tracked with much more equanimity.

General Principles of Psychotherapy for Personality Disorders

As mentioned in the introduction, empirically validated therapy recommendations exist only for three specific PDs: borderline, antisocial, and avoidant. The following general recommendations are based on clinical experience and on the German treatment guidelines for PDs as developed by an expert commission during the years 2004–2007 (Bohus et al. 2009; Herpertz et al. 2008). For the development of these guidelines, a panel of German experts aimed to define principles and rules for psychosocial treatments of PDs, based on the description of psychotherapeutic interventions that are empirically founded or—if missing—are developed consensually. The guidelines were developed objectively, independent of cognitive-behavioral or psychodynamic preferences and independent of the specific semantic connotations of the psychotherapeutic schools. To discover similarities and differences, the panel compared therapy manuals regarding therapy planning, the nature of the therapeutic relationship, the treatment setting, treatment goals, and specific treatment foci.

Treatment Planning

Treatment planning for patients with personality disorders requires numerous considerations. Table 11–1 lists the key elements, some of which are elaborated on in the following text.

Socioeconomic Status

As in any other psychotherapy, the first step is to get a general picture about the basic socioeconomic variables of the patient. This includes partnership and family issues; vocational training and current occupation; financial issues, including potential obligations; housing situation; and so forth.

Treatment History

For several reasons, psychotherapists tend to avoid talking about former therapeutic experiences of their patients. But would you consider a heart surgeon as responsible who does not carefully reflect the results and complications of former surgeries in his or her planning? The same standards should be applied in psychotherapy. Therapy dropout or prolonged ineffective treatments are in the nature of PDs. Thus, therapists and their patients should seriously consider these former experiences in order to learn from them instead of falling in the same traps repetitively.

Individual Expectations, Values, and Aims

In most cases, patients with PDs consult a psychotherapist because they have psychiatric disorders such as depression, anxiety disorders, somatoform disorders, or substance abuse. Others report ongoing troubles with their partners or relate experiences of being bullied by their colleagues. In most cases patients do not arrive with clear aims or goals for treatment. Experienced therapists carefully help their patients formulate treatment aims more precisely, but this process may take time. The therapist must balance between two extremes: 1) allowing the patient to extensively describe vague problems and general concerns in an unfocused way, and 2) potentially jeopardizing the therapeutic relationship by pushing the patient too strongly.

It might be helpful to begin therapy by exploring the patient's individual values. One could ask simple questions such as, "What do you think is really important

TABLE 11–1. Key elements of treatment planning for patients with personality disorders

- Socioeconomic status
- Treatment history
- Individual expectations, values, and aims of the patient
- Potential treatment confounders
  - Suicidality
  - Behavior control
  - Co-occurring psychiatric disorders
  - Co-occurring somatic disorders
  - External social problems
- Problem analysis

for you—I mean, how would you live if you could choose freely?" Alternatively, one could use tools such as those described by Hayes and Smith (2005) (e.g., the tombstone exercise, in which clients are encouraged to design their own epitaphs). Another useful tool is Schwartz's Value Survey, a well-established short questionnaire with excellent psychometric properties (Lindeman and Verkasalo 2005). This survey presents the patient with an overview about general human values and encourages the patient to select those that are of intrinsic importance. Clarification of the patient's personal values not only helps to define treatment aims ("We should definitely work to improve the purposes of your life") but also enhances motivation for change. Behavior change per se mostly is aversive: one has to overcome obstacles such as negative feelings, dysfunctional cognitions, or automatized rules and habits. Thus, motivational aspects are of uppermost importance, especially in psychotherapy of PDs, where the psychopathology is not as clear and intuitively convincing as it is, for example, in anxiety disorders. In addition, values are strong motivators when it comes to long-term goals; values can even help patients overcome strong emotion-driven impulses and actions. Experienced therapists, for example, use this power of values to help patients cope with craving for drugs or alcohol (e.g., Miller 1983). These tools can also be powerful when it comes to behavior change in PDs.

Once the individual values are clear, the second step is to define individual missions that transfer values to the current social environment. As a third step, aims should be defined as SMART goals (see earlier subsection "Defining SMART Goals"). "Time-bound," the fifth component of a SMART goal, reminds the therapist to set a target date. As shown in Figure 11–1, SMART aims are iterative: they should be reconsidered and eventually revised from time to time. However, they also should be tracked long enough to function as a clear orientation for treatment planning.

Potential Treatment Confounders

If a patient is currently suicidal or in an acute crisis situation, these urgent concerns must be dealt with, whether or not a sustainable therapeutic relationship has been developed. It is important to determine whether or not patients are able to control their behavior and emotion regulation sufficiently. Sometimes, the patient's emotional learning capability is affected by neurobiological factors (e.g., severe comorbid anorexia, co-

morbid substance use disorder requiring detoxification). As a rule of thumb, co-occurring psychiatric disorders should always be treated with first priority, if these disorders are pervasive and inhibit emotional learning or behavioral change. It goes without saying, that acute or chronic somatic disorders that influence the daily life habits of the patient should also be recorded. In addition, social variables (e.g., malignant partnership, unemployment) may have significant influence on the success of the therapy.

According to Linehan (1993), the priorities of treatment targets should follow a dynamic hierarchy (Figure 11–2). At the top, always to be treated as a primary focus if present, is severe crisis-generating behavior (acute suicidality, severe aggressive outbursts, life-threatening parasuicidal behavior, etc.). The second target concerns patterns or variables that endanger the maintenance of the therapy or the therapeutic relationship. A patient's behavior, neurocognitive problems, or problems related to the therapeutic setting have to be considered. In addition, problematic behavior patterns can develop in the therapist. When these two higher-ranked targets are absent, the therapist should focus on attainment of the defined treatment goals and work on goal-related behavior.

Defining the relevant treatment targets requires a sufficient functional analysis of those parameters that are currently impeding attainment of goals by the patient. Usually, there are three domains to be considered (Figure 11–3): 1) external social variables, which usually require problem solving; 2) skills deficits, which require skills teaching and training; and 3) dysfunctional cognitions, emotions, and behavior, which require more sophisticated interventions.

The domain of dysfunctional cognitions, emotions, and behavior (see Figure 11–4) includes severe comorbid disorders such as major depression, severe anxiety disorders, substance use disorders, eating disorders, and so on. Sometimes, severe behavioral dyscontrol can be attenuated by treating the relevant comorbid psychiatric disorders. Other forms of severe behavioral dyscontrol may not be life threatening but may interfere with adequate problem solving or goal attainment (e.g., repetitive nonsuicidal self-harm in patients with borderline PD, aggressive outbursts, intoxication, criminal behavior). The third aspect of this domain is the major target of treatment: goal-impeding behavior, which requires a thoroughly elaborated and detailed problem analysis.

Problem Analysis

Even if different therapeutic schools recommend different methodologies, generally a problem analysis should consider the key aspects shown in Table 11–2, which are discussed below.

External conditions. People with PDs often are characterized by a restricted repertoire of possible ways to flexibly react to changing social conditions (Millon et al. 2001). Therefore, they strongly depend on "suitable" external conditions. Under specific favorable constant environmental conditions, people with PDs can live without apparent pathology or interference with quality of life. However, changes in the environment often demand adaptations that overtax their capacity. Thus, psychic crises are based mostly on changes in environmental circumstances.

Thorough problem analysis in general requires the assessment of the present social conditions of the patient, with a special focus on current or most recent changes (e.g., problems or even changes at the workplace, changes in occupa-

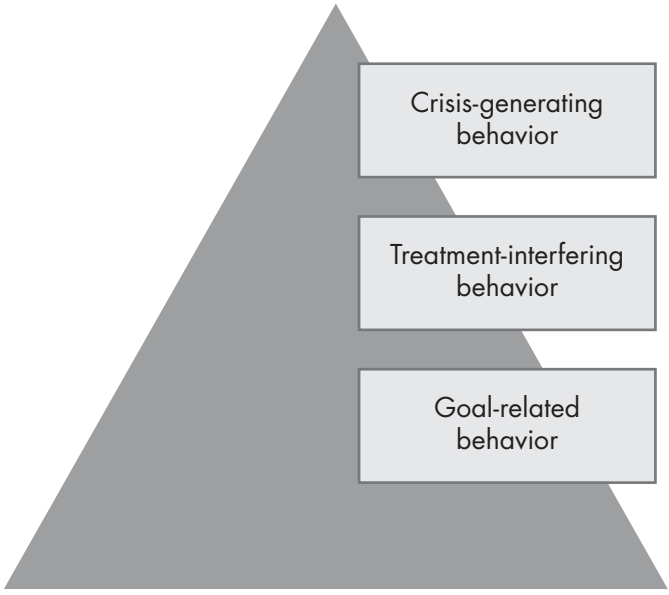

FIGURE 11–2. Dynamic treatment hierarchy.

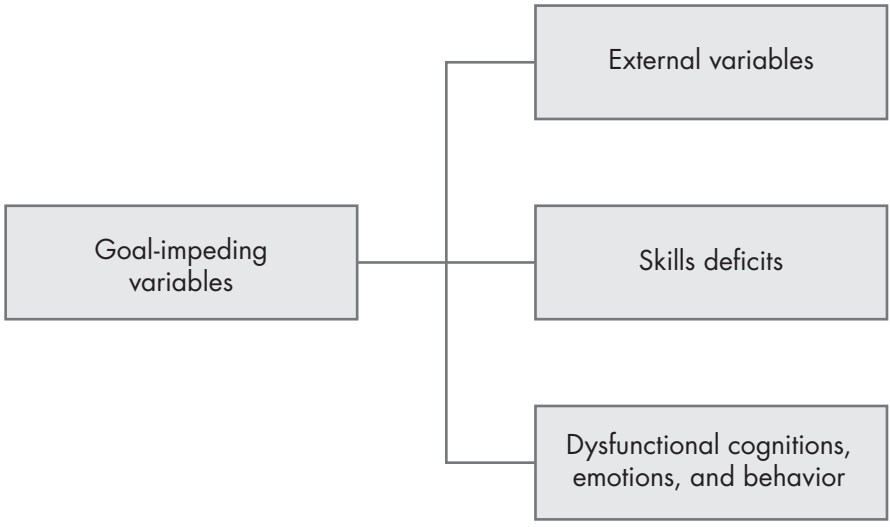

FIGURE 11–3. Hierarchy of goal-impeding variables.

tional demands, financial problems, relationship problems, illnesses of close relatives, political pressure).

Cognitive-behavioral therapists either use detailed situation analysis to get a picture of the external conditions of the patient or gather collateral information (at least in inpatient settings) from relatives or close friends at a comparatively early stage.

Exaggerated perceptions and interpretations. Patients with PDs tend to process information according to their special filters, and sometimes their perceptions are highly selective or biased. They

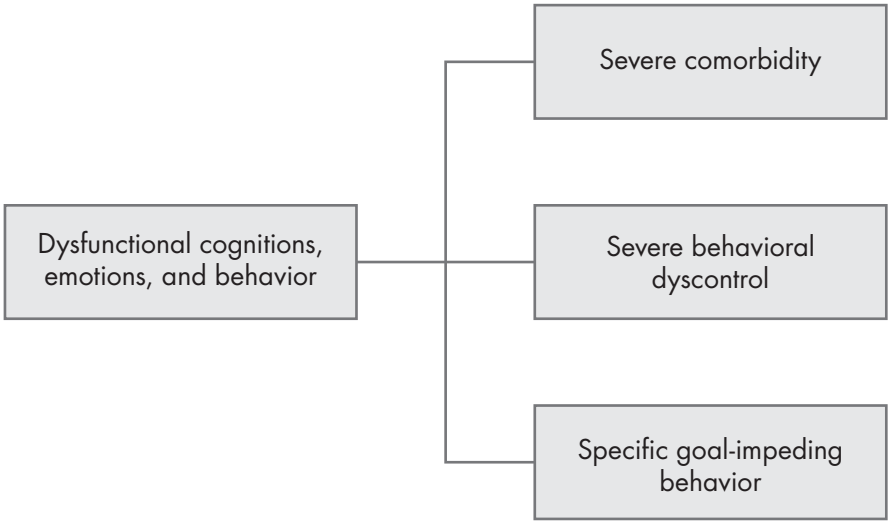

FIGURE 11–4. Hierarchy of treatment targets in the domain of dysfunctional cognitions, emotions, and behavior.

TABLE 11–2. Key components of a problem analysis

- External conditions
- Exaggerated perceptions and interpretations
- Distorted patterns of cognitive and experiential processing
- Accentuated action tendencies and behavioral repertoire
- Manifest behavior and interaction patterns
- Specific reactions of the social environment

can have exaggerated or dysfunctional assessments and appraisals of information. Most PDs are characterized by prototypical misinterpretations. The environment, for instance, can be perceived as too threatening, too sexualized, or too embarrassing, leading to specific experiences and behaviors. It is important to stress that patients with PDs mostly perceive these interpretations not as dysfunctional but rather as evident, valid, and realistic. Therefore, they do not experience these problems as originating within themselves. Rather, the problems have to be deduced indirectly via observations of the therapist, reflection on the therapeutic relationship, or observations in residential settings or in groups.

Cognitive-behavioral therapists often use questionnaires, which can detect prototypical interpretation patterns of their patients, with the help of case vignettes (Beck et al. 2003). Behavior and situation analyses are used to reflect peculiarities that are reproduced in the therapeutic relationship or in other therapeutic settings. Generally, however, cognitive-behavioral schools point out that these disturbed interpretation patterns may be specific to distinct social domains, roles, or situations and therefore may not necessarily be reflected in the therapeutic relationship. The residential setting allows the use of more complex sources of information (dealing with other patients, handling of restrictions and

rules, dealing with hierarchically higher or lower persons).

Distorted patterns of cognitive and experiential processing. The analysis of peculiarities in cognitive processing and emotional experiencing of patients with PDs is one of the core features of the problem analysis. This analysis can be seen as a multilevel process. Hypotheses, which are formulated at the beginning of the therapy, should continually be adjusted because the degree of information correlates positively with treatment progress as the individual characteristics of the patient become more and more obvious. At the beginning of the therapy, it is certainly helpful to rely on prototypical categorical knowledge. For example, it is very likely that patients meeting criteria for obsessive-compulsive PD will experience severe distress if they have to decide between two equally ranked alternatives, and they likely feel better if the decision is externally determined. Histrionic patients may react aversively to continuity and routine because they tend to switch between different external stimuli. It is also characteristic that patients with paranoid personality patterns may threaten or file a lawsuit for perceived infringement on their rights. Nevertheless, therapists should be aware of the danger of generalizing too much and should be open to the individual characteristics and peculiarities of each patient.

Accentuated action tendencies and behavioral repertoire. People with PDs often show restricted flexibility in their ability to react to external and internal cues. This is true not only for cognitive or emotional processes but also for behavior and action. Very often, problems are based on the fact that the spectrum of possible actions is too narrow—that is, the patient simply does not "know" how to solve a problematic situation adequately. The patient's difficulties in anticipating potential social consequences of a particular behavior, along with deficient impulse control, additionally impair the ability to act or react appropriately. This restricted behavioral repertoire can be based on negative experience and dysfunctional cognition. For example, severe embarrassment combined with the cognition "It is written all over my face that I am a loser" can activate thoughts of escape during a public speech. Many behavior tendencies are based on the attempt to avoid anticipated unpleasant emotions. For example, a patient with avoidant PD will try very hard to avoid getting into a potentially shame-inducing situation. Finally, the restricted action possibilities could simply be based on deficient social learning processes.

Manifest behavior and interaction patterns. Visible behavior is embedded in a social context and is determined by multiple variables. In addition to predisposing biological factors, the ability to control one's actions and to anticipate their consequences strongly interacts with earlier learning and relationship experiences. Limited impulse control, conditioned reaction patterns, socially reinforced behavior patterns, and dysfunctional relationships are only partially under the control of the patient. On the other hand, these dysfunctional behavior patterns do have effects in the social context and thus may be reinforced in vicious cycles. This can be illustrated using borderline PD as an example: self-harming behavior is mostly used to attenuate intensive negative emotions or states of aversive tension (Kleindienst et al. 2008). If superficial cuts are followed by intense emotional attention from partners or therapists, these reactions will influence future behavior, even if this was not intended by

the patient. A hasty reaction by the therapist (e.g., "Could it be that you try to attract attention by injuring yourself?"), however, could be interpreted by the patient as an invalidating and harshly critical statement.

Specific reactions of the social environment. The most prototypical behavior patterns develop during adolescence and stay rather stable during the further course of life. Therefore, it is not surprising that persons with limited behavioral flexibility seek social environments that meet their expectations. If they succeed in doing so, their degree of suffering is low and treatment may not be necessary. (This phenomenon may at least partially explain some discrepancies between the prevalence rates of PDs in the general public and those in clinical treatment populations.) Conversely, one can assume that the social environment may "become accustomed" to the behavior patterns of the individual concerned, stabilizing and reinforcing those behaviors from the perspective of learning theory. Therefore, although changes in the social environment can often precipitate crises, as described earlier (see "Change Management"), continuity in the social environment can impede learning processes and the likelihood of the patient's changing. As a result, the therapist should integrate specific reaction patterns of the environment into the treatment. This applies not only to partners and peers but also to friends, colleagues, and superiors.

Communicating the Diagnosis and Psychoeducation

Whether a patient with a PD should be informed about his or her diagnosis has been the subject of controversial debate for many years. Arguments against openly communicating the PD diagnosis refer to the stigmatizing language and deficit orientation of categorical diagnoses of PDs. They also refer to the potentially negative effect that communicating the diagnosis might have on transference and countertransference reactions or to the ego-syntonic nature of the PDs. Those who favor open communication argue that because of this ego-syntonic pattern, there is a greater need for information by patients and relatives and that they have a right to be told this information. Proponents also point out the clarifying, emotionally relieving, and hope-building aspects of such open communication that result from a clear definition of a mental disorder and evidence that there is effective treatment. In practice, psychoeducation that includes information about the diagnosis prevails as an essential component of manualized, disorder-specific therapy programs (e.g., Hoffman and Fruzzetti 2005). The positive results of specific psychoeducational programs for patients with PDs and/or for their relatives suggest that, at least for selected PDs, the benefits of openly communicating the diagnosis mostly outweigh the disadvantages. Most patients report being relieved after a diagnosis is professionally communicated to them. The information about the diagnosis should be not an isolated intervention but a flexibly scheduled part of a psychoeducational approach. Such an approach, using informed and clear language about the PD and the treatment model, can help considerably to destigmatize and demystify the diagnosis and to enhance treatment motivation. Helpful suggestions are contained, for example, in the psychoeducational program of Oldham and Morris (1995), which anticipates the dimensional perspective (see Chapter 24, "An

Alternative Model for Personality Disorders: DSM-V Section III and Beyond," in this volume).

According to a resource- and problem-oriented view of the personality, additional information about diagnosis and explanatory models should be guided not solely by DSM-5 criteria (American Psychiatric Association 2013) but also by the patient's individual thinking and unique and specific experiences and behavior patterns. Following the overarching treatment algorithm presented in this chapter, which prioritizes clarification of individual values and SMART treatment aims, therapists can link these specific patterns to goal attainment and can analyze which conditions might interfere with achieving those goals and how they could be changed. Most patients are not aware of the correlations between current interpersonal needs, attitudes, emotions, and behaviors and their own history of learning and development. It is an important task to enable the patient to understand these correlations and to offer a plausible explanatory model for the patient's problems. Although such an approach mostly does not solve the patient's problems, it provides relief by making them understandable and comprehensible. It helps establish purpose and meaning to the behavior and builds a bridge between the subjective experience and motives for behavior. A subsequent goal involves helping the patient accept responsibility for current problems and recognize that they can be reduced only by the patient's own efforts to change.

Therapy Contracts

Use of a therapy contract to clarify the general conditions of treatment is basic and a prerequisite for all psychotherapeutic interventions. For the treatment of patients with PDs, however, a number of special features should be taken into consideration, such as financial arrangements and the duration and frequency of treatment. Especially for patients with severe PDs, suicidal crises can be expected, and the therapist should clarify in advance under which conditions inpatient care makes sense. Inpatient admission without consultation with the therapist should take place only in emergency situations. Particularly for chronically suicidal patients, a "crisis management schedule," in terms of an escalation plan, should be developed. This plan lists appropriate interventions (including telephone numbers of emergency facilities) correlated with the patient's ability to maintain control and stay safe. It may be useful to tell the patient where and under which conditions the therapist can be reached by the patient in case of an emergency, depending on the severity of the crisis. Finally, the therapy contract should include arrangements concerning the use of electronic media (audio and video communication and records, as well as e-mail) both for self-management and for supervision. The patient also has a right to know how and from whom the therapist receives supervision, if applicable, and which materials are used in that process. In practice, so-called therapy contracts, which contain the contents of the agreements in written form and which are signed by both parties, can be quite useful.

Therapeutic Relationship

Dysfunctional cognitions, emotions, and behavior patterns of patients meeting criteria for PDs become especially manifest in interpersonal domains. Accordingly, the therapeutic relationship is of critical importance. Three issues are particularly important to consider: First, the establishment of the therapeutic rela-

tionship will be mostly influenced by the patient's previous interpersonal relationships and by expectations based on those experiences. These implicit expectations will be transferred to the interaction with the therapist. Therefore, in establishing the relationship, the therapist needs to modify his or her own behavior to a degree that includes but goes far beyond "empathy." Second, deviations from these usual expectations can and should be detected and used to reevaluate diagnostic and interpersonal patterns. Third, the therapeutic relationship—after a solid establishment phase—can be used as a field for learning and experimentation in order to extend the patient's experience and behavioral repertoire.

Establishment of the Relationship

All therapeutic schools emphasize how important it is that the therapist has a basic attitude that reflects confidence and expertise and inspires trust (e.g., Del Re et al. 2012). In the treatment of patients with PDs, however, the therapeutic relationship has a special function. A patient with a PD often has expectations or fears regarding interactions with a partner that are strongly shaped by earlier negative relationship experiences; however, the experience and behavior patterns of patients with PDs, in contrast to those of patients with many other mental disorders, are characteristically ego-syntonic and perceived as consistent and logical, not a reason to need treatment. As a result, patients with PDs may expect that the therapist will confirm their perceptions. In psychotherapy research the term *complementary relationship* has been proposed (e.g., Kramer et al. 2009) to characterize therapeutic behavior that adapts deliberately to the expectations of the patient. For instance, experienced therapists will realize that a dependent patient expects that the therapist will take over all responsibility in the treatment, even if the patient does not verbalize this. Accordingly, by this model, the therapist should meet these expectations during the initiation of the treatment and demonstrate strength and leadership qualities, giving practical everyday advice to handle problems. Such a strategy might not be helpful for all patients, however. With a paranoid patient, for example, experienced therapists might "intervene" in the organization of the patient's everyday life as little as possible but rather try to gain the confidence of the patient first. The therapist needs to be rather flexible in an attempt to comply with the expectations of the respective patients, especially in the beginning of the therapeutic relationship. However, it is important that the therapist does not "play act" but is authentic in the relationship.

Relationship as a Diagnostic Source

As mentioned in the previous subsection, at the beginning of the therapy, the therapist will try to meet the explicit and implicit expectations of the patient to a certain degree in order to gain the confidence of the patient and create a solid base for necessary change processes. At the same time, the therapist will notice and reflect on the patient's demands or interactional patterns and observe the therapist's own cognitive and emotional responses as well as actions and urges (a process that psychodynamic therapists might refer to as *countertransference*). The therapist now has a dual function: 1) to become an authentic partner in a relationship and 2) to observe, on a metacognitive-emotional level, potential peculiarities in the relationship structure. These "deviations from the norm" in the therapeutic relationship are valuable diagnostic

clues. Psychodynamic schools often view this process of transference and countertransference as the primary source of diagnostic information. Cognitive-behavioral therapists additionally use questionnaires and information derived from third parties.

Relationship as a Source for Change

Patients' interpersonal expectations and reaction patterns are usually transferred to their interactions with the therapist. Thus, the therapeutic relationship offers the possibility of first-hand experience and learning in the interpersonal area—and under quasi-controlled conditions. After a phase during which the relationship is established, the therapist can carefully begin to question dysfunctional expectations or interactive patterns and motivate the patient to start behavioral experiments to gain new experiences. This process requires exceptional therapeutic skill, because any challenge to the patient's expectations may activate aversive emotions toward the therapist. Thus, these change-oriented interventions have to be counterbalanced by active strengthening of the relationship by the therapist.

Linehan coined the phrase "balance between acceptance and change" and called it a "dialectical" relational strategy (Linehan 1993, p. 98). This approach has been of great help in establishing therapeutic relationships with patients with borderline PD, and it can be easily expanded to a general principle in the treatment of PDs: whenever the therapist is challenging dysfunctional expectations or interpersonal behavior, it must be done in the context of strengthening the therapeutic alliance. A helpful strategy is to always describe the behavior, never the person. Another important therapeutic strategy is to validate the "subjective evidence" of the assumptions of the patient—possibly in relation to the patient's own biographical experience—while at the same time critically reflecting the social reality. Table 11–3 outlines how to use the emotional awareness of the therapist for behavior change. This dialectical dynamic of establishing the relationship via acceptance and endangering the relationship through challenge is often the key to successful therapeutic work. Cognitive-behavioral therapists mostly act like "coaches," reviewing "the disorder" together with the patient and helping the patient to risk new experiences, especially outside of the therapeutic relationship. However, as happens in psychodynamic therapies, they also observe which of the relevant social interaction patterns evolve in the "therapeutic dyad." The therapist intervenes via clarifications, confrontations, and interpretations by helping the patient to reflect on the evolving processes on a metacognitive level, experience them emotionally, and link them to biographically relevant reference points. The therapist should be flexible enough to adjust the intensity of these processes to the ability of the patient and to potentially change social conditions. For example, if a dependent patient loses a job during the therapy, even in an advanced stage, the therapist initially will give the patient the desired support once again before activating new resources already learned.

Core Change Strategies

External Conditions

Factors that trigger psychological decompensation in people with PDs are often external stresses, including social variables (divorce, changes in work life, etc.). Analysis and objectification of these

TABLE 11–3. A clinical algorithm to use for in-session observations for behavioral change

1. Observe dysfunctional verbal or behavioral in-session patterns and observe your emotional reactions (e.g., patient looks hostile and falls into silence after reporting suicidal thoughts).
2. Ask the patient whether feedback is desired: "May I give you some short feedback?"
3. Describe the behavior observed and validate:
   "It seems to me that you have become silent and look quite angry after telling me your suicidal thoughts. If I am right, I am sure that you have good reasons for how you're feeling. Is that right?"
4. Describe your own cognitive or emotional reaction:
   "Nevertheless, your behavior makes me feel quite helpless and anxious."
5. Ask whether your reaction is intended by the patient:
   "Is this your intention?"
6. If the patient denies it (as is typical), then ask for the "real" intention:
   "Fine, so what is your intention?"
7. Whatever the patient answers, help the patient process intentions adequately:
   "Oh, you feel helpless by yourself and you expect clear advice from me, such as how to cope with suicidal thoughts? That makes sense to me—so please try to think about and tell me what your expectations are, because otherwise we might run into trouble."
8. Link functional behavior to the individual goals of the patient:
   "…and by the way…it might be not entirely useless to learn how to ask for concrete help and advice—perhaps regarding your wish to continue your fellowship program in May."
9. Do not forget to shape functional behavior:
   "This time it seems to me that you directly ask for advice about the skills needed to take that step, and it looks like an effort to change your communication style—which is one of the goals we've been working on. Is that correct?"

external stresses should have a high priority in therapy. On the basis of the problem analyses, therapeutic strategies such as problem solving, competence building, or acceptance-based methods are recommended as interventions. The use of structured problem-solving manuals has become firmly established as an important option in numerous multimodal treatment procedures (e.g., Black et al. 2013).

Maladaptive Perceptions and Beliefs of the Patient

Changing maladaptive perceptions and dysfunctional appraisals of the patient in general requires two sorts of interventions: 1) identifying, observing, describing, and labeling these automatisms and 2) applying either cognitive reappraisal techniques or metacognitive interventions (e.g., Cristea et al. 2013). As outlined earlier (see subsection "Problem Analysis"), identification of dysfunctional information processing by the patient requires the help of the therapist. Maladaptive cognitive responses can be considered via retrospectively applied behavioral or chain analyses (e.g., Kohlenberg et al. 1993) or, even better, under real-time conditions by counting maladaptive thoughts. Counting thoughts requires observation and can be an engaging exercise, and patients become aware of how often they automatically process these thoughts. The next step is to clarify the consequences of these thoughts on an emotional or behavioral level. The therapist could encourage the

patient to take short notes regarding the prompting events or cues, the related thoughts, and the consequences. A third step would be to evaluate the consequences and reconsider how strongly these automatic thoughts and assumptions impair the realization of personal values and goals. After this step, the therapist should be able to help the patient to critically discriminate between the origins and former relevance of these assumptions and their lack of validity under current social conditions. This methodological approach shifts the work toward cognitive restructuring, which emphasizes the problems of automated thoughts ("What benefit do you gain from this perspective?") and carefully carves out alternative perspectives ("Could there be another possible explanation?" or "Under which conditions would this different perspective be more effective?"). More recently, metacognitive approaches have been shown to be effective alternatives to cognitive restructuring: instead of attempting to change dysfunctional cognitions or emotions, the patient is encouraged to accept these thoughts and emotions as inadequate but existing and to learn to tolerate them without following them (learn to react without reaction).

Distorted Emotional Experience Patterns of the Patient

Processing a patient's dysfunctional emotional experience patterns initially requires a detailed analysis of the individual's specific reactions. The therapist can use behavior analyses, schema analyses, planning analyses, and formal therapeutic induction techniques (e.g., Dobson 2010). Attempts should be made to clarify whether the patterns are linked to definable trigger variables, whether they are activated internally or externally, and whether they are stabilized by reactions of the environment. Depending on the results of the analysis, the therapist will choose exposure-based change techniques or methods of cognitive restructuring or will try to partner with the patient to reorganize the reinforcement systems. In general, most cognitive-behavioral therapists teach their patients basic knowledge about relevant emotions, their evolutionary background, the prompting cognitions, and the related action tendencies. They teach patients how to discriminate between justified and nonjustified emotions and how to attenuate these emotions if the emotions are too strong or inadequate under current social conditions.

Maladaptive Action Tendencies and Behavioral Repertoires

Dependent on their individual histories, patients possess specific repertoires of possible ways to react to certain demands or situations. Behavior patterns and habits that are often used or that have proven effective in the short term will be self-reinforcing and will be activated automatically. To gain a higher degree of flexibility, the patients should learn to identify these automated concepts and to work toward developing a "menu" of first responses. Methodologically, the therapist will begin by offering model-based learning and by encouraging behavioral experiments in situ.

Manifest Behavior and Interaction Patterns

After becoming aware of their maladaptive behavioral repertoires and learning

some replacement behaviors, the patient should be able to use the newly conceptualized behavioral possibilities under real-life conditions. Therapeutic role-plays prepare the patient for this experimental phase. The in vivo behavioral experiments should not be left to chance but instead planned and recorded. The emotional reactions of the patient as well as the (unfamiliar) reactions that could be expected from the environment are discussed in terms of anticipated behavior analyses and role-plays. This stage is often very stressful for patients because they need to get past strong emotional barriers (anxiety, embarrassment, etc.) in order to learn new habits. Therefore, this phase of treatment needs to be strongly and sensitively supported by the therapist.

Implementation of Changes Under Everyday Conditions

Once the patient is successful at implementing changes through extended role-play in the treatment setting, the patient should be encouraged to implement newly acquired behavior patterns in the real environment (e.g., at the workplace, in relationships, during family or leisure activities). Recording behavioral change with individualized protocols is helpful.

Specific Reactions of the Social Environment

It is to be expected that friends and acquaintances in the patient's social environment will initially react with confusion or surprise to the changes in the patient's behavior. The therapist should prepare the patient that this could happen and encourage the patient to withstand the urge to fall back on old behavior. Sometimes "reframing" is helpful ("Whenever your behavior feels a bit unfamiliar or whenever you tend to fall back, that is a strong hint that you are on the right path"). In some cases it can make sense to involve selected individuals in the patient's immediate social environment to help identify and change undesired reinforcement systems.

Supervision

Considering the particularity and the importance of the therapeutic relationship in work with patients with PDs, it is obvious that supervision should be an integral part of the therapy. As described above (see "Therapeutic Relationship"), the therapist needs to find a good balance between fulfilling and frustrating the interactional expectations of the patient toward the therapist. Depending on the level of stress influencing the patient, the therapist should react flexibly in the relationship and in providing emotional support. Experienced cognitive therapists, however, carefully try to avoid reinforcing patients' ongoing dysfunctional behavior. In contrast to psychodynamic therapists, cognitive therapists do not try to maintain a technically neutral relationship but instead aim to be flexible, linking therapeutic attention and care to behavior change. Maintaining this strategy is not easy, however, because patients with PDs tend to "punish" their therapists for effective therapy. Also, therapists often prefer a smooth and pleasant relationship with their patients and tend to adapt to a patient's maladaptive behavior. In other words, even very well-trained therapists may comply with the wishes of the patient and may not be able to completely recognize their countertransference, thereby risking a delay in the change process. Here, the collegial supervision serves as a corrective mechanism.

Supervisors of all therapeutic schools increasingly use audio and video technology because the detailed monitoring of the patient's and therapist's behavior can be used for the purpose of therapy management. Many studies of the efficacy of psychotherapeutic procedures for the treatment of patients with PDs report results that were gathered under experimental conditions that included supervision as one of the conditions.

Conclusion

This chapter serves as a guide to a modern cognitive-behavioral treatment approach for clients with PDs. It is based mainly on the evidence-based concepts of dialectical behavior therapy and acceptance and commitment therapy. Clients with PD are challenged by a variety of dysfunctional patterns hindering them from living a life according to their individual values and goals, and any treatment plan should be based on a thorough analysis of these individual values and goals and the major obstacles to their attainment. The obstacles include social variables as well as maladaptive cognitions, emotions, behavior patterns, and skills deficits. Measurable, attainable, goal-relevant, and time-bound aims should be defined, targeted, and verified routinely. During the treatment, the targets are chosen according to a dynamic hierarchy, with priority given to life-threatening and treatment-interfering behavior, and the treatment interventions should be embedded in a supportive trustful therapeutic relationship, balancing acceptance and change-oriented techniques.

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CHAPTER 12

Cognitive-Behavioral Therapy II: Specific Strategies for Personality Disorders

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Theory, Definition, and Interventions

Cognitive-behavioral therapy (CBT) for individuals with personality disorders (PDs) is an ongoing, fluid process in which collaboratively planned interventions are intended to become part of the patient's way of experiencing the world and himself or herself. Challenging the maladaptive negative thoughts extends beyond examining the *content* of a belief or the truth and falsity of any particular thought to considering how the *process* of thinking functions within a person's life and the world in which he or she lives (Björgvinsson and Hart 2006). Cognitive therapy theorists generally agree that it is necessary to identify and modify core problems in interpersonal, emotional, and cognitive domains when treating individuals with PDs (Beck et al. 2004) and to view the products of these core problems as available for conscious-level psychological work (Ingram and Hollon 1986). A tripartite intervention strategy, targeting schemas about the self and others, self-destructive and defeating behaviors, and affect dysregulation, is assumed to be necessary to work effectively with patients with PDs. As discussed in Chapter 11, "Cognitive-Behavioral Therapy I: Basics and Principles," in this volume, CBT is an evolving theoretical and treatment structure with the capacity to integrate interventions and concepts from a broad base of scientific disciplines.

Cognitive-behavioral therapies incorporate a wide range of techniques, including cognitive restructuring, behavior modification, exposure, psychoeducation, and skills training (Matusiewicz et

al. 2010). Effective CBT for the PDs includes a careful negotiation of a therapeutic alliance with specific attention to developing an agreement on the goals of the treatment. The collaborative nature of goal setting is one of the most important features of cognitive therapy in general, although achieving an effective collaboration can be particularly challenging because patients struggling with PDs are being asked to modify their primary modes of operating and to alter their schemas about the self and others (Beck et al. 2004). Not surprisingly, CBT for PDs requires modification of brief treatment models to bring about lasting improvement in underlying schemas, affect regulation, and behavioral patterns that frequently produce negative reinforcement such as nonsuicidal self-injury (NSSI) to decrease emotional distress and produce analgesic effects (Nock and Prinstein 2005).

Broadly speaking, the problematic personality traits and disturbance in schemas about self and other are maintained by a combination of maladaptive beliefs about self and others, and contextual factors that reinforce problematic behavior and undermine effective behavior (Beck et al. 2004; Linehan 1993). Sperry (2006) construed PDs as a disharmony in the interaction of character and temperament. Character refers to developmentally learned psychosocial influences on the individual and is commonly associated with the term *schema.* Schemas are cognitive structures consisting of basic beliefs that individuals use to organize the view of the world, the self, and the future; these implicit and explicit schemas interact with genetic factors that influence expression of personality.

Cognitive-behavioral treatments that emphasize the role of distorted schemas about self and other, along with disturbance in affect regulation and behavior, are readily integrated into the conceptualization of the alternative model for PDs appearing in DSM-5 Section III, "Emerging Measures and Models" (American Psychiatric Association 2013). According to this alternative model, the central, defining features of PDs are 1) an overarching pattern of distorted and maladaptive thinking about oneself and 2) impaired interpersonal relationships (Bender et al. 2011; Morey et al. 2011). Numerous studies indicate that maladaptive patterns of mental representations form a common substrate of core impairments across PDs (Bender and Skodol 2007). Thus, internal working models or schemas constitute an overarching domain of personality function that impacts the quality of relationships. The focus on a dimensional conceptualization of personality traits as an organizing approach to the identification of problematic areas of functioning also fits well with the philosophy of cognitive-behavioral therapies that attend to dysfunction in behavioral and interpersonal domains but do not necessarily subscribe to a view of categorical PDs.

Meta-Analyses and Reviews

Randomized controlled trials (RCTs) and high-quality effectiveness studies of CBT for PDs reveal generally positive outcomes (for a review of the CBT outcome literature for PDs, see Matusiewicz et al. 2010). A series of meta-analyses on the effectiveness of psychotherapy for treatment of PDs demonstrated that cognitive-behavioral and psychodynamic psychotherapies of middle to long duration are effective in reducing depression and the burden of global psychiatric symptoms, even when co-occurring disorders are present (Leichsenring and Leibing 2003; Leichsenring and Rabung

2008). Far less evidence exists on the effectiveness of psychotherapies in the treatment of specific PDs other than borderline PD (BPD); nonetheless, evidence has emerged in the past decade to suggest that CBT is effective in treating other PDs (Matusiewicz et al. 2010; McMain and Pos 2007).

Because the vast majority of effectiveness and efficacy studies target BPD symptomatology, more is known about effective treatment for this particular disorder. The American Psychiatric Association's (2001) guideline for the treatment of patients with BPD and the subsequent guideline watch (Oldham 2005) confirm that psychotherapy represents the primary treatment for BPD, with adjunctive, symptom-targeted pharmacotherapy used to mitigate severity of core symptoms. A persuasive review of data from approximately 24 RCTs of BPD (Leichsenring et al. 2011) demonstrated clear and compelling evidence that several forms of psychotherapy, including CBT and dialectical behavior therapy (DBT), help patients with BPD decrease the frequency of self-destructive behaviors such as NSSI, as well as common secondary symptoms of depression, anxiety, and substance abuse.

Traditional Cognitive-Behavioral Therapy

Efficacy trials of traditional CBT demonstrate generally positive results for the treatment of PDs. In the Borderline Personality Disorder Study of Cognitive Therapy (BOSCOT), individuals were randomly assigned to a treatment as usual (TAU) arm consisting of community-based medication management and emergency services (n=52) or to TAU + CBT (n=54) (Davidson et al. 2006). Treatment duration was 1 year, with an average of 16 sessions. The active ingredients of the CBT arm included cognitive restructuring, modifying dysfunctional schemas and core beliefs, implementing behavioral change (decreasing self-defeating and self-destructive behaviors), and increasing adaptive responses to problems. Although patients in both treatment groups demonstrated improvement, those in the TAU+CBT group reported fewer suicide attempts. At treatment termination TAU+CBT subjects reported lower symptom distress, reduced anxiety, and fewer dysfunctional cognitions; however, the active treatment arm did not demonstrate superiority over TAU in number of hospitalizations, number of emergency department admissions, frequency of NSSI or psychiatric symptoms, level of interpersonal functioning, and level of global functioning at follow-up. A 6-year follow-up demonstrated durable gains for the TAU+CBT subjects (Davidson et al. 2010). A reexamination of therapist effects in the BOSCOT trial indicated that patients receiving higher quantity and more competent delivery of CBT had two to three times greater improvement in suicide-related outcomes (Norrie et al. 2013).

An RCT of treatment of patients with BPD demonstrated equivalent outcomes between CBT and Rogerian supportive counseling on measures of anxiety, depression, dysfunctional cognitions, and suicide-related behaviors; however, patients in the CBT condition demonstrated superior outcomes at 24-month follow-up of patient- and clinician-rated global symptom severity (Cottraux et al. 2009). The latter finding must be interpreted with caution, however, because intent-to-treat analyses were not performed and dropout/loss-to-follow-up rates were high.

Another CBT designed to augment individual psychotherapy is Manual As-

sisted Cognitive Treatment (MACT). This six-session treatment combines components of CBT with elements of DBT, including distress tolerance and functional analysis of NSSI. In the most recent RCT for MACT (Weinberg et al. 2006), MACT+TAU demonstrated superiority to TAU in decreasing frequency and severity of NSSI, but did not differ from TAU in time to the first suicidal ideation or repeat suicide attempt.

Group-based cognitive-behavioral interventions specifically developed for reducing the self-defeating and self-destructive behaviors associated with BPD have demonstrated considerable promise. Systems Training for Emotional Predictability and Problem Solving (STEPPS; Blum et al. 2002) is based on the premise that individuals with BPD have limited access to specific emotion regulation and behavior management strategies. Such deficits negatively impact the emotional and interpersonal stability of relationships, thereby impairing an individual's capacity to utilize support systems (Blum at al. 2002, 2008). The active treatment consists of 20 weekly group sessions divided into four modules: 1) assembling a support system, 2) psychoeducation about BPD for the members of the support system, 3) psychoeducation for patients to identify thoughts and emotions that contribute to problematic behavior, and 4) emotion management skills training for patients. STEPPS has been evaluated in three RCTs involving outpatients diagnosed with BPD who were randomly assigned to receive either TAU or TAU+STEPPS (Blum et al. 2008; Freije et al. 2002; Van Wel et al. 2006). Results from all three trials indicate superiority of STEPPS to TAU in decreasing BPD symptom severity, negative affectivity, impulsivity, and global impairment in functioning, with gains generally maintained over 1-year follow-up. STEPPS does not, however, appear to reduce the targeted suicide-related behaviors, NSSI, or corresponding rates of inpatient hospitalizations or emergency department visits.

A second group treatment, Emotion Regulation Group Therapy (ERGT; Gratz and Gunderson 2006), is an acceptance-based model that aims to increase the capacity of patients to control behavior while in states of distress, rather than attempting to control the experiences of emotions. The model and treatment highlight the functional aspects of emotion problem solving and the difficulties associated with attempts to control and suppress emotional experiences. A preliminary RCT of women diagnosed with BPD randomly assigned to TAU (n=10) or weekly group sessions of ERGT +TAU (n=14) demonstrated significant reduction in frequency of NSSI as well as clinically significant reductions in symptoms of depression, anxiety, stress, emotional dysregulation, experiential avoidance, and BPD criteria. The TAU group failed to demonstrate improvements in any outcomes of interest. This small RCT was followed by an open trial of ERGT treating a wider array of individuals with NSSI (Gratz and Trull 2011). Results indicate significant changes from pretreatment to posttreatment, with large effect sizes on all measures except quality of life and blatantly self-destructive behaviors (the latter demonstrated a medium-large effect size). Importantly, 55% of the ERGT group reported abstinence from NSSI during the last 2 months of the group treatment.

Effectiveness of cognitive psychotherapy for avoidant PD has been demonstrated in an RCT in which CBT proved superior to brief dynamic therapy in improving social phobia, avoidance, and obsessive symptoms (Emmelkamp et al. 2006). A 52-week open trial of CBT showed

reductions in depression and personality symptoms at the end of treatment of patients with avoidant PD and patients with obsessive-compulsive PD (Strauss et al. 2006).

Group CBT for patients with avoidant PD utilizes cognitive restructuring, exposure, skills training, and intimacy skills training to decrease social avoidance and anxiety. A well-designed multi-arm RCT (Alden et al. 1989) compared three active group CBT treatments with a wait-list control group. The standard group CBT arm included exposure with limited cognitive components, the second arm consisted of standard group CBT plus general skills training, and the third consisted of the group CBT plus intimacy-focused skills training. All active treatment conditions produced reductions in depression, anxiety, and avoidant behavior, as well as improvements in social functioning, with gains maintained at 3 months posttreatment. Renneburg et al. (1990) found modest recovery rates following brief, intensive group CBT, which consisted of exposure and skills training across 4 full-day group sessions. At treatment completion, 40% of patients receiving group CBT were considered recovered on the basis of their fear of negative evaluation; however, much lower rates of recovery were demonstrated for depression, anxiety, social avoidance, distress, and overall social functioning. A series of studies demonstrated that exposure and skills training were sufficient to bring about significant improvement and target symptoms, whereas cognitive restructuring had minimal effect (Stravynski et al. 1982, 1994).

Thus far, CBT has demonstrated modest efficacy in the treatment of antisocial PD but has not demonstrated superiority over TAU. Davidson et al. (2009) randomly assigned men with antisocial PD to receive either CBT or TAU. In both treatment conditions, patients demonstrated lower frequency of verbal and physical aggression at follow-up; however, there were no improvements observed in secondary symptoms such as anger, negative beliefs about others, depression, or anxiety. At the present time, there are no known open trials or RCTs assessing CBT for schizoid, schizotypal, paranoid, dependent, narcissistic, or histrionic PDs.

Schema-Focused Therapy

Schema-focused therapy (SFT) integrates techniques from behavioral, psychodynamic, experiential, interpersonal, and cognitive-behavioral techniques (Young 1999; Young and Lindemann 2002). Its primary cognitive theoretical framework incorporates the construct of psychological schemas about the self and others and assumes that rigid patterns of avoidant and compensatory behaviors develop to avoid the triggering of underlying painful schemas. Modifying early maladaptive schemas is a primary focus of the treatment and requires individual psychotherapy treatment durations ranging from 1 to 4 years.

In a large-scale RCT, patients with BPD were randomly assigned to receive either SFT or transference-focused psychotherapy (TFP) (Giesen-Bloo et al. 2006). Patients in the SFT arm demonstrated greater improvement across BPD dimensions, including relationship impairment, identity disturbance, abandonment fears, dissociation, impulsivity, and NSSI. SFT also proved efficacious in decreasing symptomatic behaviors consisting of general symptoms, defense mechanisms, and paranoia. These latter symptoms imply change in underlying schemas. Although both treatment arms demonstrated sig-

nificant improvement in targeted symptoms and behaviors, SFT demonstrated a 66% overall gain in clinically significant change compared with 43% for TFP.

SFT has been adapted for a 30-session group format as an augmentation to individual psychotherapy. Farrell et al. (2009) randomly assigned patients with BPD to receive TAU+SFT or TAU (TAU consisted of high-quality psychodynamic psychotherapy delivered by well-trained and experienced clinicians). Compared with patients receiving TAU alone, patients receiving TAU+SFT evidenced significantly greater decrease in BPD symptoms and in general level of psychiatric impairment, and showed greater improvement in overall functioning.

Dialectical Behavior Therapy

DBT was developed to treat patients with BPD, with a specific focus on suicide-related behaviors and NSSI (Linehan 1993). DBT is the most investigated treatment for BPD (Kliem et al. 2010) and is currently used in the treatment of multiple psychiatric conditions. Drawing from behavioral science, dialectic philosophy, and Zen practice, DBT balances acceptance and change in the pursuit of not only surviving but constructing a life worth living (Lynch et al. 2007).

Linehan (1993), in her biosocial theory of BPD, contends that the patient's emotional and behavioral dysregulation are elicited and then reinforced by the interplay between an invalidating developmental environment and a biological tendency toward emotional vulnerability and reactivity. Moreover, DBT characterizes maladaptive behaviors as natural and understandable reactions to environmental reinforcements (Linehan 1993; Lynch et al. 2007). DBT differs from traditional CBT in that it focuses on acceptance and validation of behavior as it is in the present moment, on reducing therapy-interfering behaviors, on the therapeutic alliance, and on the dialectical processes (Linehan 1993). The overarching emphasis on dialectics helps patients' reconciliation of opposites in an ongoing process of synthesis. Linehan delineated three basic dialectics: 1) competence versus active passivity, 2) unrelenting crisis versus inhibiting experiencing, and 3) emotional vulnerability versus self-invalidation. A major treatment dialectic concerns problem solving versus acceptance.

Technical interventions focus on developing skills in core mindfulness, emotion regulation, interpersonal effectiveness, and self-management. Linehan full-package DBT includes individual sessions with support from weekly skill-building groups, ideally led by someone other than the individual therapist. Therapy occurs in four stages: 1) focusing on reducing suicidal behaviors, therapy-interfering behaviors, and behaviors that negatively impact patients' quality of life; 2) aiding patients in moving from desperation to emotional experiencing through supportively reducing the patient's learned avoidance of aversive emotions; 3) targeting problems of living including trauma-related issues, family, academic, and career problems, and other disorders; and 4) increasing the capacity for freedom and joy (Lynch et al. 2007).

The full package generally requires a 1-year treatment duration and has demonstrated significant improvement in BPD symptoms and self-destructive behaviors. Early RCTs varied in the quality of the TAU condition (Linehan et al. 1991; Verheul et al. 2003). Nonetheless, out-

comes were quite favorable, with the DBT arm demonstrating substantial reduction and frequency of NSSI and anger, as well as high rates of treatment retention, with durable gains maintained at 6- and 12-month follow-up (Linehan et al. 1993). In a more recent RCT (Linehan et al. 2006), outpatients with BPD were randomly assigned to receive either 1 year of community treatment by BPD experts (n=51) or the full-package DBT (n=52). Groups were matched for clinician characteristics including gender, level of training, supervision, and treatment allegiance. At 1-year outcome, the patients in the DBT condition evidenced fewer suicide attempts, emergency department contacts, and inpatient psychiatric days, and they had superior retention rates compared to those receiving treatment from community BPD experts.

Two RCTs that included a DBT arm demonstrated equivalence in outcomes between DBT and the comparator treatment. McMain et al. (2009) compared a large sample of patients randomly assigned to receive DBT (n=90) and general psychiatric management (n=90); the latter consisted of psychodynamic treatment and targeted medication management. Both treatment arms demonstrated a significant decrease in frequency of suicide attempts and NSSI, medical severity of suicide-related behaviors, number and frequency of emergency department visits, and inpatient psychiatric days; however, DBT did not prove superior—a finding counter to the study hypothesis. Clarkin et al. (2007) randomly assigned outpatients with BPD to receive 1 year of twice-weekly TFP (n=23), full-package DBT (n=17), or weekly psychodynamic supportive therapy (n=21). All three treatment arms demonstrated significant improvement in symptoms of depression and anxiety, social adjustment, and global functioning; however, psychodynamic supportive therapy did not impact rates of suicide-related behavior. Consistent with previous findings, DBT produced a decrease in suicide-related behaviors; however, patients in the TFP arm had fewer suicide attempts than did those in DBT. Reductions in physical assault, verbal aggression, and irritability were also demonstrated in the TFP condition.

DBT has been adapted to inpatient treatments with significant success. Barley et al. (1993) found that patients in a long-term inpatient ward who were transitioned to a DBT treatment model evidenced a decrease in NSSI and overdose attempts after the ward transitioned to DBT. The authors compared the DBT phase of treatment with TAU on another long-term general psychotherapy ward, demonstrating that NSSI decreased significantly on the DBT unit, whereas no decrease was observed on the TAU unit. An open pilot trial of inpatient DBT (Bohus et al. 2000) found similar outcomes for a 3-month inpatient DBT-based treatment, with significant decrease in the frequency of NSSI, depression, stress, anxiety, and overall psychiatric symptoms. A subsequent trial (Bohus et al. 2004) randomly assigned women with BPD to a wait-list TAU condition (n=31) or inpatient DBT (n=19). The inpatient DBT group demonstrated decrease in NSSI, depression, anxiety, and social and global function with gains at outcomes maintained at 1 month postdischarge. The TAU condition demonstrated no discernible improvement in any outcomes.

New Directions

A number of developments in the treatment of PDs have emerged in recent years. Cognitive Analytic Therapy is an

integrative combination of cognitive therapy and psychodynamic object relations (Ryle and Kerr 2002) and as such cannot be viewed as a pure brand of CBT. Rather, the treatment model and evidence base supporting its efficacy in decreasing the symptom burden for individuals with BPD (Chanen et al. 2008; Clarke et al. 2013) point to a shift to integrated treatments with structured, well-defined interventions targeting specific personality trait pathology. Similarly, Acceptance and Commitment Therapy (Hayes et al. 2013) and mindfulness-based treatments (Kabat-Zinn 2003) integrate interventions from a broader philosophical and treatment tradition that includes but is not exclusively focused on modifying distorted cognitions. These treatments are being modified and applied with some success to the treatment of individuals with multiple co-occurring disorders. The case example that follows highlights this integrative approach in the treatment of a young woman with avoidant PD.

Empirical Case Study

Ana is a young woman of Hispanic heritage who was admitted to the Menninger Clinic due to severe depression, anxiety, and the inability to benefit from outpatient therapy. She received twice-weekly CBT (as part of an integrated multimodal treatment package) at the clinic to address severe social anxiety and fear of being imperfect. In the years prior to this admission, Ana was a competitive athlete and excelled in academics through high school. She placed unrelenting pressure on herself to excel and constantly felt that she failed to live up to her internal standards. Ana developed a highly perfectionistic style of organizing her interests, daily tasks, and relationships to the point of being unable to complete basic tasks. Falling short of these unrelenting standards generated so much anxiety and shame that she failed to maintain any adaptive life path.

Ana developed an eating disorder and polysubstance abuse, both of which functioned to reduce stress and anxiety. Ana also experienced frequent panic attacks that were associated with feeling rejected by peers. Her rejection sensitivity led to frequent ruptures in relationships and abrupt endings. Eventually, Ana's unrelenting standards and her excessive need for autonomy and approval seeking failed, and Ana began to avoid things that mattered to her. She gave up on athletics, had many failed attempts at college, and increased her drug abuse. She avoided social and public events due to self-consciousness and excessive fears of negative evaluation. Attempts at work and college were met with a similar inability to sustain functioning due to unremitting anxiety. As she became more dysfunctional, Ana was admitted to a residential treatment center for her eating disorder and substance abuse. These earlier treatments proved moderately beneficial; however, Ana's pattern of interpersonal avoidance and social anxiety interfered with outpatient treatment. After nearly 2 years of failed school attempts, short-term jobs, and intermittent drug use, she sought voluntary admission at the Menninger Clinic.

An integral part of the Menninger Clinic treatment program includes standardized research-based diagnostic assessment and routine assessment of symptomatic functioning at 2-week intervals throughout the course of treatment, with feedback provided to the patient and treatment team to aid treatment planning and monitoring of progress (Allen et al. 2009). Ana's research diagnoses at admission included dysthymic disorder, major depressive disor-

der (recurrent and severe), substance abuse, eating disorder not otherwise specified, and avoidant PD (AVPD) with significant borderline and obsessive-compulsive traits. Her responses to the battery of psychological measures conducted at admission indicated that Ana had a broad array of severe psychiatric symptoms and significant impairments in daily functioning and emotion regulation. Ana's responses to the Patient Health Questionnaire (PHQ; Spitzer et al. 1999) indicated that she experienced severe anxiety and depressive symptoms (Figure 12–1). Results from the World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0; World Health Organization 2013) and the five-item World Health Organization Well-Being Index (WHO-5; Bech 1997) showed that Ana had severe disability and a poor sense of well-being, respectively (Figure 12–2). According to her scores on the Difficulties in Emotion Regulation Scale (DERS; Gratz and Roemer 2004), Ana had trouble accepting her emotional responses, experienced deficits in strategies for regulating her emotions, and had problems sustaining goal-directed activity because of emotional interference (Figure 12–3). Her performance on the Acceptance and Action Questionnaire—II (AAQ-II; Bond et al. 2011) indicated that Ana struggled with experiential avoidance and lack of psychological flexibility (Figure 12–4).

During the first session of individual CBT, Ana described intense distaste for the interpersonal intensity of the social milieu on the hospital unit. She was defensive, emotionally guarded, and isolated from peers and staff. Education on the cognitive-behavioral model was introduced, with special emphasis on developing a collaborative treatment frame. Liberal use of explanations and illustrations of the principles of CBT helped to reduce her fears of failure and rejection and to begin to foster a therapeutic alliance. Ana self-rated her therapeutic alliance with the treatment team (Working Alliance Inventory; Horvath and Greenberg 1989) as average to high from the outset of treatment (Figure 12–5), which was a good predictor of a positive outcome.

Upon further assessment, Ana's psychiatric disturbance was confirmed to be much broader than her presenting complaint and was more consistent with AVPD. There was some debate among her treating clinicians about whether social anxiety disorder (SAD) was more applicable than AVPD. There is a significant overlap between SAD and AVPD, and some researchers conclude that AVPD is a more severe variant of SAD (Chambless et al. 2008; Cox et al. 2009). Others, however, argue for a distinction between the two disorders, characterizing AVPD as encompassing more severe depression, introversion, and social and occupational impairment (Sanislow et al. 2012). Individuals with SAD alone tend to avoid anxiety-provoking situations for fear of doing something embarrassing or of being negatively evaluated in the moment. In contrast, individuals such as Ana have a broader pattern of avoidance that is driven by pervasive emotional avoidance, fears of rejection, and severe feelings of inadequacy. Patients with AVPD—whether it is a discrete entity or a severe variant of SAD—have more interpersonal fears (Perugi et al. 2001) and are more emotionally guarded than those with SAD (Marques et al. 2012). Clinically, patients with AVPD are less likely to accept exposure-based interventions than are those with SAD alone (Taylor et al. 2004); patients with AVPD tend to be less willing to tolerate the anxiety of repeated exposure be-

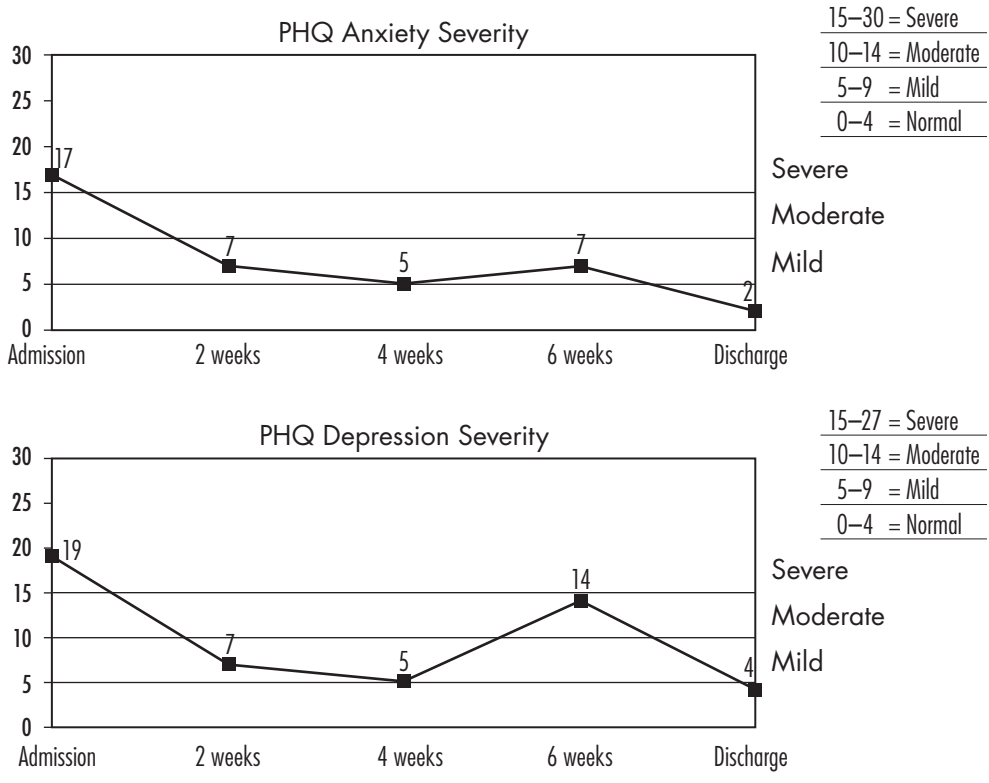


FIGURE 12–1. Patient Health Questionnaire (PHQ).

cause it triggers a more pervasive emotional response (Huppert et al. 2008).

In early individual therapy sessions Ana described her childhood as difficult but not overtly abusive. She felt she could never live up to her parents' expectations and felt constant disapproval from her family. The fear of disapproval was internalized and became a salient schema in her processing of information and emotional responding. To fend off self-criticism, she frequently became argumentative and would often "melt down" when corrected or challenged. She described herself as a hard worker and viewed success in sports and school as buffers against disapproval, rejection, and shame. Ana's stated goals for treatment were to "be able to go to school, be more independent, and not be so afraid of people." Several patterns were identified that needed to be addressed in order to help her reach her treatment goals: 1) effortful suppression and hiding of her anxiety, 2) self-criticism and ruminations, 3) intense rejection sensitivity, and 4) limited strategies for contending with strong emotions.

During the first 2 weeks of treatment, Ana hid her anxiety from peers and staff, believing that being anxious was a sign of weakness that would evoke disapproval from others. Like other patients with vulnerability to shame (Hejdenberg and Andrews 2011), she showed flashes of anger whenever she felt criticized. She ruminated over past events and used these to anticipate future criticism. Rumination as an emotion regulation strategy has been shown to have a strong link across several forms of psychopathology (Aldao et al. 2010), as well as a strong association

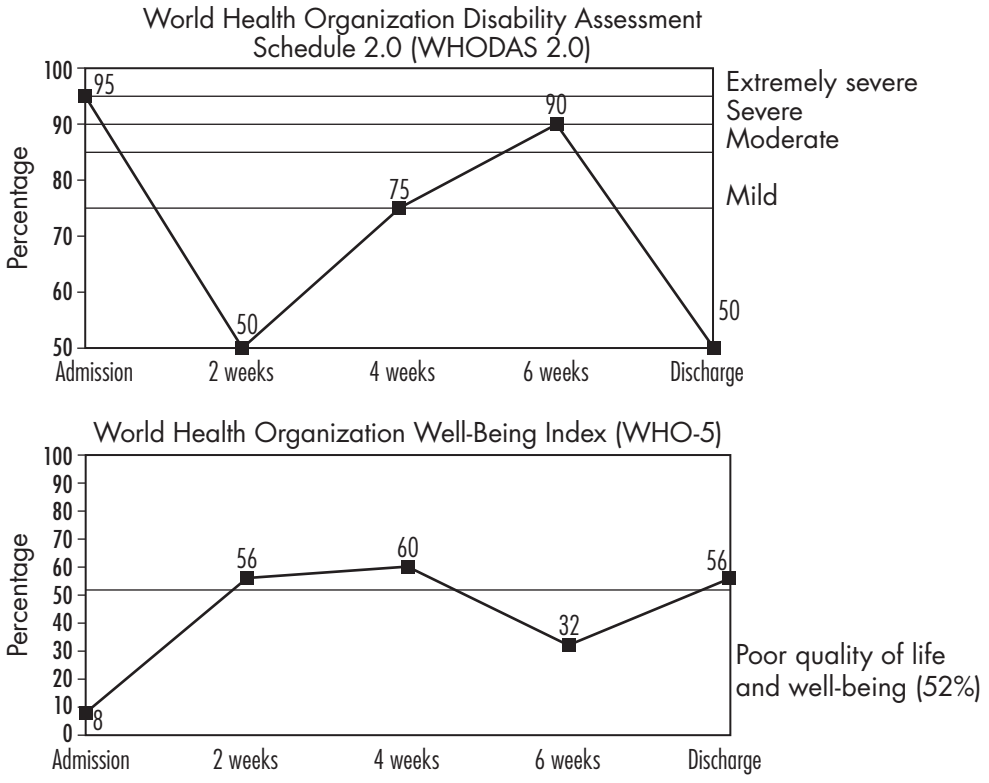


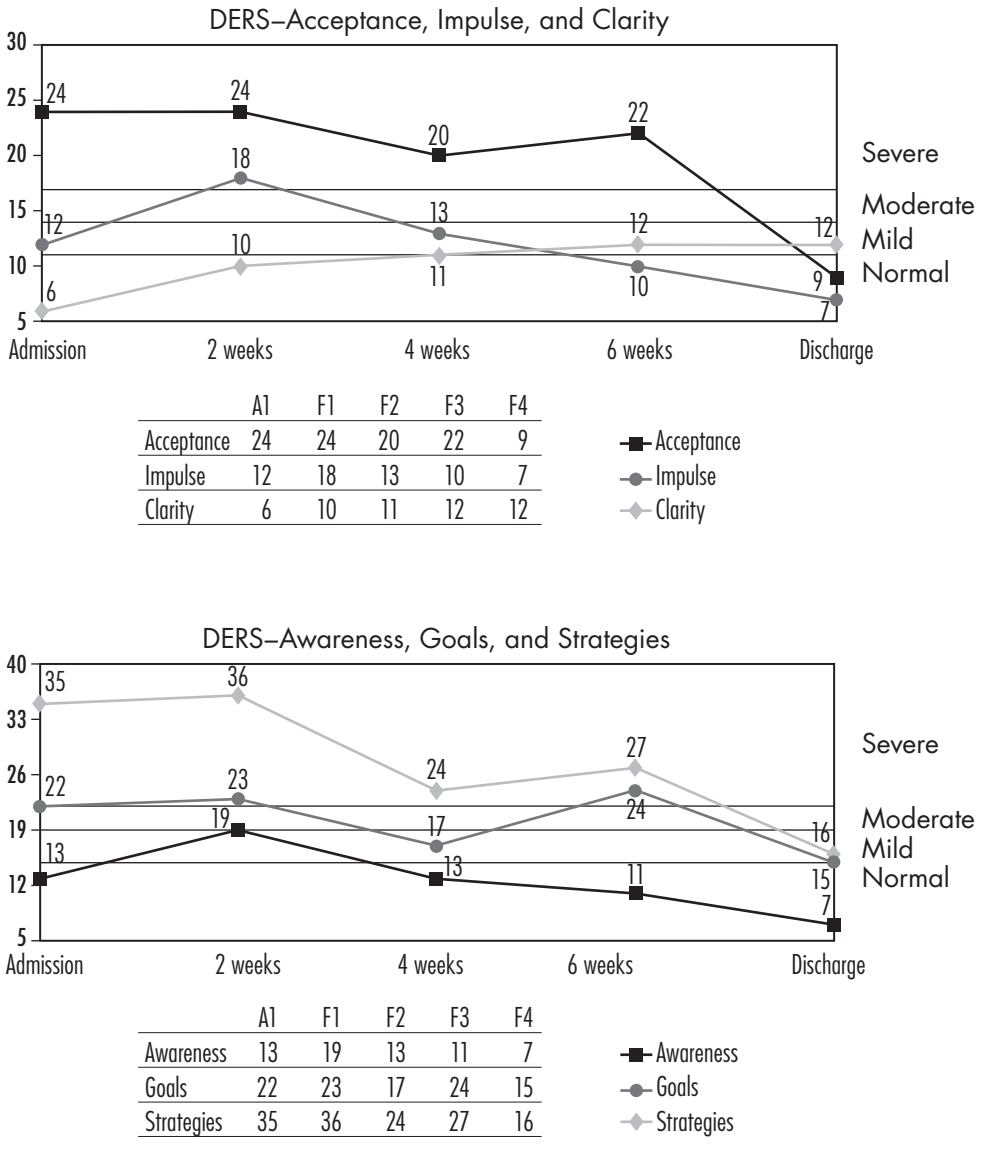
FIGURE 12–2. World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) and five-item World Health Organization Well-Being Index (WHO-5).

Note. A change of 10% indicates a significant alteration in sense of well-being.

with shame proneness and self-criticism (Gilbert and Proctor 2006; Rector et al. 2008). Additionally, Ana frequently engaged in post-event processing. Repetitive thinking about perceived inadequacy in social interactions is related to depression and anxiety (McEvoy et al. 2010). At times Ana would externalize these feelings, but typically she would internalize anger and retreat into ruminative self-criticism and harsh self-judgment. Ana's self-criticism was intense and a potential treatment barrier. Self-criticism has been identified, for example, as an impediment to treatment with CBT for depression (Rector et al. 2000).

Ana worried excessively about a variety of themes but primarily about becoming overwhelmed by her emotions. In individual therapy sessions she learned that worry was an insulator against overwhelming emotions—worrying about negative outcomes at every turn protected her from being hopeful and then disappointed. Due to the rigid and overgeneralized nature of Ana's worry, she missed opportunities for self-soothing and for developing capacities for processing underlying emotions of sadness, shame, and guilt (Newman and Llera 2011).

During early sessions the therapist shared these observations and formulations as an integral part of CBT. After feedback and education about the conceptualization of her condition, Ana reformulated her treatment goals to include work on rumination/worry, shame, anxiety in social situations, and anger. She rec-



	A1	F1	F2	F3	F4
Acceptance	24	24	20	22	9
Impulse	12	18	13	10	7
Clarity	6	10	11	12	12

	A1	F1	F2	F3	F4
Awareness	13	19	13	11	7
Goals	22	23	17	24	15
Strategies	35	36	24	27	16

FIGURE 12–3. Difficulties in Emotion Regulation Scale (DERS).

ognized that she was plagued with rumination and saw this as a major impediment to progress in life. A functional assessment was initiated that emphasized the consequences of rumination, while analysis at the content level was necessary to help Ana modify distorted beliefs, challenge maladaptive thoughts, and correct faulty assumptions. These goals were worked on using a variety of traditional cognitive therapy interventions, such as dysfunctional thought records, pro-and-con analysis, and downward arrow exercises (Beck 2011). Many patients like Ana, however, have ongoing internal dialogues about the accuracy of their thoughts, which can be aimed at avoiding a painful emotional experience. Although useful, analysis at the content level can run the risk of providing fodder for the ruminative process. Ana said that throughout her life, family and others close to her al-

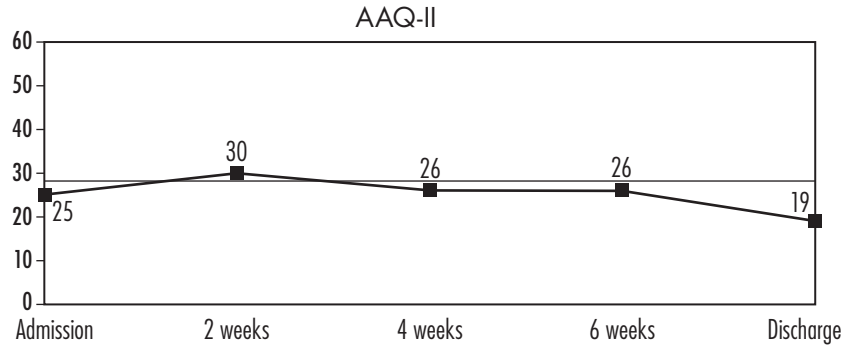


FIGURE 12–4. **Acceptance and Action Questionnaire–II (AAQ-II).**
Scores below 28 indicate increased psychological flexibility.

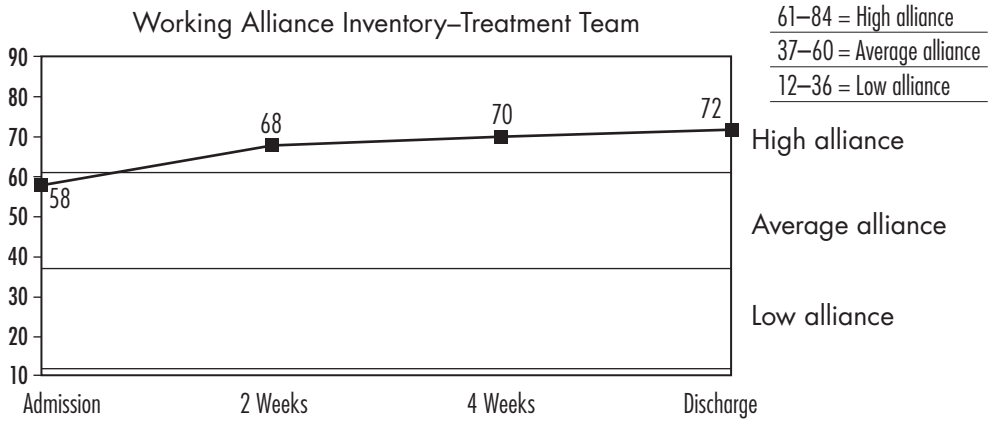


FIGURE 12–5. **Working Alliance Inventory—Treatment Team.**

ways tried to offer solutions and to talk her out of her negative feelings. Breaking this cycle of being broken and needing repair required empathic understanding by the therapist of her underlying emotions. In direct response to Ana's ruminations, the therapist asked her to reflect on how her current rumination helped her improve her life or sense of longer-term well-being. Another part of the functional analysis was to help Ana identify her underlying emotional states.

Identifying emotions was difficult for Ana. A good deal of time was spent helping her identify and define her emotions, including her response tendencies for them. Being able to identify emotions when she had them gave her greater access to a range of emotions and helped her process them more fully. Another part of the functional analysis looked at how these patterns of avoidance developed throughout her life. Ana maintained that emotions such as sadness, fear, and shame were met by her parents with attempts to solve her problems and quickly alleviate her emotions. These attempts by others to alleviate her distress led Ana to conclude that emotions were "wrong."

Interventions aimed at increasing self-compassion were engaged to address her self-critical rumination and shame prone-

ness. Increasing self-compassion has been shown to effectively address self-criticism and maladaptive levels of shame, as well as to increase a sense of well-being (Germer and Neff 2013). Particularly helpful for Ana was writing a letter of self-compassion from an "imaginary compassionate friend" in which the friend expresses compassion that is balanced and realistic but not indulgent or placating (Neff and Lamb 2009). Many self-critical patients believe that without their own criticism, they will lapse into a complete state of inadequacy. Although initially resistant to self-compassion, Ana eventually caught on to the balanced and realistic self-compassionate approach that helped her think about her deficits and flaws in a more open and accepting way so that she could change what was possible to change.

One technique that helped Ana learn to identify and process unwanted emotions was to determine the nature of a threat in situations in which she felt either overwhelmed with anger and/or anxiety. Mindfulness exercises helped her develop an observer mode that mitigated against overidentification with her thoughts and feelings. Ana often found herself responding to troubling situations with emotion-driven behaviors that were characterized by avoidance and withdrawal or externalizing defensive aggression. Threats typically involved making mistakes, feeling embarrassed or exposed to perceived weaknesses, and being evaluated or judged negatively. Because of her history of emotion-regulation problems, Ana had strong emotional responses to even neutral social events. In other situations her automatic emotional response was frequently out of proportion to the event. Cognitive reappraisal helped her identify and modify maladaptive thinking patterns with the aim of increasing her flexibility in appraising various situations.

Ana's anticipatory anxiety prior to attending a group on the unit was so intense that she often decided not to go. This emotionally driven avoidance was negatively reinforced by a reduction in her anxiety; however, this short-lived reduction would be followed by guilt and shame in which a chain reaction of avoidances occurred, such as avoiding staff, missing subsequent groups and activities, and so on. Cognitive reappraisal helped Ana gain a more realistic assessment of the actual threat. Cognitive reappraisal also included skill-building interventions to help her cope with the "worst that could happen" scenario. Ana developed the capacity to reappraise and rehearse coping strategies in the event that her fears would come to fruition. Other chances for skill building occurred in vivo, such as when she found herself in conflict with her roommate and was able to use a "Dear Man" skill from DBT (Linehan 1993). To prepare for implementing such an interpersonally challenging technique, Ana realistically appraised the potential problems and was able to realize that she could not be effective unless she was willing to feel anxious.

It was also emphasized with Ana that behavioral avoidance was a type of emotional suppression that was ineffective for adaptively regulating emotional responses and that interrupted effective emotion processing. Breaking the pattern of behavioral avoidance was essential for Ana's recovery. For most patients with AVPD, exposures typically need to be carried out with a clear rationale as to how these experiences fit with the rest of their treatment. Skill building and cognitive reappraisal are important, but an experiential component is also needed. In-session experiential components involved directly addressing past hurts and traumas, with full allowance for her to

experience her emotions fully. Ana responded to a mindfulness exercise that consisted of just listening to her critical voice, and she eventually constructed realistic responses to this inner voice. This exercise was in the service of helping Ana experience her distressing emotions in a safe and empathic environment.

These strategies provided a stage for increasing Ana's willingness to experience aversive emotions in more public settings. She reframed her participation in groups from a performance to an experience. This was an important factor for Ana—as she viewed it, her entire life had been a performance that she could never get right. The concept of willingness to experience was vital to her recovery as she began to realize that pursuing valued life experiences could not be done if she insisted on controlling unwanted emotions. Ana was able to set valued life experiences as goals rather than "emotional goals," which were typically managed with avoidance, rumination/worry, and suppression of thoughts and feelings. To increase her willingness to experience unwanted thoughts and feelings, Ana constructed a "what for" list, consisting of values and experiences she wanted to pursue. Constructing a list of experiences to increase motivation for change was essential for breaking maladaptive patterns, because valued patterns are individualized and are intrinsically self-reinforcing (Wilson and Dufrene 2008). Once Ana's values were established through a structured exercise, she became more cognizant of the costs of controlling and avoiding painful thoughts and feelings in contrast to pursuing more effective and satisfying experiences.

Ana listed the following among her most important values: having relationships with family and friends, learning, helping and caring for others, and being healthy. Similarly, she became more in touch with "lost" values, such as feelings of gratitude and forgiveness. She began to make a shift from fixed, specific superlative goals to more flexible, reasonable goals guided by her identified values. In a more self-compassionate way, Ana developed a greater balanced and realistic view of her strengths and flaws. Interpersonally, she began taking more risks by interacting with others without heavy reliance on externalizing or internalizing defenses.

Ana made clinically significant improvement through her treatment. At admission she had a broad range of psychiatric disturbances that required a variety of interventions but with a focused set of therapeutic targets. CBT for her social anxiety alone was unlikely to succeed, but it was an essential component of therapy throughout the treatment. Targets for treatment were her basic core beliefs in her basic inadequacy, her expectation that others would ultimately reject and hurt her, and her pervasive fear of her own emotions.

As can be seen from Ana's outcome measures, her anxiety and depression levels decreased significantly (see Figure 12–1). Her overall sense of well-being increased, and her perceived severity of disability dramatically decreased (see Figure 12–2). Her ability to accept aversive internal experiences and gain psychological flexibility increased moderately (see Figure 12–4). Lastly, as shown in Figure 12–3, her ability to accept her emotional experiences (Acceptance), take a more workable look at her feeling about herself and her relationships (Awareness), set goals and commit to effective behaviors without emotionally driven interference (Goals), and construct strategies to help her effectively regulate her emotions (Strategies) all improved in meaningful ways.

In examining Ana's outcome measures, it is noteworthy that during week 6 she had a spike in her self-reported depression severity (see Figure 12–1) and functional disability (see Figure 12–2), as well as a decrease in her sense of well-being (see Figure 12–2). At this juncture she admitted to secretively engaging in her eating disorder symptoms after many months of control. She felt ashamed, embarrassed, and humiliated and believed that she would be asked to leave treatment. The serious nature of this behavior was explained to her; however, she was also praised for coming forth with this information. Despite reassurance, Ana continued to believe that she had lost the confidence of those trying to help her and that she would be rejected. This "therapeutic rupture" was an important focus during the final 2 weeks of her treatment as she worked through the experience with staff and her peers (as can be seen in the precipitous decline in depression severity and functional improvement as discharge approached).

Conclusion

Manualized cognitive-behavioral therapies, including at least one acceptance-based treatment (Gratz and Gunderson 2006), are effective in reducing symptoms associated with PDs, and particularly BPD. What is abundantly clear, however, is that more systematic efficacy and effectiveness studies must be conducted involving patients with other PDs, especially those PDs with relatively high prevalence rates, such as AVPD (Fowler and Oldham 2013).

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CHAPTER 13

Group, Family, and Couples Therapies

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Although individual therapy has long been the mainstay of treatment for personality disorders (PDs), there is a growing appreciation for the place of multi-person therapies (group, family, couples) and the need for a multimodal approach when treating patients with PD. As Magnavita (1998) noted, "The dynamic interplay between our biological and intrapersonal organization interacts with the social systems and not only adds to the shaping of our personality, but also is crucial in the pathogenesis or maintenance of self-defeating patterns of behavior" (p. 8). Interpersonal dynamics help organize, shape, and consolidate individuals' self-perceptions and self-concepts, and can be observed in the dynamics within family systems and other social groups. PDs and the clinical syndromes that they engender are not contained solely within the individual but are formed by early attachments, shaped by family dynamics, and consolidated by repetitive interactions and habitual patterns of communication and interaction (Magnavita 2000). As such, PDs are expressed relationally in various interpersonal configurations, evident in marriages and romantic partnerships, families, and other groups that are part of an individual's social system (Magnavita 2000). Treating PD as if it exists only in the individual's thoughts, actions, or brain chemicals ignores important aspects of human functioning. The interpersonal context of PD deserves careful attention.

This chapter focuses on multi-person therapies (group, family, couples) for PDs. These therapies may take many different forms based on their theoretical and technical orientations. Because of the presence of multiple patients, multi-per-

son therapies have certain unique features that distinguish them from other types of therapy. These unique features may facilitate or complicate the treatment of PDs. Similarly, PDs have certain features that may facilitate or complicate their treatment with different types of multi-person therapies.

Considering each of these multi-person therapies (group, family, couples) separately, we discuss the facilitating and complicating features of these therapies and PDs. For each of the three categories of multi-person therapies, we also review various forms, which differ in format, intensity, and objectives; discuss research support; and present case examples. Given its brevity, this chapter should be considered only as an abridged introduction to the use of group, family, and couples therapies for PD.

Group Therapy

Features of Group Therapy That Facilitate Treatment of PDs

Group therapy can be used effectively for treating most PDs, especially when the patient is unaware of his or her maladaptive behavior and the presenting problems have a clearly interpersonal context. In group therapy, character patterns unfold in the myriad interactions with other group members. The intensive verbal and nonverbal interchanges within the group quickly unmask a patient's repetitive maladaptive personality traits. The other patients may recognize and identify with similar behavior patterns, provide feedback, and offer suggestions for change. The patient can subsequently practice adaptive behavior. This process is commonly referred to as *interpersonal learning.* Other patients may learn through observation and imitation. Simply recognizing that other patients share one's difficulties (universality) and helping other patients with their problems (altruism) can be therapeutic. A sense of "we-ness" or togetherness develops, providing patients with a feeling of belonging and cohesion with a caring group of others. These various processes (cohesion, interpersonal learning, imitation, universality, and altruism) are regarded as powerful unique therapeutic factors of group treatment (Yalom and Leszcz 2005).

Group treatments have other facilitative features as well. Paralyzing negative transference toward the therapist is less likely to occur in group therapy than in individual therapy because the situation is less intimate and because strong affects such as rage are diluted and expressed toward multiple targets. Similarly, feedback from the therapist in the individual therapy situation may be dismissed by the patient as biased, but this reaction is much less likely to occur in response to feedback from several peers in a therapy group. In addition, because of the variety of affects expressed by different patients, integration of positive and negative affects is facilitated.

Features of Group Therapy That Complicate Treatment of PDs

Group features may also produce complications in treatment of PDs. Some patients with PD resent sharing the therapist and feel neglected and deprived. In the group situation, regressive behaviors, such as emotional outbursts, aggressive actions, or suicidal threats, are more difficult to manage and contain than in individual therapy. Groups are prone to scapegoat-

ing; patients with PD provide many provocations. There are a number of concerns in the group situation, relative to individual therapy, that many patients with PD find troublesome, including loss of control, individuality, understanding, privacy, and safety. The therapist is subject to such concerns as well.

Features of PDs That Facilitate Group Therapy

The predominant feature of patients with PD that facilitates group treatment is their strong tendency to openly demonstrate interpersonal psychopathology through behavior in the group. Compared with patients without personality disorders, patients with PDs are more likely to demonstrate rather than describe their interpersonal problems. Although these problems are also demonstrated in individual therapy, the stimuli from multiple patients precipitate pathological interpersonal behavior more intensely and quickly in group therapy. This behavior can be clearly recognized and dealt with immediately in the group. A second facilitative feature of patients with some PDs (e.g., dependent, histrionic, borderline) is that they are "other seeking." They tend to value the connections in the group.

Features of PDs That Complicate Group Therapy

Many of the behaviors that are characteristic of patients with PD can complicate group treatment. These behaviors can be offensive to other members of the group, thereby weakening cohesion and distracting members from working. Usually, such patients challenge the guidelines and norms that have been established in the group. Examples of anti-therapeutic behaviors include stoic silence or, conversely, excessive disclosure; scapegoating; extragroup socializing; disregard for boundaries; and absenteeism.

When a patient's anti-therapeutic behaviors persist in the group, the behaviors may be conceptualized as roles. The persons occupying the roles are commonly labeled as "difficult" patients in the group therapy literature (Bernard 1994). These difficult patients are often those with PD. Examples of difficult roles and the DSM-5 PDs (American Psychiatric Association 2013) often associated with them are the silent or withdrawn role (schizoid, schizotypal, paranoid, avoidant); the monopolizing role (histrionic, borderline, narcissistic); the boring role (narcissistic, obsessive-compulsive); the therapist's helper role (histrionic, dependent); the challenger role (antisocial, borderline, obsessive-compulsive); and the help-rejecting complainer role (borderline, narcissistic, histrionic). Although these roles are occupied by individual persons, they often represent something shared by others in the group. The person occupying the role unwittingly serves a defensive function for the entire group, with the other members disavowing ownership of uncomfortable thoughts and feelings and projecting them onto particular members. In this way, the behavior of those fulfilling certain roles represents a wish or conflict that is shared by all members of the group. These roles can interfere with the work of the group by preventing the occupier of the role and the other group members who project onto that role from experiencing certain aspects of themselves. Therefore, when addressing "difficult" behavior represented by a particular patient role, the therapist must discern what aspect of the behavior is serving a defensive function for the group

and what is an authentic reflection of the person's particular personality pathology. This task can be very difficult considering the complex and volatile nature of some PDs, such as borderline PD (Tuttman 1990). For that reason, a combination of group therapy and individual therapy is often recommended.

Different Forms of Group Therapy

Group therapies differ in structure (format), intensity, and objectives. Four forms can be distinguished: short-term outpatient group therapy, long-term outpatient group therapy, day treatment, and inpatient or residential treatment.

Short-term outpatient group therapy often involves a single session per week for 20 or fewer weeks. Certain focal symptoms (e.g., depression) or behaviors (e.g., affect expression, social skills) are targeted for change. These groups usually are not intensive in nature; they do not attempt to change the basic personality traits and personality structure that characterize PDs. An example of this type of group therapy is Systems Training for Emotional Predictability and Problem Solving (STEPPS), which was designed as an adjunctive treatment program for patients with borderline PD (Blum et al. 2008). Participants attend 2-hour weekly group seminars organized around learning specific emotional, cognitive, and behavioral self-management skills. STEPPS also involves a psychoeducation group for key members of the patients' support networks.

Long-term outpatient group therapy consists of one or two sessions per week for at least 1–2 years. It focuses on the interpersonal world of the patient. It is intensive in nature and, over time, involves confrontation and interpretation of the patient's core conflicts, defensive style, and long-term maladaptive behaviors. It attempts to modify the core traits and personality structure that characterize PDs. Long-term outpatient group therapy is regarded as an appropriate and effective group treatment for PDs, especially when used in combination with long-term individual psychotherapy. The latter allows stabilization of the patient and an opportunity to disclose private and sensitive information that would be difficult to reveal in the group setting initially, although over time such revelation in the group becomes possible. This group approach assumes that over time the group comes to represent a social microcosm in which the interpersonal difficulties of the patients become vividly illustrated by the interpersonal behavior of the patients in the group. Examples of long-term group psychotherapy used with patients who have PDs are those of Rutan and Stone (2001) and Lorentzen et al. (2002).

Day treatment is a form of partial hospitalization. It is designed for patients who do not require full-time hospitalization and who are unlikely to benefit a great deal from outpatient group therapy. Day treatment patients have often had an unsuccessful course of outpatient group therapy. Patients typically participate in a variety of therapy groups for several hours each day for 3–5 days per week. The therapy groups are often approached from different technical orientations. For example, behavioral and cognitive interventions can be used in structured, skills-oriented groups, whereas dynamic interventions can be used in unstructured, insight-oriented groups. Family and couples interventions may also be employed. Day treatment is an intensive form of therapy. Its goals include relief of symptoms, reduction of problematic behav-

iors, modification of maladaptive character traits, and facilitation of psychological maturation.

Several other features contribute to making day treatment a powerful intervention. The first is the intensity of the group experience: patients participate in a number of different groups each day. Second, the groups vary in size, structure, objectives, and processes. This variety provides a comprehensive approach. Third, the different groups are integrated and synergistic. Patients are encouraged to think about the entire system. Fourth, patients benefit from working with multiple staff members and a large number of other patients. Fifth, day treatment capitalizes on the traditional characteristics of a therapeutic community (democratization, permissiveness, communalism, reality confrontation). These features strengthen cohesion, which helps patients endure difficult periods of treatment. The structure of day treatment programs encourages patients to be responsible, engenders mutual respect between patients and staff, and facilitates patients' participation in the treatment of their peers. Well-known approaches to day treatment programs are mentalization-based therapy, described by Bateman and Fonagy (1999), and time-limited day treatment, described by Piper et al. (1996).

As in day treatment, *hospital inpatient wards and residential treatment centers* commonly provide a variety of group treatment activities. Inpatient or residential treatment groups include admission groups, community groups, patient governance groups, insight groups, occupational therapy groups, support groups, and discharge groups. Although group sessions are a highly visible set of activities in acute treatment settings, they tend to be regarded as a minor part of the treatment regimen. Instead, psychotropic medications and problem solving regarding the acute crisis are viewed as the dominant interventions. An example of group-based inpatient treatment is described by Chiesa et al. (2003).

In North America, the lengths of stay in acute hospital settings have been decreasing significantly in response to escalating costs. Today, length of stay in such settings has come to mean short-term crisis management. Similarly, the cost of long-term care (i.e., lasting from several months to a year) in retreat settings that in the past provided powerful milieu therapies has become prohibitive, with many centers having closed down or greatly scaled back in size. Other centers have made accommodations to the changing health care environment but have preserved intensive hospital interdisciplinary treatment, carried out for an average length of stay of about 6 weeks (e.g., the Menninger Clinic). Conversely, in many European countries, most notably Germany, group-based, psychotherapeutically oriented, long-term inpatient treatment is common and supported by the national health care system.

Research Support for Group Therapy for PDs

Group therapy is usually regarded as an adjunct to individual therapy for patients with PDs or as a component to a comprehensive, multimodal treatment program. Therefore, few studies have examined the effectiveness of group therapy as a stand-alone intervention for PDs. One example of such a study is that of Cappe and Alden (1986), who compared brief behavioral group therapy (eight weekly 2-hour sessions) with a wait-list control condition for 52 patients with avoidant PD. The patients who were treated with a combination of graduated exposure training and interpersonal process training showed significantly more improvement

than patients who received only graduated exposure and patients on the wait list. In a similar trial, Alden (1989) compared three variations of brief behavioral group therapy (10 weekly 2.5-hour sessions) with a wait-list control condition for a sample of 76 patients with avoidant PD. All three treatment conditions demonstrated greater improvement than the wait-list control condition. However, the author noted that despite significant improvements, the patients did not achieve normal functioning. Similarly, Marziali and Munroe-Blum (1994) compared time-limited interpersonal group therapy, which consisted of weekly 90-minute sessions for 25 weeks and sessions every other week for the next 10 weeks (30 sessions in total), with open-ended weekly individual therapy in a sample of 79 patients with borderline PD. All patients demonstrated significant improvement on outcome measures, with no difference between the two treatment conditions. However, both conditions had high dropout rates.

More common are studies of treatment packages that include group therapy as one component. The most notable of such treatments is dialectical behavior therapy (DBT; Linehan 1993), which is a multimodal cognitive-behavioral treatment for borderline PD. DBT uses a skills-training group (2.5 hours per week for the usual 1 year of treatment) that complements twice-weekly individual therapy and telephone coaching to address emotion regulation, distress tolerance, and interpersonal behavior. DBT remains the most researched structured treatment for borderline PD. Several research studies support DBT as being superior to treatment as usual (TAU) in the reduction of suicidal and self-injurious behaviors (Chapman 2006). It is important to note that these studies have examined a complete multimodal delivery of DBT; the effectiveness of any one singular component of DBT is unclear. Furthermore, DBT has not been established as superior to other structured treatments for borderline PD.

STEPPS was developed to supplement ongoing care for borderline PD with a 20-week course of cognitive-behavioral therapy and psychoeducation (Blum et al. 2008). STEPPS involves psychoeducation for the patient's family members and other health care providers, so that the patient's support network can remain appropriately engaged and responsive. Patients also attend 2-hour seminars each week regarding cognitive-behavioral therapy and self-management skills. STEPPS is intended as an adjunct to the patient's regular treatment. Patients with borderline PD ($N=124$) were randomly assigned to receive STEPPS+TAU or simply TAU alone. The treatment groups demonstrated no significant differences in overall crisis-service utilization, suicide attempts, and self-harm; however, patients who received STEPPS+TAU showed greater improvement in depression, negative affects and disturbed cognitions, impulsivity, and global and interpersonal functioning (Blum et al. 2008). The benefit of adding STEPPS to standard care is thus encouraging, given its relatively brief duration and its effect on affective symptoms, an area in which DBT has been less successful.

Bateman and Fonagy (1999) developed mentalization-based therapy as a psychoanalytically oriented day treatment program that consists of a combination of group and individual therapies for 5 days per week for a maximum of 18 months. In a randomized controlled trial, they compared this program with a standard-care control condition, which consisted of infrequent meetings with a psychiatrist but no formal therapy, for a sample of 44 patients with borderline PD. Day treatment

patients showed significant improvements that exceeded minimal change for standard care on a variety of outcome variables, including suicide attempts and acts of self-mutilation and self-reports of depression, anxiety, general symptoms, interpersonal functioning, and social adjustment. Subsequent to discharge from day treatment, patients were provided with 18 months of psychoanalytically oriented outpatient group therapy. Five years following the completion of the outpatient group therapy, patients who received day treatment and outpatient group therapy continued to have superior performance on a number of outcome indicators, including suicidality, diagnostic status, service use, use of medication, Global Assessment of Functioning scores above 60, and vocational status. The long time frame for the follow-up period in this study is unparalleled in contemporary psychotherapy research, and the impressive findings regarding the maintenance of gains (and continued improvement, in many ways) demonstrated by treated patients provide compelling evidence for the lasting effects of mentalization-based therapy for borderline PD (Bateman and Fonagy 2008).

Findings from a number of carefully conducted naturalistic outcome studies that focused on the group treatment of PDs also have been published. These investigations, which tend to be pre-post, single-condition studies or studies with nonrandom assignment to conditions, involved outpatient group therapy (Budman et al. 1996), day treatment (Wilberg et al. 1998), and residential treatment (Chiesa et al. 2003). In general, the findings from these naturalistic studies were consistent with those of randomized clinical trials in providing evidence of favorable outcomes for patients with PDs, in particular those with borderline PD. Most of the randomized clinical trials and naturalistic studies focused on group treatments from a psychodynamic or cognitive-behavioral orientation. A meta-analytic review that focused on both group and individual treatments of PDs from psychodynamic and cognitive-behavioral orientations concluded that both orientations were effective treatments (Leichsenring and Leibing 2003).

Case Example 1

Debra, a 40-year-old associate professor at a prominent university, was diagnosed with narcissistic PD. While Debra was receiving long-term individual psychodynamic therapy, her therapist referred her to a long-term psychodynamic group, because her therapist felt that a group experience could help with her entrenched interpersonal problems. Debra had sought psychological help for feelings of extreme loneliness, something she has felt for as long as she can remember, and for multiple physical complaints. Debra seemed unable or unwilling to recognize or accept her own contributions to her problems, and instead would blame others and show contempt and envy toward them. She regarded her peers to be immature and inferior to her, but deep down inside, she felt the opposite.

Even though the group therapist managed to facilitate affective involvement of the group members and a strong sense of cohesion within the group, Debra remained aloof for a long time and missed a lot of sessions. She developed an erotic transference toward the group therapist—an older man who was a well-known figure in the medical community—but felt despised by him, as well as by the other group members. She was not ready to participate in the group work, which would mean disclosing emotionally charged experiences and exposing her vulnerability. To her, revealing intimate details about herself to others was too threatening and would lead to being humiliated and hurt. This

was interpreted many times by the group therapist, but to no avail.

During one session, Debra carelessly made a condescending remark about the other group members. In line with the work ethic of the group to be relational and respectful, one member asked Debra if she realized the meaning and impact of what she had just said. Debra was taken off guard at being confronted with her contempt for others. She apologized and admitted tearfully how hard it was for her to deal with feeling miserable and inferior to others. The group's empathic response to her display of vulnerability shocked her, and this intense emotional experience seemed influential in shaping her subsequent attitudes toward the group and its members. Debra began to respond more respectfully to the other group members' emotional experiences. She started to attend the group regularly and slowly ventured into expressing and sharing her problems.

Family Therapy

Features of Family Therapy That Facilitate Treatment of PDs

The unique features of family therapy make it especially suited for the treatment of patients with PDs. According to DSM-5, a primary criterion for the diagnosis of a PD is the existence of considerable interpersonal dysfunction. Because significant interpersonal problems are found across PDs, treatments that target the entire family system may be necessary to achieve a full amelioration of PD symptoms. First, research shows that individual treatment rarely has a positive impact on unsatisfying family relationships (Gurman and Fraenkel 2002). Second, first-degree relatives of individuals with a PD are a high-risk group: they have shared genetic, personality, environmental, and biological vulnerabilities with the client; their actions have the ability to intensify the symptomatology of the patient; and they are at risk of developing their own symptoms (e.g., White et al. 2003). Family therapy can help family members cope and manage in the face of PD symptoms and promote relationship stability that is likely to be helpful for all members of the system. Other forms of therapy do not provide such direct help to family members.

An important component of family therapy is the assumption that families are systems in which individuals reciprocally influence one another (Lebow 2005). Recent advances in theory and research stress that the arcs of causal influence are not entirely equal in the circular pathways they follow, and this leads to and maintains ongoing difficulties. In modern systems theory, there is a place for acknowledging the power of individual behavior and individual psychopathology. From this viewpoint, family systems that include an individual with a PD tend to be dominated by that individual's problematic behavior in the family context; yet reciprocal patterns readily become established. For example, frequent rage episodes by someone with borderline PD might cause family members to walk on eggshells and give in to demands, thus reinforcing the displays of emotion dysregulation. Family therapy is uniquely able to target this pattern by focusing not only on emotion regulation strategies for the person with the PD but also on behavioral reinforcement and punishment strategies for the family members.

Finally, the stable holding environment provided by family members can mitigate some PD symptoms. Certain PDs are associated with high interpersonal sensitivity (e.g., borderline PD, avoidant

PD). The family system can be a validating environment that reduces pain and distress. Family therapy can instruct family members in optimal ways of support and validation. The success of the family unit as a place of safety and support often ameliorates the impact of PDs, whereas difficulty in relational systems promotes greater symptoms and problems. A mindful, supportive holding environment may be an essential ingredient to treatment success (Critchfield and Benjamin 2006).

Features of Family Therapy That Complicate Treatment of PDs

Although family therapy may be an appropriate setting to target the interpersonal dysfunction found in individuals with PDs, there are features of family therapy that may introduce problems when treating someone with a PD. First, family therapy may be contraindicated for certain patients. Such patients might include individuals who are unable to speak in the presence of family members because of fear or anxiety. For example, a person with avoidant PD may feel overwhelming embarrassment and have fears of criticism when discussing personal issues in front of family members, as described in the diagnostic criteria for the disorder. In other cases, family members may be too afraid to participate in family therapy. Family members of someone with antisocial PD may fear retribution if they are open about feelings and behaviors in the home. Some people with a PD cannot manage the complex feelings that evolve in family settings, especially early in treatment. Therapists must always formulate and have at ready an action plan for when sessions lose any constructive value.

Second, families often seek treatment when the person with a PD does not want treatment (Friedlander et al. 2006). In this situation, family therapy may be overwhelmed by the person's resistance and uncontrolled emotionality. When this is the case, considerable work must be done with the person with the PD to enlist his or her cooperation and involvement. If the person refuses to participate or if meetings in the context of family become the source of frequent dysregulation, a therapist might recommend individual therapy for the patient and a psychoeducation group for the family.

Third, alliances in family therapy involving someone with a PD are likely to be complex; that is, different family members are likely to have different degrees of alliance with the therapist. This may cause split alliances whereby some family members have a strong alliance and some have a poor one. A split alliance has been related to poor outcome (Friedlander et al. 2006); therefore, the therapist should target the strength of the alliance early in treatment, with an eye toward maintaining a positive alliance with all family members.

Fourth, the nature of PDs makes them too pervasive a problem to be treated with a single treatment modality. Although this chapter highlights the importance of interventions outside of individual psychotherapy, we consider a successful treatment plan to be one that combines family therapy with individual treatment. Research has shown that for people with complex PD problems, treatments combining such diverse modalities as individual, family, couples, and group therapy are the most efficacious (e.g., Fruzzetti et al. 2007; Miller et al. 2007). Individual work promotes change in behavior, cognitions, and affect that may be largely inaccessible in family therapy. Without seeing immediate positive changes, families

may lose their motivation to provide the support and nurturance that are essential to family therapy.

Features of PDs That Facilitate Family Therapy

The primary feature of PDs that is conducive to family therapy is the fact that individuals with PDs have significant interpersonal problems within the family and need help rectifying these issues. Furthermore, frequently both the individual and his or her family are desperate for better family connection. Thus, it is often the case that those with PDs and their families arrive in treatment highly motivated to work on familial issues. They may be distressed because they desire closer and more stable relationships, or they may be motivated by necessity because of cohabitation or financial support provided by family members.

Certain family patterns that are particularly well treated by family therapy may be evident in PDs. One example of such a pattern involves expressed emotion—that is, the extent to which a family member expresses critical, hostile, or emotionally overinvolved attitudes and behavior toward the family member with the disorder (Vaughn and Leff 1976). Expressed emotion is a strong predictor of poor outcome in a range of disorders. However, expressed emotion displays a unique pattern in borderline PD. Emotional overinvolvement actually predicts positive outcomes, whereas the other aspects of expressed emotion (i.e., criticism, hostility) are unrelated to outcome (Hooley and Hoffman 1999). Hooley and Gotlib (2000) hypothesize that persons with borderline PD are seemingly unaffected by high levels of hostility and criticism and respond well to emotional overinvolvement because they have a higher tolerance for affective stimulation within the family system and actually interpret it as a sign of care and nurturance. This hypothesis is based on data that show that persons with borderline PD, when compared with control participants, exhibit less physiological arousal in response to emotional stimuli (e.g., Herpertz et al. 1999). Thus, those with borderline PD may be able to tolerate the stress of family therapy because it involves emotional expression by loved ones.

Features of PDs That Complicate Family Therapy

Although the interpersonal problems evident in most people with PDs serve as prime treatment targets in family therapy, some features of PDs may complicate the delicate structure found in family therapies. First, engagement is typically difficult with patients with PDs, and this may be part of the reason that empirically supported treatments for depression and anxiety tend to be less efficacious with individuals with comorbid PDs (Shea and Elkin 1996). Because family therapy may be complex—coordinating schedules, turn-taking, and compromising on agenda items—it may be difficult to engage those with PDs in treatment. In addition, it may be that other family members display symptoms of PDs, thus compounding the difficulty in organizing and engaging a family therapy session.

Second, patients with PD and their families tend to have a high rate of therapy dropout (Strauss et al. 2006). Studies have found that early treatment dropout rates for individual treatment of PDs are as high as 38%–57%, with the average rate estimated to be between 15% and 22% (Leichsenring and Leibing 2003). Research has found similar rates of dropout for family therapy, with rates be-

tween 15% and 55% (Boddington 1995). The combination of the presence of a PD and the complexities of family therapy make it likely that a family therapy intervention for PDs would result in a large loss of patients early in treatment.

Third, when working with patients who can be frustrating or challenging, a therapist can easily fall into the trap of blaming the patient or of assuming that the intended effect of the patient's behavior is to aggravate the therapist (e.g., Santisteban et al. 2003). In these cases, a therapist may become hopeless, disengaged, or hostile. These thoughts and emotions may have a negative direct effect on the therapy in terms of the therapist's siding with other family members or avoiding serious topics. Although these issues have been discussed almost exclusively in terms of borderline PD, they likely extend to all or most of the other PDs. Just as a patient with borderline PD might tax the therapist with demands of immediate relief and late-night phone calls, a patient with avoidant PD might refuse to speak honestly because of fears of being judged. A therapist must be aware of the urge to identify the person with a PD as the sole source of the problems within the family or to always believe the interpretation of the family members. It is important for the therapist to be open and compassionate to all participating members.

Finally, there is some evidence that individuals with certain PDs, particularly borderline PD, have experienced neglect and/or abuse within the family context (e.g., Bornovalova et al. 2013). They may have experienced childhood neglect or physical and sexual abuse. In these cases, it may be inappropriate to include abusive family members in treatment.

For all these reasons, family therapy (and couples therapy) necessarily proceeds more slowly and carefully in the presence of PD. When to introduce various strategies must be planned carefully by the therapist, who must anticipate strong reactions and retain the patient's experience in special focus.

Forms of Family Therapy

In this subsection, we review three primary types of family therapy: psychoeducation, cognitive-behavioral therapy, and systemic therapy. Our descriptions illustrate common ways that families are integrated and treated in a psychotherapy setting; however, other therapeutic orientations, including psychodynamic and experiential, often integrate the family into current practice.

Psychoeducational approaches to family therapy involve educating the family on the etiology, course, presentation, and prognosis of the disorder of focus. This education may include common behavioral patterns within the family, as well as information about medication and treatment, ways for the family to cope with stress, and ways to interact with the patient to best alleviate symptoms. These approaches are based on the assumption that certain mental disorders seriously impair day-to-day living and education of the family can reduce bias, stigma, and family-induced exacerbation of symptoms. Psychoeducation is most commonly delivered in a group format without including the person with the mental disorder. This format allows family members to gain support from others in similar situations. Treatments that include psychoeducation of the family have been highly effective for individuals with severe mental illnesses, such as bipolar disorder and schizophrenia.

Cognitive-behavioral approaches to family therapy begin with the assumption that the most efficacious pathways to change involve targeting dysfunctional thoughts and maladaptive behavioral

patterns. One essential building block of cognitive-behavioral family therapy is the introduction of skills training. Techniques such as communication training and negotiating strategies are explained and practiced during therapy sessions through role-play and practiced at home through the implementation of homework. Social learning theory is a second essential building block for this approach, with social reinforcers assuming the greatest importance within the family. In this context, modeling becomes an important source of change. The family learns interpersonal skills by observing the therapist enact them within the familial context. For example, a patient might learn how to be assertive with his mother by observing the therapist being assertive with the mother and then observing her positive reaction. In addition, parents learn the importance of modeling adaptive behaviors for their children.

Although all family therapies include attention to recursive patterns in families, *systemic therapies* maintain as their central focus attention to altering such patterns (Lebow 2005). The emphasis is on finding a place to interrupt dysfunctional sequences. Closely related, systemic therapies look to change dysfunctional aspects of family structure, such as disengagement or enmeshment. Efforts are also made to understand what function the dysfunctional behavior may serve for the system and to find a more helpful way of accomplishing this function.

Research Support for Family Therapy for PDs

A sizable empirical literature exists on interpersonal difficulties and PDs, yet few studies have targeted these difficulties by examining family therapy interventions. There is a small literature on family interventions for individuals with borderline PD (Fruzetti et al. 2007; Santisteban et al. 2003) but little research regarding other PDs. Therefore, we focus on the research relevant to borderline PD.

Psychoeducational approaches to the treatment of borderline PD have received some research support. One study found that family members of individuals with borderline PD knew very little about the disorder; however, those who reported having more information demonstrated heightened levels of criticism, hostility, and depression, as well as less warmth (Hoffman et al. 2003). In contrast, numerous studies have demonstrated the positive use of psychoeducation in other disorders, ranging from depression to schizophrenia. These results point to the care needed in determining the content of the psychoeducation and the process for providing it. Hoffman and colleagues (2003) concluded that much of the family members' information was likely inaccurate and had been presented in a pessimistic style (possibly on the Internet). A small amount of unedited knowledge can lead to pejorative use of labels and a profound sense of pessimism and hopelessness.

To respond to this perceived need for formalized psychoeducation for families of individuals with borderline PD, Hoffman et al. (2005) developed *Family Connections*, a 12-week, multifamily, manualized psychoeducation program. This program covers current information and research on borderline PD, its developmental course, available treatments, comorbidity, individual skills to promote patient well-being, family skills to improve familial interactions, instruction in validation, and problem-solving techniques. Families participating in the Family Connections program decreased their level of burden and grief while increasing their level of mastery throughout the program and at 3-month follow-up (Hoffman et al. 2005).

DBT is an efficacious treatment of borderline PD (Linehan 1993). Although DBT is traditionally delivered in an individual plus skills group format, an adaptation of this therapy for suicidal adolescents includes a family therapy component (Miller et al. 2007). Both the adolescents and their parents attend a weekly 2-hour multifamily skills group. This group is modeled on traditional DBT skills training (e.g., mindfulness, interpersonal effectiveness, emotion regulation, distress tolerance) but has an added component involving behaviorism, validation, and dialectics. This group approach has been shown to be an effective addition to individual family therapy.

Other researchers have explored an adaptation of DBT focused on the family (Fruzzetti and Iverson 2004; Fruzzetti et al. 2007; Santisteban et al. 2003). In this adaptation, the family members learn how to understand the other person, communicate that understanding genuinely, and reinforce the accurate expression of emotions. The emphasis on creating a validating environment for a person with borderline PD stems from a basic tenet of the biosocial model (Linehan 1993): that an important cause of borderline PD is an inherent difficulty with emotion regulation, interacting with an invalidating childhood environment. In an invalidating environment, a person learns that only extreme emotional displays (often in the form of self-harm) succeed in garnering help (Linehan 1993). Emotion dysregulation is reinforced, and adaptive coping mechanisms are not formed. The process of validation within the family therapy context allows the person with borderline PD to trust his or her emotions and use more adaptive coping skills when feeling dysregulated.

Mindfulness also is emphasized in family DBT (Fruzzetti et al. 2007). A person is encouraged to transfer anger into more primary emotions and practice bringing attention to everyday interactions. These so-called relationship mindfulness skills have the potential to reduce the negative reactivity of a person with borderline PD to other members of the family system, thereby reducing conflicts between family members. Mindfulness exercises have the added value of an established track record of impact on different types of PDs and could be implemented in family therapy with other PDs (Robins et al. 2004).

Case Example 2

Mary, age 28 years and living with her parents, had problems in personality functioning that fully met the criteria for borderline PD. In conjunction with individual and group DBT, Mary and her family participated in 6 months of weekly family therapy. The first set of sessions focused on helping the family understand borderline PD, which fit well with Mary's growing understanding in her individual therapy. Her family learned how to take a nonjudgmental stance in approaching Mary's symptoms and reduce using labels such as "manipulative" and "crazy." These modifications helped Mary feel more supported and better able to ask for help instead of using extreme displays of aggression or despair. Early in therapy the family and Mary also formed agreements for how crises and moments of dysregulation would be handled. These included Mary's use of distress tolerance skills. When Mary needed to take a break, complete a self-soothing task, or engage in a distraction activity, her family gave her space and did not accuse her of being dramatic or high maintenance. In addition, family members were able to use mindfulness to notice times when they were beginning to feel dysregulated and use some of the same skills that Mary was practicing. These changes fostered a mutually

supportive environment and a reduction in Mary's sick role within the family. Building on this success, the family sessions then moved to examining the family experience more broadly, including both how the family could be helpful in relation to Mary's treatment plan and how experiences in the family related to Mary's dysregulation. Specifically, Mary and her mother spent considerable time processing their difficult relationship during Mary's childhood. The combined therapy ultimately helped Mary to become better regulated and Mary and her family to be better able to relate with one another without the bidirectional conflicts that typified earlier times.

Couples Therapy

In this section, we outline the intersection of couples therapy and the treatment of PDs. Many of the guiding principles, theories, and techniques used in couples therapy are identical to those used in family therapy; this is because couples therapy, particularly in the context of disorder-related treatments, is a subset of family therapy, drawing from the same pool of interventions. In seeking a reduction of redundancy between this section and the previous section on family therapy, we highlight only the unique aspects that make couples therapy relevant to the treatment of PDs.

Features of Couples Therapy That Facilitate Treatment of PDs

The format of couples therapy uniquely deals with the creation of an environment that is conducive to improving couple functioning and maintaining a soothing home environment. As outlined in the family therapy section, individuals with PDs have considerable interpersonal dysfunction. Individual therapy alone may not always have a positive effect on relationship satisfaction, even though relationship satisfaction has a direct relationship with overall functioning and symptom severity. Couples therapy is uniquely able to target problematic systemic patterns within a romantic relationship and aid both parties in making changes that affect PD symptoms. The success of the couple unit as a place of safety and support often ameliorates the impact of PD, whereas difficulty in relational systems promotes greater symptoms and problems.

Moreover, research demonstrates the beneficial effect of positive romantic relationships for PD clients. Lewis (1998) reviewed a series of studies that examined the role of marriage in the adult consequences of childhood trauma. He found that a good marriage can have a healing effect on borderline PD characteristics in adulthood. In a longitudinal follow-up study of inpatients with borderline PD, marriage predicted better clinical outcome and improved functional status; being in a stable marital relationship appeared to dampen levels of impulsivity (Links and Heslegrave 2000).

An additional benefit of couples therapy is that many topics related to individual functioning may come into focus only when raised by the partner. These topics may include certain ego-syntonic behaviors whose maladaptiveness the individual, lacking insight, does not realize. Examples may include medication compliance, frequent paranoid cognitions, or an increase in parasuicidal behavior. Furthermore, because living with an individual with a PD can be just as difficult as having a PD oneself, the partner is often further along in the stages of change than is the person with PD. A feeling of safety in being with one's part-

ner can spur the exploration of these issues in patients who have great difficulty with such exploration in individual therapy.

Features of Couples Therapy That Complicate Treatment of PDs

In the earlier section on family therapy, we outlined four primary features of family therapy that could complicate treatment of PDs: contraindication for certain patients, resistance, complex alliances, and the necessity of individual work in addition to family work. All four reasons apply equally in couples therapy. A person with PD may be experiencing serious issues regarding a partner—urge to cheat, thoughts of divorce, or the presence of domestic violence. In these cases, individual therapy to work through some of these issues may need to be done before couples therapy can commence. Again, complex alliances resulting in jealousy or resentment on the part of one member of the couple could compromise both the therapeutic and partners' relationships.

A special factor to consider in couples therapy is that persons with mental disorders often marry other individuals with mental disorders. In such instances, the expectation that the partner can assume more of a "helper" position toward the individual with PD is unjustified, and the cycle of difficult behavior often escalates. In this case, it may be most helpful for each partner to engage in individual therapy to stabilize symptoms and then to reconnect at a later point in time for couples therapy. Furthermore, there is something about couple relationships that can make for the most dysregulating feelings in partners, even in those without PDs. For those with severe PDs, the presence of a partner in therapy sessions may at times be dysregulating and intolerable. Special plans for handling such circumstances are always indicated.

Features of PDs That Facilitate Couples Therapy

The vast interpersonal problems evident in individuals with PDs make these disorders particularly appropriate for a couples therapy intervention. For example, there is an increasing amount of research demonstrating the relationship between borderline PD and insecure attachment styles in adulthood (Agrawal et al. 2004). In a meta-analysis of 13 studies, borderline PD demonstrated a consistent inverse relationship with secure attachment styles; this was best characterized as fearfulness in romantic relationships. A second study examined the relationship between 10 PDs and attachment styles (Brennan and Shaver 1998). This study found that most PD symptoms corresponded to insecure and defensive attachment styles. Because of these difficulties, persons with PDs may be specifically motivated to engage in couples therapy.

In addition to problematic attachment styles, individuals with PDs have problematic couple relationships. One study found that avoidant PD was associated with a lower likelihood of marriage. Avoidant, antisocial, and obsessive-compulsive PDs were also associated with marital disruption, which included divorce and separation (Whisman et al. 2007). Another study found that among individuals with borderline PD, 29% of men and 52% of women were married at follow-up, compared with 80%–90% of adults (Stone 1990). These obvious problems obtaining and maintaining long-term successful relationships make an

appropriate treatment target for couples therapy.

Features of PDs That Complicate Couples Therapy

In the family therapy section, we reviewed aspects of PDs that may complicate treatment; these include difficult engagement of individuals with PDs, high dropout rates, and difficulties from interacting with potentially frustrating patients. These features also would apply to couples therapy. Therapists should be aware of the importance of building a strong alliance with PD patients within couples therapy in order to assure treatment compliance and reduced hostility within sessions.

In addition, not only do persons with PDs have objectively more problems in relationships than persons without PDs, but they also perceive their relationships to be more difficult. For example, one study found that patients with borderline PD perceived their relationships with families, partners, and children to be much more difficult than did a comparison group of depressed individuals (Gerull et al. 2008). This enhanced perception of relational difficulties may cause progress to seem slow or even intractable. The presence of easily hurt feelings followed by angry outbursts or withdrawal in patients with borderline PD, or of total avoidance of feelings in some other PDs, can further complicate couples therapy.

Different Forms of Couples Therapy

In this subsection, we review three primary types of couples therapy: psychoeducation, cognitive-behavioral therapy, and integrative therapy. Some methods used for couples therapy are like those described above in the family therapy section, so in this section we elaborate only on therapies that are specific to couples.

Psychoeducational approaches to couples therapy are nearly identical to what we described in the family therapy section. The main goals of these interventions are to educate the partner on facts about the targeted mental disorder and to include helpful treatment and couple interaction information. Psychoeducation therapy that specifically targets romantic partners may include information on intimacy, planning for the future, and the sharing of household responsibilities.

Many aspects of *cognitive-behavioral approaches* to couples therapy, including social learning theory, skills training, and homework implementation, are identical to those of family therapy. However, there are additional theoretical and technical aspects to cognitive-behavioral couples therapy. One is the importance of social exchange theory, which posits that individuals strive to increase their rewards and decrease their costs in social relationships. In other words, behavior from the partner is reciprocated to maintain a balance between partners: negative behavior is responded to with negative behavior, and positive with positive. Often couples can be caught in mutually coercive behavioral patterns. In cognitive-behavioral couples therapy, there also is a focus on how to deescalate arguments when one or both partners are emotionally dysregulated. Techniques include engaging in calming behaviors, slowing down the process, suggesting that affects have become too heated, and using deescalation techniques (breathing, taking a walk, etc.) until the conversation can be resumed.

Integrative treatments that blend acceptance and cognitive-behavioral strat-

egies have proven highly effective in the treatment of couples (Jacobson and Christensen 1996). *Integrative behavioral couples therapy* focuses on changing what can be changed, building skills, changing cognitions, working with affects, and working with internal dynamics and object relations. This therapy retains a focus on acceptance by both the person with the PD and his or her partner; therapist and clients examine what cannot be changed and find ways to work within these constrictions.

One popular integrative empirically supported couples therapy, Gottman's Sound Marital House Treatment (Gottman and Gottman 2008), emphasizes the positive effects of having a strong marital foundation made of friendship, fondness, admiration, and positive sentiment. According to this approach, resistance is common in therapy because people have a distorted working model of how relationships are supposed to function. This therapy works on increasing positive interactions between couples, deescalating conflict, and developing a "love map" of shared future goals, memories, and hopes.

Research Support for Couples Therapy for PDs

As was true for family therapies, discussed earlier in this chapter, there are few empirically based couples therapies for PDs. We focus in this section on treatments for borderline PD that have the potential for dissemination to other types of PDs. We discuss one adaptation of DBT and one case study that combines theories from DBT and Gottman's couples therapy.

DBT has been expanded for specific work with couples. Fruzzetti and Fruzzetti (2003) have adapted the dialectical dilemmas originally put forth by Linehan (1993) to better fit a couples therapy dynamic. The new dialectics for couples therapy include 1) closeness versus conflict, 2) partner acceptance versus change, 3) one partner's needs and desires versus the other's, 4) individual versus relationship satisfaction, and 5) intimacy versus autonomy. From these central dialectics, Fruzzetti and Fruzzetti identify five functions that must be included in DBT for couples. The first of these functions, *skill acquisition or enhancement,* includes development of individual and relational skills that are taught and practiced in sessions. The second, *skill generalization,* refers to the transfer of skills from the therapeutic situation to life outside of therapy, and may combine outside planning and telephone coaching. The third function, *motivation/behavior change,* involves collaboration between the therapist and clients to identify and change dysfunctional patterns. Fourth, *therapist capability enhancement and motivation* refers to the requirement that counselors who work from a DBT model acquire the necessary skills and maintain high levels of motivation. The final function is the *structuring of the environment.* These modifications of DBT for couples in which one person has borderline PD can be adapted to fit couples in which one of the couple has a different PD.

Oliver et al. (2008) present a case study in which they demonstrated the positive effects of combining Linehan's (1993) DBT with the couples therapy of Gottman (Gottman and Gottman 2008). Again, this research focused on borderline PD but has the potential to be expanded to other PDs. DBT focuses on radical behaviorism, the balance between acceptance and change, and skills building, all with a foundation in mindfulness (Linehan 1993). Gottman's therapy focuses on the building of mutual appreciation and positive sentiment override through

exercises and attention to positive exchanges. Gottman also targets what he calls the "four horsemen" of negative behaviors during conflict—criticism, contempt, defensiveness, and stonewalling. All four of these behaviors are likely to be manifested by individuals with PDs.

Case Example 3

Jose and Susan presented for treatment after frequent fighting, with complaints about difficulties morphing into violence. Susan demonstrated signs of borderline PD, including emotional sensitivity within the relationship; these signs included extreme reactivity to ambiguous responses from Jose and difficulty calming herself down after becoming upset. She had difficulties in interpersonal interactions that resulted in alternating between passivity and aggressiveness. Susan would easily become inconsolable and cope with the extreme affect by taking substances or becoming violently aggressive. Jose presented as withdrawn and indifferent. He spent the majority of the day alone in his home office, avoiding interactions with Susan and their children. He also showed signs of depression, including anhedonia and reduced motivation and concentration. When confronted with Susan's extreme affect, Jose would withdraw further. Eventually, he would try to remove himself from these conflicts, only to be met by physical confrontation from Susan. At this point, he would often lose control and respond with physical aggression.

The treatment plan put a primary focus on deescalating the emotion dysregulation and violence that surrounded many of the couple's arguments. This included practice in mindfulness, which emphasizes effective, nonjudgmental behavior, and self-soothing exercises, such as deep breathing and muscle relaxation. The treatment plan also focused on skill building. Jose and Susan and the therapist role-played adaptive communication patterns, and the therapist modeled validation techniques. The combination of acceptance (including deescalation and self-soothing) and change (improvement of skills) gave balance to the treatment for such a high-conflict couple.

In about the eleventh session of couples therapy, the therapist began with an assessment of a recent event. An extremely volatile fight had resulted in the police being called. Susan had smashed Jose's hand with a hammer, and she was arrested for domestic battery. Susan almost immediately became flooded with affect. She raised her voice and began to cry uncontrollably. Jose angrily voiced his frustration, calling Susan "crazy" and saying that he should get a divorce. The therapist first paused the session so that each could tell his or her story separately, without using judgmental or blaming language (deescalation of argument). During that time, Susan was helped to engage in some self-soothing skills. The therapist focused on abdominal breathing and mindfulness practice so that Susan could calm herself and carry on the conversation further, and therapy continued, with the rule that it would pause again if the fight escalated. The therapist reframed the issue behind the fight (Susan wanted to go on a bike ride together, but Jose wanted to be left alone to do his work) as their struggling with how to be close with one another. This notion further calmed the fight and fostered empathy between the couple. The therapist then moved to contracting with Susan and Jose about how the couple could meet each of their needs when they wanted to do different things. This included assertiveness training for both, with Susan learning how to avoid insisting on time together in an aggressive way and Jose learning how to avoid being passive-aggressive when uninterested in spending time with Susan at that moment. As both Susan and Jose became more emotionally regulated, the therapist asked them to look more directly at

one another and see whether they could begin to find their better feelings for one another (promoting engagement and communication). The therapist also referred back to their discussions about what could be changed in their communication and engagement with one another and what could not, thus promoting a balance between acceptance and change.

Conclusion

It could be argued that cultural bias toward individualism has led people to neglect the power of collectivity as a helping resource. The emphasis on individual psychotherapy puts out of reach the range of helping behaviors that are potentially available from parents, families, and other human groupings. Yet, the scarcity of professional resources may force a return to more traditional (from a sociological sense) helping patterns and to the use of resources that exist within natural groups, such as the family and the community, or within groups developed by, or for, people with similar interests or problems.

The presence of many individuals in therapeutic settings, such as family, couples, or group therapy, also brings a greater variety of ways of intervening compared to individual psychotherapy. In individual therapy, a therapist does not usually directly observe the patient's interpersonal environment and may misinterpret the patient's experience, which is subjective and easily distorted by both parties, compared with the more objective interpersonal reality. Not observing the patient in an interpersonal setting limits the information gathered about the relational context in which the problem is embedded, even though this information is part of the patient's cognitive world. The patient may behave quite differently in different contexts, and individual therapy may not allow the therapist to observe the patient interacting with anyone other than the therapist. Some traits may not become readily apparent in individual treatment, whereas recapitulative interpersonal patterns are evoked automatically in group, family, or couples therapy.

A multi-person approach to treatment does not mean that the approach is simply interactional and ahistorical, based on overt behavior and not on content. Instead, a multi-person approach allows the clinician to take other levels of human functioning into consideration, because interactions and processes also instill content and affects, particularly the intersubjectivity that is present in any human interaction. Multi-person therapy often moves back and forth between process and content. How the content is discussed and how the members behave and react are observed in order to help them see how they may be ineffective in dealing with particular issues.

Clinicians who work with people who have PDs should be familiar with various treatment modalities, including individual, group, family, and couples therapies. Therapeutic flexibility is important, and the ability to shift or integrate modalities is likely crucial to a successful outcome. For example, when individual therapy seems stalled, couples therapy sessions may help address marital dynamics that may be perpetuating the patient's difficulties. That being said, a mix-and-match approach to treatment that utilizes techniques as and when the clinician deems appropriate is not ideal. Treatment decisions should be based on a coherent theory of the disorder, supported by an understanding of the mechanisms of change, which can be used to carefully craft a logically integrated therapeutic package. A team ap-

proach is likely necessary. In general, the more severe a person's problems are, the greater the need to include multiple components in the treatment. Using a diversity of approaches in a carefully considered, coherent, and well-structured manner helps keep clinicians from adopting the adage "If all you have is a hammer, everything looks like a nail."

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CHAPTER 14

Psychoeducation

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Psychoeducation is a well-established, evidence-based practice for many psychiatric disorders. Numerous randomized clinical trials have demonstrated that psychoeducation programs, although varied in form, are very cost effective and help significantly to reduce relapse, improve individual outcomes and course of illness, and enhance family functioning and other social relationships. Psychoeducation has been employed successfully with patients with schizophrenia, bipolar disorder, major depression, and obsessive-compulsive disorder. Despite the established efficacy of psychoeducation in the treatment of these other psychiatric disorders, few psychoeducation programs for personality disorders (PDs) have been developed. In this chapter, we highlight the development and success of psychoeducation in general and then describe the components and evidence for psychoeducation for PDs, with an emphasis on borderline PD (BPD), for which the bulk of programs have been developed and evaluated.

Overview

Psychoeducation programs are based on the assumption that an educational approach can benefit individuals in their efforts to manage a particular disorder and may also be of benefit to their family members or others in their social network. Psychoeducation is quite distinct from psychotherapy because the methods and procedures are entirely educational and frequently are delivered by professionals without psychotherapy training, by individuals in recovery, or by family members. It also differs from family therapy because there is little focus on changing family dynamics per se and because training in family therapy is not necessary.

Early psychoeducation interventions focused primarily on education about a

particular disorder. Over time, psychoeducation has expanded its scope to include education about the role of family members and other caregivers or loved ones vis-à-vis the maintenance, relapse, or recovery from a particular disorder, as well as individual, social, and family skills that are believed to be instrumental in minimizing distress due to a disorder or in facilitating recovery. Thus, psychoeducation is quite varied and may include 1) providing patient and/or family education, 2) teaching individual coping skills, 3) teaching family skills, and even 4) providing training in problem-solving techniques. A set of guidelines for recovery and maintenance is sometimes offered as well. Although psychoeducation groups are generally led by mental health professionals from a variety of backgrounds, sometimes patients or family members are trained to lead these groups. The goal is to help individuals and/or family members engage in and increase knowledge about skillful behaviors that have been shown either to augment other treatment components to improve patient outcomes or to more generally facilitate patient and family well-being.

Background, Theory, and Rationale

Since the 1970s there has been a major effort to develop and implement comprehensive, multi-component treatment programs for those affected by mental illness either directly or indirectly. A major focus has been on programs for patients and their families. Several factors provided the impetus for the development of psychoeducation, not the least of which was the deinstitutionalization movement in the 1960s, which shifted the burden of care of those with severe and chronic disorders from institutions to family settings. Unfortunately, when the mandate to reduce the number of patients in institutions was implemented, the promise to offer comprehensive outpatient services did not sufficiently materialize. Consequently, most individuals with psychiatric illnesses returned to live in the community with their family members with minimal outpatient ancillary psychiatric services available. Recent years have demonstrated even further deterioration of outpatient resources, so burdens on patients and families have not decreased.

Research on *expressed emotion* showed that specific characteristics of the family environment often predicted the course of the patient's illness in schizophrenia (Anderson et al. 1980). Expressed emotion includes the number of critical comments, levels of expressed hostility, and emotional overinvolvement that family members express about their diagnosed relatives. Research on schizophrenia and other severe problems has demonstrated reduced relapse rates following modification of family members' attitudes and other behaviors associated with beliefs expressed about the patient (Anderson et al. 1980).

Research on schizophrenia helped to move thinking about etiology from subjective and empirically unsupported observations (e.g., the "schizophrenogenic mother") to more evidence-based factors based on medical/biological and social/family science. This critical change in the understanding of the etiology of schizophrenia helped reduce blame on families and led instead to greater appreciation of the needs and experiences of family members of people with schizophrenia. Constructs such as family member burden, grief, and depression were recognized (Greenberg 1993; Maurin and Boyd

1990), with a consequent change in the perception of relatives from the strictly pathological model of family members as "patients" to family members as relevant to good outcomes as potential "providers" (Marsh 1992).

In the 1970s psychoeducation programs for family members with a relative with schizophrenia were implemented, and the family treatment modality called *family psychoeducation*—a term apparently first used in print by Anderson et al. (1980)—began to be established. A substantial (and increasing) body of empirical research supports this treatment modality as perhaps the most successful family treatment component for patients with schizophrenia (see McFarlane et al. 2003). This family psychoeducation model subsequently was adapted for other diagnoses, such as bipolar disorder and major depression. Family psychoeducation has been shown consistently to reduce individual relapse rates as well as family members' levels of stress and burden (Cuijpers 1999).

Patient Psychoeducation and Family Psychoeducation

Comprehensive patient psychoeducation and family psychoeducation models today may include several key components: 1) education of patients and family members about a particular disorder and its etiological factors, research findings, factors that ameliorate or exacerbate symptoms or severity, treatment options and expected outcomes, and community resources; 2) teaching of coping skills and individual and family skills to manage the disorder and its effects, minimize disability and maximize functioning, and improve family functioning; 3) ongoing social support to the patient and/or family members; and 4) a problem-solving forum in which participants learn to translate the knowledge and skills (learned through education) into more effective attitudes, emotional reactions, and interpersonal behaviors toward the patients or other family members.

Not all programs that are designated "psychoeducation" or "family psychoeducation" include all four of the components listed above. Some programs have been developed only for patients, others only for family members, and some for both patients and family members. Thus, the terms are used rather broadly, which can be confusing. To further complicate the picture, skills-training programs in treatment settings, primarily for patients but sometimes for families, sometimes include different combinations of the four psychoeducation components. Such skills-training programs, however, are typically not designated as psychoeducation per se, although there may be considerable overlap. Thus, the inconsistency of terms employed in labeling programs makes it difficult to evaluate psychoeducation objectively and comprehensively.

These four components of psychoeducation models are described below in more detail to establish the "core" targets and approaches and to help provide a less amorphous definition of psychoeducation.

Education

The educational component of psychoeducation models is predicated on the assumption that offering information to patients and families about the particular disorder is helpful. Participants are given the most current information on etiology, treatment options, medications and pharmacological issues, and re-

search findings. Issues regarding developmental and environmental influences, medications, psychotherapy, and the implications of research findings are usually of particular interest to participants. However, knowledge alone does not seem to suffice to improve outcomes (Hoffman et al. 2003); the educational facet of the program may require the additional and complementary component of skill acquisition to have a significant impact.

Providing education to patients and family members presents many challenges clinically. For example, it is not uncommon for parents, partners, or children of patients with serious disorders to suffer from these or other disorders themselves. Consequently, although one member of the family may be designated as the patient, others in the family can often benefit from knowledge and skill building as well. Thus, psychoeducation can afford professionals an opportunity to help additional individuals consider behavioral change and even engage in their own treatment, and to intervene directly in the family system (or provide referral to family therapy) to help the entire family. On occasion, family members may be so impaired themselves that participating in a psychoeducation program primarily designed to help family members may be unproductive. However, most family members can benefit from psychoeducation, even when they have significant distress of their own (Hoffman et al. 2007).

In educating the family on the etiology of PDs, professionals might at first be reluctant to include a description of the putative role of family interactions and might worry about defensive reactions from family members. However, if the content is understood and presented in a nonblaming way, family members may not become defensive at all. Rather, they may identify factors in their own development that help them understand their own struggles, which in turn may help them blame the patient less. Thus, it is imperative that whoever leads the psychoeducation interventions has and promotes a well-grounded nonjudgmental perspective.

Also, it is important in psychoeducation for professionals to stress that despite wide acceptance of various theories, not much is known about specific etiological pathways for any PD. Thoughtful professionals may reasonably interpret myriad studies in a variety of ways. What is clear is the heterogeneity of factors, including family interaction and family functioning, that may be found in the developmental histories of patients. For instance, being physically or sexually abused may be a risk factor for several PDs, yet the vast majority of survivors of physical and sexual abuse do not develop PDs. Similarly, having loving and attentive parents who do not have substance abuse or other mental health problems is a protective factor for most people; however, some people with severe PDs have parents who fit this description. The current focus in the child development literature on transactional models (ongoing, reciprocal influence between individual psychological and biological factors and responses from parents and other caregivers) promises improved clarity about etiology in the future (Cummings et al. 2000; Eisenberg et al. 2003; Fruzzetti et al. 2005). Currently, however, therapists can only speculate on the causes in any given case and must consider the impact of the hypotheses on patients and family members and their ability to reduce destructive patterns and love and support each other without blame in the future. The best available

data suggest that current family functioning factors are very relevant to both short- and long-term patient outcomes and thus should be a focus of psychoeducation.

Skills Training

Skills training has substantial empirical support as a way to help patients and family members. Patient skills training may include social skills, problem solving, assertion training, stress management, anger management, and relaxation techniques (O'Donohue and Krasner 1995). Family skills include awareness of others (relationship mindfulness), communication (accurate expression, validation, and support), parenting, collaborative problem solving, and other relationship and interpersonal skills. However, skill acquisition is only one piece of effective skills training: skill strengthening and skill generalization are also necessary components to help ensure successful skill transfer into daily life. To be most effective, psychoeducation should include in-session or at-home exercises, as well as skill orientation, rationale, and instruction.

For example, just about every adult "knows" that good communication involves accurate expression and accurate, active listening. However, most participants in psychoeducation do not distinguish between "description" and "blaming" (or being judgmental) when thinking about "accurate" expression. Family members often say things such as, "Well, it *is* accurate to say he's lazy." Thus, it may take a lot of practice to transform "knowledge" into effective practice (e.g., being able to say, "I see him sitting around all day, and I know he's depressed; it makes me unhappy to see him this way, and sometimes I feel overwhelmed and frustrated, even resentful, that I do almost all the chores around the house").

Social Support

In addition to providing education and skill acquisition, family psychoeducation, depending on setting, also can provide an opportunity for the development of an alliance and partnership among professional and family care providers and collaboration with the patient himself or herself. Such alliances and partnerships allow the possibility of greater continuity and consistency of care. Joint participation promotes support because group members share similar struggles and experiences. Having often been isolated from friends and other family members, participants report that this support system that often develops is very important to them (Hoffman et al. 2005, 2007). In addition, family members and patients bring a lot of practical expertise to group psychoeducation because they often have learned how to cope with or how to solve certain problems with which others may be struggling. Consequently, family members and patients can often provide not only specific suggestions for handling a situation but also the social and emotional support needed to implement a solution.

Problem Solving/ Integrating Knowledge and Skills to Change Key Behaviors

The problem-solving component may be the one least consistently found in psychoeducation programs. It is also the closest to cognitive-behavioral family or group therapy. Specific problems as ex-

perienced by participants are brought to the group with the explicit purpose of having the group collectively work to apply their newly acquired skills and with the goal of effectively resolving or managing the given situation. A structured protocol is typically available to keep the discussion focused and constructive.

Toward the end of a psychoeducation program on problem solving, patients and families are provided opportunities to put whole skill sets together to ameliorate current problems that could easily become crises, and to practice problem solving as a skill they may use into the future. The opportunity to have seen good skills modeled by other members of the group (or group leaders) can be very helpful. Together with other skills and social support, participants may then be able to succeed when trying new approaches in previously difficult situations.

Psychoeducation for Personality Disorders Other Than Borderline

Despite the strong rationale for the four intervention components discussed in the previous section and the considerable positive data supporting their use with some major psychiatric disorders, psychoeducation programs have not been developed widely for most PDs, with the exception of BPD, which is reviewed separately in the next section. The use or potential use of psychoeducation programs for PDs other than BPD is reviewed in this section.

Cluster A Disorders

No patient or family psychoeducation programs have been established for patients with Cluster A PD diagnoses (i.e., paranoid, schizoid, schizotypal) or their families, but there are many successful programs for related disorders. Although the potential utility is obvious, and there are no data to contraindicate psychoeducation programs for any PD, it is surprising that researchers have not adapted those programs for use with Cluster A problems.

Avoidant Personality Disorder

Avoidant PD has several behavioral and theoretical connections to other severe disorders. Although some evidence suggests that it can be reliably discriminated from social phobias and schizoid PD (Trull et al. 1987; Turner et al. 1986), the distinction between these disorders is often blurred. For example, several studies of avoidant PD have shown positive outcomes using psychoeducation and graduated exposure techniques, which are the standard psychological interventions used in treating related disorders. In one study of avoidant PD employing social skills training and patient psychoeducation, Alden (1989) found significant improvement in most domains, and those treatment gains were maintained at follow-up 3 months later. Because these studies aggregate various interventions (psychoeducation plus other interventions), it is difficult to isolate the effect of psychoeducation per se.

Antisocial Personality Disorder

No studies have specifically evaluated psychoeducation for antisocial PD (ASPD), although many studies have evaluated various psychoeducation and skills-training programs for anger, aggression, or violent behaviors—problems that overlap to some extent with

ASPD. The extent of this overlap is not clear, however, and the effectiveness of these treatments in reducing violence recidivism is controversial (Babcock et al. 2004).

Although only a minority of men who batter their partners have problems in personality functioning that meet criteria for ASPD or other PDs, and only a minority of men with ASPD batter (Dutton 1998), there has been a lot of research on treating male batterers. Thus, although the extent to which these data are generalizable to ASPD in general is not clear, these treatments may be instructive in developing psychoeducation for this population.

Most batterer treatment programs use a combination of psychoeducation and cognitive-behavioral interventions. A typical curriculum includes instruction in anger management and violence interruption skills (e.g., anger recognition, time-out, self-talk, relaxation), sex-role education, sex-role resocialization, and discussions of patriarchal and male power issues. Programs often include training in skills to improve relationship functioning, such as communication and conflict resolution skills, social skills, and assertion skills (Holtzworth-Munroe et al. 1995).

Psychoeducation for Borderline Personality Disorder

Unfortunately, accurate general knowledge about BPD is quite poor (Hoffman et al. 2003). The Internet is a frequent source of information. Although it can be a rich resource for useful and accurate psychoeducation—one excellent Web site for BPD psychoeducation is that of the National Education Alliance for Borderline Personality Disorder (www.borderlinepersonalitysdisorder.com)—the Internet also includes much that is contradictory and even discredited or incorrect "information." For example, some apparent psychoeducation patient sites focus a lot of vitriolic accusations toward parents, and on some other sites, "caregivers" complain bitterly and judgmentally about individuals with BPD. Consequently, many family members alternate between anger/defensiveness (being told that parents of patients with BPD are always "abusers") and fear/guilt.

It is important for clinicians to point out to patients and families the variety of outcomes and causes associated with PDs. In this section, we begin with some recommendations about the elements that are essential to include in psychoeducation about BPD, and then describe several specific patient and family psychoeducation programs.

Recommended Psychoeducation Content for BPD

All modalities of treatment should be introduced by educating consumers (including both patients and their families) about the nature of BPD (the diagnosis) and the treatments for it. Similarly, when a patient's treatment plan has been established, consumers should be educated about the plan, including information about what can be expected from their treatment provider(s) and what will be expected from the consumers. If the person identifying the diagnosis will also be offering the treatment, that person needs to take special care to describe treatment alternatives fairly to help consumers make good treatment decisions. It is also useful to encourage consumers

to enrich their education by consulting reading materials, relevant organizations, or other professionals; this conveys the message that the consumers should be active participants in selecting and evaluating treatment. Patients and their families should know basic information about the diagnoses, course, etiology, and treatment of BPD.

Diagnosis

BPD includes problems with 1) intense negative affect and affect regulation; 2) relationships, including chaos in relationships and fears of relationship loss and abandonment; 3) impulsivity and self-control; 4) identity and a sense of emptiness; and 5) transient cognitive deficits and distortion. BPD is heterogeneous, however, with different clusters of problems more prominent in different people. It is very common that people with BPD have grown up feeling their needs were not fulfilled, sometimes in problematic (neglecting or abusive) and quite often in "mismatched" family environments. In a psychodynamic view, many of these individuals hope when they get into adolescence that they can find a partner who will be able to fill those needs and believe that such a partner needs to be exclusively and consistently attendant to them. Fulfilling such a role is rewarded by idealization and can be very appealing to others, but invariably those relationships lead to real or just perceived failures with feelings of anger and betrayal. From a behavioral or social-learning perspective, a mismatched family environment results in pervasive invalidation of the child's experiences and can lead to significant deficits in awareness of self and others, in emotion identification and management, and in interpersonal skills.

Regardless of theory, persons with BPD can vacillate between at times feeling mistreated and angry and devaluing others and at other times feeling inherently bad, painfully dysphoric, and unable to attain what they feel they need. Self-destructive behaviors (e.g., self-harm) occur that can be self-punitive and most often relieve intense negative emotion, including dysphoria, shame, and anger. Dysphoric states and/or self-harming acts can evoke sympathetic attention, although for some individuals self-harm is entirely private. Because of developmental difficulties and consequent emotion and "self" deficits (such as not knowing what one wants or feels), fears of being alone and of abandonment are common. When individuals with BPD feel alone and/or abandoned, they can become desperately impulsive, which is exacerbated under the disinhibiting influence of alcohol or other drugs. In these situations they also can experience cognitive-perceptual distortions, including dissociation and brief paranoid perceptions.

Course

A great deal has been learned about the course of PDs in general and of BPD in particular from prospective longitudinal research. Whereas stability across time has been used to distinguish PDs from other psychiatric disorders, longitudinal studies have shown PDs to be only relatively stable; that is, they are more stable than most other disorders, but they do nonetheless change, often improving, over time.

With respect to BPD, about 20% of cases remit by 1 year, 40% by 2 years, and 85% by 10 years. Over the course of 10 years, use of expensive treatments such as those administered in emergency rooms and hospitals gradually diminished (Gunderson et al. 2011). In the longest follow-up to date, at 16 years, about 65% of patients were said to have "recovered," meaning they had both sustained and satisfying

partnerships and vocations (Zanarini et al. 2012). Thus, in general, the course of BPD looks much like that of ASPD, with an early onset and a gradual course of improvement over time such that with age the prevalence greatly diminishes. Moreover, the course of improvement reported in the study by Zanarini et al. (2012) occurred in the absence of sustained disorder-specific treatments, suggesting that life offers corrective experiences.

However, this portrait of the course runs the risk of being unduly optimistic. It overlooks the more sobering reports from 10-year follow-up data indicating that less than one-third of the patients with BPD had achieved either a stable partnership or full-time employment (Gunderson et al. 2011). Many of those whose BPD was in remission had assumed a more avoidant posture in their lives, in that they had ceased utilizing treatment and ceased searching for corrective and exclusive relationships, and continued to report significant distress. Ten years is a long period to have sustained social disability and represents a very severe public health burden.

Etiology

BPD has a significant level of heritability, with estimates ranging from a low of 15%–20% to a high of 55% (White et al. 2003). It is important to understand that the estimates represent average levels and that for any individual patient the level of heritability could vary considerably. Some people develop the disorder with heavy genetic loading on BPD traits such as affectivity and impulsivity, whereas others may develop it with low genetic loading. The level of genetic loading can be estimated by asking whether other family members have had similar symptoms, such as anger, suicidality, and generally unstable relationships. Estimating the level of environmental loading involves consideration of the home environment (loss of relationships due to death or divorce, hostility, illness, sibling rivalry, etc.) and of trauma. Researchers do not yet know what is inherited, what is learned, or how these factors interact. In particular, substrates of BPD such as emotional dysregulation, interpersonal hypersensitivity, and impulsivity may be key components that lead to vulnerability to developing BPD. However, researchers do not know what genes or what family environments transmit these vulnerabilities. Almost certainly, however, multiple genes will play a role, interacting with many kinds of family environments.

The presence of trauma in the history of people who develop BPD is not uncommon (up to 75% of inpatient and outpatient samples have retrospectively reported trauma; Battle et al. 2004). Trauma has sometimes been hypothesized to be a major cause of BPD, despite data that clearly suggest otherwise. Patients and families should be educated about the fact that trauma is neither necessary nor sufficient to cause BPD. A meta-analysis of its role found that only 15% of the variance in BPD's etiology is due to trauma (Fossatti et al. 1999). Of course, whether a severely adverse childhood event (e.g., sexual abuse) is traumatic depends in part on the vulnerability and disposition of the child and on whether the event gets communicated to a supportive and receptive family.

A predictable consequence of having a child with a psychiatric disorder is that parents wonder what they did wrong (or defensively protest that they did nothing wrong). Clinicians should anticipate this concern and educate parents about their role. Most parents get reassurance from learning about the role of genes, but this should not be considered an adequate explanation (i.e., an explanation of BPD as solely a "brain disease"

is inaccurate). Rather, parents should be seen as having played an essential, albeit unwilling and unintended, role. A parent (or any primary caretaker) should be supported by being told that, for example, a luckily well-matched caregiver (consistent, calm, nonreactive, or perhaps matched in a different way) might have had a deterring effect on the child's development of BPD or that the parent's particular style of parenting might have been better suited for a less disposed child, and so on. Similarly, a clinician should support parents by openly stating that he or she knows that they love their child and understands that any actions that later were considered mistakes were, in retrospect, never intended to harm and were always thought to be helpful based on what they had learned from their own personal experiences.

As important as these messages are, it is equally important and usually necessary to tell parents that they have an essential role in their child's recovery. They should educate themselves about BPD, get support for their ongoing difficulties through talking with friends or joining family psychoeducation programs (if available) and support groups, and become supportive collaborators with their loved one's treatment team.

Treatment

It is essential that patients and families be informed that the success of their treatment will depend on an active investment of time and energy. This process starts with their being active and invested in selecting treatment providers. They should be advised to seek providers of evidence-based treatments whenever possible. Dialectical behavior therapy (DBT; Linehan 1993a, 1993b) has the most supporting studies, with dozens of controlled and uncontrolled trials. Mentalization-based therapy (Bateman and Fonagy 2004) has more recently begun to accumulate substantial support as well. However, even though an increasing variety of treatments with at least some evidence to support them have been developed for BPD, most of these continue to remain inaccessible to the vast majority of patients with BPD. Therefore, patients and families should be advised that although making progress does not necessarily depend on finding experts in PD, almost all studies suggest that a thoughtful treatment specifically developed for patients with BPD will produce better outcomes than generic treatment. When patients and families cannot access providers with experience in evidence-based treatment, or even BPD-specific treatments for which evidence is not yet available, they may need to be referred to providers who at least have had experience with treating patients with BPD and who feel comfortable or even enjoy doing so. Patients (and families) should actively avoid clinicians who are uncomfortable with making PD diagnoses, express stigma about BPD, reveal they lack either experience or satisfaction with such treatments, or do not like working with people with BPD. Unfortunately, such providers are not uncommon.

Patients and families should have in mind a reasonable timetable for change and become active monitors of whether expectable progress is happening. Successful outcomes are associated with significant reductions in self-injury and angry verbal outbursts within about 6 months, and resumption of school, domestic, or vocational functions should be under way within 6–12 months from the start of treatment. These are general guidelines, however, and patients vary considerably in achieving these changes, but consumers should be encouraged to expect change and to examine why prog-

ress is impeded when these changes do not occur in a timely fashion.

Medications

Clinicians need to establish realistic, modest expectations about the benefits from taking medications. This first message is important because expectations of benefit are often excessive. Patients with BPD should be told directly that no medications are consistently or dramatically helpful. This is a particularly important message when, as is typical, the patient with BPD has previously received a mood disorder diagnosis for which medications were prescribed. Such a history does more than raise unrealistic hopes and subsequent despair; it conveys an appealing, albeit counterproductive, model of treatment in which the patient is not an active and responsible agent. The second message for patients is that evaluating medication effects, for better and for worse, will require their collaboration. It may even be worthwhile to educate them about the research indicating that their assessments of benefit might contradict those of their providers (Cowdry and Gardner 1988). Patients should also be warned about the danger of polypharmacy, for which there is no evidence of value, and advised that it is generally important to discontinue an ineffective medication before initiating a new one.

Specific Psychoeducation for Patients With BPD

Dialectical Behavior Therapy Skills

Although no isolated psychoeducation program for patients with BPD has been shown to be effective by itself, DBT has a substantial patient psychoeducation component (Linehan 1993a, 1993b) that has been shown in dozens of studies to be an effective treatment for BPD and its associated problems (e.g., self-harm, substance abuse, eating disorders, depression, anger, social adjustment, hospitalization). Although it is difficult to parse the contribution of skills training per se to DBT outcomes, psychoeducation about BPD, emotion dysregulation, and a variety of BPD-relevant topics, as well as emotional, attention, distress tolerance, and interpersonal skills, is a central feature of DBT.

DBT patient psychoeducation and skills training include four separate modules that have specific targets: 1) mindfulness, to increase attention control and awareness of self and others, decrease a sense of emptiness and increase identity and an integrated sense of self, and reduce cognitive dysregulation; 2) emotion regulation, to understand the role of emotions in life, identify and label emotions accurately, reduce vulnerability and suffering associated with negative emotion, and tolerate and/or change negative emotions; 3) distress tolerance, to interrupt crises, reduce destructive impulsivity, and facilitate tolerating emotions and situations without engaging in dysfunctional behaviors that exacerbate the situation or negative emotion; and 4) interpersonal effectiveness, to achieve interpersonal objectives without damaging the relationship or the person's self-respect, and to build relationships. In DBT these skills are typically taught in a group format, and patients also receive individual therapy and out-of-session skill coaching in which the skills are employed as solutions to current treatment targets.

Peer Support

People intuitively seek the informal support and wisdom of others who are experiencing situations similar to their

own as they deal with everyday problems or unique life events. Seeking and giving such support is a fundamental human behavior. Typically, such support involves the sharing of knowledge and experiences and the offering of emotional and tangible support in conjunction with advice, coaching, or other guidance. Since the first Alcoholics Anonymous meeting in 1935, the provision of support around a specific mental health issue has evolved to include more formal structures. Several types or categories of peer support are relevant to BPD: 1) in-person peer-led support groups; 2) online self-help groups; and 3) peer support specialists.

The organizing function of peer support is that members of the group come together as equals to deal with shared issues or problems. No one person adopts the role of expert per se, and although the leader may be more advanced in recovery or knowledge, there is either an implicit or explicit understanding of equal status within the group. This agreement allows a forum for open interactions and serves as a catalyst for the acquisition of knowledge and skills, a sense of empowerment, and new perspectives that can lead to positive connections and outcomes.

In mental health, peer support programs are now frequently available and have become an integral part of the recovery process for many people. The most common format of peer support programs is the peer-led group. Some groups, such as the Depression and Bipolar Support Alliance, are disorder specific, targeting one psychiatric diagnosis. In contrast, nonspecific-illness peer-led groups are offered by the National Alliance on Mental Illness (NAMI), whose groups are designed for the psychiatric population regardless of psychiatric diagnoses. To meet a variety of needs, NAMI chapters host several programs such as NAMI Connections Recovery Support Group and NAMI Peer-to-Peer. The groups offer relapse-prevention planning and other directives that assist with recovery in the context of support and education.

Although the NAMI groups are open to persons with BPD, the focus of the content and areas of discussion generally do not address the unique issues specific to BPD. Efforts to organize and sustain in-person peer support groups expressly for those who have a diagnosis of BPD have met with minimal success. One issue creating crucial roadblocks is the stigma of the disorder, which can interfere with obtaining help for people with BPD. Fears of liability have led to difficulties in obtaining meeting space, and the presence of interpersonal conflict is noted as another impediment.

A model of success for a peer-led group developed specifically for BPD can be seen in a group that has been in existence in the greater New York area since 2007 through the national organization Meetup.com. The group was organized by a person in recovery and was started as a way to bridge the gap the founder felt after completion of BPD treatment. More than 500 people are registered as members; however, only about 3–15 people attend the meetings once every other week. The group ran for over 5 years under the founder's tutelage but struggled to continue after the founder stepped down, until a family member assumed leadership to support the continued activities of the group program.

The second modality of peer support is online support groups. For persons with BPD, however, these often appear to be short-lived, appearing and disappearing with little stability. One group that has retained a consistent presence and

serves as a good template for others is DBTselfhelp.com, which began in 2001 and is maintained by a person in recovery. It focuses on reinforcing past skill learning and promoting further skill use and learning.

The third type of support offered by peers with mental illness is provided through the Certified Peer Specialist Program. Peer specialists are individuals who, through personal experiences, offer themselves as mentors and advocates to others who are further behind in their recovery. Formal training is required, and the number of peer specialists is growing substantially. It is now a service covered by Medicaid in more than 50% of states, with peer experts nationally recognized as an increasingly important component of recovery, but these resources have very limited availability. The promise of peer specialists so far suggests applications for BPD are likely to follow.

Family Psychoeducation for BPD

Family psychoeducation programs for BPD include 1) psychoeducational multifamily therapy groups; 2) DBT-oriented family skills-training groups; 3) the Systems Training for Emotional Predictability and Problem Solving (STEPPS) program; and 4) a family education program for parents, partners, and others who have a loved one with BPD. Each of these programs is discussed further below.

The research on BPD and expressed emotion informs family psychoeducation for BPD. In one study of patients with BPD and their families, the higher the family members' level of emotional involvement, the better the patients did at 1-year follow-up (Hooley and Hoffman 1999). With other diagnostic groups (e.g., patients with schizophrenia), families' emotional involvement is typically considered to be overinvolvement and is perceived as a negative characteristic and one targeted for change. With BPD patients, families' emotional involvement is a positive attribute and a buffer against short-term problems. Each of the interventions outlined in the following subsections promotes family involvement and has as a central goal to educate family members on effective ways of being emotionally involved.

Gunderson's Multifamily Therapy Groups

Gunderson and his colleagues at McLean Hospital in Belmont, Massachusetts, have been conducting family groups since the mid-1990s (Gunderson 2001). The format and structure, with additions and modifications specifically adapted to the needs of the BPD population, are based on the programs for schizophrenia pioneered and evaluated by William McFarlane (see McFarlane et al. 2003). Gunderson's treatment follows McFarlane's three-phase format, which includes 1) joining, 2) a half-day psychoeducation workshop, and 3) multifamily group meetings every other week.

In the joining phase, the relatives from one family meet alone with the leaders, whose primary goal is to create an alliance and connection with the relatives. Information on the diagnosis of BPD is provided, and information on and history of the family members' experiences and perspectives on their relative's difficulties are shared. Acknowledgment of the family members' anger and angst is crucial, allowing for the open expression of feelings, both positive and negative, and concerns. Although there is no time limit on this phase of the treatment, participants nearing completion of this joining phase are asked to commit, in gen-

eral, to a 4-month period for the remainder of this phase.

The second phase is the half-day psychoeducation workshop, in which participants are taught about BPD and offered an annotated list of guidelines with coping strategies. This component of the program is conducted with several families at one time and offers participants the experience of hearing from and sharing with others in similar situations. Families are given the opportunity to discuss *Family Guidelines* (Gunderson and Berkowitz 2002), a booklet that includes recommendations on a variety of important issues such as the "temperature" of the family environment, managing crises, addressing problems, and setting limits.

The final and lengthiest phase of this modality is the multifamily group, in which families meet every other week for 90 minutes. This phase, which runs for approximately 1 year, includes an average of six families and focuses primarily on problem solving. Although the individual diagnosed with BPD is invited to participate, it is reported that typically few choose to do so, and patient attendance is reported to be poor (Gunderson 2001).

Data available on this intervention show that 66.7% of family members reported decreased burden as well as an increased ability to modulate angry feelings. One hundred percent of participants felt supported by the group and indicated an improvement in communication with their family member. Seventy-five percent reported that the communication improvement was "great" (Gunderson 2001).

DBT for Family-Oriented Skills-Training Groups

There have been several adaptations and extensions of DBT skills from individuals to families (Hoffman et al. 1999). All of these interventions with families are based on Linehan's (1993a) conceptualization of BPD and include a simultaneous (dialectical) emphasis on both acceptance and change strategies. In addition to having a psychoeducation component, all of these interventions include skills training. Because of their differing emphases, we describe each approach separately.

DBT–family skills training. DBT–family skills training (DBT-FST) includes both the DBT client and his or her family members. DBT-FST was intentionally created to offer participants an opportunity to learn about BPD and to develop self and relationship skills, with the ultimate goal of enhancing both individual and relationship needs. This treatment incorporates the basic structures of standard DBT, such as skill acquisition and skill generalization, directly into the family program. Groups include skill lectures and skill rehearsal, and skill generalization is promoted through problem-solving discussion and practice among family and group members. DBT-FST also includes a component called "structuring the environment," which offers a forum to put skill acquisition and skill generalization practice directly into the family environment. The family forum provides everyone the chance for self and relationship change, both emotional and behavioral, by coaching all members of the family simultaneously. All of this occurs in the context of a no-blame and nonjudgmental setting. Because DBT-FST is intended for the mutual benefit of both client and relatives, the dialectical target is a synthesis that balances the needs of both.

There are four primary goals of DBT-FST. The first goal is to educate family participants on two central aspects of BPD: 1) its definitions and presenting

problems and 2) the etiological theory of BPD on which DBT is based—that is, the transactional model (Fruzzetti et al. 2005). The second goal is to teach a new language of communication based on DBT skills. Relatives and clients readily acknowledge a lack of commonality in words and terminology in their communications, so providing a common set of structures and labels is very useful. The third goal is to promote an attitude that is nonjudgmental. Frequently, there are family patterns of accusation and finger pointing. High-stress families such as those that attend DBT-FST are typically quicker to assess fault and blame toward each other than in other relationships in their lives. The fourth goal is to provide a safe forum in which discussions and problem solving on family issues may occur so that new communication patterns are established and a new repertoire for problem solving is developed.

DBT with adolescents. An adaptation of DBT by Miller et al. (2006) includes a multifamily group skills program for suicidal adolescent patients with BPD features and their families. This 16-week program includes both patients and family members. Parents (or another adult in a patient's life) are given the role of "skills coach" to facilitate the patient's mastering of DBT skills (Linehan 1993b). This treatment program, consisting of the multifamily skills group plus individual DBT therapy for the adolescent patient, has been shown to be successful in reducing suicidality, hospitalizations, and depression while increasing treatment retention and global adjustment (Rathus and Miller 2002). However, no component analysis studies have attempted to determine the impact of the family psychoeducation component per se.

DBT family skills groups. DBT family skills groups, developed by Fruzzetti and colleagues (Fruzzetti 2006, in press), include education materials and skill modules for families with a member with BPD. There are specific psychoeducation/skills programs for parents of adolescents and young adults and separate psychoeducation/skills programs for couples.

In a couples psychoeducation/skills program, the patient and his or her partner (Fruzzetti 2006) participate in a one-couple or couple group format. This program focuses on increasing skills to reduce dysfunctional interactions (especially those related in any way to individual target behaviors, such as self-harm, aggression, or substance abuse); enhancing partner awareness; understanding and improving couple communication (accurate expression and validation); and improving couple interaction patterns, problem management, and closeness and intimacy.

Groups for parents whose adolescent (or young adult) children have BPD (or significant BPD features) have also been developed. Sometimes, of course, these groups include parents who are themselves BPD patients. The goals of these groups include education about parent and adolescent roles, effective self-management practices, and effective parenting practices (Fruzzetti, in press). This particular group is challenging both because of the inherent fear that parents of suicidal adolescents have and because many of these parents are themselves very distressed and lacking in skills. Thus, the following dialectic is embraced wholeheartedly: "Taking care of yourself is taking care of your children; and taking care of your children is taking care of yourself." The basic idea underlying these groups is for parents to learn many of the same skills that their children need—to manage their emotions and themselves—in addition to learning

good parenting skills (e.g., limit setting, positive attention, listening and validation, fostering independence).

Systems Training for Emotional Predictability and Problem Solving

Blum and colleagues (2002, 2008) developed STEPPS, a program for patients and families that focuses on psychoeducation. STEPPS, which is added to ordinary treatment, includes two phases: a 20-week basic skills group and a 1-year advanced program that meets once every other week. It utilizes two modalities: 1) cognitive-behavioral training and skills training and 2) a systems component that encompasses the patient's environment and the individuals who compose that environment. The patient system includes anyone with whom the patient has regular contact and who is deemed important to educate about the disorder. Family and significant others become an integral part of the treatment and are encouraged to attend education and skill sessions to learn ways to support the patient's treatment and to reinforce his or her newly acquired skills. The patient assumes the role of coteacher to inform people important to him or her about the disorder and also to educate them on skills that are helpful for managing one's emotions more effectively. Studies show that participation in STEPPS contributed to reduced BPD severity, negative affectivity, and impulsivity and to improved general functioning (Blum et al. 2008).

Family Connections

Family Connections (FC) is administered by the National Education Alliance for Borderline Personality Disorder, a nonprofit organization dedicated to improving the lives of people with BPD and their loved ones. FC is a no-cost family education program developed specifically for family members, so patients do not attend. FC was developed to provide all four functions of psychoeducation: education/knowledge, coping and family skills, social support, and problem solving. The groups are co-led by trained family members who volunteer their time in a mentoring capacity or by mental health professionals (or mixed co-leaders). FC is a 12-week multifamily group program that follows a standardized manual (Fruzzetti and Hoffman 2002). The course content was adapted in consultation with family members and consumers. FC provides participants with information and research, teaches skills to improve well-being, and offers an opportunity for attendees to acquire tools to help manage their own emotional states more effectively. Using information and education modules as building blocks, the course focuses on education, skill acquisition, and skill application. Additionally, because family members of persons with BPD typically express feelings of isolation and aloneness, FC provides the opportunity for them to work together as a group on skill building, to share experiences and hear that others are going through similar situations, and to develop a support network. Several published studies of FC (Hoffman et al. 2005, 2007; Rajalin et al. 2009) demonstrate that this program is effective in 1) reducing family member grief, 2) lessening burden, 3) reducing depression, and 4) increasing mastery and empowerment.

Conclusion

There are several well-established and empirically supported applications of psychoeducation for PDs in general and for BPD in particular. These include Gunderson's multifamily groups, applica-

tions of DBT, STEPPS, and Family Connections. Good effects have been shown in programs using psychoeducation as part of a treatment package for BPD, and good outcomes have been shown for using family psychoeducation to improve family functioning and/or the well-being of non-patient family members. Clearly, more research is needed to develop and apply psychoeducation to the variety of PDs currently under study and to understand the relative importance of the various components of psychoeducation (education, social support, individual and family skills, supported problem solving) to improve patient outcomes across all PDs.

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CHAPTER 15

Somatic Treatments

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The emergence of the diagnostic category of personality disorders (PDs) derived primarily from the psychoanalytic field, in which the concept of PDs and specific symptoms were described. Therefore, the early treatment approaches tended to focus on psychodynamic treatment techniques. As DSM-III became established in 1980 as the manual for the categorization of objective diagnostic criteria for PDs (American Psychiatric Association 1980), the methodology and rate of completion of clinical trials improved. These efforts were aided by structured diagnostic interviews, such as the Diagnostic Interview for Borderlines (Kolb and Gunderson 1980). At the same time, the field of psychiatry was exploring neuroscience aspects of psychiatric illness, such as the theoretical role of neurotransmitters in specific symptoms, and biological markers of illness, such as variations in levels of cortisol associated with depression (Carroll 1986). This neuroscientific-biological approach to psychiatry led to an increase in clinical medication trials with the goal of improving the outcomes of patients who had been known to have substantial difficulty in improvement, including patients with disorders ranging from schizophrenia and bipolar disorder to borderline PD (BPD), schizotypal PD (STPD), and other symptoms classified in the realm of personality dysfunction.

The vast majority of the literature on PDs is centered on the pathophysiology and treatment of BPD. BPD significantly impacts the lives of individuals with the disorder, as well as their family, medical providers, and society, particularly because of the high rates of morbidity and mortality due to the presence of nonsuicidal self-injury and suicidal behaviors. Patients with BPD suffer enormously with difficulties in emotion regulation and interpersonal functioning, resulting in disability and functional problems in multiple domains of living. BPD tends to by ego-dystonic, which prompts patients to seek care from mental health professionals. The other PDs tend to be ego-syntonic and thus offer fewer opportunities for di-

rect treatment and certainly fewer opportunities for patient participation in clinical treatment trials. Early descriptions of BPD conceptualized this disorder as untreatable because it tended to be associated with worsening of symptoms in the psychoanalytic treatment setting, including the observation of the emergence of psychotic-like symptoms during periods of stress. This observation resulted in the use of the term *pseudoneurotic schizophrenia*, a precursor to the diagnostic label of *borderline personality disorder* (Hoch and Polatin 1949).

The second most studied PD is STPD, which is now described as being part of the continuum of psychotic spectrum disorders in DSM-5 (American Psychiatric Association 2013). This disorder is notable for the presence of ideas of reference, magical thinking, oddness, and eccentricity that significantly interfere with an individual's functioning but do not meet full criteria for a psychotic disorder, such as schizophrenia.

With the increase in classical clinical trial studies in the 1980s came the assessment of a number of first-generation antipsychotic and antidepressant medications for PDs. Mood-stabilizing agents such as lithium were also tested based on the observation of rapidly undulating mood in patients with PDs. However, during the first decade of these medicines being tested, the positive results of studies were often outweighed by the side effects of the medications, such as movement disorders. These concerns led to a pause in the series of trials in the PD medication treatment arena. Interestingly, at this same time there was increasing interest in the development and empirical substantiation of psychotherapeutic approaches such as dialectical behavior therapy (DBT; Linehan et al. 1991) and mentalization-based therapy (Bateman and Fonagy 2008).

The introduction of a number of second-generation medications—beginning with fluoxetine and followed by other selective serotonin reuptake inhibitors (SSRIs), and then second-generation/atypical antipsychotic medications and mood-stabilizing anticonvulsant medications such as divalproex—led to increased momentum and attention to medication treatment over the past two decades. During this time, the field has produced a number of positive studies of classes of medications for the treatment of PDs, without the intolerable side effects observed with the first-generation medications. However, emerging controversy and diverging international opinion exists regarding the effect size of and the generalizability of treatments with these medications. Furthermore, because of the positive outcomes of structured therapies such as DBT, there has been considerable controversy and debate over the role of medications versus psychosocial treatments for the treatment of PDs. A challenge for the somatic approach to the treatment of PDs is rooted in comparisons of effect sizes when matched against psychotherapies, concerns about metabolic side effects, and other issues.

Clinical research for somatic treatment of PDs is now at a point where there have been a number of emerging studies in recent years as well as very interesting meta-analyses. In this chapter, we discuss the pharmacotherapies for PDs, as well as electroconvulsive therapy (ECT). We also review meta-analytic studies, explore future directions for additional study, and discuss suggestions for best clinical management practices.

Pharmacotherapies

Antipsychotic Medications

First-Generation Antipsychotics

Historically, antipsychotic medications were tried for disorders that would now be considered BPD and/or STPD. Interestingly, the early results indicated that a number of psychotropic agents were beneficial for the patients. In reflecting on these early trials, however, one wonders whether these patients were very significantly ill and may not have had the same characteristics as the patients with BPD currently being seen in clinics. An initial description of patients receiving what was termed "low-dose neuroleptic treatment" (Brinkley et al. 1979) led to a series of medication trials that were structured in a way similar to studies of psychotic illnesses, such as schizophrenia.

The report by Brinkley et al. on a group of antipsychotic medications was followed by the first placebo-controlled trials of low doses of first-generation antipsychotic medications for patients with BPD or STPD. Goldberg et al. (1986) designed a double-blind, placebo-controlled trial of thiothixene given at a low dosage (8.7 mg/day) in patients recruited from the community. The research team noted statistically significant changes while examining a number of schizotypal symptoms. Of interest, however, was that the group of patients receiving placebo had the same amount of global improvement as the group taking thiothixene. Soloff et al. (1989) designed a trial for patients with BPD to compare haloperidol at low dosages (4–16 mg/day) with amitriptyline at regular depression treatment dosages (100–175 mg/day) and placebo. In this trial, the subjects were inpatients at the University of Pittsburgh and therefore were clearly persons seeking help for severe symptoms rather than symptomatic volunteers. In this study, haloperidol at low dosages was significantly superior to placebo, and, compared with Goldberg et al.'s study, even better than placebo on essentially all of the ratings. Haloperidol was superior to amitriptyline in this patient group. In subsequent reports, Soloff et al. (1986) described a number of patients with BPD who actually had worsening symptoms when taking amitriptyline. Findings from these two blinded and placebo-controlled trials were consistent with those of other studies in which two antipsychotic medications were compared with each other (Serban and Siegel 1984), resulting in a significant interest in the use of antipsychotic medications for treating patients with BPD, mainly those with comorbid STPD.

Subsequent to these studies, Soloff et al. (1993) continued work examining haloperidol as a treatment for BPD and noted that, in their second trial, haloperidol did not separate from placebo. As in the earlier trial, in which the design focused on the ability to compare the effects of an antipsychotic with an antidepressant, the monoamine oxidase inhibitor (MAOI) phenelzine was included and was more effective than placebo. Other reports examined antipsychotic medications for patients with STPD (Hymowitz et al. 1986) and reported some benefit but also noted some difficulties with patients' management of side effects. Investigators noted that even if patients may not have had major movement disorders with the first-generation antipsychotic medications, they felt somewhat stultified or slowed and chose not to continue taking the medication.

In this same era, Cowdry and Gardner (1988) examined outpatients referred to their National Institute of Mental Health

program in which they examined four classes of compounds in order to determine whether there was specificity for the complex illness of BPD. They studied the antipsychotic trifluoperazine, the benzodiazepine alprazolam, the anticonvulsive carbamazepine, and the antidepressant tranylcypromine. Many participants did not continue use of trifluoperazine beyond the first phase of the trial because of limited tolerability. There was no statistical difference in patient or staff rating scale scores between the antipsychotic and placebo for the patients who did continue taking this medication. The authors noted that there may have been issues with the generalizability of this finding because the participants in this study tended to demonstrate symptoms that emphasized difficulties with affective and behavioral problems rather than transient psychotic states or schizotypy.

Second-Generation Antipsychotics

Clozapine was the first second-generation antipsychotic demonstrated to be effective for treatment-refractory schizophrenia in a large, multi-center trial in the 1980s (Kane et al. 1988). Positive reports of efficacy and relative lack of movement disorder side effects led to substantial interest in its use for schizophrenia. Interestingly, clozapine was the first atypical antipsychotic medication to be studied for BPD. Frankenburg and Zanarini (1993) assessed the use of clozapine in significantly ill hospitalized patients with BPD and comorbid major psychiatric illness. The authors noted a significant decrease in the PD symptoms. This remains an excellent clinical contribution to the field, because most studies have examined outpatients. In further work using clozapine, researchers examined patients who had only a PD and no other psychiatric diagnoses. In one trial, 12 inpatients with BPD and severe psychotic-like symptoms were treated with clozapine at dosages ranging from 25 to 100 mg/day. Participants in this small sample experienced overall improvement, specifically in impulsivity and affective instability (Benedetti et al. 1998). The use of clozapine has been limited clinically by the need for initial assessment and monitoring of blood counts (specifically neutrophils) to assess for and minimize the risk of developing severe neutropenia, a life-threatening condition associated with use of this medication. Clozapine and all other second-generation antipsychotics are associated with metabolic risks, such as weight gain, diabetes, and elevated blood lipids, that increase the risk of cardiovascular risks, such as coronary artery disease, myocardial infarction, and stroke. Movement side effects have also been observed, such as dystonic reactions, tardive dyskinesia, and neuroleptic malignant syndrome, a rare but serious condition that could be life threatening.

Following the introduction of clozapine, other second-generation antipsychotics emerged. These medications are also referred to as *atypical* antipsychotics because they result in substantially decreased movement disorders compared with first-generation antipsychotics. Risperidone, the first second-generation antipsychotic approved for the treatment of schizophrenia, was tested in BPD in an 8-week trial by Rocca et al. (2002). In this case series, there was a significant reduction in symptoms. Koenigsberg et al. (2003) examined the effect of risperidone on patients with STPD and found a statistically significant reduction in the symptoms of psychoticism in these patients with a low dosage of risperidone (starting dose of 0.25 mg, titrated upward to a dosage of 2 mg/day). The authors noted that two of the patients were

comorbid for both STPD and BPD, and those two also showed improvement. Schulz (1998) compared low doses of risperidone with placebo in symptomatic participants who qualified for the BPD diagnosis and were recruited through advertising media. This double-blind, placebo-controlled trial was conducted in an outpatient program in which the staff members were trained in DBT techniques, the patients were given education handouts and books, and the patients were told that they had 24-hour staff availability. In this report, the subjects assigned to receive risperidone did have a significant reduction on a number of rating scales; however, they did not separate from the placebo group. The investigators speculated that the substantial psychosocial support was of significance for the subjects with BPD in both the placebo and active medication groups.

The second atypical antipsychotic medication to be released in the United States was olanzapine. The compound was found, in comparisons with placebo, to reduce symptoms of schizophrenia and was not observed to have the same degree of movement disorder side effects as do first-generation antipsychotic medications such as haloperidol (Tollefson et al. 1997). Initial assessments of olanzapine for BPD were open-label studies aimed at assessing the effect of the medication on standard rating scale symptoms (e.g., Symptom Checklist–90 [SCL-90]; Derogatis et al. 1973) and examining potential side effects. The first trial by Schulz (1998) assessed 11 patients at a total daily dose of 7.5 mg, approximately half the dose used in patients with schizophrenia. The results demonstrated a significant change in symptoms as assessed by the Hopkins Symptom Checklist–90, the Buss-Durkee Hostility Inventory, and the Barratt Impulsiveness Scale. The authors noted that 9 of the 11 subjects who completed the 8-week study found the medication to be tolerable. In an open-label trial focusing on STPD, Keshavan et al. (2004) noticed improvement both in measures of psychoticism and in mood. This study, which took place over nearly 6 months, observed improvement in 8 of 11 subjects and represented an important contribution to the field.

Following the initial open-label trials, other investigators designed placebo-controlled studies of olanzapine in patients with BPD. Zanarini and Frankenburg (2001) tested olanzapine in women and noted a positive improvement compared with placebo. Of interest, the dosage of olanzapine in this study was low (average of 5.3 mg/day) compared with that used in the treatment of schizophrenia. A larger study compared olanzapine with placebo in 40 patients with BPD (Bogenschutz and George Nurnberg 2004). This study was the first to use DSM-based criteria as an outcome measure. Of note, the severity of seven of the nine DSM-specified criteria for BPD was reduced in patients taking olanzapine compared with those receiving placebo.

Zanarini et al. (2004) compared olanzapine with fluoxetine and an olanzapine/fluoxetine compound. In this trial, the olanzapine/fluoxetine compound was most effective, but the gains were not statistically greater than those for olanzapine. Both the olanzapine/fluoxetine compound and olanzapine were superior to fluoxetine. This was of interest to the field because at the time there had been a number of successful fluoxetine case series.

An issue facing the field of treatment for BPD has been the lack of information regarding medication treatment and structured psychosocial treatments. To

address this issue, Soler et al. (2005) tested olanzapine by giving either the active medication or placebo to patients enrolled in DBT. The authors entered 60 subjects in the study and found an advantage for olanzapine over placebo on depression and impulsivity rating scales. Linehan et al. (2008) similarly reported an advantage of olanzapine added to DBT compared to placebo added to DBT. Their results showed a reduction in anger during the study—an area of potential usefulness in engaging the patients in treatment.

To further address olanzapine's potential in the treatment of BPD, two large registration trials were designed to test the medication versus placebo (Schulz et al. 2008; Zanarini et al. 2011). The design included patients with BPD, but to assess the specificity of the treatment, no subjects with a comorbid PD were studied. Also, comorbidities of other major psychiatric disorders were substantially limited. This design differs substantially from the design of a number of the earlier studies of antipsychotic medications in patients with comorbid BPD and STPD.

In the first published of these two large trials, Schulz et al. (2008) reported that olanzapine was not statistically significantly superior to placebo by the end of the 12-week study, and both the placebo and medication groups showed a reduction of symptoms over the course of the trial, as assessed by the Zanarini Rating Scale for Borderline Personality Disorder (ZAN-BPD). The authors also reported on the metabolic side effects in the two groups; the olanzapine group had significantly greater weight gain and a higher incidence of treatment-emergent abnormally high levels of prolactin. Later, in the largest BPD study performed to date, Zanarini et al. (2011) randomly assigned 451 outpatients, ages 18–65, to receive a fixed low dose of olanzapine (2.5 mg), 5–10 mg of olanzapine, or placebo. There was a statistical reduction of ZAN-BPD symptoms in the 5- to 10-mg group, but the 2.5-mg group did not separate from placebo. As in the previous trial, the olanzapine groups showed statistically significant increased metabolic side effects. After the completion of the two studies, the open-label continuation trial (Zanarini et al. 2012) showed that the patients who had been assigned to receive placebo in either of the two double-blind studies had a reduction in symptoms with open-label use of olanzapine. Also, the patients who continued in the study after having taken olanzapine in an earlier study continued their improvement.

The third second-generation antipsychotic medication to be released in the United States for the treatment of schizophrenia was quetiapine. This antipsychotic medication was shown to reduce symptoms of schizophrenia relative to placebo (Small et al. 1997). The medication has since been assessed using an open trial methodology for both inpatients and outpatients with a BPD diagnosis (Adityanjee et al. 2008). Of interest is the wide range in dosing of quetiapine, with relatively high doses being assessed in the inpatient setting for patients with BPD. These open-label studies and case series frequently cite sedation as a side effect, as well as increased appetite, dry mouth, and weight gain (Adityanjee et al. 2008).

Aripiprazole is an antipsychotic medication with a unique activity in the brain; it is a partial agonist of dopamine receptors, in addition to having the usual dopaminergic antagonism effects of other antipsychotics. This medication was judged to have significant effectiveness in schizophrenia (Kane et al. 2002) and has now been tested by M.K. Nickel et al. (2006) for BPD. In this trial, 43 women and 9 men with DSM-III-defined BPD

were randomly assigned to receive either 15 mg/day of aripiprazole ($n=26$) or placebo ($n=26$) for 8 weeks. The authors noted that symptoms of anxiety and depression, as well as anger, were broadly reduced. This study was extended to an 18-month follow-up to assess long-term use of the medication. The authors noted significant improvement on all outcome measures over this period of time (M.K. Nickel et al. 2007).

In summary, antipsychotic medications have been tested for BPD, BPD and STPD together, and STPD alone. Some, but not all, of the studies have shown symptom reductions in open-label trials, and antipsychotic medications have been superior to placebo in some, but not all, studies. Also of note are the two studies in which an antipsychotic medication was added to a structured psychosocial treatment (i.e., DBT), and the combination demonstrated a statistical advantage. Of concern to the field is the issue of side effects of the medications, and clinicians must carefully weigh the advantages of the medicine versus the side effects.

Antidepressants

In the early stages of testing antidepressant medications in BPD, Soloff et al. (1986) aimed to assess the potential of specificity of medications and found that the tricyclic antidepressant (TCA) amitriptyline was no better than placebo. In a subsequent report, Soloff et al. (1989) noted that approximately a quarter of the subjects experienced deterioration in their behavior. The group's next assessment of antidepressant medications examined the MAOI phenelzine at 60 mg/day (Soloff et al. 1993). This medication was selected on the basis of previous work demonstrating efficacy in patients with anxiety disorders (Ravaris et al. 1976). In the Soloff et al. (1993) BPD trial, phenelzine was superior to placebo. Despite the positive results of the study, issues related to side effects (including diet management issues) did not lead to significant use or further trials of MAOIs.

The MAOI tranylcypromine (40 mg/day) was tested by Cowdry and Gardner (1988) in a multiple medication study of 16 female outpatients. The authors noted that this MAOI was rated better than placebo by the patients and the physicians. They also commented on its potential usefulness in combination with the psychotherapy the subjects were receiving. This report, perhaps combined with some of the safety issues related to TCAs, such as the significant toxicity in the case of overdose, diminished the interest in TCAs for BPD. Examination of MAOI studies has shown dosing ranges similar to doses used in depression treatment. In this category of medication, the selegiline patch is a newer compound with less significant dietary side effects, but there are as yet no studies of this compound in the treatment of BPD.

With the introduction of fluoxetine, the first SSRI, investigators interested in BPD felt that fluoxetine might be useful in reducing symptoms of depression and anxiety. The first trials were open label, and results on rating scales such as the SCL-90 indicated that the subjects had a statistically significant reduction of symptoms. The first report, by Cornelius et al. (1990), noted improvements, mostly in depressive and impulsive symptoms, in five subjects with BPD. In another early open-label trial, this time with 22 subjects with BPD, Markovitz et al. (1991) noted decreased self-injury and SCL-90 scores. Additionally, Salzmann et al. (1995) reported, in a 13-week double-blind, placebo-controlled study, the reduction of anger and commented that this is a substantial issue for patients with

BPD. In examining these latter two studies, it is interesting to note that the doses of fluoxetine appeared higher than those used in major depression. Dosages ranged from 20 to 80 mg/day in the study by Markovitz et al. (1991) and 20 to 60 mg/day in the study by Salzmann et al. (1995). At the time, the treatment of BPD symptoms with antidepressant medication was a significantly controversial topic in the clinical management field.

Markovitz and Wagner (1995) additionally examined venlafaxine, a serotonin-norepinephrine reuptake inhibitor (SNRI) in an open-label trial. In this study, patients who had not responded to SSRIs did show improvement with venlafaxine.

The early investigations of medications for BPD focused on those subjects whose personality functioning met the criteria for BPD on the basis of DSM-III criteria (American Psychiatric Association 1980) or the Diagnostic Interview for Borderline Patients (Gunderson et al. 1981). Of interest in the pharmacotherapeutic approach to BPD is examination of trait domains in the PDs rather than only the global DSM-based criteria. Coccaro and Kavoussi (1997) investigated impulsive/aggressive symptoms in patients who initially had PD characteristics. Coccaro and colleagues (Coccaro and Kavoussi 1991; Coccaro et al. 1997) examined the serotonergic underpinning of impulsive and aggressive disorders, using both behavioral and neuroscientific measures over the years preceding these studies. In a double-blind, placebo-controlled trial (Coccaro et al. 1997), fluoxetine, given at dosages of up to 60 mg/day, led to improvement in the early phase of the study, which extended to the end of the trial. Thus, a combination of neuroscience and clinical trial studies indicated that fluoxetine could be useful in the domain of symptoms of impulsivity and aggression. Whereas the previously reviewed studies assessed use of antidepressants alone in clinical trial format, Simpson et al. (2004), in contrast, examined the addition of fluoxetine to DBT. In this study, in which all subjects received DBT in combination with either fluoxetine or placebo, fluoxetine did not emerge as providing an advantage over placebo.

In summary, early studies of TCAs showed that this class of compounds did not lead to an improvement for an entire group, and may have led to worsening of symptoms for the inpatients with BPD (Soloff et al. 1986). The initial reports on SSRIs, based on open-label studies of fluoxetine, showed improvement in depressive and impulsive symptoms, and these open-label findings were confirmed in some, but not all, subsequent, controlled studies. It is noteworthy that Markovitz and Wagner (1995) found that the SNRI venlafaxine may be useful in patients who had had a failed trial with an SSRI. With the emergence of PD studies examining trait domains rather than only DSM criteria, Coccaro and Kavoussi (1997) demonstrated the potential usefulness of fluoxetine in impulsive/aggressive patients. Also of note is the observation of the higher than usual dosage range of fluoxetine in the clinical treatment of BPD and the observed safety and tolerability.

Anxiolytics

Anxiety is a prominent symptom in patients with BPD. Clinicians have noted that difficulties in interpersonal relationships, sensitivity to rejection, and misperception of the intent of others can lead to significant distress, and at times this may lead to dangerous behaviors in these patients. Therefore, examination of anxiolytic medications, such as benzodi-

azepines, seemed reasonable. The highly creative study by Cowdry and Gardner (1988) examined four medications from different classes, including the benzodiazepine alprazolam (4.7 mg/day), to learn about the specificity of medication treatment. The results of other parts of this study are presented elsewhere in the chapter (see "Antipsychotic Medications" above and "Anticonvulsants" below). Notably, in the study of alprazolam, which had just been released at the time of the study, participants experienced no improvement in symptoms, and their impulsivity and dyscontrol actually worsened (Gardner and Cowdry 1985). This carefully controlled study led to concern about using disinhibiting medication for such patients, and further trials have not been pursued. Therefore, even though it might occur to a clinician to use benzodiazepines in treating symptoms of anxiety in patients with BPD, there is no empirical evidence that the medications are useful. Of note are the emerging findings of functional imaging in patients with BPD that are revealing a pattern of hypofrontal metabolism or blood flow that is related to impulsive/aggressive behavior; in other words, the higher the rating of impulsive and aggressive behavior, the lower the frontal lobe activity (Goyer et al. 1996). Decreasing the mechanism of self-control may be an underpinning of these observations of benzodiazepine-induced disinhibition in patients with BPD.

Lithium Carbonate

Lithium carbonate was approved by the U.S. Food and Drug Administration (FDA) for use in bipolar disorder in the early 1970s. This medication had been found over the previous 20 years in other countries to be very effective in reducing mood swings in patients with BPD. Furthermore, it did not have the side effects, such as sedation, movement disorders, or emotional flattening, that were associated with neuroleptic medication. In their pre-DSM-III study, Rifkin et al. (1972) described patients who would now be diagnosed with BPD as having "emotionally unstable character disorder." In this study of inpatients, lithium was substantially superior to placebo in the management of rapid mood swings. Doses similar to those used for the treatment of bipolar disorder were used in this study. These results led to a continued interest in this compound, which was considered nonsedating and safe.

In another study examining lithium carbonate in BPD, Links et al. (1990) noted some reduction in symptoms based on the therapists' rating scales, but participants' reports indicated no significant reduction in symptoms for lithium versus placebo. The authors noted that lithium reduced impulsive symptoms. Despite these reports on lithium carbonate and the observations of mood changes in patients with BPD, the lack of further evidence is difficult to explain.

When lithium carbonate is used in patients with BPD, as when it is used to treat patients with mood disorder, assessment and monitoring of thyroid and kidney function is necessary. Patients and families need to know about side effects, such as tremor, thirst, and increased urination, as well as the potential for neurological complications in the setting of lithium toxicity. Lithium blood levels must be monitored. This medication may pose significant morbidity or mortality if taken in an overdose, which is a particular risk factor for patients with BPD and suicidal behavior.

Anticonvulsants

During the 1970s, there was emerging research examining the impact of anticonvulsant medications on bipolar disorder. An early report from Japan noted a reduction in bipolar symptoms in subjects treated with carbamazepine (Okuma 1983). This work was followed closely by reports examining the potential brain physiology underpinning temporal lobe stimulation leading to an increased frequency of mood symptoms (Ballenger and Post 1978; Post et al. 1986). The first group to examine use of an anticonvulsant medication in BPD was Cowdry and Gardner (1988), drawing on their earlier work in bipolar disorder, in which carbamazepine was used in one of the arms of their four-medication treatment trial. The significantly useful outcome measure was a decrease in suicide attempts by this impulsive group. Interestingly, although there was no overall change in the participants' assessment of improvement in their own symptoms, an objective decrease in measured impulsivity and suicidality was considered meaningful. Unfortunately, there was also an increase in depressive symptoms in these patients during the anticonvulsant period of the trial. In a subsequent double-blind, placebo-controlled study, de la Fuente and Lotstra (1994) examined the use of carbamazepine in hospitalized inpatients with BPD. In this trial, there were no differences in symptomatic outcomes between patients given carbamazepine and those given placebo.

During the 1980s, there was a greater interest in assessing the utility of divalproex sodium for the treatment of bipolar disorder. This led to examination of the medication for PDs. Frankenburg and Zanarini (2002), in one of their studies of patients with BPD, also examined divalproex sodium in a group of patients with bipolar II disorder who also qualified for the diagnosis of BPD. This was a very useful study in light of the frequent comorbidity of these disorders. Interestingly, Frankenburg and Zanarini examined symptoms of impulsive aggression using a standardized rating scale and found a statistically significant reduction of symptoms with divalproex in this comorbid group. In a related trial of divalproex sodium in outpatients with BPD, Hollander et al. (2001) found a reduction of symptoms in the patients receiving divalproex sodium. However, there was a very significant dropout rate in the placebo group, which made interpretation of the results somewhat difficult. Hollander et al. (2005) later examined subjects with impulsive and aggressive symptoms to look further into the borderline, narcissistic, antisocial, and histrionic PD groups. There was a reduction in symptoms in these diagnostic groups overall. However, when Hollander and colleagues then focused only on the patients with BPD, they noted a significant decrease in aggression and trait impulsiveness when divalproex was used. In these studies, the mean dosage was approximately 1,250 mg/day, similar to the dosages used for epilepsy and bipolar disorder. Because blood levels of divalproex can vary widely at a given dosage, assessment of blood levels is important. The monitoring of side effects, which include weight gain and sedation, is also important. Women with the potential to bear children should be counseled about the risk of birth defects, including neural tube abnormalities, especially following exposure to valproic acid in the first trimester.

Other anticonvulsant medications have been released since these early trials were begun, and medications such as oxcarbazepine and topiramate have been examined for patients with PDs. Of note are studies by M.K. Nickel et al. (2004,

2005) and C. Nickel et al. (2005) examining topiramate. In this series of studies, topiramate was assessed in double-blind, placebo-controlled trials, first in women (M.K. Nickel et al. 2004) and then in men (M.K. Nickel et al. 2005). In both studies, the investigators used the State-Trait Anger Expression Inventory (STAXI; Spielberger et al. 1999) as an outcome measure and noted significant reductions in anger in both groups. The group given topiramate (up to 250 mg/day) interestingly lost more weight than the placebo group. This research group then used SCL-90 measures to assess the effects of topiramate and noted a significant decrease in scores on some of the scales, such as Somatization, Interpersonal Sensitivity, Anxiety, Hostility, and Phobic Anxiety (Loew et al. 2006). In this study, the highest dosage was 200 mg/day. Of clinical note was the reduction in weight for patients taking topiramate, because weight gain has been a substantial clinical issue for second-generation antipsychotic medications and, to a lesser degree, other psychiatric medications, such as anticonvulsants and some antidepressants.

Topiramate has been studied in many areas of neurology and psychiatry, and observations have emerged indicating that it may have a negative impact on cognition. Loring et al. (2011) assessed this issue in a study of both epilepsy patients and healthy volunteers. The authors noted a negative impact of topiramate on neuropsychological assessment and noted that it was dose related, with the greatest impact for those given topiramate at the highest dosage (384 mg/day). The cognitive impact of topiramate related to its dose is important if the medication is used in patients with PDs.

Lamotrigine is another medication that has been explored for use in BPD. Some of this work was spawned from early studies of lamotrigine in bipolar disorder by Calabrese et al. (1999), who reported that lamotrigine had positive impact on the depressive phase of the illness. These findings led to speculation about the potential usefulness of lamotrigine for depressive symptoms in patients with BPD. Pinto and Akiskal (1998) reported on an eight-subject case series in which three patients with BPD showed improvement in global functioning. Tritt et al. (2005) completed the first placebo-controlled study of lamotrigine in the treatment of patients with BPD, using the STAXI as the outcome tool, and they noted significant improvement and safety. More recently, Reich et al. (2009) assessed lamotrigine in patients with BPD in a double-blind trial using the ZAN-BPD and noted reductions in Affective Lability Scale scores and in the affective instability item. They also noted a reduction in impulsivity. Of special note in clinical management is the importance of using a slow titration of the medication and monitoring for possible skin rash or lesion, to minimize the risk of potentially life-threatening development of Stevens-Johnson syndrome.

Omega-3 Fatty Acids

Although much of the discussion of somatic treatments for PDs may focus on pharmaceuticals, omega-3 fatty acids have been the object of a double-blind, placebo-controlled trial for BPD. This study, in which subjects were assigned to receive either omega-3 fatty acid (1 g/day) (n=20) or placebo (n=10), found a statistical advantage of the compound compared with placebo. The study's focus was on aggression and depressive symptoms (Zanarini and Frankenburg 2003).

Electroconvulsive Therapy

Numerous patients with PDs who have comorbid depression and are not responsive to first-line treatments may be considered for ECT. The studies in the literature do not appear to have tested ECT utilizing clinical trial methodology for BPD, but have examined ECT outcomes for patients with comorbid depression and BPD compared with depressed patients. Zimmerman et al. (1986) examined depressed patients with and without BPD and noted equivalent short-term outcomes but greater symptomatology at 6-month follow-up. In another evaluation of personality traits and major depression, Blais et al. (1998) reported no significant change in personality traits after ECT treatment. Feske et al. (2004) noted that patients with BPD and depression had poorer outcomes at an 8-day follow-up than did those with major depression and another group with major depression and other personality symptoms. These findings do not address using ECT for patients with BPD alone, but the lack of improvement of BPD symptoms in depressed patients leads to some caution in the application of ECT for this disorder.

Meta-Analytic Studies of Somatic Treatments

Personality Disorders Other Than BPD

Significant effort has been invested in reviewing the available literature to best advise practicing clinicians in the care of patients with PDs. As described in this chapter, many clinical trials have been small, and the generalizability of individual studies is somewhat limited. The Cochrane Collaboration conducted a meta-analytic study of randomized controlled medication trials of patients with antisocial PD (Khalifa et al. 2010). The existing evidence is sparse. Eight trials examining eight medications were identified, but data could be reviewed for only four of the trials. The quality of the studies was considered insufficient, and thus no conclusions could be drawn. The Cochrane Collaboration is in the midst of preparing reviews for the pharmacological treatment of paranoid, schizoid, schizotypal, histrionic, narcissistic, avoidant, and obsessive-compulsive PDs, each of which unfortunately has limited literature on which to base clinical decisions.

BPD and International Practice Guidelines

To address the significant need for evidence-based guidance on clinical management of BPD, researchers in several countries have developed practice guidelines based on meta-analytic reviews. A consistent theme among such efforts is the acknowledgment of methodological limitations due to the relatively limited number of clinical trials in the area of BPD treatment and differences in study design, which challenge pooling of the data.

The first practice guideline for the treatment of patients with BPD was developed in the United States by the American Psychiatric Association (APA) in 2001, and it included a set of clinical algorithms for the adjunctive use of medications for BPD, based on the limited research available at the time. This guideline was developed prior to the majority of research described earlier in this chapter and included only seven placebo-controlled clinical trials. The APA guideline

suggested that clinicians consider symptom domains of BPD and pointed to antidepressant medications as a first-line treatment for affective symptoms. The guideline noted that the combination of psychotherapy and psychopharmacology is probably the most useful strategy in the overall management of BPD. The APA guideline is currently considered outdated because of the significant number of clinical medication and combined medication-psychotherapy trials that have been conducted since its development. Furthermore, the FDA has not approved any medication for use in the treatment of PDs.

A Cochrane Collaboration review was conducted by German researchers and serves to identify high-quality evidence that clinicians may use in making individualized practice decisions (Stoffers et al. 2010). The reviewers identified 28 qualifying studies for analysis of first- and second-generation antipsychotics, mood stabilizers, and antidepressants. Omega-3 fatty acid was also included. Outcome measures included treatment impact on BPD severity, amelioration of BPD core pathology, changes in associated psychopathology, and participant attrition. In this comprehensive assessment, the reviewers noted some supporting evidence for medication therapy in the treatment of BPD—mostly for the second-generation antipsychotic medications, mood stabilizers, and omega-3 fatty acid. In the area of safety, the most prominent side effects were related to weight gain and metabolic abnormalities observed with olanzapine. Similar to the recommendations of the APA Practice Guideline, the reviewers in the Cochrane meta-analysis noted that medication treatment should be combined with psychotherapy with close attention to the therapeutic relationship. Based on the limited long-term data of medication treatment, the authors recommended identification of clear treatment targets and discontinuation of treatment if improvement in these targets is not observed. The data suggested that SSRIs are possibly effective for the treatment of anxiety, depression, and affective instability symptoms. Evidence also suggested that atypical neuroleptics and mood stabilizers may possibly be effective for hostility, anger, impulsivity, aggression, and depression.

After examination of the individual medications, Stoffers et al. (2010) noted an important clinical point related to selection of treatment by clinicians—namely, that there were very few comparisons of medications (which are very useful in determining a treatment). The authors also noted that among the therapeutic effects of medications, changes in feelings of emptiness or abandonment were not reported. These symptoms are an important target of treatment and would be important to note in managing the expectations of clinicians and patients. This clinical pattern is very similar to that of antipsychotic medications on schizophrenia, in that the medications reduce hallucinations and delusions but have little effect on negative symptoms or cognition.

In a similar Cochrane Collaboration review, Stoffers et al. (2012) carefully assessed psychological therapies for BPD, describing 28 studies that included psychological treatment modalities such as DBT, schema-focused therapy, mentalization-based therapy, group therapy, and Systems Training for Emotional Predictability and Problem Solving. Examination of the articles shows that in some studies, many of the subjects were receiving medications on entry and throughout the studies. This observation highlights the fact that because many patients with BPD are being treated with medications

even if they are being referred to psychotherapy treatment, the evidence for the efficacy of psychotherapy is not necessarily derived in isolation from pharmacological treatment and effects.

In the Netherlands, Ingenhoven et al. (2010) conducted a meta-analysis of 21 BPD medication treatment studies, with the intent of identifying high-quality clinical evidence. This analysis focused specifically on the BPD domains, which included cognitive-perceptual symptoms, impulsive-behavioral dyscontrol, affective regulation, and global functioning. The studies under consideration in the analysis used placebo-controlled trials that included participants with BPD and/or STPD. The authors reported a moderate to very large effect of mood stabilizers on impulsive-behavioral dyscontrol, anger, and anxiety, and a moderate effect on depression (Table 15–1). For antipsychotic medications, a moderate effect was seen on cognitive-perceptual disturbances and a moderate to large effect was seen on anger. For the antidepressants, there were small effects on anxiety and anger. The authors concluded that this analysis supports the use of medications to target specific symptom domains, a finding that is consistent with the American Psychiatric Association (2001) guideline, discussed at the beginning of this subsection. The Dutch have developed a clinical guideline that approaches BPD management through the use of hierarchical symptom-targeted treatment algorithms (Practice Guideline on Diagnosis and Treatment of Adult Patients With a Personality Disorder 2008).

In the United Kingdom, the National Collaborating Centre for Mental Health (2009) issued its National Institute for Health and Clinical Excellence (NICE) guidelines for the treatment and management of BPD to equip clinicians practicing through the governmental health care system. The guidelines describe strategies for improved access to care, the importance of therapeutic relationships, patient autonomy and choice, and service planning in the community. The guidelines also clearly state, however, that the existing level of evidence for the use of medication in the treatment of BPD does not yet meet the standard needed in order to recommend use. The guidelines also nonempirically describe using sedating antihistamines, such as hydroxyzine, to assist in immediate crisis or insomnia.

The most recent clinical guideline, from the Australian National Health and Medical Research Council (2012), contains 63 recommendations for comprehensive patient care, including, diagnosis, treatment, management, and information for caregivers. The guideline states that persons with BPD should be referred to structured psychotherapies designed for BPD and should be offered choices. Regarding medication treatment, the guideline notes that medication should not be used as a primary therapy for BPD because of effects that are modest, inconsistent, and not helpful for modifying the course of the disorder, although short-term use of medication as an adjunct to psychological therapy to manage specific symptoms may be considered. Similar to the NICE guidelines (National Collaborating Centre for Mental Health 2009), this guideline recommends that medications be used in acute crisis situations and discontinued after the crisis is resolved.

Future Directions

Even though the field of somatic treatments of PDs has advanced in many ways with a significant number of clinical trials, specific and objective rating scales,

TABLE 15–1. Results of a meta-analysis of controlled trials

Medication class	Target domains (effect size)	Major trials	Dosage range (mg/day)	Major side effects
Antipsychotics	Anger (moderate/large) Cognitive-perceptual (moderate)	Haloperidol	4–16	Weight gain, hyperlipidemia, diabetes mellitus, dystonia, tardive dyskinesia, neuroleptic malignant syndrome
		Olanzapine	2.5–20	
		Aripiprazole	15	
		Risperidone	0.25–2	
Anticonvulsant mood stabilizers	Impulsive-behavioral dyscontrol (very large) Anger (very large) Anxiety (large) Depressed mood (moderate)	Valproate	500 (or plasma level)	Dizziness, drowsiness, fatigue, tremor, weight gain, Stevens-Johnson Syndrome, cognitive problems
		Lamotrigine	50–200	
		Carbamazepine	820 (or plasma level)	
		Topiramate	25–250	
Antidepressants	Anxiety (small) Depressed mood (small)	Phenelzine	60–90	Nausea, constipation, dry mouth, agitation, irritability, loss of sexual desire and impairment in sexual functioning
		Fluoxetine	20–80	
		Fluvoxamine	150	
		Desipramine	163	
		Tranylcypromine	40	
		Amitriptyline	100–175	

Source. Adapted in part from Ingenhoven et al. 2010.

and meta-analytic comparisons, a significant number of issues remain to be addressed. These include the following points:

- In early clinical medication trials of PDs, multiple types of PDs (e.g., BPD and comorbid STPD) were frequently included in trials. Thus, trying to determine the specificity of medication to an isolated PD is quite challenging.
- In the study of PDs, there has been an emergence of the concept of *trait domains* within the PDs, perhaps most frequently in BPD, and new analyses of clinical trials point to efficacy in specific symptom domains of PDs (e.g., affective instability) rather than for the treatment of the overall PD.
- For major psychiatric disorders, elaborate trials have been performed to examine the effects of medication alone versus medication plus specific therapies. Hogarty et al. (1986) showed that combined medication and therapy was better than medicine alone in the treatment of schizophrenia. However, at this point there is very little similar research for PDs.
- For major psychiatric disorders, there has been continued exploration of the length of time to use medication treatment, yet in PDs there has been no similar empirical assessment.
- Although men and women are both affected by BPD, evidence suggests that the level of disability and psychopathology may be somewhat different. These differences have yet to be fully explored in the medication treatment literature.
- Clinical trials in BPD have tended to recruit *symptomatic volunteers.* There has been considerable controversy regarding potential differences in study outcome based on whether the participant was obtained through newspaper advertisements or recruited from clinics or inpatient units.
- An emerging area of interest in somatic treatments for PDs that builds on the meta-analytic assessments of domains of treatment involves "personalized" treatment predictors utilizing methodologies such as brain imaging (New et al. 2004).
- Existing clinical trial methodology utilizes a variety of instruments to measure specific traits associated with PDs, and the field would benefit from agreed-on assessments to better compare trial data (Zanarini et al. 2010).
- The role of noninvasive neuromodulation, such as transcranial magnetic stimulation or transcranial direct current stimulation, has yet to be approached in a clinical trial format.
- DSM-5 has retained the diagnostic criteria for PDs that appeared in DSM-IV (American Psychiatric Association 1994); however, DSM-5 Section III, "Emerging Measures and Models," contains proposed major changes to the criteria and categorization of PDs. The impact and application of existing research on this new model remains to be determined.

Clinical Approaches

Although the various clinical practice guidelines may diverge in the case of medication therapy indications and practices, all agree on the importance of skillful and effective treatment of patients with PDs. A careful psychiatric evaluation, which includes assessment of the presence of all psychiatric disorders, including comorbid PDs, will serve to inform management decisions and expectations. PDs are often comorbid with other psychiatric disorders, including major depression, bipolar disorder, attention-deficit/

hyperactivity disorder, and posttraumatic stress disorder. These comorbid disorders require identification and treatment; however, the presence of a PD has been noted to confer aspects of treatment resistance (Feske et al. 2004). This finding highlights the importance of identifying and treating comorbid personality and other disorders concurrently. Of critical importance is correctly discriminating BPD from other types of mood disorders, such as major depression or bipolar disorder, or identifying the comorbid presence of both due to the significant differences in treatment approaches and divergence in the weight placed on the role of pharmacotherapy.

Cultivation of healthy therapeutic relationships in which patients are educated about their diagnoses and provided with autonomy and shared decision making will improve chances of recovery, based on clinical experience. Patients with BPD benefit from diagnosis disclosure, which can often be facilitated through use of a symptom screening tool, such as the McLean Screening Instrument for Borderline Personality Disorder (Zanarini et al. 2003a). Symptoms can be followed over time with use of a continuous rating scale, such as the Zanarini Rating Scale for Borderline Personality Disorder (Zanarini et al. 2003b). Zanarini and Frankenburg (2008) demonstrated significant reduction in core BPD symptoms of impulsivity and relationship conflict in patients provided with psychoeducation shortly after disclosure of the diagnosis compared with those on a waitlist, highlighting the critical role of informing and teaching patients about their diagnosis.

Patients with PDs have been known to present in acute distress or crisis. The level of affective intensity tends to prompt a pattern of adding or increasing medications, which may result in long medication lists that increase the risk of side effects, medication interactions, and expense, and that may negatively impact quality of life. Approaching patients in a manner that is responsive and validates their distress but without reactively adding or increasing a medication in the midst of crisis has been noted clinically to stabilize the treatment course (Nelson and Schulz 2011). Iatrogenic harm has unfortunately played a role historically in well-meaning attempts to provide care for these patients. Many clinicians have noted that patients with BPD in particular tend to be sensitive to side effects, and the general wisdom is to start at a low dose and titrate over time based on tolerability of the medications. Even with the low doses of antipsychotic medication used for BPD, it is recommended to monitor movement disorder side effects and to assess and follow metabolic issues such as weight gain, diabetes mellitus, and other cardiovascular metabolic side effects. Compliance and suicidal ideation are also necessary elements of care that require close monitoring and regular follow-up, ideally in a multidisciplinary manner through coordination with the primary care provider. Helping patients to understand that medication will be used to target a problematic symptom domain, with the goal of facilitating recovery and emotional development, will help to set the stage that future crises are to be expected and not necessarily representative of medication or psychotherapeutic treatment failure. Identifying the symptom domain that poses the most difficulty for a patient can facilitate a discussion in which an evidence-based medication may be selected and titrated over time.

Case Example

Yvette is a 25-year-old college student referred to the psychiatry clinic by her primary care provider. She had been treated by her primary care provider for anxiety but wonders if she "might actually have bipolar disorder" and is seeking the opinion of a psychiatrist. She describes a long history of intense anxiety; she says, "I've always been this way." Her anxiety prompts mood swings, especially when she is talking with others on the phone or in person. She is frequently irritable and angry, and has not been able to work at the same setting for more than 1 year. She has had frequent relationships with men that rarely last beyond 6 weeks. Yvette describes these relationships as becoming serious quickly and then ending suddenly without reason. She worries that her mental health and anxiety play a role in this pattern. She frequently stays up late wondering if people are angry with her and wondering what she has done wrong to lead to her multiple perceived failures. She has considered suicide, usually in the period following a breakup, and she has scars on her wrists and thighs from self-injury from early in college but none from the past year. She avoids alcohol because her mother "was an alcoholic." She denies grandiosity or ever having a decreased need for sleep. When asked about elevated mood, she described a period of elation, lasting 3–4 hours, following receiving a compliment. She has never experienced delusions, but she does describe frequent mistrust of others' intentions and worries that people will leave her based on her prior experiences. She also describes frequent periods of intense sadness, prompted by interpersonal circumstances, which improve if others work to help her feel better. She states, "My moods are all over the place, and I can't live this way."

Her primary care provider initiated citalopram 20 mg/day to help with anxiety and depression and recently prescribed lorazepam 1 mg three times daily as needed to offer additional treatment of anxiety symptoms, which had not improved after 6 weeks of treatment with citalopram. Yvette states that the citalopram causes nausea, has reduced her sex drive, and has not helped with her symptoms. She notes that the lorazepam is very helpful for 2–3 hours after taking the medication, but that she has had more angry outbursts and recently experienced increased urges of self-injury. On the basis of these worsening symptoms, she observes that the lorazepam may need to be increased to better manage her anxiety.

As part of the diagnostic discussion, the psychiatrist offers Yvette a symptom screen for BPD. Yvette reads over the symptoms, looks up from the page, and states, "These symptoms perfectly describe me. What is this?" She is provided with education about the symptoms and hopeful prognosis of BPD. The psychiatrist has prepared a handout of reputable resources and Web sites for patients to learn more about this disorder. Yvette is referred to psychotherapy and considers this option, but she is highly interested in pursuing medication treatment for her symptoms. The psychiatrist validates Yvette's response to lorazepam, acknowledging that this medication is helpful in temporarily relieving anxiety symptoms, but problems with its long-term use, such as tolerance, physiological dependency, disinhibitory effects, and impact on learning, indicate that it would seem reasonable to begin a slow taper of this medication. Yvette is initially reluctant but trusts this recommendation based on her strong agreement with the diagnosis. The psychiatrist provides coaching on breathing retraining to assist in the management of acute anxiety symptoms. Yvette identifies her primary problematic symptom as being affective instability. The risks and benefits of anticonvulsant mood-stabilizing medication are discussed, and Yvette opts to begin treatment with lamotrigine. The clinician gives Yvette the option of either continuing or discon-

tinuing the citalopram, and Yvette decides to discontinue this medication. A follow-up session is scheduled for 2 weeks later. Yvette agrees to complete a symptom tracking card to monitor her symptoms and agrees to look into the feasibility of initiating a structured, evidence-based psychotherapy for the treatment of BPD.

Conclusion

Somatic treatments for PDs appear to have been assessed for over 50 years in psychiatry. With the emergence of the Diagnostic Interview for Borderlines and DSM-III, clinical trials in PDs—mostly BPD and STPD—increased in pace. In this chapter, the results of studies using major groups of medications have been described and comments about the practical use of these medications are noted. For those medications that have been tested in conjunction with structured psychosocial therapies, the results have been noted, as has the recommendation for further studies. Because the clinical trials mainly focused on diagnostic criteria with results not showing large effect sizes, meta-analytic studies of trait domains have been reviewed, with results that may be very helpful in clinical decision making. Although more data and methods of analysis are available now than in the past, many issues remain that need to be addressed to lead to best treatments.

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CHAPTER 16

Collaborative Treatment

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Increasing interest in collaboration across providers, provider types, disciplines, and specialties has resulted in many definitions of collaborative treatment. In this chapter, *collaborative treatment* refers to the treatment relationship that occurs when two or more treatment modalities are provided by more than one mental health or medical professional. The tenets presented in this chapter also apply to *integrated models of care,* when care is provided under one clinical organization or umbrella, and when integration ranges from complete integration, including discussion and collaboration, to minimal integration, including only shared billing systems, records, or administrative support. When two providers are working with a patient with no collaboration or integration, which could be viewed as the most troublesome of shared care situations, so-called split treatment can occur. We reserve the term *split treatment* for situations in which lack of communication or agreement between providers causes a potential impasse in treatment.

In the most common form of collaborative treatment, one clinician prescribes psychotropic medication (or somatic treatments) and another performs psychotherapy. In psychiatry, collaborative treatment often involves a psychiatrist prescribing psychiatric medication and another clinician (e.g., psychiatrist, psychologist, social worker, therapist, case manager) performing the therapy. Increasingly, collaborative treatment has come to represent a situation in which a primary care physician prescribes psychotropic medication and a nonpsychiatric clinician conducts psychotherapy. Collaborative care models in which a psychiatrist provides consultation to a care manager, who along with the primary care physician is systematically measuring the response of a patient to medication treatment, have gained increasing popularity in recent years due to evidence of their effectiveness (Gilbody et al. 2006) as well as the increasing need to meet the needs of more patients due to the Patient Protection and Affordable Care Act of 2010 (Donohue et al. 2010). Treat-

ment can also be divided in many ways among primary care physician, psychoanalysts, specialty medical doctors, psychiatrists, specialty psychiatrists, therapists, clinical nurse therapists, visiting nurses, physician assistants, case managers, different people and disciplines on an inpatient unit or in a partial hospital program, and many others.

Use of the term *collaborative* highlights the need for treating clinicians to communicate and work together because there are many legal, ethical, and treatment issues and pitfalls that can arise when more than one provider is involved in a person's treatment. Patients with personality disorders (PDs), especially those who have traits that are common to Cluster B disorders, such as emotional lability (Negative Affectivity), depressivity (Negative Affectivity), separation insecurity (Negative Affectivity), and hostility (Antagonism), tend to "split" even without a "split" treatment relationship, and treaters must keep this propensity in mind when entering into a collaborative care model with another clinician for a patient with a PD. *Splitting*, in its most formal psychoanalytic sense, is a defensive process wherein a patient appears to attribute good characteristics almost exclusively to one person (or one provider of treatment) while attributing to the other treater all bad or negative feelings. The patient appears to take the natural ambivalence one feels about almost all people and divide it into two packages—a positive package bestowed on one person and a negative package bestowed on another. Each package almost exclusively contains either good or bad attributes, rarely contaminated by the opposite attribute. In addition, the roles of "good" and "bad" treater can shift back and forth over time, with the previously favored professional suddenly viewed negatively, and vice versa. Defensive splitting can be accompanied by *projective identification*, in which the patient projects disavowed aspects of himself or herself onto different treaters. The treaters, in turn, unconsciously identify with those projected characteristics and may experience pressure to respond accordingly (Gabbard 1989; Gabbard and Wilkinson 1994; Ogden 1982).

Case Example 1

Zia, a young woman diagnosed with borderline PD, was in psychotherapy with a psychologist and receiving medication from a psychiatrist. Zia had an extensive history of self-mutilating behavior. The psychologist was, even in his everyday interactions, quite restrained.

Zia was acutely aware of rejection, and she would call the psychiatrist to complain vociferously about her psychotherapist's lack of feeling or empathy. Every 6 or 9 months of this, she would try to convince the psychiatrist, whom she knew did psychodynamic psychotherapy, to take over all of her treatment. The psychiatrist always sent Zia back to discuss these issues with her psychologist, even though the psychiatrist was aware that many of the accusations made about the therapist were, in some ways, not untrue.[1]

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[1]This situation may occur frequently in collaborative treatment. The patient presents an observation about the collaborating psychotherapist that may be an astute and accurate perception of the psychotherapist. Despite the face validity of the observation, the psychiatrist must refrain from agreeing or disagreeing with the patient. Each patient brings his or her unique history and transference into play when making such observations, and a comment at this point might undermine that particular transferential process occurring in the psychotherapy.

> As the therapy progressed, Zia's self-destructive behavior diminished and then eventually ceased as her interpersonal relationships grew more stable. Longer periods elapsed between her complaints about her therapist, and eventually the complaints stopped. The treatment terminated successfully.

In this chapter, we discuss collaborative treatment in general and then collaborative treatment of patients with PDs. Much of what we address applies to any collaborative treatment, regardless of the patient's diagnosis, but the issues of collaboration are heightened when the patient has a diagnosis of a PD. Although the techniques, strategies, or issues presented are pertinent to many patients with PDs, they cannot be applied to all such patients because we often discuss treatments in which psychotherapy is conducted by one person and psychopharmacology is managed by another, and few data are available to support prescribing medications to patients with schizoid, antisocial, histrionic, narcissistic, and dependent PDs.

Evidence for Effectiveness of Collaborative Care

Despite a lack of efficacy studies comparing behavioral health treatment provided by more than one provider to that provided by one provider (i.e., when a psychiatrist performs both therapy and medication management), the use of multiple providers in behavioral health treatment continues to increase. Although there are studies that compare the use of different pharmacological and nonpharmacological strategies (Greenblatt et al. 1965; Klerman 1990) either alone or in combination, none of them address the use of single versus multiple providers. In models in which a psychiatrist provides oversight of a care manager who is monitoring the response to a primarily pharmacological treatment, the "collaboration" is actually a typical consultative relationship. Patients who do not respond to the care manager intervention within a specified time often will be referred to a behavioral health provider, but the treatment results for these patients have not been well studied.

Many patients with PDs have complex biological and psychosocial issues and do not respond as well to medications as would patients with other primary diagnoses (except perhaps those with schizotypal PD [Duggan et al. 2008; Herpertz et al. 2007; Koenigsberg et al. 2003; Paris 2003; Soloff 1990, 1998]). Treatment modalities beyond psychopharmacological treatment are necessary, and often each modality is provided by a different mental health professional. Thus, there are many clinical situations in which multimodal treatment implies and warrants collaboration between at least two mental health professionals.

Most current outcome studies in psychotherapy and psychopharmacology do not measure the effects of any treatment other than the one being studied. Surprisingly few studies—and even fewer randomized, controlled trials—have compared psychotherapy alone, medication alone, and psychotherapy and medicine in combination to determine the differential efficacy or effectiveness (Browne et al. 2002). Studies of cognitive-behavioral therapy and nefazodone for depression (Keller et al. 2000) and cognitive-behavioral therapy and tricyclic antidepressants for panic disorder (Barlow et al. 2000)

have interesting findings about the course and continuation of response to specific interventions (Manber et al. 2003). De Jonghe et al. (2004) found equivalent results for groups of mildly to moderately depressed patients treated with psychotherapy (short-term psychodynamic supportive psychotherapy) or a combination of psychotherapy and psychopharmacology with antidepressants. Often patients with PDs are excluded from these studies, or PDs are not assessed. Thus, for patients with PDs, no clear conclusions can be made concerning the effectiveness of medication versus psychotherapy. Furthermore, no conclusions about effectiveness or efficacy can be made if these treatments are combined. The exceptions are 1) the study by Kool et al. (2003), who found that patients with personality pathology and depression responded best to a combined approach of both psychopharmacology and psychotherapy, although personality pathology of patients with Cluster C diagnoses responded better than that of patients with Cluster B diagnoses; 2) the 12-week study by Soler et al. (2005), who found greater improvement in depression, anxiety, and impulsivity/aggression in patients assigned to dialectical behavior therapy (DBT) plus olanzapine than those assigned to DBT alone; and 3) the small study by Simpson et al. (2004), who randomly assigned patients to receive fluoxetine or placebo after completion of a course of DBT and found that those assigned to placebo had more positive pre/post treatment differences than those assigned to fluoxetine. None of these studies addressed the differential effectiveness of therapy and medication management performed by one provider versus two (or more) providers.

Importance of Collaborative Treatment in Current Personality Disorders Care

General Issues

A 1997 survey revealed that 38% of patients seen by a psychiatrist had been seen by another mental health professional in the prior 30 days (Pincus et al. 1999). Almost half of those patients seen by another mental health provider had received psychotherapy from that other provider. In more than two-thirds of the instances in which an additional mental health provider was caring for the patient, the psychiatrist indicated that he or she had discussed the diagnosis and/or treatment of the patient with this other provider. In an unpublished electronic survey conducted in 2010 by the American Psychiatric Association (involving 394 psychiatrists, representing a 14% response rate), 67% of the responding psychiatrists' patients received both psychotherapeutic and psychopharmacological treatment (West et al. 2012). Half of those patients received both modalities from the same psychiatrist. For almost half of the cases, the psychiatrist provided the pharmacological treatment while another clinician performed the therapy. In 2% of the cases, the psychiatrist was the therapist and another physician or psychiatrist managed the pharmacotherapy. Research suggests that about three-fourths of patients receive their antidepressants from their primary care physician (up from 37.3% in 1987) (Mojtabal and Olfson et al. 2011).

Serotonin reuptake inhibitors are less complicated to prescribe, with fewer general side effects and less lethality, than tri-

cyclic antidepressants (Healy 1997). Particularly with this class of medications, primary care physicians appear ready to provide the ongoing management of psychopharmacological medication in consultation with a psychiatrist. Although they do not always prescribe concurrent psychotherapy, a number of primary care physicians are collaborating with therapists of varying levels of training. An interesting triangular relationship can develop among a therapist, a primary care physician writing the prescriptions for psychotropic medication, and a psychiatrist for referral or collaboration. Smith (1989) noted, "In contemporary treatment situations that include a patient, a therapist, a pharmacotherapist, and a pill, the transference issues can become more complex than the landing patterns of airplanes at an overcrowded airport" (p. 80). Add a managed care utilization reviewer to the picture, and things really get complicated.

Managed care companies often believe that patients with PDs use too much or at least more than their share of treatment. One of the challenges associated with providing collaborative care for these patients is convincing utilization reviewers that more than one modality of care is needed. To avoid divergent reports that negatively affect the reimbursed care for the patient, it is best to designate one member of the team to report the progress of treatment and the treatment plan to the reviewer. In general, this designated "reporter" should be the psychiatrist.

Increasing Prescription of Antidepressants

Despite the lack of hard evidence for the benefits of psychopharmacology in PDs, the practice of prescribing antidepressants for a wide array of symptom complexes suggestive of depression continues to increase (Healy 1997). Although depression is prevalent among patients with PDs (Skodol et al. 1999), quite often the nature of the depression, especially among patients with Cluster B disorders, is not the classic psychophysiological presentation frequently seen in a major depressive episode (Silk 2010; Westen et al. 1992). There has been much debate about the type and nature of depression in patients with PDs. The effectiveness of antidepressants in treating depression in such patients is moderate at best, even as the number of patients given these medications is increasing (Paris 2003; Silk and Fuerino 2012). Many patients who may have been treated by psychotherapy alone in the past are now receiving psychopharmacological treatment as well. An emerging literature suggests that the use of antidepressants can be helpful in the treatment of specific symptom complexes, such as the use of selective serotonin reuptake inhibitors or mood stabilizers for impulsivity, affect lability, and aggression in patients with borderline PD (Coccaro and Kavoussi 1997; Coccaro et al. 1989; Cowdry and Gardner 1988; Fuerino and Silk 2011; Hollander et al. 2001, 2005; Loew et al. 2006; Markowitz 2001, 2004; Nickel et al. 2005; Rinne et al. 2002; Ripoll 2012; Salzman et al. 1995; Sheard et al. 1976; Silk and Fuerino 2012; Soloff 1998; Soloff et al. 1993; Tritt et al. 2005). The American Psychiatric Association's (2001) practice guideline recommends treatment with selective serotonin reuptake inhibitors in a symptom-specific manner for patients with borderline PD. This recommendation is based on evidence from several double-blind, placebo-controlled studies; a number of open studies; and clinical experience in conjunction with a relatively benign side-effect profile and risk of overdose (American Psychiatric Association 2001). Also, some strong evidence suggests that neuroleptics and atypical antipsy-

chotics can be effective for patients with schizotypal and borderline PDs (Bogenschulz and George Nurnberg 2004; Goldberg et al. 1986; Koenigsberg et al. 2003; Markowitz 2001, 2004; Nickel et al. 2006; Schulz and Camlin 1999; Soloff et al. 1986b, 1993; Zanarini and Frankenburg 2001).

Patients with PDs present with a complex admixture of symptoms and problems, some of which appear to arise from psychosocial issues and interpersonal events, whereas others appear more related to expressions of underlying traits such as baseline anxiety, emotional lability, and impulsivity (Livesley 2000; Livesley et al. 1998; Putnam and Silk 2005). When treatment is divided among two providers, the psychotherapist may believe that all problems arise from psychosocial issues and subtly demean, undermine, or dismiss the psychopharmacological treatment. Conversely, the psychopharmacologist may think that difficulties are due primarily to "trait expression" and that once the right combination of medications is discovered, all symptoms will be alleviated. The increasing use of polypharmacy in patients with PDs, despite limited to no evidence of effectiveness (Zanarini et al. 2003), can hopefully be abated with collaboration and communication among multiple providers (Silk 2011).

Strengths and Weaknesses of Collaborative Treatment

Collaborative treatment has many positive attributes, some of which have direct applicability to patients with PDs:

1. Collaborative treatment can provide the patient with both a clinician to idealize and a clinician to denigrate within one treatment relationship. Although this situation might at first appear to be problematic, it can be useful if both providers confer with each other and work to have the patient develop a more balanced view of each of them. For example, both treaters may have an opportunity to model more appropriate coping mechanisms for the patient, or the idealized therapist might be able to work with the patient to modify or mollify the patient's denigration of the other treater and thus help keep the patient in treatment with the therapist being denigrated. The classic example is the patient with borderline PD, but patients with narcissistic PD also contemptuously devalue and criticize treaters who do not treat them in the way in which they believe they are entitled. Feeling devalued can occur when faced with the moralistic, judgmental, and somewhat contemptuous attitude of the patient with obsessive-compulsive PD. In all these instances, the "good" therapist may be able to provide support to the criticized, or "bad," therapist. One way this support may occur is by the "good" therapist providing examples of other situations in which he or she had the misfortune of owning and bearing the "bad" therapist label and how difficult it was to bear at the time but how useful it was to the eventual outcome of the treatment. The "good" therapist may also try to minimize the negative countertransferential feelings the "bad" therapist is experiencing and may be able to ward off the "bad" therapist's wish to end treatment with the patient.
2. Collaborative treatment provides a basis for ongoing consultation between providers. It also provides the

potential for multiple perspectives on complicated clinical and diagnostic situations. Such complex situations are not uncommon in patients with PDs, whose symptoms, behaviors, and interpersonal interactions can be so entwined that it is difficult to unravel the trait biological functioning from the interpersonally and experientially learned behaviors and maneuvers (Cloninger et al. 1993; Livesley et al. 1998).

3. When collaboration is with a primary care physician, the mental health professional can confer with someone who may have a longitudinal relationship with and understanding of the patient. The primary care physician often is viewed as fairly neutral by the patient and may be more impervious to the distortions of transference that appear frequently among patients with PDs. The primary care physician may be able to assist the patient in remaining medication compliant.
4. Patients with PDs can be very draining to treat. Patients with borderline PD can be demanding and threatening. Constant demands for attention from histrionic or narcissistic patients can become exhausting. The complaints of histrionic patients can be very difficult to listen to and to take seriously. Patients with dependent PD can be draining and pulling, whereas the chronic anger and distrustfulness of patients with paranoid PD can be quite difficult to tolerate. Therefore, therapists and psychiatrists working as a team to provide overall patient management can support and confer with one another to reduce burnout.

Collaborative treatment can readily turn into a split treatment when the collaborators fail to collaborate. There can be many causes for this failure. Some patients with PDs have a tendency, as explained earlier, to split by attributing all good to one person and all bad to another. Although this splitting is most blatant among patients with borderline PD, it occurs in more subtle forms among patients with schizotypal, narcissistic, antisocial, and obsessive-compulsive PDs. Failure to collaborate in the treatment of these patients can lead to serious problems in the treatment. Table 16–1 presents specific issues that need to be considered in a collaborative treatment for each of the PDs.

Failure to collaborate or the end of collaboration can develop when the treaters identify with the projections of the patient. In this situation, each of the treaters begins to lose respect for the other treater as each begins to identify and psychologically own some of the patient's negative projections (Gabbard 1989; Ogden 1982). Such events or situations are not uncommon on inpatient units where the split is often between the attending or resident psychiatrist and a member or members of the nursing staff, although they can occur between nurses as well (see Gabbard 1989; Gunderson 1984; Main 1957; Stanton and Schwartz 1954).

Case Example 2

A ward staff member suddenly accuses another staff member of deliberately trying to jeopardize the treatment of a specific patient, while each staff member believes that he or she alone really knows best. The director of the ward, who has frequently encountered such sudden disagreements, decides to deal with these types of difficulties by bringing together the "warring parties" and wondering out loud with them why each has suddenly begun to despise his or her other colleague on the unit. The director emphasizes that prior to the disagreement, each person appeared to have great respect for and to enjoy

TABLE 16–1. Specific issues to address in collaborative treatment with classic personality disorders features

Personality disorder	Classic features	Tips for providers of collaborative treatment
Paranoid	Distrust, suspiciousness	Be clear about frequency of contact among providers and be sure to inform patient whenever a contact between any providers has occurred. Regularly remind patient about sources of specific information and be sure that each treater knows whether information he or she has about patient comes from patient or other sources (providers).
Schizoid	Detachment from emotional relationships	Work among providers to minimize redundancy of visits so that patient can visit providers as infrequently as possible. Coordinate treatment visits so patient can visit all providers on same day.
Schizotypal	Discomfort with close relationships, cognitive or perceptual distortions, eccentricities of behavior	Be prepared to contact other providers when increased distortions arise in sessions. Work together to minimize redundancy of visits (see Schizoid above).
Antisocial	Disregard for rights of others	Convey clearly that all members of treatment team will communicate regularly. Be prepared for misrepresentations of facts. Be prepared to verify information with providers. If different providers are getting very different facts from patient, a designated provider needs to discuss discrepancies with patient.
Borderline	Instability in mood and interpersonal relationships, impulsivity	Provide support for patient without becoming caught up in splitting among providers. Discuss strong countertransference feelings with other providers. Have clear plan about roles and responses of all providers to emotional outbursts, threats, increased suicidality, other crises, and medication changes. Be careful that repeated crises or turmoil are not reinforced by increased attention from providers.
Histrionic	Excessive emotionality, attention seeking	Have clear plan among providers as to how to handle emotional outbursts. Be prepared to contact other providers at periods of increasing physical symptoms and/or increasing attention-seeking behavior.

TABLE 16–1. Specific issues to address in collaborative treatment with classic personality disorders features *(continued)*

Personality disorder	Classic features	Tips for providers of collaborative treatment
Narcissistic	Grandiosity, lack of empathy	Be prepared to contact other providers when overt or covert signs of increasing contempt toward a treater occurs. Have a clear plan among providers regarding how to handle contemptuous behavior so that one provider addresses the issue even if patient is expressing contempt toward only one treater.
Avoidant	Social inhibition, feelings of inadequacy, hypersensitivity to negative evaluation	Work among providers to encourage consistent treatment relationships and attitudes in all treatments involved in the collaboration. Be prepared to communicate with other providers whenever patient misses appointments with any provider. Coordinate treatment visits so patient can visit all providers on same day.
Dependent	Submissive behavior, a need to be taken care of	Work with patient to minimize appointments and avoid overutilization of services. Work together to anticipate how to handle patient needs during vacations. Plan to ensure that increasing distress does not lead to increasing number of appointments.
Obsessive-compulsive	Preoccupation with order, cleanliness, control	Ensure that consistent recommendations are made by each provider. Be prepared to communicate with other providers when patient is having difficulty adhering to recommendations. Have a clear plan regarding how to confront a patient who constantly obsesses and complains about lack of consistency or thoroughness of treatment when particular obsessing is a sign of disdain toward other people.

Note. Because many patients' presentations meet criteria for more than one personality disorder, features of multiple disorders may need to be considered in treatment. In addition, when personality disorders have no clear indication or no data to support the use of medications, collaborative treatment might arise because there is psychopharmacological treatment of a comorbid symptom disorder. This table provides tips with respect to how the patient might be dealt with in a collaborative treatment even if the medication is being administered for reasons other than the patient's personality disorder diagnosis.

working with the other person. The director moves to a discussion of the patient and tries to show the parties how each is really only seeing a part of the patient, upon which they have each constructed the idea that they alone know how best to treat the patient.

Collaboration in divided treatment is essential but does not always occur easily or frequently; a concerted effort must be made. Regularly scheduled phone calls or e-mail exchanges may be the best way to sustain the collaboration even when there is skepticism as to its value or a belief that another provider is causing difficulty.

Collaborative Treatment and Personality Disorders

Treatment with combined psychopharmacology and psychotherapy is more common now in the treatment of all PDs than it has ever been. A number of factors are probably involved, including the following:

1. Use of psychopharmacological agents among all psychiatric patients has increased, reflecting the general ascendancy of biological psychiatry (Siever and Davis 1991; Siever et al. 2002; Silk 1998; Skodol et al. 2002).
2. Since the early 1990s, there has been an expansion in specific types of psychotherapy for patients with PDs; these therapies include DBT (Linehan et al. 1993), transference-focused psychotherapy (Clarkin et al. 1999; Kernberg et al. 2000), mentalization-based therapy based on dynamic therapy (Bateman and Fonagy 1999, 2001), interpersonal reconstructive psychotherapy (Benjamin 2003), cognitive-behavior therapy (Beck and Freeman 1990; Davidson et al. 2006), and schema-focused cognitive-behavioral therapy (Young et al. 2003). None of these therapies opposes the concurrent use of psychopharmacological agents.
3. Psychopharmacological agents are more commonly used in psychiatric treatment today, and the medications used are generally safer and have more tolerable side-effect profiles than in the past (Healy 2002). Safety is important among a subgroup of PD patients, particularly patients with borderline PD, who have very high suicide rates (Paris 2002; Stone 1990).
4. Managed care companies play a significant role in types of treatment. They are reluctant to approve treatment sessions with seriously ill patients (including a significant number of patients with PDs) who are not receiving medication.
5. There is a growing appreciation of the role of biological and constitutional factors in the etiology of PD symptoms. The nature-nurture dichotomy has been replaced by consideration of the subtle interplay of biological predisposition, resulting in traits that are expressed through behavior that is affected by experiential and environmental factors (both shared and nonshared) (Rutter 2002). Such a theory of interaction between biological predispositions and life experience supports a multimodal treatment approach (Paris 1994).
6. The comorbidity of PDs and other disorders more amenable to psychopharmacological intervention has received increased consideration. If one prefers to treat personality problems with psychotherapy, one must still

consider and treat comorbid conditions so as not to worsen the clinical manifestation of the PD (Yen et al. 2003; Zanarini et al. 1998). Comorbid mental health diagnoses may respond to pharmacological agents, and even in the absence of a clear comorbid diagnosis, the patient with PD may have pharmacologically responsive symptom clusters that are reminiscent of other comorbidities (such as mood and anxiety disorders) and should be treated as such.

Specific Situations in Which Collaborative Treatment Might Occur

Although *collaborative treatment* usually refers to the arrangement in which a nonmedical psychotherapist performs the psychotherapy and a psychiatrist or other medical doctor prescribes medication, variations on that arrangement still qualify as collaborative treatment. Some such variations occur regardless of the diagnosis, but others are more prone to occur in the treatment of patients with PDs.

Comorbid Substance Abuse Treatment

Collaboration should occur when the patient is undergoing both substance abuse treatment and treatment with a psychiatrist for PD issues. Continuous use of substances can exacerbate PD psychopathology, and in these instances it is very important that the substance abuse counselor and/or psychotherapist and the treating psychiatrist immediately confer (Casillas and Clark 2002; de Groot et al. 2003). If an increase in substance use or a resumption of substance use after a period of abstinence should occur, the counselor or psychotherapist needs to initiate contact with the psychiatrist. Sometimes, a patient will feel embarrassed about resuming use of substances after a period of sobriety and may ask the counselor or psychotherapist not to inform the psychiatrist. Obviously, this wish cannot be granted, because there would be 1) collusion between the counselor or psychotherapist and the patient to keep the psychiatrist in the dark and 2) a splitting between the counselor or psychotherapist and the psychiatrist.

Case Example 3

An engineer in his mid-50s, Sam was referred for substance abuse treatment after his second citation for driving while intoxicated. The substance abuse counselor referred Sam to a psychiatrist for treatment of narcissistic PD. Whenever Sam increased his alcohol use, he would miss his appointments with the psychiatrist because he was embarrassed, although he *would* attend his substance abuse sessions. The psychiatrist called the substance abuse counselor whenever Sam missed an appointment, and the counselor always convinced Sam to return to and continue with the psychiatrist. The psychiatrist eventually concluded that Sam's shame about his substance abuse behavior related more to avoidance than narcissism in interpersonal functioning, and this information allowed the substance abuse counselor to modify his approach to Sam.

Somatic Complaints, the Primary Care Physician, and the Psychiatrist

Patients with PDs, particularly those with Cluster B and Cluster C PDs, have a tendency to be somatically preoccupied (Benjamin et al. 1989; Frankenburg and

Zanarini 2006). Although the treating psychiatrist may suspect mere somatic preoccupation, he or she cannot make the mistake of not taking the complaint seriously. If complaints persist or if different somatic concerns frequently appear, it is important for the psychiatrist to share his or her concern with the physician who is working up the somatic issues. Together, the two physicians can decide how much physical exploration of somatic concerns should occur and coordinate a consistent therapeutic response to persisting somatic issues (Williams and Silk 1997).

Seven Principles to Follow in Collaborative Treatment

A number of principles can apply to any collaborative treatment, but they have special application in the treatment of patients with PDs. Adherence to these principles can lead to a smoother and more synergistic approach to collaborative treatment (Silk 1995).

Understanding and Clarifying the Relationship Between Therapist and Prescriber

The relationship among the patient, the psychotherapist, and the pharmacotherapist (or "prescriber") has been described as the "pharmacotherapy-psychotherapy triangle" (Beitman et al. 1984). In managed care, psychiatrists may be expected to provide medical backup for therapists whose work they do not know, whose approach they may not agree with, or whom they do not respect (Goldberg et al. 1991). Conversely, the psychotherapist may have to deal with a psychiatrist whom he or she does not know or agree with. In the best of worlds, neither the psychiatrist nor the psychotherapist would feel obligated to collaborate with a provider whom he or she does not respect.

Patients with PDs are quite sensitive to disagreements among members of the treatment team (Main 1957; Stanton and Schwartz 1954). Without communication and knowledge about what other professionals involved in the case are doing, the patient can become caught in the middle of disagreement (Stanton and Schwartz 1954). Each treater should respect what the other is trying to accomplish. This respect for treatment modality should be separated from personal feelings (although it is always easier if there is mutual liking). Each provider should be free to conduct an open communication with the other so that treatment collaboration and coordination can occur (Koenigsberg 1993).

Ideally, the prescriber and the therapist will know each other or at least know something about each other's practice and practice reputation. The prescriber should have an appreciation for the basic psychological issues involved in treatment and a general understanding of how they may manifest in psychopharmacological treatment. The prescribing psychiatrist needs to be clear with the therapist as to his or her beliefs in the putative efficacy of psychotherapy for the PD in general as well as for each patient specifically. Psychotherapy will not proceed constructively if the prescriber does not believe in the usefulness of psychotherapy, particularly with patients with PD (especially those with Cluster B PDs). Maintenance of therapeutic boundaries between treaters is crucial in working with patients with PDs and must be clarified (Woodward et al. 1993). Some questions to consider follow:

- Should between-session phone calls be permitted in the pharmacological treatment if they are not permitted or are frowned upon in the psychotherapy?
- In what quantities will pills be prescribed, and what course should the therapist take if there is a sudden increase in the suicidality of the patient?
- When the patient requests a change or an increase in dosage, will the prescriber contact the therapist beforehand to understand better what issues might be coming up in the psychotherapy?
- How frequently will discussions between the prescriber and the therapist take place?
- How will issues that belong primarily in the psychotherapy be dealt with if they are brought up with the prescriber?
- Will the psychopharmacologist notify the psychotherapist that he or she has directed some issue back to the psychotherapist?

The psychotherapist also needs to have respect for the prescriber and for the intervention of psychopharmacology (Koenigsberg 1993). Although there is probably little need for nonmedical therapists to be experts in psychotropic drug usage, nonmedical psychotherapists should understand the general indications for pharmacotherapy and be aware of the specificity as well as the limitations of the psychopharmacological treatment. The therapist should have some rudimentary knowledge of both the expected therapeutic effects and the possible side effects of at least the broader classes of psychotropic medications. In the course of the psychotherapy, the therapist should be willing to discuss, albeit on a limited basis, the patient's experience (both positive and negative) of taking the medication. Additionally, the therapist needs to have some knowledge of medications so that he or she can have some appreciation of what might be subjective versus objective reactions of the patient to taking the medication.

As stated earlier, no psychotherapist or psychopharmacologist should feel obligated to work with a collaborative partner whom he or she does not agree with or respect. Each treater must respect the roles and competence of the other. In this atmosphere of mutual respect, both the prescriber and the therapist need to appreciate the perceived efficacy as well as limitations of each of the interventions. Both need to be able to tolerate treatment situations in which progress is often slow, punctuated by periods of improvement and regression, and in which the long-range prognosis is often guarded but not necessarily negative. Appreciating the other's difficulties and those of the patient in the treatment may help each treater avoid blaming the other (or the patient) during difficult periods.

Appelbaum suggested that, to address clarity of treatment and treatment expectations, as well as medicolegal issues, the therapist and prescriber should draw up a formal contract that delineates their respective roles as well as the expected frequency and range of, or limitations on, their communication (Appelbaum 1991). Such a contract works well when the two people share responsibility for a number of patients (Smith 1989). These ideas about contracts are merely suggestions, and contracts certainly may not be necessary or useful when the two collaborators work in the same clinic or the same health system.

Much of what is diagnosed as PD reflects a group of patients with chronic maladaptive interpersonal functioning across a wide range of settings. Interpersonal dysfunction cannot and should not

be ignored, dismissed, or denied, and whenever and wherever it occurs in the therapeutic endeavor, it should be discussed not only between the two therapists but among the treaters *and* the patient. Transference is not solely reserved for transference-oriented psychotherapy (Beck and Freeman 1990; Goldhamer 1984), and "pharmacotherapy is [also] an interpersonal transaction" (Beitman 1993, p. 538).

Understanding What the Medication Means to Both Therapist and Prescriber

Medications may play both positive and negative roles in treatment. The therapist and the prescriber need to be attuned to what the initiation of medication means to each of them.

In Section III, "Emerging Measures and Models," of DSM-5 (American Psychiatric Association 2013), an alternative model to the categorical approach to PD diagnosis has been proposed. In clinical practice, patients with PDs defy easy classification and do not always fit neatly into any DSM categories (Westen and Arkowitz-Westen 1998). In addition, no medications have yet been indicated for any specific PD. Although there are algorithms with respect to the pharmacological treatment of PDs (particularly borderline PD [American Psychiatric Association 2001; Soloff 1998]), there are no clear-cut rules as to when or what medication should be used in any given personality disorder. In circumstances of prescriber self-doubt, ambivalence, and uncertainty about either the diagnosis or, more probably, the chosen pharmacological agent, a defensive and authoritarian posture might be assumed by the prescriber in an attempt to assure that the pharmacological decision was correct. The prescriber and/or the therapist may deny ambivalence about the medication, become intolerant of the patient's (or the other provider's) questions and concerns, and present the possible therapeutic effects of the medications in a more positive light than the evidence would imply. This idealization of the medication, similar to the patient's periodic idealization of the treatment, will usually be short-lived, however.

Pessimism about progress in the therapy was given as a reason to consider prescribing medications by 65% of the respondent psychotherapists in a study by Waldinger and Frank (1989). Given that some patients with PDs, particularly borderline PD, seem especially attuned to feelings, a treater's pessimism or frustration with the course of therapy may be inadvertently and unconsciously conveyed to the patient. Conversely, a referral to a psychopharmacologist could be viewed as an opportunity for consultation and a second opinion (Chiles et al. 1991).

When there is little apparent therapeutic progress, treaters can easily develop anger and rage at patients with PDs, particularly patients with substantial borderline, narcissistic, and paranoid PD characteristics (Gabbard and Wilkinson 1994). At these times, one treater may try to pull back from the treatment or, conversely, try to take over control of the entire treatment. The best way to handle these feelings is not to isolate oneself but to approach the other provider and be willing to share one's frustrations. More often than not, the first provider will discover that the other provider shares similar frustrations. This shared frustration will lead not only to less tension in each provider and in the therapy but also, at times, to a discussion and a review of the treatment.

When medication is being considered in a collaborative treatment, the following questions may be asked:

- Where is the impetus for the medication coming from?
- Does the therapist think the medication will affect or change the therapeutic relationship?

In turn, the prescriber should be able to let the therapist know if he or she feels that the therapist's expectations for the medication are unrealistic and what might be a reasonable expected response.

Understanding What the Medication Means to the Patient

Beginning pharmacotherapy or changing medication may not always be seen as favorable by patients, and a negative reaction to the idea of medication needs to be anticipated. A propensity to put the most negative spin on interpersonal encounters or perceived intentions may cause patients with PDs to experience the introduction of medication as a failure of their role in treatment or as the psychotherapist giving up on them. Patients might also, albeit rarely, experience the introduction of medication as a hopeful sign, as an additional modality that might help speed the progress of the treatment (Gunderson 1984, 2001; Waldinger and Frank 1989). Whatever the patient's reaction, both therapist and prescriber need to understand what the medication means to the patient and how the patient understands the use of medication within the context of the therapy as well as in the context of his or her own life experience (Metzl and Riba 2003).

Understanding the patient's reaction to the introduction of medication can be important not only for the patient's cooperation and compliance but also for transferential issues. The patient may take medication in a spirit of collaboration with the therapist and the prescriber. The patient may disagree with the decision but cooperate out of a strong need to please. A patient's reactions will depend on whether the therapist and prescriber are truly collaborating or at odds.

The introduction of medication into any therapy, even if by a conferring psychiatrist, has repercussions on the transference (Goldhamer 1984). If the idea of medication is introduced early in the treatment process, the potential negative transferential reaction to the introduction of medications later may be minimized. It is important that the therapist and the prescriber be on the same page as to "how" medication will be chosen, introduced, continued, discontinued, and so on. Discussions at the beginning of treatment can model the ethos of an open forum for exchange of information about medications and other feelings.

Case Example 4

Charles, a 50-year-old man with histrionic PD and panic disorder, was referred to an anxiety disorder clinic after several emergency department visits because of uncomfortable arousal symptoms precipitated by an antidepressant (Soloff et al. 1986a). He received cognitive-behavioral therapy and responded well, although he had trouble starting an antidepressant without having his panic symptom increase. He did tolerate a low-dose benzodiazepine but was fearful of becoming "addicted" to the medication and would intermittently reduce his dosage despite his therapist's attempts to discourage his doing so. When Charles's insurance ran out, he stopped seeing his therapist because he was "doing so well," and he also stopped his medication. He began to have emotional outbursts and increased panic attacks and called the

psychiatric emergency room inquiring about rehabilitation for drug abuse. Therapy was reinitiated after both the therapist and the psychiatrist discussed Charles's concerns about medication and considered how these concerns were affecting his life. The providers developed clear plans as to whom Charles would call for "medication questions," whom for "exposure questions," and how they would respond to emotional upheavals.

Both therapist and prescriber should be aware that patients may use medications as transitional objects (particularly patients with borderline, histrionic, and perhaps severely dependent PDs [Cardasis et al. 1997; Gunderson et al. 1985; Winnicott 1953]). In this context, the patient's attachment and/or resistance to changing or altering medications may seem out of proportion to the actual therapeutic benefit derived from the medication (Adelman 1985). It may also explain why the patient who has repeatedly complained about the medications is unwilling to change them even when there has been little clear evidence that the medications have been effective.

Understanding That the Medication Will Probably Have Limited Effectiveness

Therapists and prescribers need to appreciate the therapeutic benefits and limitations of medication. Therapists should inquire about a patient's medications at moments of calm, not during periods of crisis. Perhaps the most instructive and useful time for discussion about or change of medication is when things are actually going well and treatment does not seem bleak or hopeless.

The prescriber should describe what features of a specific medication may or may not be useful for this particular patient at this particular time. The prescriber should tell the therapist what unusual idiosyncratic reactions to the medication might occur (Gardner and Cowdry 1985; Soloff et al. 1986a), especially because these paradoxical reactions or tendencies toward dependency may not always be listed in the package insert or in the *Physician's Desk Reference*.

With effective therapist-prescriber collaboration, medication decisions will not be solely in the hands of the prescriber. A dialogue between therapist and prescriber should take place as to how each particular type or category of medication might work for the particular patient.

Case Example 5

After moving to a new city, Diane was referred by a psychiatrist from out of town for treatment of anxiety and depression. Diane had a long history of major depressive episodes. At the time of the evaluation, she was taking five medications: two mood stabilizers, a low-dose atypical antipsychotic, an antidepressant, and a benzodiazepine. She insisted that this combination was the correct regimen for her and that the new psychiatrist not tamper with her medications. She said it took many months and finally a referral to the most prominent psychopharmacologist in her region before the right combination was found. She also stated that she was going to remain in psychotherapy with her old therapist through weekly long-distance phone contacts.

The new psychiatrist, after seeing Diane five or six times, began to feel that Diane primarily had a narcissistic PD and that her depressions were brought about by her extreme sensitivity to anything that could remotely represent a narcissistic injury. The psychiatrist called Diane's therapist, who acknowledged that although Diane did have some narcissistic issues, she really had experienced a number of major depressive episodes during their treatment together.

After a few months, Diane grew more depressed, but her depression was marked primarily by lethargy, absenteeism from work, and an inability to concentrate. She was, however, able to date and had no loss of libido or appetite. Instead of feelings of guilt or worthlessness, she had feelings of grandiosity and entitlement. Diane requested a psychostimulant to help with her concentration and lethargy. The psychiatrist balked and tried to address some of the ways in which he felt her depression was atypical. He pointed out that she seemed more invested in wanting the psychiatrist to figure out what pills would make her better than in exploring events in her life that might be leading to what she thought was depression. She stormed out of the office. Later that week, Diane called the psychiatrist to say that her therapist also believed that she could benefit from a psychostimulant, and she was going to find a psychiatrist who was an expert in depression and more up-to-date about treatment. Calls the psychiatrist made to Diane's long-distance therapist went unanswered.

Understanding How the Medication Fits Into the Patient's Overall Treatment

If a psychotherapist considers using medications at some time during the course of treatment, ideally he or she already has an ongoing arrangement or relationship with a prescriber. It is never wise to begin searching for a prescriber during a time of pressing need for medications.

The goal of treatment for a patient with PD cannot be cure. A decision to use or change medications should not imply that one is "going for the cure." The goal of treatment should be to try to improve the ways in which patients cope, to help them develop increased awareness of their cognitive rigidity and distortions, to assist them in becoming somewhat less impulsive and less affectively labile, and to try to both increase the distance between and reduce the amplitude of their interpersonal crises (Koenigsberg 1993). These goals are attributable to both the psychotherapy and psychopharmacology and need to be appreciated by both the therapist and the prescriber. A prescriber who conveys a powerful belief in finding the "right" medication will promote an unrealistic and difficult situation.

Any therapy for patients with character disorders must have realistic and limited goals set early in the therapy, lest any of the players begin to idealize another player or another modality. Such idealization can only lead to disappointment and the multiple repercussions that occur in the treatment as a result.

Understanding the Potential and Actual Lethality of the Medication

Many psychotropic medications can be lethal, particularly tricyclic antidepressants, lithium, and mood stabilizers/anticonvulsants. Monoamine oxidase inhibitors and benzodiazepines also have significant morbidity and mortality associated with overdose, especially when combined with other agents. Suicide potential needs to be continually assessed, and when it increases, a plan should be enacted that takes into account when the therapist will contact the prescriber, whether the prescriber is going to limit the size of the prescription, which of the treating professionals might hold onto the medications if a decision is made to limit their administration, and so on. At a minimum, if the therapist believes there is an increase in suicide potential, then the prescriber should be notified. If the therapist is fearful that the patient may overdose, this issue should be discussed openly with the prescriber.

Patients with PDs, particularly borderline PD, are potentially volatile and can act out when they feel that relationships are threatened (Gunderson 1984). The therapist-patient relationship is one that, when complicated by transference, can increase the possibility of a patient's acting out in ways that include suicidal and other self-destructive behaviors; the prescriber-patient relationship is another that holds the potential for these types of dangers. Mutual respect and communication between therapist and prescriber are indispensable to ensuring that a crisis is defused.

Understanding That Interpersonal Crises and Affective Storms Cannot Be Relieved Simply Through Initiation or Modification of Medication

Introducing medication into the treatment of a patient with PD should not be a spur-of-the-moment decision. It should be done in a controlled manner with forethought and not in the midst of an interpersonal or transferential crisis. Patients' lives and affects do not follow well-designed courses or even respond to well-designed plans. Even if careful plans are made, the interpersonal crises and affective storms that occur in treatment, combined with the interpersonal demandingness and/or helplessness and passivity of the patient, put enormous pressure on the therapist to do something, to change something, to make the pain go away. There is a tendency to promise much more than can be accomplished, ultimately leading to idealization, disappointment, and subsequent devaluation. If a collaborative relationship exists, and it is very good and mutually supportive, then neither treater should deal with the patient's attacks and demands alone. The two can collaborate to think through and resolve the crisis.

Collaboration During a Crisis

In a crisis, all seven points just described come into play. The therapist and prescriber need to consider various questions:

- How well has there been open collaboration between the psychotherapist and the prescriber?
- How well do they work together, and can they trust each other and each other's judgment?
- How does each of them, as well as the patient, understand the role of medication in the treatment and the medication's benefits and symbolic meaning?
- How well does each person understand the limits of the medication, and is one of the treaters overreacting, merely prescribing or wanting a prescription written for medication to feel that a crisis is being defused?
- What has been said about medications in the treatment in the past, and how and when have medications been used in the treatment?
- Have medications been employed successfully, and have they been used safely by the patient?

Contraindications to Collaborative Treatment

Before concluding, we need to make mention of situations in which collaborative treatment may be contraindicated. First, however, we must point out that when a patient needs both medication

and psychotherapeutic treatment, it is very common that both treatments are provided by a single psychiatrist. We continue to urge treatment by one individual psychiatrist whenever possible if the psychiatrist feels capable of and competent in providing both the medication and the specific form of psychotherapy most useful to the patient.

In some situations, collaborative treatment is contraindicated. The first situation would be when the patient is extremely paranoid or psychotic. These types of patients may not agree to having people "talk about them" and thus would not sign a release of information for such exchanges to occur. Also, paranoid persons often think that all or most other people are talking about them, and the therapist may not wish to reinforce this idea by means of an arrangement wherein people *are* talking about the patient.

There may also be instances in which patients have an admixture of serious medical and psychiatric problems. The medical problems may directly affect the patient's psychological problems and presentation, as well as the patient's cognitive processes and ability to comprehend. A physician who understands the impact of medical conditions on psychological presentation and functioning and who can conduct the psychotherapy as well as manage the medications would be most helpful in these cases, especially if the medical condition or related psychological problems wax and wane. In this instance, drug-drug interactions may have a direct impact on psychological and medical well-being, and changes in medical condition may warrant repeated reevaluation of psychotropic drug regimens.

In other instances, practical reality issues may lead to treatment by a single provider rather than collaborative treatment. If a patient has a severe limit on the number of sessions of psychological or psychiatric treatment because of third-party payer restrictions, then the psychiatrist must consider how to use those sessions most efficiently and cost-effectively for the patient. In this instance, being able to manage medications and conduct psychotherapy in a single session may be important. A similar situation can occur when the patient has severely restricted financial resources or lives so far away that a trip to the psychotherapist and/or psychiatrist involves a significant expenditure of time or money. In this case, if both psychotherapy and psychopharmacology can be accomplished in a single trip or visit, then this approach should be seriously considered.

Conclusion

Collaborative treatment is increasing because of a number of factors, some due to economic reasons, some because of advances in neuroscience and pharmacology, and some because of managed care and the way health care in the United States is delivered. The various combinations and permutations of collaborative treatment are growing beyond the standard combination of one person writing prescriptions for psychiatric medications while another person provides the psychotherapy. Psychiatrists, psychologists, primary care physicians, social workers, case managers, physician assistants, and visiting nurses are just some of the players involved in a collaborative treatment.

Advances in neuroscience and trends toward using psychotropic medications more regularly for patients with PDs have led to more such patients receiving collaborative treatment. Managed care puts pressure on psychiatrists to use

medications for a "quicker" response, and patients, bolstered by direct-to-consumer advertising, assume that a medication is available for every ailment. Given the co-occurrence of many disorders with PDs, it is not uncommon to find one provider managing medications while another directs or conducts psychodynamic, cognitive-behavioral, or interpersonal psychotherapy.

Patients with PDs have major difficulties in interpersonal relationships, and every visit with a psychopharmacologist or a psychotherapist is an interpersonal encounter. These interpersonal encounters must be managed carefully, and when there are two or more providers of treatment, the providers must communicate with each other on a regular basis. This communication is not only a hallmark of good psychiatric care but is also a method whereby two or more providers can coordinate their treatment approach and collaborate on decision making so that the experience can be a synergistic rather than a divisive one.

Collaborative treatment at its best occurs in an atmosphere of respect and results in open and free communication with fellow providers. An opportunity for collaborators to consult and learn from one another exists, and this collaboration has the potential to result in more comprehensive and thoughtful care for difficult-to-treat groups of patients.

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CHAPTER 17

Boundary Issues

Thomas G. Gutheil, M.D.

Experience teaches that any discussion of boundary issues—boundary crossings and violations—must begin with certain caveats, best delivered in the form of three axioms. First, only the professional member of the treatment dyad has a professional code to honor or to violate; thus, only the professional is responsible for setting and maintaining professional boundaries. Second, patients, having no professional code, may transgress or attempt to transgress professional boundaries; if they are competent adults, they are responsible or accountable for their *behavior.* However, per axiom 1 above, it is the professional who must hold the line. Third, exploring the dynamics of interaction between therapist and patient is not intended to "blame the victim" (i.e., the patient) or to exonerate the professional from responsibility for the boundaries.

Boundary issues in the treatment of psychiatric patients are universal, as are concerns about these issues. Therefore, by discussing boundary issues in relation to patients with personality disorders (PDs), I do not imply that *all* patients with PDs or that *only* patients with PDs experience or pose boundary problems. Instead, the purpose of this chapter is to examine a subset of the wider universe of boundary-related potential problem areas.

The profession as a whole has had its consciousness raised by the emergence of careful study of trauma victims, many of whom had become highly sensitive to boundary transgressions by their treaters; indeed, boundary issues within the nuclear families of these individuals may have constituted, or been a component of, the trauma. The frequent association of boundary problems as precursors to actual sexual misconduct also focused attention on the subject. Nevertheless, the cases continue to appear (Brooks et al. 2012).

It is critically important to retain nonjudgmental clarity in this important area, especially because the consequences of confusion about this topic may be serious. This chapter aims at alleviating some of this confusion. Before turning attention to PDs and their implications for boundary theory, I review the basic elements of this theory.

Basic Elements of Boundary Theory

What exactly is a boundary? The following serves as a working definition: a boundary is the edge of appropriate, professional conduct. It is highly context dependent. The relevant contexts might be the treater's ideology, the stage of the therapy, the patient's condition or diagnosis, the geographical setting, the cultural milieu, and others. Another dimension of context, quite relevant for PDs, is the clinical versus the forensic setting (Faulkner and Regehr 2011; Zwirn and Owens 2011). Context is a critical and determinative factor.

Unfortunately, a number of boards of registration and some attorneys ignore the matter of context, to the detriment of fair decision making. Boards may draw from case law and complaints and resort to a "list of forbidden acts," ignoring context entirely (Gutheil and Brodsky 2008), as discussed in the following section.

Besides the data derived from complaint procedures and their aftermath, data about boundary issues come from consultations, supervision and training settings, the literature, professional meetings, informal remarks by colleagues, and formal studies. These data permit empirical examination of the varieties of boundary phenomena, the criteria for boundary assessment, and the clinical or forensic contexts in which problems arise. An extensive literature has grown up around this subject in recent decades, and the reader is directed to it for additional discussion beyond the narrower focus of this chapter (Epstein and Simon 1990; Gabbard 1999; Gabbard and Lester 2003; Gutheil and Gabbard 1993, 1998; Gutheil and Simon 2000, 2002; Ingram 1991; Langs 1976; Simon 1989, 1992; Smith 1977; Spruiell 1983; Stone 1976). In sum, boundary problems may emerge from role issues, time, place and space, money, gifts and services, clothing, language, and physical or sexual contact (Gutheil and Gabbard 1993).

Boundary Crossings and Boundary Violations

In an earlier publication Gabbard and I (Gutheil and Gabbard 1993) proposed a distinction that has proven important in both theory and litigation related to boundaries: the difference between boundary crossings and boundary violations. *Boundary crossings* are defined as transient, nonexploitative deviations from classical therapeutic or general clinical practice in which the treater steps out to a minor degree from strict verbal psychotherapy. These crossings do not hurt the therapy and may even promote or facilitate it. Examples might include offering a crying patient a tissue, helping a fallen patient up from the floor, helping an elderly patient to put on a coat, giving a fragile patient a home telephone number for emergencies, giving a patient on foot a lift in a car during a blizzard, writing a patient cards during a long absence, making home visits based on the patient's medical needs, answering selected personal questions, disclosing selected personal information, and the like. None of these actions is psychotherapy in its pure "talking" form—they constitute instead a mixture of manners, helpfulness, support, or social amity—yet no one could reasonably claim they are exploitative of the patient or the patient's needs. Depending on the context, the appropriate response to such actions is for the therapist to explore their impact to maximize their therapeutic utility and to detect and neutralize any difficulties the patient may have as a result; even the therapist's well-mannered

gesture of putting out a hand for a handshake may be experienced by a patient with a horrendous trauma history as an attack or threat.

An important point about boundary crossings is that when they occur, the therapist should review the matter with the patient on the next available occasion, and fully document the rationale, the discussion with the patient, and the description of the patient's response. This advice may be summarized as the "3 Ds": demeanor (remaining professional at all times), debriefing (with the patient at the next session), and documentation (of both the crossing event and its rationale).

Boundary violations, in contrast, constitute essentially harmful deviations from the normal parameters of treatment—deviations that *do* harm the patient, usually by some sort of exploitation that breaks the rule "first, do no harm"; usually, it is the therapist's needs that are gratified by taking advantage of the patient in some manner. In the case of violations, the therapy is not advanced and may even be destroyed. Examples might include taking advantage of the patient financially; using the patient to gratify the therapist's narcissistic or dependency needs; using the patient for menial services (cleaning the office, getting lunch, running errands); or engaging in sexual or sexualized relations or relationship with the patient. A useful test that may distinguish a boundary crossing from a violation is whether the event is discussable in the therapy (Gutheil and Gabbard 1993); an even better test might be whether the behavior in question would be discussable (hence, admissible) with a colleague, because many violators admit that they did not seek consults because they knew the consultant would tell them to stop the behavior. In any case, the only proper response to boundary violations is not to do them in the first place.

As discussed in the next subsection, the difference between these two types of boundary issues is highly context dependent. However, forensic experience demonstrates that some agencies, such as the more punitive state boards of registration, tend to view all boundaries from a rigid "checklist" perspective that does violence to clinical flexibility and the essential relevance of context, as in this real-life example.

> In a hearing before the board of registration, one complaint was that the therapist, who was treating the wife in a couple, had been given a book by the husband in appreciation for the therapist's work. In some contexts, gift giving to therapists may be a boundary problem. The therapist's expert was on the stand.
>
> BOARD'S PROSECUTING ATTORNEY *(forcefully and accusingly):* Now, Dr. Expert, are you aware that the husband *gave the therapist a book?*
>
> EXPERT: Yes, and I cannot wait to hear how you believe that that exploited the wife.
>
> The attorney moved directly to the next topic.

Context Dependence

In a conceptual and contextual vacuum, it may be impossible to make a clear distinction between a boundary crossing and a boundary violation. A therapist, say, who sends a dependent patient a reassuring postcard from his vacation is merely crossing the boundary; however, if the postcard is highly erotized, contains inappropriate content, and is part of an extended sexual seduction, the same gesture carries an entirely different weight.

Another element of context is the type and goal of the therapy. A favorite example is this: for an analyst doing classical psychoanalysis, no justification would exist for accompanying an adult patient into the bathroom; however, in the behaviorist treatment of paruresis (fear of urinating in public rest rooms), the last step in a behavioral paradigm of treatment might well be the therapist accompanying the patient there (Goisman and Gutheil 1992). This example also implies that the context may be affected by issues such as informed consent to the type of therapy, the nature and content of the therapeutic contract, the patient's expectations and so on.

Power Asymmetry and Fiduciary Duty

The concepts of power asymmetry and fiduciary duty play an important theoretical role in analyzing boundary problems and are frequently used in discussing the consequences of boundary breaches. *Power asymmetry* refers to the unequal distribution of power between the two parties in the therapeutic dyad: the therapist has greater social and legal power than the patient. Part of this power derives from the fact that the therapist often has detailed knowledge of the patient, including, theoretically, the patient's weaknesses and vulnerabilities—knowledge that may be used for good or ill. With this power comes the greater responsibility for directing and containing the therapeutic envelope. The occasional plaint, "It's not my fault—the patient seduced me," carries little weight under this formulation.

A *fiduciary duty* is a duty that is based on trust and obligation. The doctor, as a fiduciary, owes a duty to the patient to place the latter's interests first; primarily, the doctor does what the patient needs, not what the doctor wants to do. Exploitative boundary violations, therefore, are viewed as breaches of the doctor's fiduciary duty to the patient: the treater has placed his or her own gratification ahead of the patient's needs.

Consequences of Boundary Problems

The consequences of boundary problems may be divided into those intrinsic to the therapy and those extrinsic to the therapy. As discussed in the previous section, "Basic Elements of Boundary Theory," a serious and exploitative boundary violation may doom the therapy and cause the patient to feel (accurately) betrayed and used. The clinical consequences of boundary violations, including sexual misconduct, may encompass the entire spectrum of emotional harms from mild and transient distress to suicide.

The extrinsic harms fall into three major categories: civil lawsuits (in some jurisdictions, criminal charges for overtly sexual activity); complaints to the state's board of registration, the licensing agency; and ethics complaints to the professional society (e.g., the district branch of the American Psychiatric Association), usually directed to the ethics committee of the relevant organization.

Civil Litigation

A civil lawsuit for boundary problems is based on the concept that the treater's deviation(s) from the appropriate standard of care constitute professional negligence and the patient consequently sustained some form of damages (Appelbaum and Gutheil 2008). This blunt legal analysis scants the commonly encountered clinical complexity of these claims. Although lawsuits for clinician sexual

misconduct were a serious problem in past decades, observers have noted an increase in what might be termed "pure" boundary cases—that is, cases in which actual sexual intercourse has not occurred, but the patient is claiming harm from boundary violations short of that extreme.

Other factors may come into play in the litigation arena. The growing awareness of both boundary issues and their common precursor role in actual sexual misconduct has led some disgruntled patients to use a boundary claim as a means of taking revenge against a disliked clinician. A current joke holds that under the advent of managed care and the severe restrictions placed on length of treatment, no therapy will continue long enough for the patient to develop erotic transferences for the doctor.

Although most malpractice suits against the clinician will be defended and—in case of a loss—paid for by the malpractice insurer, many insurance policies contain exclusionary language that avoids coverage for the more sexualized forms of boundary violation.

Board of Registration Complaints

A board of registration complaint challenges the physician's fitness to practice, as supposedly rendered questionable by the boundary problem in question. There are three serious problems with this form of complaint. First, registration boards in some areas are extremely punitive, seeking to meet quotas of delicensed practitioners and ignoring both context and evidence. Second, unlike in a malpractice case, a loss in a board of registration case may cost the clinician his or her license and, hence, livelihood. Finally, because this complaint is not a malpractice issue, one's insurance policy will often not fund the defense, leaving the doctor with out-of-pocket legal expenses. One implication of this grim scenario is that board complaints should be taken very seriously and must include legal assistance, no matter how bizarre, overreactive, and trivial the complaint may seem.

Ethics Complaints

The field of ethics has produced a vast wealth of philosophical opinion and literature as to what does and does not constitute ethical conduct, but an ethics complaint to one's professional society has an extremely concrete denotation: it asserts that a specific section of the American Psychiatric Association's (2009) code of ethics has been violated by the boundary issue in question. What is ethical is what is in the "book." The outcome of a formal ethics complaint (informal ones are not accepted) ranges from censure and warning (not reportable to the National Practitioner Data Bank) to suspension or expulsion from the professional society (both of which are reportable). Such reportage may plague every subsequent job application and will usually also reach the relevant board.

Summary

The three types of complaints discussed in this section constitute the most common forms of negative consequence from boundary problems. Alas for fairness, attorneys, boards, and ethics committees may not be sufficiently sophisticated to distinguish between boundary crossings and violations. Thus, any boundary issues should be clearly described in the records, together with their rationales, as well as readily discussed and explored in the therapy itself.

Some Personality Types Encountered in Clinical Practice

I turn now to boundary issues that come up in relation to various PDs. As discussed in the introduction to this chapter, our study of the clinical correlation of boundary problems with a patient with a PD neither blames the victim nor exonerates the treater, nor does it remove from the treater the burdens of setting and maintaining boundaries. Indeed, it takes two to generate a true boundary problem. Thus, the following discussion addresses the interactions between patients with PDs and the clinicians attempting to treat them.

As might be inferred from earlier sections of this chapter, no particular therapist, patient, or PD should be considered immune from actual or potential boundary problems (Norris et al. 2003). Indeed, both members of the dyad may present risk factors that increase the likelihood of boundary problems. Therapist issues may include life crises; transitions in a career; illness; loneliness, and the impulse to confide in someone; idealization of a "special patient"; pride, shame, and envy; problems with limit setting; denial; and issues peculiar to being in a small-town environment where interaction with patients outside the office is unavoidable. Patient issues that increase vulnerability may include enmeshment with the therapist; retraumatization from earlier childhood abuse and felt helplessness from that earlier event; the repetition compulsion; shame and self-blame; feelings that the transference is "true love"; dependency; narcissism; and masochism (Norris et al. 2003).

Empirically, boundary issues are less likely to occur in the Cluster A group of PDs, which are marked by a tendency toward detachment, than in the other two clusters; however, individuals in the group with very poor social skills and poor perspective-taking of others may cross boundaries more out of social ineptness than other dynamics.

Histrionic and Dependent Personality Disorder

Consultative experience demonstrates that two symptoms manifested by patients with either histrionic or dependent PD tend to play roles in boundary excursions: neediness and drama. A patient's intense need for contact, self-esteem or approval, or relief from any anxiety or tension may pressure clinicians into hasty actions that cross boundaries.

> A dependent patient who had been out drinking for an evening called her therapist in a panic and begged him to pick her up at the bar and drive her home. Feeling somewhat trapped and choiceless, the therapist did so. The situation, though presented by the patient as an emotional emergency, was clearly one merely of "urgency."

Although probably harmless, such an event may well be used by a board of registration as evidence of boundary problems in the treater. Appropriate responses may have included calling a cab, recommending public transportation if available, or making a call to family or friends.

Dramatic behavior may "trigger" a boundary problem because of the clinician's wish to "turn down the volume."

> A patient with histrionic PD, who was distraught after a session over a therapist's just-announced vacation plan, seated herself on the floor just outside

> the therapist's door and moaned loudly for a prolonged interval. The therapist, embarrassed by this scene taking place in full view of the clinic waiting room in front of other patients and staff, brought the patient back into the office and conducted an impulsive, prolonged session, intruding into other patients' appointments.

Although patients are free to cross boundaries, the limits must be set by the clinician. The therapist in this example might have told the patient that the behavior was inappropriate and should be discussed at the next appointment; should the patient refuse to leave, security might be called, and the matter explored at the next session. It appears likely that the dynamic operating in the vignette was the therapist's countertransference-based inability to deal with his own sadistic feelings about both planning a vacation (and thus causing abandonment feelings in the patient) and being able to turn the patient away when the latter was behaving inappropriately. Conflicts about sadism are a common source of boundary difficulties, especially in younger therapists; the issue of countertransference is further addressed in the section "Countertransference Issues" below.

One of the earliest and most famous examples of histrionic (it would then have been called "hysterical") behavior was the hysterical pregnancy and pseudochildbirth of Anna O., who was in the throes of an erotic transference to Joseph Breuer, as described in the "Studies on Hysteria" (Breuer and Freud 1893–1895/1955). Although Breuer is not recorded as violating any boundaries, the point can be made that patient reactions in this disorder may operate independently of the clinician's actual behavior, a fact leading to confusion among decision-making bodies.

Antisocial Personality Disorder

Individuals with antisocial personality disorder may strain the boundary envelope with the intent of furthering manipulation of either the therapist or, through the therapist, others in the environment. That environment may be clinical or forensic (Faulker and Regehr 2011; Zwirn and Owens 2011). Examples might include getting the therapist to advocate for the patient at work, at school, and in other areas where the therapist is induced to step out of the limits of the clinical role to abet the patient's purposes.

Another boundary issue seen with patients in this category is excessive familiarity and pseudo-closeness designed to get the therapist to perform uncharacteristic actions that transgress boundaries.

> DOCTOR *(on first meeting):* How do you do, I am Dr. Thomas Gutheil.
> PATIENT: *(with warm handclasp):* Very glad to meet you, Thomas.
> DOCTOR *(slightly nonplused):* Um, well, Thomas *is* my given name, but I go by "Doctor Gutheil."
> PATIENT *(affably):* Whatever you say, Tommy.

As illustrated, the patient may shift on first acquaintance to a first-name or nickname basis to establish an artificial rapport designed to persuade the therapist to alter the rules of proper conduct. The therapist may feel silly or stuffy about correcting this undue familiarity or even bringing it up at all, but the effort should probably be made, in concert with attempts to explore the meaning of the behavior.

Some common goals of this tendency toward pseudo-closeness are obtaining excusing or exculpatory letters sent to nonclinical recipients; obtaining prescription of inappropriate or inappropriately large amounts of controlled sub-

stances; and intervention in the patient's extratherapeutic reality ("I need you to meet with my parole officer to go easier on me; you know how ill I am").

From the patient's viewpoint, the boundaries, even if recognized, may be ignored in a goal-directed manner. From the clinician's viewpoint, the boundary transgressions may lead to trouble, especially if the patient's actions encompass illegal behavior (e.g., selling of prescriptions) into which the doctor is drawn by association.

An unfortunately common clinically observed constellation of boundary problems is the following: a female psychotherapist is treating a male patient with antisocial PD but misses the antisocial elements in the patient, seeing the latter as a needy infant who requires loving care to "get better." In the course of this rescue operation, boundary incursions occur and increase (Gabbard and Lester 2003). In a "ladies love outlaws" paradigm, a female therapist may occasionally interpret her role as "taming a wild psychopath."

Borderline Personality Disorder

Like patients with antisocial PD, patients with borderline personality disorder (BPD) may manifest conscious or unconscious manipulative tendencies for a number of reasons. Some scholars assert that these patients manipulate because their low self-esteem leaves them feeling unentitled to ask directly to have their needs met. It is a clinical truism that unentitlement may be masked by an overt attitude of entitlement; the patient operates from the position that he or she is special and deserving of extra attention. This demand for specialness can lead therapists to grant favors that transgress boundaries with these patients.[1]

> A patient with BPD in a subsequent psychotherapy commented out of the blue that she really felt her previous therapist should not have charged her a fee but should in fact have paid *her,* because her case was so interesting.

The surprising power of the manipulation to slip under the clinician's radar, as it were, is one of the more striking findings in the boundary realm. "I sensed that I was doing something that was outside my usual practice and, in fact, outside the pale," the therapist will lament to the consultant, "but somehow I just found myself making an exception with this patient and doing it anyway."

In an earlier article (Gutheil 1989), I described my experience with therapists seeking consultation, who would begin their narratives saying, "I don't ordinarily do this with my patients, but in *this* case I…[insert a broad spectrum of inappropriate behaviors here]." The patients' sense of entitlement and of being "special" may infect the therapist with the same view of their specialness, such that even inappropriate exceptions are made. Clearly, a therapist who realizes that an exception to usual practice is about to be made should view this impulse as a "red flag" signaling the need for reflection and consultation.

The patient's own boundary problems—both in the ego boundary sense (Gabbard and Lester 2003) and in the interpersonal space—may evoke comparable boundary blindness in the therapist:

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[1]Because borderline PD (BPD) empirically poses the greatest boundary difficulties, the reader may wish to review the axioms given at the outset of this chapter in order to maintain a properly nonjudgmental perspective.

> A therapist noted that a patient with very primitive BPD would sidle out of the office along the wall in a puzzling manner that seemed to convey a fearful state. On exploration the patient revealed that she was struggling with the fantasy that—if she passed too close to the therapist—she might accidentally fall forward and sink into the therapist's chest and be absorbed as though into quicksand. (D. Buie, personal communication, 1969)

Although the reader may detect the unconscious wishes for fusion hidden under this fear, the point of the anecdote is that, for some patients, the boundary even of the physical self may be extremely tenuous. Indeed, wishes for fusion in both patient and therapist may provide the stimulus to boundary transgressions.

The patient with BPD may manifest impulsivity—"I need you to do this now, right now!"—that presses the therapist to act precipitously without forethought. The patient may demand an immediate appointment, an immediate telephone contact, an immediate home visit, an immediate ride home, an extended session, a medication refill, or a fee adjustment. Note, of course, that any or all of these may be clinically indicated but may also constitute or lead to boundary problems.

Research data indicate that patients with BPD often have a trauma history; that is, they were at one time victims (Herman, personal communication, 1980, cited in Gutheil and Gabbard 1993). Some of these patients adopt a posture of victimization (an element of entitlement distinguishable from narcissistic entitlement). This posture may mobilize rescue feelings, fantasies, or attempts in the therapist that lead him or her to "bend the rules" to achieve the rescue and thus to transgress boundaries (Gabbard 2003). Indeed, consultative experience leads to the conclusion that a number of cases of sexual misconduct spring ultimately from claimed attempts to rescue the patient, to prevent suicide, to elevate the patient's self-esteem, or to provide a "good" relationship in an effort to counter a string of bad ones that the patient has experienced.

Borderline rage is also a factor leading to boundary problems, often through its power to intimidate.

> A 6-foot 7-inch former college linebacker, now a therapist, was asked in consultation why he went along with a boundary violation that he knew was inappropriate but was demanded by the patient. When asked why he did not simply refuse, he looked down from his height and stated, "I just didn't dare."

As I have noted elsewhere, this rage may leave therapists feeling pressured into inappropriate self-disclosure, conceding to inappropriate requests and manifesting other signs of being "moved through fear" (Gutheil 1989, p. 598).

Disappointed in many past relationships, the patient with BPD may contrive to "test the therapist's care or devotion" in boundary-transgressing ways that often represent reenactments of earlier developmental stages. For example, a patient may perceive that therapy offers some form of promise—such as inclusion in the therapist's idealized family (Gutheil 1989; Smith 1977). The patient may demand to sit on the therapist's lap or to be held or hugged, arguing that without this demonstration of caring, there can be no trust in the therapy. Herman (personal communication, 1980, cited in Gutheil and Gabbard 1993) pointed out that because so many patients with BPD have histories of sexual abuse, they may have been conditioned to interact with significant others on whom they depend in eroticized or seductive ways (p. 598).

Forensic experience reveals the sad truth of how often these primitive maneuvers to obtain inappropriate closeness or contact actually succeed, to the detriment of the therapy and often to the censure of the therapist. As might well be expected, the wellspring of these deviations is commonly the countertransference in the dyad, my next topic.

Countertransference Issues

The patient's need for help and the treater's membership in a helping profession ordinarily provide a salutary and symmetrical reciprocity, but one that is not immune to distortion or miscarriage. The basic wish to help and heal, unfortunately, may inspire efforts that—no matter how well intended—transgress professional boundaries in problematic ways. The patient's transferential neediness and dependency may evoke a countertransferential need in the therapist to rescue, save, or heal the patient at any cost. Wishes to save the patient from anxiety, depression, or suicide are common stimuli to boundary violations in the name of rescue.

An example of this problem is what I call the "brute force" attempt at cure. Frustrated by the difficulty of working with the patient and disappointed at the latter's lack of progress, the therapist sees the patient more and more often each week, for longer and longer session times; weekends, holidays, even vacations are no exception to this relentless crescendo. Therapists in this situation are being held hostage by the patient's insatiable need and are setting themselves the wholly unrealistic goal of meeting that need by "giving more."

In a related manner, such patients' suicide risk may lead the therapist to try desperate measures to prevent this outcome at all costs, including the cost of violating boundaries to achieve this rescue. Gabbard (1999) described this phenomenon in detail as the therapist's masochistic surrender, a dynamic issue closely linked to boundary problems.

The therapist's frustration may rise to the level of overt anger, in which the therapist acts out countertransference hostility by violating boundaries such as confidentiality; the therapist who angrily and inappropriately calls the patient's partner at home and rails at him or her to protest some action involving the patient has lost the compass that would keep one in bounds.

In a useful discussion, Smith (1977) defined the "golden fantasy" entertained by some patients with BPD and others; the golden fantasy is the belief that all needs—relational, supportive, nurturant, dependent, *and* therapeutic—will be met by the treater. As the patient loses track of what constitutes the therapeutic aspect of the work, the therapist, too, may begin to lose track of the actual parameters within which the treatment should take place.

The "Practice Guideline for the Treatment of Patients With Borderline Personality Disorder" (American Psychiatric Association 2001) stresses four basic points relating to patients with BPD and boundaries. The therapist should 1) monitor countertransference carefully, 2) be alert to deviations from usual practice ("red flags"), 3) always avoid boundary violations, and 4) obtain consultation for "striking deviations from the usual manner of practice" (American Psychiatric Association 2001, p. 24). These points are fully congruent with the material in this chapter.

In sum, because of their own difficulties with boundaries, their capacity to evoke powerful countertransference reac-

tions, and the particular elements of their interpersonal style, patients with BPD pose some of the most noteworthy examples of boundary problems and challenges to clinicians to maintain proper limits.

Some Cross-Cultural Observations

Culture, of course, is itself a context; although some forms of boundary issues might be expected in all cultures, the majority of litigation and theoretical discussion seems to occur in the United States. A cross-cultural study (Commons et al. 2006), however, comparing boundary matters in the United States and in Rio de Janeiro, Brazil, turned up some interesting findings. The U.S. sample and the Brazilian sample agreed at the extremes; that is, in both countries overt sexual misconduct at one end of the spectrum was seen as proscribed, and trivial deviations at the other end were seen as harmless. In the middle ranges, divergence was revealed. For example, subjects in the U.S. sample believed hugging a patient was suspect and kissing was surely wrong, but it was fully acceptable to display licenses, certificates, and some honors on the wall. In contrast, the Brazilian cohort found kissing the cheek in greeting to be universally acceptable and an accepted manner of greeting patients, but display of certificates was considered a deviation.

Risk Management Principles and Recommendations

Clearly, a rigid formalism and an icy demeanor are not the solution to boundary problems when dealing with patients with PDs; patients so treated will simply leave treatment. Rather, some basic guidelines may prove helpful to the clinician desirous of staying out of trouble while preserving the therapeutic effect of the work.

1. Clinicians of any ideological stripe must obtain some basic understanding of the dynamic issues relating to transference and countertransference. Training programs that foolishly boast of having transcended "that Freudian stuff" do a serious disservice to their graduates. A patient with BPD in the idealizing phase of treatment may worship the therapist, but a therapist who is untrained in the vagaries of transference may be left to assume that his or her own natural gifts of person have evoked this reaction—a dangerous view, indeed.
2. Treaters of patients with PDs must keep in mind the latter's capacity to distort or overreact. A therapist who writes to such a patient and signs the letter, "Love, Dr. Smith," may intend *agape* (nonerotic love), but the patient may interpret *eros* and expect treatment consistent with that emotion. Even if the patient initially understands the meaning, the regulatory agencies may interpret that salutation as a sign that the clinician has lost objectivity and may assume boundaries have been violated (note that this sequence of events is not speculative but empirical). Therapists should, of course, take responsibility for their actions, but these patients can evoke strong feelings of guilt that distort the clinician's perception of what happened and who is responsible.

   In a board of registration complaint, a patient claimed to have been hurt by some action of a doctor. Instead of writing, "I am sorry you feel hurt," the doctor wrote, "I am sorry I hurt you."

This ill-chosen expression of inappropriate self-blame made it almost impossible to convince the board that the doctor had remained within proper boundaries.

The learning point here: When in doubt, obtain forensic or legal consultation.

3. The therapist should develop a "red flag" warning response when finding himself or herself doing what he or she would not usually do—that is, making an exception to customary practice. The exception in question may be an act of laudable creativity in treatment, but it may also be a boundary problem. Self-scrutiny and consultation may be most useful under the circumstances.
4. Simon and I (Gutheil and Simon 1995) observed that the neutral space and time when both parties rise from their chairs and move toward the door at the end of a session represents an occasion when both parties may feel that the rules do not really apply, because the session is theoretically over. We recommended that therapists pay attention to their experiences and the events and communications occurring during this "window"; a tendency toward crossing or even violating boundaries may emerge in embryonic form during this period, allowing the therapist to open the subject for exploration in the following session and, one hopes, to deflate its problematic nature.
5. When in doubt, a therapist should seek consultation; this honors my favorite maxim, "Never worry alone." Although getting consultation before taking a step that might present boundary ambiguities is an excellent idea, the therapist should also begin presenting the case to a colleague or supervisor when boundary problems begin to appear on the horizon or when the transference becomes erotized. Such consultation will aid in keeping perspective and in ensuring that the standard of care is being met.
6. Any potential boundary excursion of uncertain meaning should be marked by three critical steps: maintenance of professional behavior, discussion with the patient, and documentation. Under some circumstances a tactful apology to the patient for misreading a situation may also be in order. Failure to perform these steps casts the therapist in the light of one who wants to conceal wrongdoing. The "3 Ds" noted earlier (see subsection "Boundary Crossings and Boundary Violations") should be invoked, as in this example:

   > Driving home from a late last appointment, a therapist sees his patient slogging wearily homeward on foot through the 2-foot-high drifts that a recent blizzard has deposited on the area. To prevent the patient from dying of exposure in the subfreezing weather, he offers her a ride home in his Jeep. In the car he continues to behave in a formal, professional manner, despite the odd circumstances. Next day at the office he records a careful note outlining his reasoning and the risk-benefit analysis of the incident. At the patient's next appointment, the therapist inquires how the incident felt to the patient, and its therapeutic significance is explored.

7. Therapists can avert the majority of boundary difficulties by taking this approach: "Explore before acting." Impulsive responses to patient demands are likely to go astray, as well as inappropriately to model impulsivity. Boundary issues pose special challenges for therapists; adherence to the basic principles described in this chapter may aid in protecting both therapists and patients.

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PART III

Special Problems, Populations, and Settings

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CHAPTER 18

Assessing and Managing Suicide Risk

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Personality disorders (PDs) are highly prevalent disorders that impart significant morbidity and mortality. In the National Comorbidity Survey Replication, the prevalence of PDs was found to be approximately 9% in the general population (Lenzenweger et al. 2007). Borderline PD (BPD), in particular, is a disabling condition affecting approximately 2% of the general population, 10% of psychiatric outpatients, and 20% of psychiatric inpatients (Lieb et al. 2004). Individuals with BPD are significant users of health services (Zanarini et al. 2004), and their lifetime risk of suicide ranges between 3% and 10% (Paris and Zweig-Frank 2001). As a result of the risk of suicide and repeated suicidal behavior (referring to behaviors with some level of intent to die), these patients are often considered difficult to treat and are often actively avoided by clinicians. However, research indicates that appropriate psychiatric care and management can reduce the risk of future suicidal behavior in patients with PDs and therefore is highly indicated. In this chapter, we discuss the association between PDs and suicide and describe the nonmodifiable and potentially modifiable risk factors for suicide and suicidal behavior; review research that contributes to the understanding of the possible neurobiological mechanisms leading to suicide and suicidal behavior in individuals with PDs; and discuss the assessment of suicide risk and approaches to crisis management in patients with PDs.

Much of this chapter focuses on patients with BPD, which is the only PD in DSM-IV (American Psychiatric Association 1994) and DSM-5 (American Psychiatric Association 2013) to have recurrent suicidal or self-injurious behavior as one of the diagnostic criteria. In the alternative model for personality disorders in

DSM-5 Section III, "Emerging Measures and Models," the proposed revision to BPD still includes "self-harming behavior under emotional distress" as a defining feature of the disorder (p. 767). We emphasize BPD in this review because much of the research done on PDs over the last two decades has been focused on BPD, with relatively little attention paid to the other PDs.

We have organized our discussion of the assessment of suicide risk in patients with PDs based on the model of an "acute-on-chronic" risk (Figure 18–1). *Chronic risk* for suicide relates to factors that have existed for many months or years and generally are not modifiable. In contrast, *acute risk* for suicide relates to factors that have existed for days, weeks, or months and are often modified by clinical interventions. The acute-on-chronic risk model is presented as a way of assessing and communicating the suicidal risk of patients with PDs and, in particular, those patients with histories of repeated suicidal behaviors. This model should be differentiated from other models of suicide and suicidal behavior, such as the stress-diathesis model (discussed later in the section "Neurobiological Diathesis to Suicidal Behavior in Personality Disorders"), which is a proposed causal model of suicidal behavior. With regard to the acute-on-chronic risk model, PD patients typically are at a chronically elevated risk of suicide much above the risk in the general population. This risk exists primarily because of a history of multiple previous attempts, although in some studies the patients' history of (nonsuicidal) self-injurious behavior has been shown to also increase the risk for suicide (Linehan 1993; Stanley et al. 2001). A patient's level of chronic risk can be estimated by taking a careful history of the previous suicidal behavior and focusing on the times when the patient may have demonstrated attempts with the greatest subjective intent, objective planning, and medical lethality. By studying the patient's most serious suicide attempts, one can estimate the severity of the patient's ongoing chronic risk for suicide, particularly because the method of previous attempts tends to predict the seriousness of suicide vulnerability (Modai et al. 2004). Some of the important factors that contribute to an acute risk of suicide in patients with PDs are discussed in this chapter; however, a more complete discussion of suicide risk factors and suicide risk assessment in psychiatric patients is available in other resources, such as the "Practice Guideline for the Assessment and Treatment of Patients with Suicidal Behaviors" (American Psychiatric Association 2003).

Epidemiology

PDs are associated with a significant burden of illness and a relatively high prevalence of suicidal behavior and death by suicide. In one psychological autopsy study of 163 suicide completers diagnosed using semistructured diagnostic interviews with informants, 72.3% of men and 66.7% of women had features that met the criteria for at least one PD, and 42.6% of men and 30.8% of women had features that met the criteria in multiple PD clusters (Schneider et al. 2006). Another autopsy study of 229 suicide victims diagnosed by two pairs of psychiatrists found that 29.3% of their sample had features that met the criteria for at least one PD (Isometsa et al. 1996).

Cluster A

In Schneider et al.'s (2006) psychological autopsy study of suicide completers, 20%

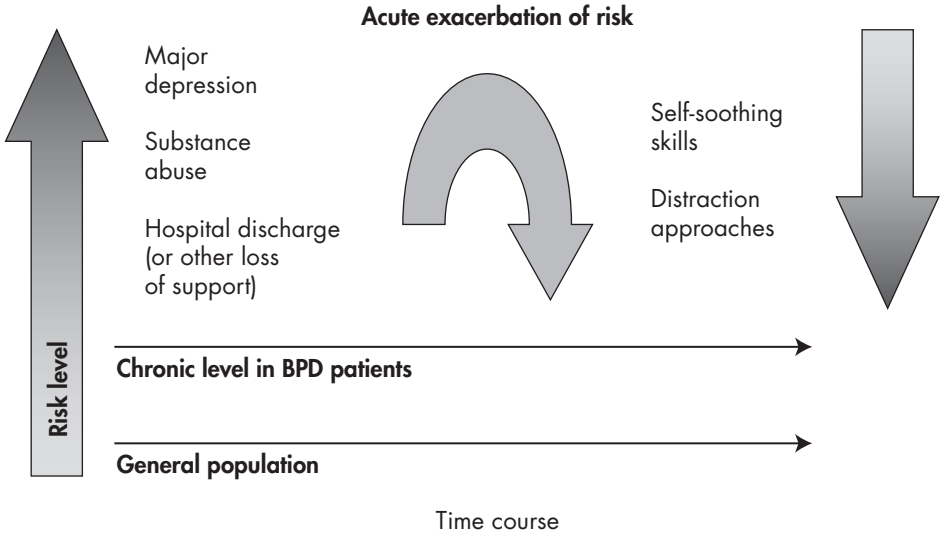

FIGURE 18–1. Acute-on-chronic suicide risk in borderline personality disorder (BPD).
Source. Adapted from Gunderson JG, Links P: *Borderline Personality Disorder: A Clinical Guide,* 2nd Edition. Washington, DC, American Psychiatric Publishing, 2008, p. 97. Copyright 2008, American Psychiatric Publishing, Inc. Used with permission.

of men and 17.9% of women had features that met the criteria for paranoid PD, 10.8% of men and 12.8% of women for schizoid PD, and 6.5% of men and 5.1% of women for schizotypal PD. Isometsa et al. (1996) found a much lower rate, with 0.4% of suicide victims (N=1) having features that met the criteria for paranoid PD; in no cases were the criteria for other Cluster A disorders met.

In the Chestnut Lodge follow-up study of patients with schizotypal PD over age 19 years, 3% died by suicide, 24% attempted suicide, and 45% expressed suicidal ideation (Fenton et al. 1997). In Lentz et al.'s (2010) sample of 307 living individuals with schizotypal PD, cases were 1.51 times more likely to have attempted suicide than controls. In a study of inpatients with a primary diagnosis of PD, Ahrens and Haug (1996) found that 44% of individuals with schizoid PD and 47% of individuals with paranoid PD displayed "suicidal tendencies."

Cluster B

Isometsa et al.'s (1996) psychological autopsy study of suicide victims found a prevalence of Cluster B PDs of 18.8%. Of those with PDs, 25% had BPD, 6% had narcissistic PD, and 4% had antisocial PD. In the Schneider et al. (2006) study, 10.8% of men and 17.9% of women had features that met the criteria for histrionic PD, 27.7% of men and 20.5% of women for narcissistic PD, 7.9% of men and 2.6% of women for antisocial PD, and 28.1% of men and 25.6% of women for BPD.

The rate of suicide in individuals with BPD has been estimated to range as high as 10% to as low as 0%, depending on setting, patient characteristics, and method of study. Paris and Zweig-Frank, in a 27-year follow-up study of patients hospitalized with a diagnosis of BPD, reported a suicide rate of 10% (Paris 2004; Paris and Zweig-Frank 2001), and one Japanese study reported an incidence of 6.9% (Yoshida et al. 2006). Several prospective

studies, however, have found a lower rate of suicide. In a 10-year prospective study by Zanarini et al. (2006), the rate of death by suicide was only 4%. Among patients with BPD recruited at the Austin Riggs Center, a voluntary residential treatment center, and followed in treatment for 7 years, Perry et al. (2009) found no deaths by suicides. In a prospective follow-up study of BPD patients who received 1 year of BPD-indicated treatment, Links et al. (2013) found that none died by suicide over 1 year of treatment and 2 years of follow-up. These results suggest that patients receiving regular outpatient treatment may be at significantly lower risk compared to an untreated population of patients with BPD.

The rate of attempted suicide among individuals with BPD is much higher than the rate of suicide, and an estimated 85% of these patients have a history of such behavior (Paris 2004). In one cohort of previous suicide attempters, the rate of medically significant suicide attempts was 27.8% by the sixth year of follow-up (Soloff and Chiappetta 2012). In another cohort recruited from an inpatient setting, 79.3% had made an attempt at baseline and 32% made an attempt within the first 2 years of follow-up (Wedig et al. 2012). Neither of these studies controlled for the amount or type of treatment received. In the prospective study by Links et al. (2013) of treated patients with BPD, 81.1% of patients had made a suicide attempt in the past, 26% of participants made a suicide attempt during the 1-year treatment phase, and 16.7% made an attempt during the 2-year follow-up period (Links et al. 2013).

Patients with antisocial PD are also considered to be at elevated risk for suicide. One 5-year follow-up study found that 5.7% of subjects died of suicide within the follow-up period (Maddocks 1970). A Finnish psychological autopsy study of adolescents ages 13–19 years found that 17% had features that met the criteria for conduct disorder or antisocial PD (Marttunen et al. 1991).

Data on histrionic and narcissistic PDs are limited. There are no prospective studies on suicide in histrionic PD. One psychological autopsy study of suicides in individuals over age 60 found that 5.2% of the individuals had histrionic PD according to ICD-10 criteria (Harwood et al. 2001). In the case of narcissistic PD, a 15-year follow-up study found that patients with narcissistic traits or disorder had an increased likelihood of death by suicide (Stone 1989). One report suggested that narcissistic personality was a risk factor for suicide ideation in elderly depressed patients (Heisel et al. 2007).

Cluster C

In the Isometsa et al. (1996) study of suicides, the prevalence of Cluster C PDs in the total sample was 10%. Of the suicide victims who met criteria for PDs, 7% had features that met the criteria for dependent PD, 6% for avoidant PD, and 3% for obsessive-compulsive PD (Isometsa et al. 1996). In the Schneider et al. study, 21.3% of men and 15.4% of women had features that met the criteria for avoidant PD, 6.2% of men and 5.1% of women for dependent PD, and 23.1% of men and 17.9% of women for obsessive-compulsive PD (Schneider et al. 2006).

A cross-sectional study of psychiatric inpatients examined for Cluster C PDs found that 35% of patients with dependent PD, 18% of patients with avoidant PD, and 14% of patients with obsessive-compulsive PD had made a suicide attempt in the past (Chioqueta and Stiles 2004). In a study of 31 patients with depression and comorbid obsessive-com-

pulsive PD, 52% had made a suicide attempt and 37.5% had made multiple attempts (Diaconu and Tureki 2009).

Summary

Research evidence supports an association between PD diagnoses and death by suicide. Although some evidence indicates that Clusters A and C disorders are associated with suicide and suicidal behavior, the strongest association has been found for Cluster B PDs and BPD in particular.

Risk Factors

According to the acute-on-chronic risk model, the ongoing risk of suicide is determined by chronic risk factors, which are typically nonmodifiable factors, while discrete periods of increased risk arise from acute risk factors (Zaheer et al. 2008). Assessment of risk at both levels allows the clinician to place the patient along a suicide risk continuum and to decide when an increased level of care is temporarily required to prevent imminent suicide because of an acute-on-chronic exacerbation.

Chronic or Nonmodifiable Risk

Most empirical work on chronic risk factors in PDs has been done in BPD. The limited data related to the other PDs will be presented separately in the last subsection of this section.

Borderline Personality Disorder

Demographics. The literature on BPD reports little association between age, race, or sex and suicide attempter or high-lethality status (Links et al. 2013; Soloff et al. 2005; Wedig et al. 2012). However, older patients with BPD with a chronic course of illness may be at increased risk for suicide as discussed below (see subsection "Course of Suicide Behavior" later in this chapter).

Personality disorder features. Three subcategories of BPD symptoms have been investigated with respect to suicide risk: impulsivity, affective instability, and dissociation. Impulsivity has previously been considered a risk factor for suicide (Wedig et al. 2012). Some research, however, has called this finding into question. McGirr et al. (2007) compared individuals with BPD, either with or without Cluster B comorbidity, who had completed suicide with individuals living with BPD. The authors found a gradient of psychopathology across the groups, particularly for substance-dependent disorders and impulsive aggressiveness, with the highest levels of psychopathology being found in those individuals with BPD and Cluster B comorbidity. With respect to attempter status, Wedig et al. (2012) similarly found that impulsivity did not predict attempter status when self-harm and substance use disorder were not incorporated into the measurement. These findings suggest that these specific components of impulsivity may be the true predictors of risk (Wedig et al. 2012) and that more precise clinical definitions of impulsivity as it relates to suicide risk are needed. The characterization of impulsivity using neurobiological methods is discussed later in this chapter (see "Neurobiological Diathesis to Suicidal Behavior in Personality Disorders").

Affective instability and dissociation were associated with attempter status in Wedig et al.'s (2012) longitudinal follow-up study, and Yen et al. (2004), in their 2-year follow-up, also identified affective instability as a predictor of suicide attempts. In an experience sampling study, Links et al. (2008) found that negative

mood intensity and mood amplitude were the facets of affective instability most associated with history of suicidal behavior. On the other hand, both affective instability and dissociative symptoms were protective against death by suicide in the study by McGirr et al. (2009). These findings may support the concept of two distinct trajectories of suicidal behavior in BPD, one involving multiple low-lethality behaviors and another involving high-lethality and potentially fatal behaviors.

Psychosocial functioning and treatment history. Markers of impaired function, such as low socioeconomic status, poor global functioning, and preexisting treatment history, represent significant risk factors for suicidal behavior in patients with BPD.

Childhood abuse. Childhood abuse is a nonmodifiable risk factor in BPD patients that may persist in spite of treatment (Links et al. 2013). Most research has focused on sexual abuse, but childhood abuse of any type can be a risk factor (Zaheer et al. 2008).

In Wedig et al.'s (2012) naturalistic follow-up study of BPD patients, posttraumatic stress disorder (PTSD) was an independent predictor of attempter status, whereas childhood abuse was not. Conversely, in a treated sample, severity of childhood sexual abuse emerged as a continuing risk factor, whereas PTSD did not (Links et al. 2013). These findings suggest that certain shared factors may explain the association between trauma and the risk for suicide. Potential mediators of this risk include Cluster A traits and poor social adjustment, as well as neurobiological changes (Soloff et al. 2008a).

Other Personality Disorders

Limited information is available about chronic risk factors for suicide in PDs other than BPD. The Collaborative Longitudinal Personality Disorders Study (CLPS), in which the sample included patients with schizotypal, avoidant, and obsessive-compulsive PDs as well as BPD, found no association between attempter status and age, gender, race, occupation, or education level (Yen et al. 2005).

Some evidence indicates an association between suicide risk and treatment history, burden of illness, and PD features. In Ahrens and Haug's (1996) sample of inpatients with any PD, the number of previous attempts was associated with "suicidal tendencies"; hospitalizations and other exposures to psychiatric treatment were not investigated. In a study by Blasco-Fontecilla et al. (2009a), "diffuse" PD (PD comorbidity across multiple PD clusters) was associated with number of suicide attempts but not lethality. Similarly, in a psychological autopsy, multiple-cluster pathology was associated with an increased odds ratio of 16.13 in men and 20.43 in women for death by suicide (Schneider et al. 2006). Lastly, in a sample of patients with Cluster B PDs, all suicide attempters except those with narcissistic PD had significantly higher impulsivity than nonattempters, suggesting that impulsivity may be important in histrionic PD and antisocial PD (Blasco-Fontecilla et al. 2009b).

Collectively, these data suggest that some of the chronic risk factors that apply to BPD, including burden of illness and extensive treatment history, may also apply to the other PDs. More research is necessary to fully explore this area.

Acute or Modifiable Risk Factors

Comorbidities

The role of psychiatric comorbidity in suicide attempter status and in lethality

of attempts has been investigated extensively, particularly with respect to PTSD, major depressive disorder (MDD), substance use disorder, and antisocial PD; however, the results have been inconsistent (McGirr et al. 2007; Soloff et al. 2005; Zaheer et al. 2008).

Wedig et al. (2012) found that MDD, substance use disorder, and PTSD were all significantly associated with attempter status during 16 years of naturalistic follow-up. Conversely, in the prospective follow-up of a treated sample, Links et al. (2013) found that none of these diagnoses predicted attempter status. One way to interpret this discrepancy is to view comorbid conditions as modifiable risk factors, and treatment status as an important consideration in evaluating the evidence (Links et al. 2013).

Predictors of high lethality status have been similarly inconsistent. Zaheer et al. (2008) identified the presence of specific phobias, lifetime PTSD, and schizotypal traits as risk factors for increased lethality, whereas Soloff et al. (2005) found an association only with antisocial PD.

According to Zaheer et al. (2008), the heterogeneity of studied populations, of measurement tools used, and of definitions of *high lethality* employed across studies may explain the variable findings. Another explanation is that comorbid conditions may act nonspecifically by increasing the burden of illness experienced by an individual, which in turn may lead to an increased risk of suicide. Finally, it is possible that comorbid conditions are surrogates for more specific risk factors included among their symptoms. For example, a subgroup of patients with PTSD could experience perceptual or dissociative symptoms that put them at higher risk independent of the overall diagnosis (Zaheer et al. 2008).

Stressful Life Events

Stressful life events present significant obstacles to patients with PDs, because the pathology related to BPD often renders these individuals unable to cope effectively. In addition, their PD features may be responsible for causing stressful life events to occur. Although various stressful life events are risk factors, clinicians should be aware that patients with certain personality pathologies might be uniquely vulnerable to specific life events; for example, patients with BPD are particularly reactive to interpersonal stressors (Blasco-Fontecilla et al. 2010; Horesh et al. 2009; Kelly et al. 2000; Kolla et al. 2008).

Borderline Personality Disorder

Acute interpersonal stress is especially pertinent to evaluation of patients with BPD. In a study by Brodsky et al. (2006), depressed patients with BPD were more likely than those without BPD to report interpersonal triggers for both initial and subsequent suicide attempts. Interpersonal triggers may be characteristic stressors for patients with BPD, but other kinds of loss and transitions may also be relevant. For example, recent discharge from hospital and the associated loss of supportive structures can be a risk factor for patients with BPD (Kolla et al. 2008). Shame surrounding an interpersonal stressor has been suggested as an intermediate risk factor between interpersonal events and suicidal behavior (Brown et al. 2009).

Other Personality Disorders

Yen et al. (2005) assessed the relationship between stressful life events and suicide attempts in the CLPS sample and found that negative life events were associated with suicide attempts in that mixed sam-

ple. Specifically, events categorized as love-marriage and crime-legal (for victim and for perpetrator) were significant predictors of suicide attempts in the next month after their occurrence.

It remains to be determined whether some life events are as pertinent to other PDs as interpersonal events are to BPD. Blasco-Fontecilla et al. (2010) explored this question in a mixed sample of patients from all three clusters of PDs. Only in Cluster B disorders were suicide attempts found to be associated with specific stressors independent of Axis I diagnosis. Attempts by individuals with antisocial PD were associated with jail terms, minor violations of the law, and spousal death, whereas attempts by individuals with narcissistic PD were associated with marital arguments, personal injury/illness, and mortgage foreclosure. Although confounded by the presence of Axis I pathology, some relationships were also identified between specific event categories and Cluster A and Cluster C disorders.

Course of Suicide Behavior

Despite a fatal outcome in a minority of patients with PDs (e.g., 3%–10% for those with BPD [Paris and Zweig-Frank 2001]), the vast majority can expect significant symptom relief over time. In the McLean Study of Adult Development (MSAD), a prospective longitudinal study of patients with PDs, Zanarini et al. (2012) reported remission in both symptoms and diagnosis over the course of 10- to 16-year follow-ups among patients with BPD. CLPS researchers found that diagnostic criteria among their BPD patients decreased significantly in the first 6–12 months following assessment, with improvement continuing through the following 10 years (Gunderson et al. 2011; Shea et al. 2002, 2009). Similarly, the MSAD found progressive remission of diagnostic criteria for BPD patients through 16 years of follow-up (Zanarini et al. 2010, 2012). Acute symptoms, including suicide attempts, remitted most rapidly. "Manipulative suicide attempts," which were found in 56.4% of subjects at 2-year follow-up, were only reported in 4.3% by year 10. These favorable longitudinal outcomes beg the question, Who dies by suicide? Are there clinical characteristics that predict attempts of higher lethality over time? In a prospective longitudinal study of attempters with BPD, Soloff and Chiappetta (2012) defined clinical characteristics of 91 repeat attempters who had increasingly lethal attempts over time. The time from the first attempt to the attempt of maximum lethality was long and extremely variable. Among attempters with up to five lifetime attempts, the time to maximum medical lethality was 8.94 years, with a median of 6.81 years, and a range of 8 weeks to 37.1 years. High-lethality attempts (defined operationally by a Medical Lethality Scale score ≥4) were best predicted by older age and a history of prior hospitalizations, suggesting that chronicity and illness severity play critical roles in the vulnerability to high-lethality behavior over time. A trajectory analysis separated two groups of attempters, one with increasingly greater Medical Lethality Scale scores over time (the high-lethality group), and another with recurrent attempts of low lethality. High-lethality subjects were predominately recruited from inpatient units and had poorer psychosocial functioning at baseline compared to the low-lethality group. High-lethality subjects were characterized by poor relationships in the immediate family and a poor work history. The low-lethality group endorsed more negativism (on the Buss-Durkee Hostility In-

ventory), lifetime substance use disorder, and comorbidity with Cluster B histrionic and/or narcissistic PDs. This group is more likely to include patients whose suicidal acts are "communicative gestures," intended to demonstrate distress and coerce a caring response from others.

Studies of suicide in patients with BPD report that the duration of the "suicidal process," from first unequivocal suicidal communication (by verbal threat and attempt) to death, may be as brief as 30 months (Runeson et al. 1996) or as long as 10 years (Paris and Zweig-Frank 2001). Death by suicide in BPD tends to occur relatively late in the course of the illness. In their 27-year follow-up study, Paris and Zweig-Frank (2001) reported that suicide occurred at an average age of 37 years. Younger patients with BPD tended to make frequent low-lethality attempts as communicative gestures, whereas older patients committed suicide after years of illness.

There are few prospective longitudinal studies of suicidal behavior in subjects with PDs. Prospective studies are limited when assessing predictors of attempt behavior by the rarity of suicide and to some extent attempts. In a 6-year prospective longitudinal study of suicidal behavior in subjects with BPD, Soloff and Chiappetta (2012) found that suicide attempts over a 6-year interval were best predicted by poor psychosocial functioning at baseline, a family history of suicide, and the absence of any outpatient treatment (prior to any attempt). Good psychosocial functioning at baseline was a protective variable that decreased risk. In this prospective study, suicide attempts occurred most frequently in the first 2 years of follow-up (e.g., 19% of 137 subjects in the first 12 months, 24.8% of 133 subjects by the second year). Thereafter, the number of new attempts decreased rapidly with time. Prospective predictors of suicide attempts changed dramatically over time. In the shortest follow-up interval (12 months), attempts were predicted by comorbidity with MDD, an acute stressor. Thereafter, no acute clinical stressors predicted interval attempts. These results were attributed to illness severity and inpatient recruitment for nearly half of the sample. Suicide attempts following hospital treatment (and predicted by MDD) strongly suggest persisting depression. Similarly, illness severity, marked by psychiatric hospitalizations in the follow-up interval (but preceding any attempt), was predictive of subsequent attempts through year 4 of follow-up. It is noteworthy that *any* outpatient department treatment in the 12-month interval diminished the suicide risk. Importantly, absence of outpatient department treatment remained a predictor of suicide risk to the 6-year follow-up.

Acute symptoms are unlikely to have predictive value for suicidal behavior in the long-term course. The MSAD showed that acute symptoms remitted early in the course of BPD (i.e., the remission rate exceeded 60% by 6 years) (Zanarini et al. 2006). In the CLPS, suicide attempts were predicted by a history of childhood sexual abuse (Yen et al. 2004), a known risk factor in BPD (Soloff et al. 2002) and across diagnoses, but not a proximal cause. However, a history of childhood sexual abuse is associated with neurobiological changes—including dysregulation of the hypothalamic-pituitary-adrenal axis; volume loss in areas of prefrontal cortex, hippocampus, and amygdala; and diminished central serotonergic function—any of which may contribute to the diathesis to suicidal behavior in these subjects at the time of acute stress.

The frequency of repeated suicide attempts in the year following hospitalization for an index attempt has been reported at 17%, independent of diagnosis (Cedereke and Ojehagen 2005). The CLPS found that 20.5% of treatment-seeking patients with BPD attempted suicide during the first 2 years of study (Yen et al. 2003). Worsening of MDD predicted suicide attempts in the following month in the CLPS sample of four PDs. In Soloff and Chiappetta's (2012) prospective longitudinal study, the most consistent predictors of suicide attempts across all time intervals to 6 years were measures of psychosocial and global function. Poor psychosocial function predicted increased risk of suicidal behavior at 12 months, 2 years, and 6 years, whereas good baseline functioning (high baseline Global Assessment Scale [GAS] score) was protective at 4- and 6-year intervals. By year 6, low socioeconomic status was also a predictor of high risk. Good social support is a known protective factor against suicide, buffering the adverse effects of negative life events, which are prominent in the lives of patients with BPD and predict suicide attempts (Yen et al. 2005).

Poor baseline Global Assessment of Functioning (GAF) scores and poor family relationships were among the significant predictors of poor psychosocial outcomes (low GAF scores) in patients with BPD followed for 2 years in the CLPS study (Gunderson et al. 2006). Functional impairment in social relationships changed little in patients with BPD in this time frame despite improvement in diagnostic criteria (Skodol et al. 2005). The MSAD found that half of subjects with BPD had failed to achieve social and vocational recovery at 10-year follow-up despite symptomatic remission of BPD diagnostic criteria in 93% of subjects (Zanarini et al. 2010). Vocational failure contributed most to poor psychosocial functioning in this study. Although suicidal and self-injurious behaviors remitted early, symptomatic improvement did not prevent poor psychosocial outcome in the long term.

Across many studies, poor psychosocial function (defined by socioeconomic status, social relationships, and educational and vocational achievement) is a predictor of attempt behavior independent of diagnoses. Poor psychosocial function is associated with high-lethality attempts and suicide in some but not all studies of BPD (Soloff 2005) and in nonclinical populations. Community subjects with PDs who commit suicide have more problems with loss of relationships, jobs, unemployment, and family compared with subjects with no PD diagnoses who commit suicide (Heikkinen et al. 1997). Community subjects with BPD have lower educational and vocational achievement than subjects with other PDs, and are more likely than other patients with PDs to be receiving disability payments (Zanarini et al. 2005).

A subgroup of patients with BPD may experience increasing psychosocial impairment as they age, increasing vulnerability to suicidal behavior (McGlashan 1986). Older patients in the CLPS sample (e.g., those recruited at ages 35–45 years) began to *lose* previously achieved psychosocial improvement by year 3 of follow-up, reversing the direction of change. From years 3–6 of follow-up, the older cohort showed a progressive decline in function and an increase in psychopathology, significantly different from two younger, more stable cohorts (Shea et al. 2009).

Poor psychosocial function remains a risk factor for suicidal behavior in individuals with BPD long after acute and

temperamental symptoms of the disorder have remitted. Among patients in the MSAD study who failed to obtain good psychosocial functioning, 93.9% failed because of impaired vocational achievement, not poor social functioning (Zanarini et al. 2010). The CLPS analysis found that unstable interpersonal relationships were a significant predictor of poor outcome at 2-year follow-up, but the study did not assess vocational achievement (Gunderson et al. 2006). Soloff and Chiappetta (2012) found that a high-lethality BPD attempter group was characterized by impairment in *both* family relationships and work achievement. This finding is consistent with those from studies in PD patients that report death by suicide to be associated with job problems, unemployment, and financial difficulties, but also with problems with family relationships, interpersonal loss, separations, and loneliness (Heikkinen et al. 1997).

Summary

Findings from studies of risk factors suggest that stressful life events and some comorbid psychiatric disorders might be modifiable risk factors for reducing an acute-on-chronic exacerbation of suicide risk in patients with PDs. Early and sustained outpatient department treatment directed at enhancing family, social, and vocational functioning might decrease long-term suicide risk for patients with BPD. Current treatment modalities for BPD (e.g., dialectical behavioral therapy, pharmacotherapy) are focused on symptomatic relief. Efforts to increase overall psychosocial function may be more relevant to long-term prognosis. A rehabilitation model of treatment (as in the treatment of schizophrenia) may be required to optimize outcome in patients with BPD (Links 1993).

Neurobiological Diathesis to Suicidal Behavior in Personality Disorders

Stress-Diathesis Model

A stress-diathesis causal model of suicidal behavior suggests that specific personality traits may constitute a vulnerability to suicidal behavior at times of stress. The likelihood of suicidal behavior increases when acute stressors are experienced by patients with personality traits such as emotion dysregulation or impulsive aggression, as in patients with BPD, or a chronic tendency toward pessimism, as in depressed patients (Mann et al. 1999; Oquendo et al. 2004). In BPD, acute stressors such as MDD or negative life events prospectively predict suicidal behavior at 1-year (Soloff and Chiappetta 2012) and 3-year follow-ups (Yen et al. 2005), respectively. The stress-diathesis model postulates an interaction between 1) these acute stressors and the patient's core personality traits resulting in failure of adaptive coping and 2) increased likelihood of disinhibited suicidal behavior.

In some cases, personality traits such as impulsivity and impulsive aggression may be heritable endophenotypes reflecting genetic variations in the functioning of neurotransmitter systems regulating mood, impulse, and behavior in the brain. In other cases, the vulnerable temperament may be acquired (e.g., from head injury or early childhood abuse). Within a stress-diathesis model, the vulnerability to suicidal behavior in the patient with PD may be mediated by the effects of negative emotion on neural circuits that regulate cognitive control of mood, impulse, and behavior. Among

participants with PD in the CLPS, followed to 7 years, the personality trait of negative affectivity was the most robust predictor of interval suicide attempts in multivariate analyses (more so than disinhibition or impulsivity, which were also significant predictors in univariate analyses) (Yen et al. 2009).

Neuroimaging studies have begun to define the structural, metabolic, and functional biology of brain circuits that mediate personality traits such as impulsive aggression and emotion dysregulation in subjects at high risk for suicidal behavior. Specifically, magnetic resonance imaging (MRI), positron emission tomography (PET), and functional MRI (fMRI) studies have demonstrated significant differences in structural morphometry, metabolism, and functional activation patterns in patients with BPD and other impulsive PDs compared with healthy control subjects, and, in some instances, related these differences to the vulnerability traits of impulsive aggression and emotion dysregulation.

Structural MRI Studies

MRI studies using hand-drawn regions-of-interest morphometry demonstrate volume loss in subjects with BPD compared with healthy controls in areas of the frontal lobes, including the orbitofrontal cortex, anterior and ventral cingulate cortex, and areas of the medial temporal lobe, including the hippocampus and amygdala (see Schmahl and Bremner 2006 for review; see also Hazlett et al. 2005; Lyoo et al. 1998; Tebartz van Elst et al. 2003; Zetzsche et al. 2007). Studies using computer-driven voxel-based morphometry for whole brain analysis also demonstrate significant bilateral reductions in gray matter concentrations in subjects with BPD compared with healthy controls in ventral cingulate gyrus and regions of the medial temporal lobe, including the hippocampus, parahippocampal gyrus, uncus, and amygdala (Soloff et al. 2008b). Hippocampal volume loss (with and without diminished volume in the amygdala) is the most widely replicated finding in morphometric studies of BPD and has been related to childhood histories of trauma or abuse in some studies (Brambilla et al. 2004; Driessen et al. 2000; Irle et al. 2005; Schmahl et al. 2003), though not all (Zetzsche et al. 2007). In patients with BPD, Zetzsche et al. (2007) found decreased hippocampal volume to be more pronounced among patients with histories of multiple hospitalizations but not childhood abuse. An inverse relationship was found between hippocampal volumes and measures of aggression and hostility (Zetzsche et al. 2007). Childhood sexual abuse is a risk factor for suicidal behavior, increasing 10-fold the risk of suicide attempts in subjects with BPD (Soloff et al. 2002). An inverse relationship has been reported between hippocampal and amygdala volumes and measures of aggression and hostility. Taken together, findings from these MRI studies of subjects with BPD suggest multiple areas of structural abnormality in prefrontal and frontolimbic networks involved in emotion regulation, executive cognitive function, and episodic memory.

Few imaging studies of subjects with PDs have been done specifically to ascertain potential causes of suicidal behavior. A voxel-based morphometry study of suicidal behavior in BPD found that specific structural abnormalities discriminated attempters from nonattempters and high- from low-lethality attempters (Soloff et al. 2012). Attempters had diminished gray matter concentrations compared with nonattempters in the insular cortex, a limbic integration area that is activated in tasks involving social interaction, trust, and cooperation,

but also social exclusion (rejection). The insular cortex processes internal signals concerning subjective awareness of one's own emotional state and perceived emotion in others (as in empathy) (New et al. 2008). High-lethality attempters differed from low-lethality attempters in having significant decreases in gray matter concentrations in areas of orbitofrontal, temporal, insular, and paralimbic cortex—areas broadly involved in emotion regulation, behavioral control, executive cognitive function, and adaptive responding to social situations.

PET Studies

PET studies in subjects with BPD have found decreased glucose utilization in areas of prefrontal cortex, including orbitofrontal and ventromedial cortex, cingulate gyrus, and temporal cortex (see Schmahl and Bremner 2006 for review). These areas overlap regions with known structural abnormality in BPD. The orbitofrontal and ventromedial prefrontal cortex areas are involved in response inhibition, regulation of impulsivity, and reactive aggression. A PET study of impulsive female subjects with BPD compared with healthy control subjects found prefrontal hypometabolism, centered in medial orbital cortex bilaterally (Brodmann's areas 9, 10, and 11) (Soloff et al. 2003). Covarying for impulsivity or aggression rendered insignificant the differences in prefrontal metabolism between subjects with BPD and control subjects.

PET studies in subjects with BPD (and other impulsive PDs) have described an inverse relationship between measures of impulsive aggression and relative glucose utilization in areas of prefrontal cortex (e.g., orbitofrontal, anterior medial frontal cortex) and right temporal cortex (Goyer et al. 1994). In a sample of impulsive-aggressive subjects with BPD and comorbid intermittent explosive disorder, New et al. (2007) found a disconnection in the normally tight coupling of metabolic activity between the right orbitofrontal cortex and ventral amygdala seen in control subjects. The orbitofrontal cortex exerts inhibitory control over the amygdala, moderating the effects of affective arousal. Uncoupling frontal inhibition during affective arousal in the BPD sample would increase the likelihood of behavioral dyscontrol.

PET studies have also demonstrated diminished metabolic responses to serotonergic challenge with D,L- (or D-) fenfluramine (FEN) or meta-chlorophenylpiperazine (mCPP) in patients with BPD (and other impulsive PDs) in orbitofrontal, adjacent ventromedial, and cingulate cortex. These areas overlap those with structural abnormalities in BPD (New et al. 2002; Siever et al. 1999; Soloff et al. 2000, 2003). A blunted central serotonergic response to FEN or mCPP is associated with impulsive aggression and suicidal behavior in patients with BPD and other diagnoses (Oquendo and Mann 2000). Impulsivity and impulsive aggression may be mediated, in part, by diminished serotonergic function in prefrontal cortex and a resulting loss of connectivity in frontolimbic circuits.

Functional MRI Studies

In experimental studies, subjects with BPD experience emotions more strongly than healthy control subjects, especially in response to negative affect (Levine et al. 1997), and are slower to return to baseline once aroused (Jacob et al. 2008). The dysregulation of emotion and behavior that is characteristic of patients with BPD at times of stress reflects both the intensity of affective arousal and a failure of cognitive inhibition. Strong affective arousal and dysregulated inhibition result in marked impairment of executive

cognitive functions such as response inhibition, conflict resolution, and future planning, which are critical for adaptive coping. Among clinical patients with BPD, executive cognitive function is significantly impaired at times of emotional stress, contributing to episodes of affective instability, impulsive aggression, and suicidal behavior (see Fertuck et al. 2006, for review.)

In fMRI paradigms testing affective interference with cognitive task performance, subjects with BPD demonstrate decreased activity in inhibitory brain structures (e.g., medial orbitofrontal cortex, anterior cingulate cortex [ACC]) and increased activity in the amygdala compared with control subjects (Koenigsberg et al. 2009; Minzenburg et al. 2007; Silbersweig et al. 2007). These fMRI studies suggest that diminished cognitive function during affective arousal may result from the relative failure of "top-down" inhibition (e.g., medial orbitofrontal cortex, ACC functions) as well as excessive "bottom-up" activation (e.g., amygdala), especially in response to negative emotion (Silbersweig et al. 2007). Similar results are reported in fMRI studies when subjects with BPD view negative social-emotional pictures. Greater activity is noted in the amygdala, fusiform, precuneus, and parahippocampal regions (a rapid "reflexive network") in subjects with BPD compared with healthy control subjects. Healthy controls activate dorsolateral and insular regions that constitute a slower "reflective" network (Koenigsberg et al. 2009). Emotion dysregulation in BPD may result from hyperarousal of amygdala and other limbic structures in response to negative affective stimuli, coupled with the relative failure of cortical inhibition from prefrontal and anterior cingulate functions (Silbersweig et al. 2007). Diminished cognitive inhibition in the face of negative emotion increases a patient's vulnerability to impulsive suicidal behavior.

Assessing Suicide Risk in Patients With Personality Disorders

The treatment of patients with PDs can be challenging because of the potential for these patients to present in suicidal crises. Frequently, these patients have a history of previous suicidal behavior. Clinicians may avoid accepting such patients in their practice because they feel unskilled to manage these crises; however, evidence-based therapies have demonstrated that individual psychotherapy can be effective in preventing future suicidal behavior and in reducing the medical risk of future suicide attempts (McMain et al. 2009).

The clinical assessment of patients with BPD in crisis is complicated. Often, these patients have made multiple suicide attempts, and it is unclear whether a short-term admission will have any impact on the ongoing risk of suicidal behavior. In patients with BPD, the acute-on-chronic level of risk (i.e., the acute risk that occurs over and above the ongoing chronic risk; see Figure 18–1) is related to several factors. An acute-on-chronic risk will be present if a patient has comorbid major depression or if a patient is demonstrating high levels of hopelessness or depressive symptoms. In addition, patients with BPD are known to be at risk for suicide around times of hospitalization and discharge. These patients are potentially at acute-on-chronic risk, and their assessment cannot be truncated even following a recent discharge from hospital. Proximal substance abuse can increase the suicide risk in a patient with BPD. The risk is

acutely elevated in patients who have less immediate family support, including those who have lost or who perceive the loss of an important relationship, or those who have suffered recent stressful events, including legal contacts (Yen et al. 2005).

Using the acute-on-chronic model can be very effective for communicating in the health record the decisions regarding interventions. For example, if a patient is felt to be at a chronic but not an acute-on-chronic risk for suicide, one can document and communicate that a short-term hospital admission will have little or no impact on a chronic risk that has been present for months or years. However, an inpatient admission of a patient demonstrating an acute-on-chronic risk might well be indicated. In this circumstance, a short-term admission may allow the level of risk to return to chronic preadmission levels.

Crisis Management and Safety Planning

When patients with BPD present in a suicidal crisis, they can pose a challenge even to experienced clinicians. Bergmans et al. (2007) discussed that health care providers responsible for treating patients with BPD in the emergency department faced emotions including anxiety, anger, a lack of empathy, and frustration over repetitive behavior, as well as a perception that patients are not appropriately using the emergency department. Patients with BPD who present in crisis are often experiencing intense and dysregulated emotions, and as a result, they have difficulty articulating how they are feeling and their problem-solving abilities are compromised. Clinicians can help de-escalate patients by validating their emotional distress, reinforcing that seeking help was a good decision, and treating the patient with respect, dignity, and empathy. When the patient has de-escalated, the clinician and the patient can begin the process of problem solving and establishing a safety plan.

Patients with BPD who present in crisis with significant emotional dysregulation or extreme agitation can be difficult to assess and de-escalate. For the emergency department staff, these patients can be likened to a patient who presents with a bleeding wound; the first task with patients in a suicidal crisis is to stop the "emotional bleeding." The emergency staff need to recognize that these patients cannot participate in constructive problem solving until their emotional intensity has been de-escalated. The staff can use simple strategies such as monitoring the patient's breathing, distraction techniques such as having the patient name items in the room, or soothing strategies such as recommending that the patient listen to an MP3 player or iPod. The staff can point out examples of how the patient has made positive choices to be safer, such as choosing to come to the emergency department before making a suicide attempt.

Despite some inconsistent findings regarding the effectiveness of low-dose antipsychotics for affective dysregulation, depression, anger, and impulsivity in patients with BPD, Vita et al. (2011) concluded in their meta-analytic review that antipsychotics were effective for the treatment of the core symptoms of BPD. For example, in one randomized controlled trial, aripiprazole (15 mg/day) was found after 8 weeks to be more effective than placebo for symptoms of depression, anxiety, and aggressiveness/hostility in patients with BPD; however, no significant reductions in self-injurious behavior were observed (Nickel et al. 2006). Antipsychotic medications can be helpful in reducing a patient's anxi-

ety, anger, hostility, and agitation in the emergency department, facilitating assessment, deescalation of the patient, and development of a treatment plan.

Patients with a known diagnosis of BPD often have access to clinicians and support in the community. A patient frequently has a treatment plan with his or her primary caregiver that recommends going to the emergency department if the patient feels unsafe or is in crisis. In the emergency department, it is important for staff to connect with a patient's health care team to inform them of the situation, arrange appropriate follow-up for the patient if admission is not indicated, and coordinate ongoing care with other professionals on the team. Patients may benefit from family involvement in a crisis situation. A clinician can ask the patient which family members are helpful in times of crisis or can develop specific crisis interventions to avoid the interpersonal conflicts that may have precipitated the original suicidal crisis. Links and Hoffman (2005) recommend that educating family members about restricting access to means should be incorporated into the care of all mental health patients.

One of the most critical issues is differentiating suicidal from nonsuicidal intentions. Too often, cutting oneself or other self-harm behaviors are assumed to be suicidal, although these behaviors can be deliberate acts by the patient intended for self-soothing and dealing with overwhelming emotional distress. To avoid misinterpretation, the clinician and patient should develop a method to differentiate nonlethal self-harm behavior, in which the patient's intent is to seek a reduction in emotional distress, from "true" suicidal intention, in which the patient's intent is to end his or her life. The clinician must attend to the risk of suicidal behavior when the risk moves toward true suicidal intention yet must avoid being therapeutically constrained by concerns about the patient's chronic suicidality. An important strategy is for the patient to develop a method of scaling his or her severity of suicidal thinking. For example, the patient can be asked to consider the following question: "How intense are your suicidal thoughts today?" (rating the intensity from 1, *very low intensity,* to 10, *extreme intensity*). In addition, the patient can be asked to rate his or her intent to act on these thoughts: "In the next 24 hours, how likely do you think it is that you will act on your suicidal thoughts?" (rating the likelihood from 1, *very unlikely,* to 10, *almost certain*). These methods of scaling should be undertaken in a collaborative manner, with the patient joining the clinician in the responsibility of monitoring the level of risk over time (Craven et al. 2011).

In the crisis situation, the clinician can work with the patient to develop a safety plan. Stanley and Brown (2012) have developed a very useful tool for such a purpose. The following vignette is an example of a safety plan that was developed with a patient with BPD who presented to an emergency department.

Case Example

Paula was a 53-year-old single female with a diagnosis of BPD as well as a history of previous major depressions and current social phobia. She came to the attention of psychiatry at a somewhat older age, having relatively minor self-harm behaviors and, in more recent years, some low-lethality overdose attempts. The clinician had seen Paula several times for her presentations to the emergency department after overdosing on small amounts of medication. The self-harm behaviors were often precipitated by arguments

with her adult daughter. After completing an assessment of the patient's risk for suicide following her current overdose attempt, the clinician discussed creating a safety plan with the patient. Working through the six steps listed below, Paula came up with the following safety plan for herself:

Step 1: What are your warning signs that you are going into a crisis?
Feeling panicky; can't breathe; wanting to get out; wanting to take pills or drink
Step 2: What coping strategies such as distraction or soothing techniques have you used successfully in the past?
Petting my dog
Step 3: What social situations and/or people can help distract you when you are in crisis?
Two girlfriends can be helpful to distract me
Step 4: Who can you ask for help when you are in crisis (or who is unhelpful when you are in crisis)?
Do not ask my mother for help during a crisis
Step 5: What professionals or agencies can you contact during a crisis?
Crisis phone line; therapist; family doctor
Step 6: What can you do to make your home environment safer?
Lock up my medications so they are not readily available[1]

In addition, patients should be educated to be better consumers of the emergency department. They should prepare for the next crisis by developing a safety plan, similar to Paula's above. The clinician should encourage patients to recognize their personal early warning signs and to prepare a crisis kit to take with them to the emergency department. This kit would include a card specifying their medications, physicians' contact information, and important personal supports. The kit should include recommended distraction and soothing strategies that could be used in the emergency department. The clinician should also rehearse with the patients how the emergency department staff experiences their presentations to the emergency department. This preparation helps patients understand the multiple demands faced by the emergency department staff and recognize that clear repeated attempts at communication are likely the best way to have patients' needs heard in such a chaotic setting.

Conclusion

Clinicians need to assess patients with PDs for evidence of both nonmodifiable (chronic) and modifiable (acute) risk factors for suicide. Although PD diagnoses are associated with the risk for suicide and suicidal behavior, psychotherapeutic interventions and outpatient psychiatric care appear to be very effective in reducing the short- and long-term risk of recurrent suicidal behavior in patients with PDs. When clinicians have the appropriate knowledge and skills, and patients collaborate with treatment, the work with these patients can be effective and rewarding.

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[1]Steps adapted from Stanley B, Brown GK: "Safety Planning Intervention: A Brief Intervention to Mitigate Suicide risk." *Cognitive and Behavioral Practice* 19:256–264, 2012.

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CHAPTER 19

Substance Use Disorders

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Since the introduction of DSM-III in 1980 (American Psychiatric Association 1980), there has been a growing interest in the study of personality disorder (PD) comorbidity among patients with substance use disorders (SUDs). The driving force behind this interest is the high comorbidity of these disorders and the more complex clinical management of dual-diagnosis patients. Although the evaluation of co-occurring PDs has been the subject of many studies by addiction researchers, PD researchers have historically paid less attention to the co-occurrence of SUDs. This lack of attention may be because the field of PD research started relatively recently, in the 1980s, whereas the field of addiction has long recognized the interconnection with personality dysfunction—if for no other reason than the first two editions of DSM embedded alcohol and drug addiction under sociopathy (American Psychiatric Association 1952, 1968). Historically, the major part of PD research has actually been conducted in samples of patients referred for treatment of other mental disorders such as substance abuse. That said, researchers with a forensic or criminological focus also study PDs and tend to have a keen awareness of substance use issues (e.g., Skeem and Cooke 2010; Skeem et al. 2011).

An inevitable consequence of this research history is that much of this chapter is based on studies focusing on the occurrence and implications of PD in patients with SUD. In addition, evidence from the literature on (normative) personality traits will be included whenever informative. We focus in this chapter on the epidemiology of co-occurring PD and SUD, diagnostic issues, causal pathways and treatment, and the latest genetic research on these disorders.

Epidemiology

SUDs are highly prevalent among individuals with PDs. For example, in a clinical sample of nearly 700 individuals with DSM-IV PDs, the prevalence of alcohol use disorder was 40.9% and the prevalence of drug use disorders was 37.3% (McGlashan et al. 2000). The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC; Grant et al. 2004), a nationally representative community sample of approximately 43,000 people, has generated numerous findings. For example, Pulay et al. (2008) used a dimensional categorization of PDs and found that the 12-month prevalence of alcohol dependence was 4.48% for individuals with subthreshold PD, 8.28% for those with simple PD, and 14.27% for those with complex PD (i.e., at least two PDs) in Wave 1 of the NESARC. For 12-month drug dependence, prevalence was 0.54%, 1.98%, and 5.03% across those three PD categories, respectively (Pulay et al. 2008). The prevalence of 12-month SUDs was 44.1% among individuals with lifetime schizotypal PD (Pulay et al. 2009), 50.7% among those with lifetime borderline PD (BPD) (Grant et al. 2008), and 40.6% among those with lifetime narcissistic PD (Stinson et al. 2008). These findings from NESARC are consistent with those from older studies. A much earlier community survey found lifetime prevalence of alcohol use disorders ranging from 43% to 77% among patients with various PDs (Zimmerman and Coryell 1989).

The prevalence of PDs is also high among individuals with SUDs. Again, numerous findings are available from studies based on the NESARC. After controlling for sociodemographic characteristics, Hasin et al. (2007) found that individuals with 12-month alcohol use disorder had 2.1 times the odds of having any DSM-IV personality disorder. Among individuals with 12-month SUDs, 8.2% had lifetime schizotypal PD (Pulay et al. 2009), 14.1% had lifetime BPD (Grant et al. 2008), and 11.8% had narcisistic PD (Stinson et al. 2008). The prevalence of antisocial PD among respondents with lifetime drug use disorders was 18.3% (Goldstein et al. 2007). The lifetime prevalence of Cluster A, B, and C PDs among individuals with 12-month nicotine dependence was 19.04%, 28.59%, and 14.84%, respectively (Pulay et al. 2010). Finally, after sociodemographic characteristics were controlled for, individuals with PDs had significantly higher odds of nicotine dependence than those without (Pulay et al. 2010). Table 19–1 summarizes prevalence estimates and odds ratios for co-occurring PDs and SUDs.

The most common PDs in the general population (among individuals without co-occurring SUDs) are obsessive-compulsive PD (7.9%), paranoid PD (4.4%), antisocial PD (3.6%), schizoid PD (3.1%), avoidant PD (2.4%), histrionic PD (1.8%), and dependent PD (0.5%) (Grant et al. 2005).[1] It is thus clear that the prevalence of PDs among individuals with co-occurring SUDs is much higher than among the general population. Interpretation of this

[1]These estimates come from the NESARC, referring to the data in Wave 1 of the project, covering only seven of the 10 DSM-IV PDs (i.e., avoidant, dependent, obsessive-compulsive, paranoid, schizoid, histrionic, and antisocial disorders). For a more detailed discussion of prevalence, demographics, and impairment, see Chapter 6, "Prevalence, Sociodemographics, and Functional Impairment."

TABLE 19–1. Summary of NESARC findings on the prevalence and odds ratios of substance use disorders and personality disorders

	Prevalence (%)		OR of lifetime PD and:		
	PD among SUD	SUD among PD	12-month SUD	12-month AUD	12-month DUD
Antisocial[a]	18.3 (DUD)	—	—	8.0	11.3
Borderline[b]	14.1	50.7	3.4	2.7	5.6
Narcissistic[b]	11.8	40.6	2.4	2.2	3.7
Schizotypal[b]	5.9	44.1	2.5	2.0	4.7

Note. AUD=alcohol use disorder; DUD=drug use disorder; NESARC=National Epidemiologic Survey on Alcohol and Related Conditions; OR=odds ratio; PD=personality disorder; SUD=substance use disorder.
[a]ORs significant at $\alpha=0.05$.
[b]ORs significant at $\alpha=0.01$, and adjustment made for sociodemographic characteristics.
Source. Data from NESARC studies as described in text.

high comorbidity remains unclear, because little is known about the extent to which it is attributable to conceptually overlapping diagnostic criteria and measurement issues such as state-trait artifacts.

Also of note, the epidemiology of PDs is being explored within the context of substantial evidence for a "metastructure" of psychopathology (e.g., see Krueger 1999). This metastructure, represented by two latent dimensions—"internalizing" (e.g., unipolar mood and anxiety disorders) and "externalizing" (e.g., disinhibitory disorders)—may help explain patterns of psychiatric comorbidity (Keyes et al. 2013). For instance, the externalizing dimension comprises antisocial PD and SUDs, whereas avoidant, schizoid, schizotypal, and paranoid PDs may be components of a "thought disorder" subdimension of the internalizing dimension (Keyes et al. 2013). Borderline PD, in contrast, may straddle the internalizing and externalizing dimensions (Eaton et al. 2011). This ongoing line of research has significant implications for optimizing the treatment of individuals with cooccurring psychiatric disorders (Keyes et al. 2013).

Assessment and Diagnosis

Semistructured interviews and self-report questionnaires for the assessment of DSM-IV (American Psychiatric Association 1994) PDs provide diagnoses with reliability that is comparable to that of diagnoses of other disorders obtained using standardized procedures (Ball et al. 2001). A diagnostic interview designed for use by lay interviewers was used in the NESARC described in the previous section, "Epidemiology." The instrument had fair to excellent reliability for specific PDs, consistent with or better than reliabilities found in clinical samples (Grant et al. 2003; Ruan et al. 2008). Furthermore, dimensional symptom scales for PDs had greater reliability than diagnostic categories, which is consistent with prior research (Grant et al. 2003; Ruan et al. 2008).

Instruments based on self-report may result in overdiagnosis of PDs; this may be even more of a concern with patients who have SUDs, because these instruments do not ask respondents to differentiate personality traits from the effects of substance

use or other prolonged changes in mental status (van den Bosch and Verheul 2012). Diagnostic interviews may have greater specificity because clarifications can be made about whether a symptom is chronic and pervasive, more situation specific, or related to substance use (van den Bosch and Verheul 2012). An interview also allows for behavioral observations of the patient's interpersonal style, which may inform clinical judgment (Zimmerman 1994). Some studies have shown promising findings in favor of the validity of PD diagnoses in individuals with SUDs obtained using a semistructured interview schedule. For example, Skodol et al. (1999) reported similar prevalence rates of PDs among patients with a current SUD and patients with a lifetime SUD. Also, in a sample of 273 patients with SUDs, remission of the disorder was not significantly associated with remission of personality pathology, suggesting that the two conditions follow an independent course (Verheul et al. 2000).

Part of the issue regarding reliability and validity of PD diagnosis in patients with SUDs centers on whether to include or exclude PD symptoms that seem to be substance related (i.e., behaviors directly related to intoxication and/or withdrawal or other behaviors required to maintain an addiction). The magnitude of the effect of exclusion on the prevalence estimate seems partly attributable to the strategy used for exclusion. Measures with more stringent criteria exclude any symptom that has ever been linked to substance use and yield significantly reduced rates. Measures that exclude symptoms only if they were completely absent before substance use or during periods of extended abstinence show minimal effects on rates. The more stringent strategy will likely exclude all secondary personality pathology and possibly primary personality pathology. The less stringent strategy is meant to exclude behaviors and/or symptoms that do not persist beyond periods of substance use and do not qualify for a PD diagnosis. Consequently, the less stringent approach will probably not exclude primary personality pathology and will have only a limited impact on the diagnosis of secondary PD.

Intuitively, one might suggest that excluding substance-related symptoms (at least following the less stringent strategy) would result in more valid diagnoses. Diagnosing PDs independent of SUD is consistent with guidelines suggested in DSM-IV (American Psychiatric Association 1994) and carried over to DSM-5 Section II, "Diagnostic Criteria and Codes." However, the task of differentiating substance-related symptoms from personality traits is not easy for patients or clinical interviewers and therefore may not be reliable. This task becomes almost impossible when substance use is chronic. Furthermore, although most patients with SUDs can distinguish behaviors that are only related to substance intoxication or withdrawal, they have greater difficulty making the same distinction for other activities, such as lying or breaking the law, which may be related to obtaining substances. In other words, there is a difference between symptoms of intoxication or withdrawal and symptoms that may be viewed as drug-seeking behaviors. Such a distinction requires a high level of introspection and cognitive competence in making the judgment necessary to differentiate a trait from a situation or state. It also requires self-awareness and accountability (Zimmerman 1994). Furthermore, PD criteria in DSM-IV and in DSM-5 Section II are a mix of symptoms, traits, behaviors, and consequences, making such distinctions even more difficult in practice.

Patients with SUDs may be particularly impaired in the skills necessary to make these distinctions. Rounsaville et al. (1998) found that excluding substance-related symptoms reduced the reliability of antisocial PD diagnoses but not of BPD diagnoses. Furthermore, the authors found that patients with independent PD diagnoses had a rather similar clinical profile compared with patients with substance-related diagnoses, thereby calling into question the feasibility and clinical utility of exclusion.

If one chooses to exclude substance-related symptoms from the measurement of any PD, several considerations are in order:

- Symptoms should be eliminated as being substance related on an item-by-item basis.
- Unless there are behavioral indicators of a trait present that are not substance related, criteria in which substance use is an inherent component should be scored as due to substance use.
- The interviewer should remind patients that questions refer to the way the patients usually are—that is, when they are not symptomatic with either substance abuse or other disorders (e.g., when sober at work, with friends who do not use substances).

Causal Pathways

High comorbidity that cannot be explained by conceptual or measurement artifacts strongly suggests that the co-occurrence of SUDs and PDs is not due solely to random or coincidental factors. It seems reasonable to explore the assertion that substance use and PDs are in some way causally linked. Causal models of comorbidity have historically been organized under "primary SUD," "primary PD," and "common factor" categories, although it is unclear whether these distinctions remain relevant, for reasons discussed in the following subsection. The behavioral disinhibition pathway, stress reduction pathway, reward sensitivity pathway, and common factor model (with an emphasis on genetics) are also summarized below.

"Primary" Disorder Models

The primary SUD model postulates that SUDs contribute to the development of personality pathology. Currently, no direct evidence supports this model, and there is some indirect evidence against it. One study did find that drug use predicted the progression of conduct disorder to antisocial PD (Myers et al. 1998). Bernstein and Handelsman (1995) pointed out that it is unclear to what extent the effects of substance use can "overwrite" or interact with preexisting personality patterns to form new personality configurations. It is important to distinguish new enduring personality patterns from temporary behavior patterns that disappear with reductions of substance use. The latter should not be taken into account for a diagnosis of PD. According to DSM-IV, only when the consequences of substance use persist beyond the period of alcohol and/or drug consumption (or withdrawal) do these features constitute personality pathology. The primary PD model, which has some empirical support, holds that pathological personality traits contribute to the development of SUD. However, the primary versus secondary distinction may not be an accurate one, given that both types of disorders may be equally severe, have shared genetic origin, and be of indeterminate temporality.

Behavioral Disinhibition Pathway

The behavioral disinhibition pathway to SUDs predicts that individuals with antisocial and impulsive traits and low constraint or conscientiousness have lower thresholds for behaviors such as alcohol and drug abuse. Several longitudinal studies have shown that teachers' ratings of low constraint, low harm avoidance, lack of social conformity, unconventionality, antisociality, and aggression in children, particularly boys, predicted alcohol and drug abuse in adolescence and young adulthood (Caspi et al. 1997; Cloninger et al. 1988; Krueger et al. 1996; Masse and Tremblay 1997). The same pattern was observed in university students (Sher et al. 2000). More direct evidence can be derived from a study by Cohen et al. (2007), who found that individuals diagnosed with schizotypal, borderline, narcissistic, passive-aggressive, or conduct disorder by age 13 years had significantly elevated rates of SUD between early adolescence and young adulthood, independent of correlated family risks, participant sex, and other disorders. Bahlmann et al. (2002) found that the onset of antisocial PD characteristics preceded that of alcohol dependence by approximately 4 years. The relationship between behavioral disinhibition and early-onset addictive behaviors is probably mediated through deficient socialization, school failure, and affiliation with deviant peers (Sher and Trull 1994; Tarter and Vanyukov 1994; Wills et al. 1998). The behavioral disinhibition pathway is associated with earlier onset of drinking, more rapid development of alcohol dependence once drinking begins, and more severe symptoms among individuals with ASPD than among those without (Verheul et al. 1998).

Stress Reduction Pathway

The stress reduction pathway regards substance use as self-medication for the anxiety and mood instability that individuals with PDs may exhibit in response to stressful life events. In longitudinal studies, teachers' ratings of negative emotionality, stress reactivity, and low harm avoidance in children predicted substance abuse in adolescence and young adulthood (Caspi et al. 1997; Cloninger et al. 1988; Wills et al. 1998). Coping and fear dampening as motives for drinking alcohol are also more pronounced among men scoring high on anxiety sensitivity (Conrod et al. 1998).

Reward Sensitivity Pathway

The reward sensitivity pathway regards the positive, reinforcing properties of substance use as the motivating factor among individuals scoring high on traits such as novelty seeking, reward seeking, extraversion, and gregariousness. Longitudinal studies (Cloninger et al. 1988; Masse and Tremblay 1997; Wills et al. 1998) have shown that novelty seeking in childhood predicts later substance use problems. Some evidence suggests that students' extraversion predicts alcohol dependence at age 30 among students without a family history of alcoholism (Schuckit et al. 1994). Hyperresponsiveness or hypersensitivity to the positive reinforcing effects of substances might develop most strongly among individuals with a more general sensitivity to positive reinforcements (Zuckerman 1999).

Common Factor Model

The common factor model holds that PDs and SUDs share a common cause. This model is consistent with a psychobiolog-

ical perspective of some PDs that suggests they are phenomenologically, genetically, and/or biologically related to impulse disorders such as substance abuse (Siever and Davis 1991; Zanarini 1993). This model is also consistent with findings from psychiatric epidemiology (see section "Epidemiology" above) that explore the metastructure of psychopathology, and is reflected in the structure of DSM-5, wherein at least some "externalizing" disorders are grouped together. In this section, we explore the common factor model from the perspective of genetic epidemiology, molecular genetics, and biological markers, but this focus is not intended to downplay or deprioritize common factors originating in developmental, environmental, and social experiences and exposures.

Genetic Epidemiological Studies

Epidemiological studies find that individuals rarely abuse a single substance (Swendsen et al. 2012). Instead, polysubstance abuse and dependence are normative, with high rates of comorbidity across various drug classes (Swendsen et al. 2012). Twin studies, in which the relationships between monozygotic (identical) and dizygotic (fraternal) twins are used to differentiate genetic and nongenetic (environmental) sources of variance in a given trait, suggest that this comorbidity is due at least in part to a shared genetic etiology. Several twin and family studies have found evidence of a shared underlying genetic susceptibility to substance use and other psychopathologies, specifically antisocial PD and BPD (Cloninger et al. 1988; Goldman et al. 2005; Kendler et al. 2011; Roysamb et al. 2011). Furthermore, this shared genetic factor appears to be more heritable (influenced by genetics) than the individual disorders themselves (Goldman et al. 2005).

Molecular Genetic Studies

Since the completion of the Human Genome Project, technological advances have enabled researchers to identify specific genetic variants influencing human behavior and disorder. Psychiatric disorders are complex behavioral traits, influenced by a multitude of genetic variants of subtle effect, which act in conjunction with each other (gene-gene interaction) and the individual's social context (gene-environment interaction). Because of the complex genetic architecture, researchers have only begun to identify specific genetic risk factors for psychiatric disorders, including SUDs and PDs. However, preliminary molecular genetic studies lend further support to the premise that shared genetic factors influence both SUDs and PDs. For example, data on Han Chinese males demonstrate that individuals with genetic risk factors previously associated with alcohol dependence—that is, dopamine receptor 2 (*DRD2*) and aldehyde dehydrogenase 2 (*ALDH2*)—were at a 5.39 times greater risk for antisocial PD than were those without the genetic risk (Lu et al. 2012). Furthermore, data from the Collaborative Study on the Genetics of Alcoholism suggest that chromosome 2p14–2q14.3 may contain a gene (or genes) with effects on alcohol dependence and comorbid psychiatric conditions, including conduct disorder, a prerequisite for antisocial PD (Dick et al. 2010).

Biological Markers

A final piece of evidence suggesting a shared genetic liability across externalizing psychopathology comes from the electrophysiological literature. Electrophysiological endophenotypes, which are thought to index genetic vulnerability to psychiatric phenotypes, are also shared across SUDs and comorbid psychiatric disorders (Iacono et al. 1999; Porjesz et al. 2005). For example, a reduced

P3 event–related potential amplitude has been found among adolescents with both SUDs and antisocial PD (Gilmore et al. 2010; Iacono et al. 2002).

Treatment Outcome

Personality pathology has been found to be significantly related to poor treatment response and outcome in patients with affective and anxiety disorders (Reich and Vasile 1993). Many clinicians believe that the same applies to patients with SUDs, a belief that is consistent with findings from some studies showing worse treatment outcome (Galen et al. 2000; Grella et al. 2003; Haro et al. 2004; King et al. 2001; Krampe et al. 2006) and lower levels of retention (Daughters et al. 2008; Fernandez-Montalvo and Lopez-Goni 2010; Samuel et al. 2011; Tull and Gratz 2012) in patients who have both SUDs and PDs. As in treatment-seeking samples, large nationally representative samples also indicate more chronic SUDs in individuals with PDs (Fenton et al. 2012; Hasin et al. 2011). However, these findings contrast with those of other studies that are more optimistic about the outcome for these individuals. Several studies suggest that although personality pathology may be associated with individuals' problem severity, it may not predict how much they improve in response to treatment (e.g., Cacciola et al. 1995, 1996; Verheul et al. 1999). Other studies show that PD comorbidity does not predict treatment outcomes (Easton et al. 2012; Gill et al. 1992; Longabaugh et al. 1994; Messina et al. 2002; Nace et al. 1986; Ouimette et al. 1999; Ralevski et al. 2007), premature dropout (Easton et al. 2012; Gill et al. 1992; King et al. 2001; Kokkevi et al. 1998; Marlowe et al. 1997; Verheul et al. 1998), or less motivation to change (Verheul et al. 1998). These conflicting results do not allow for firm conclusions about the prognosis of patients with both SUDs and PDs.

However, there is reason to believe that recovery among individuals with SUDs who also have PDs may not be as long lasting as among those without PDs. For example, some studies showed that PDs predict a shorter time to relapse after discharge (Mather 1987; Thomas et al. 1999), even when the study design controls for the baseline severity of substance use problems (Verheul et al. 1998). Thus, it seems that although individuals with PDs can improve with treatment, their posttreatment state may be more susceptible to relapse.

Moderator and mediator studies have explored who is most at risk and how PDs interfere with treatment. A study by Verheul et al. (1998) suggested that motivation for change moderated the relationship between PDs and relapse; personality pathology was a strong predictor of relapse among less motivated individuals but not among their more motivated counterparts. In another study, Pettinati et al. (1999) found that PD psychopathology combined with other types of psychopathology was the best predictor of a return to substance use at 1 year posttreatment compared with either factor alone. However, this finding conflicts with other studies that have found that individuals with opiate addiction and antisocial PD who also have a lifetime diagnosis of major depression may benefit more from treatment than those without depression (Alterman et al. 1996; Woody et al. 1985). Studies of mediators have suggested that personality pathology interferes with the patient-therapist working alliance and that this results in poorer outcomes or a higher risk for relapse (Gerstley et al. 1989; Verheul et al. 1998).

In contrast with the extensive literature on the effect of PDs on substance use

treatment outcomes, less research has been done on the impact of SUDs on PD outcomes. This lack is likely related to the exclusion of dual-diagnosis patients from treatment systems and research studies, and illustrates the limitations of mental health systems and research policies oriented toward the treatment of single rather than multiple disorders (Ridgely et al. 1990). Studies addressing whether treatment of SUD affects PD status have had conflicting results. Whereas one study showed that recovery from PDs is not seen more among those recovered from SUDs (Verheul et al. 2000), another study did find improvement in pathological personality traits following treatment for SUDs (Borman et al. 2006). Additionally, although some research has suggested similar levels of pathology in individuals with PDs who did or did not have comorbid SUDs (Verheul et al. 2003), research is needed that specifically addresses whether SUD status affects outcome of PD treatment.

Outcomes of Dual-Focus Treatments

Types of therapy that have been developed for or applied to individuals with comorbid PDs and SUDs include Dynamic Deconstructive Psychotherapy (Goldman and Gregory 2010; Gregory et al. 2009), Personality-Guided Treatment for Alcohol Dependence (Nielsen et al. 2007), and Integrated Dual Disorder Treatment (van Wamel et al. 2010). However, two forms of therapy have been studied more extensively and are discussed in more detail below: Dual Focus Schema Therapy (DFST) and dialectical behavior therapy (DBT).

Dual Focus Schema Therapy

DFST, developed by Ball and Young (Ball 1998; Ball and Young 2000), is a treatment designed to address both substance use problems and PD symptomology. DFST is a manual-guided program that incorporates relapse prevention, coping skills, and discussion of maladaptive schemas. In 2005, Ball et al. evaluated DFST among 52 individuals with PDs who abused substances and were receiving services at a drop-in center for the homeless. Participants were randomly assigned to receive either DFST or standard drug counseling group sessions for 24 weeks, both delivered on-site as enhancements to case management services. Results indicated more overall utilization of DFST, but patients with more severe Cluster A and C symptomatology preferred drug counseling. In 2007, Ball tested DFST against 12-Step Facilitation Therapy (TSFT) with 30 methadone maintenance patients. Treatment retention and utilization were similar for the two treatments. However, DFST patients evidenced a quicker decrease in substance use and strong therapeutic alliance, whereas TSFT patients reported more improvement in dysphoric symptoms. In a third study, Ball et al. (2011) compared DFST with individual drug counseling in patients receiving residential treatment. Their results suggested similar retention and initial response to treatment for the two groups, with more sustained changes among the individual drug counseling group. Results are mixed but seem to indicate that DFST is generally comparable to other types of therapy and may even offer certain advantages (better utilization, better therapeutic alliance).

Case Example 1

Andrew was a 36-year-old divorced male whose primary PD diagnosis was obsessive-compulsive PD. In addition to having symptoms of depression, obsessive thoughts, compulsive behavior, and paranoid ideation, he

had interpersonal problems related to being exploitative and aggressive in response to even minor irritation. He began using substances at age 14 and had occasionally sold drugs or stolen property to fund his use. Andrew had several prior substance abuse treatments and had been taking methadone for 1 year before starting individual therapy. His heroin dependence was in remission (he was taking agonist medication), and his primary drug abuse problem was cocaine, with more sporadic use of a high-potency solvent to which his job gave him ready accessibility. Andrew also met criteria for antisocial PD. This diagnosis does not frequently co-occur with obsessive-compulsive PD; however, it was difficult to determine whether the antisocial PD diagnosis was independent of substance abuse given the very early age at onset and his persistent use of multiple substances during adolescence and adulthood.

Andrew was treated for 6 months as part of a research protocol evaluating DFST. His core early maladaptive schema was unrelenting standards/hypercriticalness (i.e., perfectionism, rigid rules, and preoccupation with time and efficiency), which appeared to originate from the seemingly contradictory combination of parental perfectionism (with physical or emotional abuse for Andrew's "failures" as a child) and defeat secondary to both parents being torture survivors who escaped to the United States from another country. Andrew put a great deal of pressure on himself, and any minor deviation in his striving for perfection triggered an impulsive return to substance use, missing work or appointments, and antisocial acting-out. He engaged in maladaptive coping behaviors that perpetuated this schema, including expecting too much of himself and others. At other times, he sought relief from the pressures of these standards and would avoid occupational or social commitments, develop somatic symptoms, procrastinate, or give up on himself and use drugs when he could not get things to be perfect. These avoidance strategies actually reinforced his high standards even more because he would subsequently have to redouble his efforts to get desired outcomes.

Andrew began therapy in a loud, challenging manner, wanting to know for sure that therapy was going to help him and that he was going to get as much out of it as the researchers would get out of him as a research participant. Because he continued to abuse cocaine and inhalants for the first 3 months, therapy necessarily remained more focused on relapse prevention while he struggled to grasp cognitively any of the schema-focused psychoeducational material. By month 4, he had achieved complete abstinence from solvents and was using cocaine much less frequently. This change had a significant positive effect on his personality (more agreeable and sociable, less depressed and agitated); however, his unrelenting standards/hypercriticalness schema was expressed even more strongly.

Cognitively oriented interventions included cost-benefit analyses of his unrelenting standards and reducing the perceived risks of imperfection. A core cognitive distortion targeted for dispute was "When I don't accomplish or get what I want, I should get enraged, give up, use drugs, and be dejected." Experiential techniques involved imagery dialogues with his parents about how they always made mistakes seem like catastrophes. Behavioral techniques included learning to accept "good enough" work from himself and others, accepting directions from people he did not respect, and redeveloping old leisure interests. Therapeutic relationship interventions included the therapist modeling acceptance of his own mistakes, processing homework noncompliance due to self-imposed rigid standards, and confronting Andrew's dichotomous views of the therapist. Much of the work in Andrew's outside relationships and in therapy involved helping

him change his dichotomous view of other people as well as his own recovery (i.e., all good/sober vs. all bad/relapsed).

Despite a rather turbulent course of treatment, Andrew appeared genuinely interested in improving himself and made some significant changes. In addition to his reduced substance abuse, he also experienced significant reductions in psychiatric symptoms and negative affect.

Dialectical Behavior Therapy

Standard DBT has been shown to be associated with more reduction of substance use than treatment as usual in some studies of patients with PDs (Harned et al. 2008) but not others (van den Bosch et al. 2002). However, a modified version of DBT, known as DBT-S, has been developed specifically for individuals with comorbid SUDs. DBT-S includes individual and group treatment components, similar to standard DBT, but also tailors DBT skills to substance use issues. Several studies have assessed the efficacy of DBT-S in individuals with co-occurring SUDs and PDs. In 1999, Linehan et al. tested DBT-S in patients with BPD and various SUDs. They found that patients treated with DBT-S had better substance use and psychiatric outcomes than did individuals referred for psychotherapy in the community; retention and utilization provided possible explanations for differences in outcomes. A very small uncontrolled pilot study conducted in 2000 suggested that DBT-S may be beneficial in increasing drug abstinence in borderline methamphetamine-dependent patients (Dimeff et al. 2000). In 2002, Linehan et al. compared DBT-S and a comprehensive validation therapy (including 12-step facilitation) in BPD patients with opiate dependence. Both groups showed improvements in opiate use and psychopathology. Although the comprehensive validation therapy group showed better retention, it also demonstrated slightly increased opiate use at the end of treatment that was not seen in patients receiving DBT-S. In 2011, Rizvi et al. found that even a smartphone adaptation of DBT-S skills may be useful in decreasing distress and substance craving among individuals with co-occurring BPD and SUD. Overall, studies indicate support for DBT-S among patients with BPD and comorbid SUD. However, DBT-S has not been studied for other PDs. Encouraging results from patients with BPD should not be extrapolated to other PDs, especially because antisocial PD has been described as a possible contraindication for DBT (Linehan and Korslund 2006).

Case Example 2

Belinda was a 27-year-old patient with BPD. Her first suicide attempt was at age 12; alcohol abuse began at age 16, followed by abuse of cannabis, cocaine, and heroin. Her first admission into a psychiatric hospital was at age 12, and she had had a criminal record since age 16. In addition to her abuse of heroin, cocaine, cannabis, and alcohol, she had interpersonal problems, anger outbursts, parasuicidal behaviors, and aggressive impulsiveness. Previously, she had been in psychiatric and addiction treatments as both an outpatient and an inpatient. Among her typical therapy-interfering behaviors was attempting to invite the therapist into a very close and sometimes intimate relationship. She usually dropped out each time she failed to seduce a therapist. At the time of admission to the DBT program, she was in an addiction-oriented day hospital program.

Soon after Belinda started therapy, a basic behavior pattern became clear to the therapist: After work on Friday evening, Belinda would start to feel lonely. The thought "I need to comfort myself" would pop up. She would

close the curtains, drink a glass of wine, and smoke cannabis while listening to music. Around 10 P.M. she would become restless, followed by feeling angry because she also deserved "some company." Then she would dress up in sexy clothes and go out for a drink. In the pub, she would often meet familiar drug dealers. After a few drinks together, the drug dealers would offer her cocaine. Because Belinda could not afford to buy it, she would agree to have sex with them. Feelings of guilt would lead to more substance abuse, and finally she would lose contact with reality. The next morning, she would awake next to a stranger and would become self-destructive, usually making a series of cuts on her arm.

The behavior pattern described was targeted for treatment. Because of its threshold-lowering capacities for impulsive and self-destructive behavior, the alcohol abuse was given high priority early in treatment. Telephone consultation was of utmost importance in this stage. After 3 months, Belinda succeeded for the first time in not acting on the impulse to go to the bars late at night. Her contact with her father, mother, and sisters was gradually restored, and she resumed contact with a network of old friends who were not involved in substance abuse. Reinforcement contingencies were thus introduced such that she would have enjoyable interactions with her friends and family when she chose to contact them instead of going to the bar by herself.

Despite Belinda's verbalized commitment to stop using all drugs, cannabis use was the most change-resistant behavior. The therapist introduced the concept of mindfulness, which allowed Belinda to practice being more aware of her cravings and more intentional in her response to them. After 8 months she was clean and was able to "surf the craving" (i.e., be fully aware of—but resist—the urge to use cannabis). Then, finally, her attachment problems were targeted in treatment. Belinda's efforts to become more intimate with the therapist failed, as did all her efforts to make the therapist reject her (e.g., stalking by telephone, anger outbursts). The therapist was able to validate Belinda's behavior as fear of abandonment, and she finally recognized that she was more afraid of saying good-bye than of being rejected. After 54 sessions Belinda left the program and the therapist by mutual agreement; she left a bouquet of flowers, along with the words, "This relationship is the most horrible thing that has ever happened to me in my life. Thanks so much."

Comment on Treatment Outcome

In summary, we have discussed that 1) personality pathology may affect response to treatment of SUDs, although the effect is not found as consistently as might have been anticipated; 2) more research is needed on the effect of SUD status on response to PD treatment; and 3) some preliminary data are supportive of treatments with a dual focus (including DFST and DBT-S). Together, these data emphasize the importance of effective treatment approaches that pay simultaneous attention to addictive and personality problems. However, there is a need for more empirical evidence that these treatments really have improved effectiveness over existing approaches. Attention to the feasibility of these treatments is also required; as currently developed, DFST and DBT-S require additional clinical training and supervision. The development of integrated, multitargeted treatment programs, rather than separate symptom-specific programs, could offer great benefit to patients with comorbid conditions. On a related note, therapist training should incorporate training on working with individuals with comorbid disorders.

Treatment Guidelines

Patients with PDs are often treated with psychotherapy, and pharmacotherapy is used to address specific symptoms as needed. We see no reason to deviate substantially from this general protocol in dual-diagnosis patients, although effective treatment of these patients often requires modifications to traditional programs and methods. In the remainder of this chapter, we provide some clinical recommendations for psychotherapy and pharmacotherapy, respectively.

Psychotherapy

Dual Focus

Dual focus does not necessarily mean that attention to both foci should always take place simultaneously. During the earlier sessions, it is often best to place the greatest emphasis on the establishment and maintenance of abstinence but with a secondary focus on identification of and psychoeducation about maladaptive personality traits. During later sessions, once a strong therapeutic relationship is established and substance-related concerns have become less pressing, a greater emphasis can be placed on confronting and changing maladaptive traits, cognitive-affective processes, or interpersonal relationships.

Clinical Setting

Psychotherapy with patients with both SUD and PD is often insufficient as a stand-alone treatment. Psychotherapy is likely to be most useful if it is offered as part of a comprehensive program incorporating varied treatment modalities (individual and group therapy, pharmacotherapy if needed) and external resources (e.g., Alcoholics Anonymous or Narcotics Anonymous meetings, residential treatment, detoxification, methadone maintenance program).

Duration and Treatment Goals

The treatment of individuals with PDs can be a long-term process. The added problems of reduced treatment retention and compliance associated with substance abuse raise questions of what the appropriate treatment goals are for this group. The goal should not be to accomplish deep and permanent change in personality structure within a relatively short term. If facilities or resources are limited, a more practical aim may be to improve substance abuse treatment outcome by teaching patients how to cope with or modulate maladaptive personality processes.

Required Therapist Training

Patients with comorbid SUD and PD can put a strain on the resources of many treatment programs. Therapists treating these patients should have thorough education and training in PDs, addiction, and therapy in general. More experienced therapists may be more appropriate given the complex array of presenting problems, although even seasoned therapists would likely benefit from consultation on difficult cases.

Essential Ingredients

The dual focus of treatment should be clear from the beginning of treatment, even if different problems are targeted at different points in treatment. The trait-based approach to personality pathology introduced in DSM-5 Section III, "Emerging Measures and Models," may aid the therapist in treatment planning. Use of motivational interviewing (Martino et al. 2002) during the admission phase and throughout the treatment process may be beneficial with dual-diagnosis patients. Regular individual therapy is helpful in

establishing a therapeutic alliance and fostering commitment to treatment. Direct therapeutic attention to maladaptive personality traits may increase cognitive and coping skills, which in turn may improve symptomatology and reduce the risk for relapse. Participation in some modality of aftercare (ongoing outpatient therapy, Alcoholics Anonymous or Narcotics Anonymous meetings) could be beneficial to patients who have completed more intensive treatment.

Pharmacotherapy

Medications may alleviate symptoms of PDs and improve substance use outcomes, but noncompliance, substance dependence, and lethal overdose are all risks. The pharmacotherapy of PDs is discussed in detail elsewhere in this volume (see Chapter 15, "Somatic Treatments").

Neuroleptics

Low doses of neuroleptics have been reported to be associated with a range of beneficial effects in patients with borderline, schizotypal, or paranoid PDs (Rocca et al. 2002; Soloff 1998). Although Gawin et al. (1989) reported that neuroleptics helped decrease craving in cocaine abusers, a study by Dackis and O'Brien (2002) did not support the anticraving or abstinence-promoting effect of neuroleptics.

Selective Serotonin Reuptake Inhibitors

Selective serotonin reuptake inhibitors have been shown to reduce aggression and impulsivity in patients with borderline and antisocial PDs (Coccaro and Kavoussi 1997; Soloff 1998) and may have some positive effect on substance abuse in alcohol- and cocaine-dependent patients (Cornelius et al. 1997). Rinne et al. (2002), however, showed that fluvoxamine, as compared with placebo, produced a robust and long-lasting reduction in rapid mood shifts in female patients with BPD but had no effect on impulsivity or aggression.

Mood Stabilizers

Lithium and other mood stabilizers (e.g., carbamazepine, divalproex sodium) have been reported to reduce aggressive and violent behaviors in prison inmates with antisocial PD and to decrease "within-day mood fluctuations" in patients with BPD (Cowdry and Gardner 1988; Stein 1992). Early anecdotal reports and a small double-blind, placebo-controlled study also suggested that lithium may be efficacious in the treatment of alcohol dependence. However, a large Veterans Administration study showed no benefits of lithium over placebo for patients with alcohol dependence with or without depressive symptoms (Dorus et al. 1989). Similar negative findings are available for the treatment of cocaine dependence with mood stabilizers (de Lima et al. 2002).

Benzodiazepines

Benzodiazepines are generally contraindicated for individuals with BPD because of the risk of addiction and of paradoxical reactions involving behavioral disinhibition (Cowdry and Gardner 1988).

Buspirone

The partial serotonin agonist buspirone seems to combine a lack of abuse potential with a positive effect on social phobia and avoidant PD (Zwier and Rao 1994) and a delay in the return to heavy alcohol consumption in anxious alcohol-dependent patients (Kranzler et al. 1994).

Stimulants

Various stimulants, including methylphenidate, pemoline, dexamphetamine, and

levodopa, have been reported to reduce impulsivity in patients with borderline or antisocial PD with a history of attention-deficit/hyperactivity disorder (Stein 1992). It has been claimed that childhood hyperactivity and a history of drug abuse are predictors of a favorable response to both psychostimulants and monoamine oxidase inhibitors among patients with PDs (Stein 1992). However, stimulants are known for their addictive and abuse potential, and restraint should be used in prescribing these drugs.

Naltrexone

The opioid antagonist naltrexone has been reported to be effective in the treatment of alcohol and opiate dependence (Soloff 1993) as well as in the prevention of self-mutilation in a patient with BPD (Griengl et al. 2001). However, the latter finding is based on a single case, and more research is needed.

Using DSM-5

The DSM-IV system of two SUD types, abuse and dependence, was problematic because abuse had inconsistent reliability and validity, although dependence was consistently shown to be reliable and valid (Hasin et al. 2006). In DSM-5, abuse and dependence have been replaced by a single substance use disorder (Hasin et al. 2013). This use disorder is generally defined by 11 criteria: all seven of the DSM-IV dependence criteria, three of the four DSM-IV abuse criteria (legal problems as a criterion was dropped), and craving.(Several substances, such as phencyclidine, other hallucinogens, and inhalants, do not have established withdrawal signs and symptoms, so the 11th criterion for withdrawal does not apply to these substance use disorders.) A threshold of two or more criteria for the diagnosis of SUD was selected, with mild, moderate, and severe SUD indicated by 2–3, 4–5, and ≥6 criteria, respectively. The newly defined SUD was based on extensive research showing that each of the set of 11 criteria was an indicator of the same underlying latent trait (Hasin et al. 2013). Evidence remains to be presented on whether the high reliability and validity of DSM-IV dependence is maintained or improved upon by the new category of DSM-5 SUD. Although the definitions of PDs have remained the same in DSM-5 Section II as they were in DSM-IV, an alternative model for conceptualizing and diagnosing PDs based on impairments in personality functioning and pathological personality traits was developed for Section III of DSM-5 (See Chapter 7, "Manifestations, Assessment, and Differential Diagnosis," and Chapter 24, "An Alternative Model for Personality Disorders: DSM-5 Section III and Beyond," in this volume). With the DSM-5 changes regarding SUDs, and an inevitable change in the nomenclature at some future point for PDs, the relationships reviewed in this chapter will need to be reexamined.

Conclusion

Substance use disorders are highly prevalent among patients with PDs. Although PDs can be measured reliably and validly in patients with SUDs, it can be difficult to distinguish the symptoms and pathologies of each.

With respect to causal pathways, evidence supports multiple pathways from personality (and PDs) to SUD (behavioral disinhibition, stress reduction, reward sensitivity) and a common factor model. The latest evidence from genetic epidemiology and molecular genetics supports a common factor model.

Although evidence is somewhat equivocal, several studies suggest that individuals with comorbid SUDs and PDs benefit from SUD treatment as much as do those with only SUDs, which emphasizes the importance of providing treatment to individuals with comorbidities. However, these individuals may improve only to a level of problem severity that still leaves them at considerable risk for relapse. In addition, maladaptive personality traits, such as impulsivity, novelty seeking, and affective instability, may also contribute to higher odds of relapse. More research is needed to determine whether patients with PD and comorbid SUD benefit from treatments focusing on PDs as much as do PD patients without SUD. Dual-focus treatments consisting of an integrated package of elements targeting both the SUD and maladaptive personality traits could provide more benefit to patients than therapies with a single focus. Some preliminary data support certain dual-focus treatments, but more research is needed.

Psychotherapy, with pharmacotherapy targeted to specific symptoms, is recommended for the treatment of PDs, and we see no reason to substantially deviate from this recommendation for patients with co-occurring SUDs. That said, effective treatment of these patients often requires modifications to traditional programs and methods.

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CHAPTER 20

Antisocial Personality Disorder and Other Antisocial Behavior

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In this chapter, we summarize much of what has been learned about antisocial personality disorder (ASPD) and other forms of antisocial behavior, including childhood conduct disorder, adult antisocial behavior, and psychopathy. ASPD is perhaps the most troublesome form of antisocial behavior and wreaks more havoc on society than most other mental disorders because it primarily involves actions directed against the social environment. Antisocial criminals are responsible for untold financial losses and require additional billions to police and punish them. The despair and anxiety wrought by antisocial persons tragically affect families and communities. Many people with ASPD live in poverty or draw on the social welfare system, hampered by poor school and work performance and an inability to establish a life plan. Despite high public health significance, ASPD is largely ignored or misunderstood by many clinicians and researchers.

ASPD is associated with a pattern of socially irresponsible, exploitative, and guiltless behavior manifested by disturbances in many areas of life, including family relations, schooling, work, military service, and marriage (North and Yutzy 2010). Behaviors include criminal acts and failure to conform to the law, failure to sustain consistent employment, manipulation and deception of others for personal gain, and failure to develop or sustain stable interpersonal relationships. Other attributes of ASPD include a lack of empathy for others, rare experiences of remorse, and failure to learn from the negative results of one's behavior. The spectrum of behaviors seen in people with ASPD ranges from relatively minor acts at one end (e.g., lying, cheating) to heinous acts at the other (e.g., rape, mur-

der). Common and widespread, the presence of ASPD is rarely acknowledged, and determining its causes is as elusive as understanding its treatment.

Diagnostic Issues

Historical Overview

Clinical descriptions of antisocial behavior date to the early nineteenth century when Philippe Pinel, a leader in the French Revolution and founding father of modern psychiatry, used the term *manie sans délire* to describe people with irrational outbursts of rage and violence (North and Yutzy 2010). English physician James Pritchard wrote about *moral insanity,* a condition in which a person's intellectual faculties were unimpaired but moral principles were "depraved or perverted." His term foreshadowed the later focus on the moral dimensions of ASPD. German psychiatrist Julius Koch introduced the term *psychopathic inferiority* in the late nineteenth century to replace moral insanity as a diagnosis. The term described a broad range of deviant behaviors and eccentricities and implied that the disorder resulted from constitutional factors (Black 2013).

Scottish psychiatrist David Henderson (1939) and American psychiatrist Hervey Cleckley (1941/1976), working independently at about the same time, each used the term *psychopathy.* In *Mask of Sanity: An Attempt to Clarify Some Issues About the So-Called Psychopathic Personality,* Cleckley (1941/1976) provided a detailed description of psychopathic behavior, which he set apart from other psychiatric conditions and behavioral abnormalities. Through a series of case vignettes, Cleckley showed how the disorder transcends social class. Both Cleckley and Henderson considered psychopathy a true illness, and our present understanding reflects much of their early work.

DSM

Cleckley inspired the creation of a new diagnostic category, *sociopathic personality disturbance,* in DSM-I (American Psychiatric Association 1952). Generally abbreviated as *sociopathy,* the term was used to describe persons whose abnormal behavior was directed toward the social environment: "Individuals to be placed in this category are ill primarily in terms of society and of conformity with the prevailing cultural milieu, and not only in terms of personal discomfort and relations with other individuals" (American Psychiatric Association 1952, p. 38). Subtypes included *antisocial reaction, dyssocial reaction, sexual deviation,* and *addiction* which included alcoholism and drug addiction. *Antisocial reaction* referred to the behavior of chronically antisocial individuals who were always in trouble and without loyalties to other persons, groups, or codes. *Dyssocial reaction* referred to those with disregard for the usual social codes, having lived in an "abnormal moral environment, but who [were] capable of strong loyalties" (American Psychiatric Association 1952, p. 38). The term *antisocial personality disorder* was introduced in DSM-II (American Psychiatric Association 1968), and the new definition combined elements of the antisocial and dyssocial reactions of DSM-I. Listed among other personality disturbances, the disorder was no longer linked with addictions or deviant sexuality. As defined in DSM-II, the term was "reserved for individuals who are basically unsocialized and whose behavior pattern brings them repeatedly into conflict with society" (American Psychiatric Association 1968, p. 43).

Diagnostic criteria introduced in DSM-III (American Psychiatric Association 1980) were inspired by the work of Robins (1966), as well as both the Washington University ("Feighner") criteria (Feighner et al. 1972) and the Research Diagnostic Criteria (Spitzer et al. 1978), and emphasized the continuity between adult and childhood behavioral problems. The criteria were simplified in subsequent editions, including DSM-III-R (American Psychiatric Association 1987) and DSM-IV (American Psychiatric Association 1994), and no changes were made in DSM-5 Section II criteria (American Psychiatric Association 2013).

The DSM-5 Section II criteria require that a person have at least three of seven pathological personality traits (e.g., deceitfulness, impulsivity, irritability or aggressiveness, irresponsibility, lack of remorse). The person must be age 18 years or older, and the criteria for conduct disorder must have been met prior to age 15. Schizophrenia and bipolar disorder must be ruled out as a cause of the disturbance.

An alternative model for personality disorders, created during the development of DSM-5, appears in Section III, "Emerging Measures and Models," of the manual. All the personality disorders—including ASPD—are defined in terms of impairments in self functioning (identity and self-direction) and interpersonal functioning (empathy and intimacy), as well as pathological personality traits shown to be empirically related to the disorder. The personality functioning criterion (Criterion A) focuses on the egocentrism, absence of prosocial internal standards, lack of empathy, and exploitative interpersonal relationships characteristic of ASPD, and the personality traits criterion (Criterion B) requires six or more of the following pathological traits from the domains of Antagonism and Disinhibition: manipulativeness, callousness, deceitfulness, hostility, risk taking, impulsivity, and irresponsibility.

Table 20–1 presents a comparison of the DSM-5 Section II ("Diagnostic Criteria and Codes") criteria (left column) with the alternative model (right column). (For additional details on the alternative model, see Chapter 3, "Articulating a Core Dimension of Personality Pathology"; Chapter 7, "Manifestations, Assessment, and Differential Diagnosis"; and Chapter 24, "An Alternative Model for Personality Disorders: DSM-5 Section III and Beyond," in this volume.)

Relation of ASPD to Psychopathy

Although the word *psychopathy* predates the word *antisocial,* the terms initially were used interchangeably. The term *psychopathy* gradually came to be used in a restricted fashion defined by a constellation of psychological manifestations and traits to describe a clinical entity distinct from ASPD. Many clinicians and researchers were dissatisfied with DSM-III's criteria for ASPD and its focus on behaviors (e.g., criminality, aggression) rather than underlying psychological traits. Although DSM-III proved to be reliable, critics felt that validity had been sacrificed in favor of reliability because of the failure to include all the traits of psychopathy identified by Cleckley (Widiger 2006). In response, the authors of DSM-III-R (American Psychiatric Association 1987) added lack of remorse as a criterion for ASPD, and for DSM-IV the criteria were simplified and became more trait-based. Of note, in the alternative personality disorder model presented in DSM-5, all of the "B criteria" for ASPD (and other personality disorders) are described in trait terms.

Motivated by concerns that the DSM approach emphasized delinquent and

TABLE 20–1. Comparison of DSM-5 Section II and Section III criteria for antisocial personality disorder (ASPD)

DSM-5 Section II ASPD	DSM-5 Section III ASPD
A. There is a pervasive pattern of disregard for and violation of the rights of others occurring since age 15 years, as indicated by three (or more) of the following: 1. Failure to conform to social norms with respect to lawful behaviors as indicated by repeatedly performing acts that are grounds for arrest 2. Deceitfulness, as indicated by repeated lying, use of aliases, or conning others for personal profit or pleasure 3. Impulsivity or failure to plan ahead 4. Irritability and aggressiveness, as indicated by repeated physical fights or assaults 5. Reckless disregard for safety of self or others 6. Consistent irresponsibility, as indicated by repeated failure to sustain consistent work behavior or honor financial obligations 7. Lack of remorse, as indicated by being indifferent to or rationalizing having hurt, mistreated, or stolen from another B. The individual is at least age 18 years.	Typical features of antisocial personality disorder are a failure to conform to lawful and ethical behavior, and an egocentric, callous lack of concern for others, accompanied by deceitfulness, irresponsibility, manipulativeness, and/or risk taking. Characteristic difficulties are apparent in identity, self-direction, empathy, and/or intimacy, as described below, along with specific maladaptive traits in the domains of Antagonism and Disinhibition. A. Moderate or greater impairment in personality functioning, manifest by difficulties in two or more of the following four areas: 1. *Identity*: Ego-centrism; self-esteem derived from personal gain, power, or pleasure. 2. *Self-direction*: Goal setting based on personal gratification; absence of prosocial internal standards associated with failure to conform to lawful or culturally normative ethical behavior. 3. *Empathy*: Lack of concern for feelings, needs, or suffering of others; lack of remorse after hurting or mistreating another. 4. *Intimacy*: Incapacity for mutually intimate relationships, as exploitation is a primary means of relating to others, including by deceit and coercion; use of dominance or intimidation to control others. B. Six or more of the following seven pathological personality traits: 1. *Manipulativeness* (an aspect of Antagonism): Frequent use of subterfuge to influence or control others; use of seduction, charm, glibness, or ingratiation to achieve one's ends. 2. *Callousness* (an aspect of Antagonism): Lack of concern for feelings or problems of others; lack of guilt or remorse about the negative or harmful effects of one's actions on others; aggression; sadism. 3. *Deceitfulness* (an aspect of Antagonism): Dishonesty and fraudulence; misrepresentation of self; embellishment or fabrication when relating events. 4. *Hostility* (an aspect of Antagonism): Persistent or frequent angry feelings; anger or irritability in response to minor slights and insults; mean, nasty, or vengeful behavior. 5. *Risk taking* (an aspect of Disinhibition): Engagement in dangerous, risky, and potentially self-damaging activities, unnecessarily and without regard for consequences; boredom proneness and thoughtless initiation of activities to counter boredom; lack of concern for one's limitations and denial of the reality of personal danger.

TABLE 20–1. Comparison of DSM-5 Section II and Section III criteria for antisocial personality disorder (ASPD) *(continued)*

DSM-5 Section II ASPD	DSM-5 Section III ASPD
C. There is evidence of Conduct Disorder (see Diagnostic criteria for Conduct Disorder) with onset before age 15 years.	6. *Impulsivity* (an aspect of Disinhibition): Acting on the spur of the moment in response to immediate stimuli; acting on a momentary basis without a plan or consideration of outcomes; difficulty establishing and following plans.
D. The occurrence of antisocial behavior is not exclusively during the course of Schizophrenia or a Manic Episode.	7. *Irresponsibility* (an aspect of Disinhibition): Disregard for—and failure to honor—financial and other obligations or commitments; lack of respect for—and lack of follow through on—agreements and promises.
	C. The impairments in personality functioning and the individual's personality trait expression are relatively inflexible and pervasive across a broad range of personal and social situations.
	D. The impairments in personality functioning and the individual's personality trait expression are relatively stable across time, with onsets that can be traced back at least to adolescence or early adulthood.
	E. The impairments in personality functioning and the individual's personality trait expression are not better explained by another mental disorder.
	F. The impairments in personality functioning and the individual's personality trait expression are not attributable to a substance (e.g., a drug of abuse, medication) or a general medical condition (e.g., severe head trauma).
	G. The impairments in personality functioning and the individual's personality trait expression are not better understood as normal for the individual's developmental stage or sociocultural environment.
	Note. The individual is at least 18 years of age.

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antisocial symptoms to the exclusion of psychological traits, Hare created the Psychopathy Checklist (PCL) to assess traits he and others have associated with psychopathy as a distinct clinical syndrome (e.g., glibness, callousness, lack of emotional connection to others, incapacity for guilt or remorse) (Hare and Neumann 2006). Much of his work in validating the questionnaire, or its revision (the PCL-R), has taken place in correctional settings, where the instrument has proven reliable in identifying people with these traits, as well as predicting recidivism, parole violations, and violence in offenders and psychiatric patients (Hare and Neumann 2006). Several of these traits (e.g., manipulativeness, callousness) are included in the alternative model for ASPD in DSM-5.

Psychopathy has gained support as a topic of investigation, perhaps because it is measurable and identifies a homogeneous group of people. However, it also has contributed to confusion among clinicians and researchers who have difficulty distinguishing the two syndromes. ASPD and psychopathy overlap and, although Hare (1983) notes that most antisocial persons are not psychopaths as defined by his checklist, nearly *all* psychopaths exhibit antisocial traits and behavior that meet the criteria for ASPD. This overlap has been looked at in prisoners, in whom the prevalence of both conditions is high. Nearly one-third of incarcerated men with ASPD are psychopaths. Psychopathy appears to lie along a continuum of severity with ASPD and likely constitutes its most severe variant (Coid and Ullrich 2010).

The alternative model for ASPD in DSM-5 includes the specifier "with psychopathic features" to denote individuals who are also characterized by low anxiety and a particularly dominant interpersonal style.

Conduct Disorder

Conduct disorder was introduced in DSM-III and included four subtypes based on a 2×2 matrix on the axes of socialization and aggressivity (American Psychiatric Association 1980). This scheme was dropped from DSM-III-R and subsequent editions because the subtyping was judged to lack clinical utility and to be at variance with research findings (American Psychiatric Association 1987). Conduct disorder is defined as "a repetitive and persistent pattern of behavior in which the basic rights of others or major age-appropriate societal norms or rules are violated" (American Psychiatric Association 2013, p. 469). In DSM-5, conduct disorder has been moved from the DSM-IV chapter "Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence" to "Disruptive, Impulse-Control, and Conduct Disorders."

Conduct disorder is a predominantly male disorder and affects approximately 5%–15% of children (Black 2013). The disorder has an early onset and is generally present by the preschool years, usually by age 8. By age 11 years, 80% of future cases have had a first symptom (Robins and Price 1991). Most children with conduct disorder do not develop adult ASPD, although they remain at high risk, with an estimated 25% of girls and 40% of boys with conduct disorder eventually developing ASPD (Robins 1987). Rates for the progression from conduct disorder to ASPD are much higher in adolescent substance abusers (Myers et al. 1998). The likelihood of a child's developing ASPD is associated with the variety and severity of childhood misbehaviors and early onset.

The diagnosis of conduct disorder requires that at least three of 15 problematic behaviors be present in the previous 12 months, with at least one criterion pres-

ent in the past 6 months. Although the diagnosis may be made in adults, the symptoms usually emerge in childhood or adolescence, and onset is rare after age 16 years. The criteria specify a childhood-onset type (prior to age 10 years) and an adolescence-onset type (after age 10 years), in recognition of the fact that early onset is one of the strongest predictors of poor outcome.

When considering the diagnosis, clinicians should note misbehaviors in four main areas: aggression toward people or animals, destruction of property, deceitfulness or theft, and serious violations of rules. Childhood symptoms include fights with peers, conflicts with parents and other authority figures, stealing, vandalism, fire setting, and cruelty to animals or other children. School-related behavior problems are common, as is poor academic performance. In addition, many of these children have a history of running away from home. These behavior problems must significantly impair the child's social, academic, or occupational functioning. Boys with conduct disorder are more likely to exhibit physical aggression, whereas girls are more likely to show relational aggression—that is, behavior that harms social relationships (American Psychiatric Association 2013).

Moffitt (1993a) differentiated adolescence-limited and life-course-persistent antisocial behaviors. Youths with adolescence-limited antisocial behaviors have little or no history of earlier antisocial behavior, and they tend to spontaneously improve, explaining why most children and adolescents with conduct disorder never develop adult ASPD. A small proportion of men with extreme behavioral problems have life-course-persistent antisocial behaviors; these men have an early onset of antisocial behavior, develop more severe behavioral problems, and have a greater variety of problems. In contrast, most antisocial youths develop adolescence-limited antisocial behavior, which is less severe and typically arises in the context of teenage peer group pressure.

Adult Antisocial Behavior

DSM-5 includes adult antisocial behavior in the section "Other Conditions That May Be a Focus of Clinical Attention." This designation is used when adult antisocial behavior is the focus of clinical attention and is not considered due to a mental disorder even though the condition may be troublesome to the individual and community (American Psychiatric Association 2013). The category is used to describe persons who manifest antisocial behavior but do not otherwise meet criteria for ASPD or other disorders that could explain the behavior (e.g., professional thieves, racketeers, or dealers of illegal substances). Typically, these individuals have no history of conduct disorder.

In the absence of long-standing behavioral problems dating to childhood or early adolescence, individuals with adult antisocial behavior are presumed to be fundamentally normal people whose choices and decisions have led them astray. Research shows there is a full spectrum of antisocial behavior in the general population, with adult antisocial behavior at the less severe end (Goldstein et al. 2007).

Epidemiology

Surveys in the United States and United Kingdom indicate that between 2% and 5% of the general adult population have antisocial features that meet the criteria for lifetime ASPD. The National Institute

of Mental Health's Epidemiologic Catchment Area (ECA) survey was the first large study conducted in the United States (Robins et al. 1984). Data from nearly 15,000 subjects at five sites showed that 2%–4% of men and 0.5%–1% women have antisocial features that meet the criteria for ASPD. The National Comorbidity Survey, a probability survey of more than 8,000 adult Americans, found an overall rate of 3.5% (Kessler et al. 1994). More recently, the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), involving over 43,000 Americans, reported an overall rate of 3.6% (5.5% for men, 1.9% for women) (Compton et al. 2005). The British National Survey of Psychiatric Morbidity reported a prevalence rate of 2.9% for ASPD in the United Kingdom (Ullrich and Coid 2009). These surveys may *underestimate* the prevalence of ASPD, however, because they do not include data on institutionalized and incarcerated persons who are likely to have higher rates of ASPD.

The NESARC study also reported rates for other antisocial syndromes. The prevalence in adults for lifetime conduct disorder (in the absence of adult antisocial behavior) was 1.1% (1.5% for men, 0.7% for women). Lifetime adult antisocial behavior without a history of conduct disorder was found in 12.3% (16.5% for men, 8.5% for women). These data suggest that antisocial behavioral syndromes occur along a continuum of severity (Compton et al. 2005; Goldstein et al. 2007).

ASPD is overrepresented among men and women in jails and prisons (Black et al. 2010). An early study showed that up to 80% of incarcerated men and 65% of incarcerated women were judged to have ASPD based on the Feighner criteria (Guze 1976). Recent work suggests that prevalence may have declined as the prison population has grown. A prison-based study that used a structured interview to identify ASPD found that 35% of offenders had antisocial features that met the criteria for ASPD (Black et al. 2010). The rate is also high in particular patient groups. For example, the prevalence of ASPD in persons undergoing residential drug treatment may reach 55% (Goldstein et al. 1996). The rate among homeless persons is also high (North et al. 1993).

ASPD is associated with low socioeconomic status, which can be attributed in part to poor educational achievement, poor job performance, and frequent unemployment. In the NESARC, respondents with lower educational levels and lower income levels were more likely to have ASPD (Compton et al. 2005). According to Robins (1987), persons with ASPD begin life at a disadvantaged level and their adult social class continues to decline, even falling below that of their parents. However, low social class itself is not responsible for ASPD, as demonstrated in a study of African American youths by Robins et al. (1971). The authors showed that children without conduct disorder symptoms were not at risk for ASPD when raised in impoverished families, but that children with high rates of conduct symptoms were at risk for ASPD even when reared in "white-collar" families.

The question of whether ASPD is more common in certain racial or ethnic groups is unsettled. The ECA showed that African American respondents were more likely than Caucasians to exhibit antisocial symptoms that could lead to arrest and incarceration, although there were no racial differences in ASPD prevalence (Robins 1987). In the NESARC, Native Americans were at increased risk for ASPD, whereas Asian American and Hispanic/Latino respondents were at lower risk for ASPD than Caucasians (Compton et al. 2005).

ASPD is primarily a disorder of younger persons. According to the ECA survey, rates of ASPD diminish with advancing age (Robins et al. 1984). This finding is counterintuitive, because one might expect that rates of this lifelong diagnosis would be higher in older persons. The lower prevalence rates in older adults may be attributable in part to forgetfulness (i.e., not recalling past behaviors) or denial. Another possibility is that because many antisocial persons die prematurely, they are not available for late-life surveys.

Clinical Manifestations

The clinical manifestations of ASPD begin early, often leading to the diagnosis of conduct disorder (Black 2013; North and Yutzy 2010). As antisocial youth attain adult status, problems develop in other areas of life reflecting age-appropriate responsibilities. These problems include uneven job performance, unreliability, frequent job changes, and losing jobs through quitting or being fired. Pathological lying and the use of aliases are common. Many antisocial persons are sexually promiscuous and become sexually active at a younger age than their peers. Marriages are often unstable, leading to high rates of divorce, and may be accompanied by domestic violence.

Antisocial persons who join the armed forces often have unsatisfactory experiences because of their inability to accept military discipline (Black et al. 1995a; Robins 1966). They are more likely than others to be absent without leave, court-martialed, or dishonorably discharged. Criminality is common among antisocial persons. Offenses vary but range from nonviolent property offenses to acts of extreme violence, which may include sodomy, rape, or murder. Clinical symptoms of ASPD, as found in the NESARC (Goldstein et al. 2007), are shown in Table 20–2.

Gender Differences

There are differences between men and women in ASPD onset and symptoms. Robins (1966) observed that troubled girls later diagnosed antisocial were more likely than boys to have engaged in sexual misbehavior and had a later onset of behavioral problems. As women, they married at a younger age than their non-antisocial peers and chose husbands "who drank, were arrested, were unfaithful, deserted, or failed to support them" (p. 49). Those with children had more of them than non-antisocial women, and their children tended to be difficult, perhaps sadly destined to follow their parents' path in life. Like her male counterpart, a woman with ASPD has low earning potential, is often financially dependent on others (or the government), and exhibits aggressive behavior. Women with ASPD are disconnected from the community and have high rates of depression, anxiety disorders, and substance use disorders.

Other data on gender differences suggest that antisocial boys are more likely than antisocial girls to engage in fighting, use weapons, engage in cruelty to animals, or set fires. Girls are more often involved in "victimless" antisocial behaviors such as running away. As adults, women with ASPD are more likely to have problems that center on the home and family, such as irresponsibility as a parent, neglectful or abusive treatment of their children, and physical violence toward husbands and partners (Goldstein et al. 1996).

Some have suggested that this higher prevalence of ASPD in men than in

TABLE 20–2. Antisocial personality disorder (ASPD) symptoms in 305 women and 750 men in the NESARC study

Symptoms	Women	Men	Total
Repeated unlawful behaviors, %	81	85	84
Deceitfulness, %	56	46	49
Impulsivity/failure to plan ahead, %	62	54	56
Irritability/aggressiveness, %	74	75	75
Recklessness, %	62	85	79
Consistent irresponsibility, %	89	86	87
Lack of remorse, %	53	52	52
Total ASPD criteria since age 15, mean	4.8	4.8	4.8
Lifetime violent symptoms, mean	3.0	3.3	3.2

Note. NESARC=National Epidemiologic Survey on Alcohol and Related Conditions.
Source. Adapted from Goldstein et al. 2007.

women is due to genetic influence, but this does not appear to be the case (Slutske 2001). Others attribute gender differences to cultural norms, and point out that because overt aggression is less common in women, they may act out in less obvious ways (e.g., promiscuous sex, emotionally manipulative relationships), leading to a diagnosis of borderline personality disorder instead of ASPD (Black 2013).

Etiology

Genetics of Antisocial Behavior

Research supports a genetic diathesis for antisocial behavior. Results from more than 100 family, twin, and adoption studies indicate that antisocial behavior runs in families in part due to the transmission of genes (Slutske 2001). In fact, nearly 20% of first-degree relatives of persons with ASPD will have the disorder themselves (Guze et al. 1967). A review of twin study data reported monozygotic concordance for ASPD of nearly 67% compared with 31% concordance for dizygotic twins (Brennan and Mednick 1993), while adoption studies have shown that ASPD is more frequent in adoptees with antisocial biological relatives (Cadoret et al. 1985).

These same studies also suggest that much of the risk for becoming antisocial is due to shared family experiences or to experiences specific to an individual (Slutske 2001). An important study in the new era of molecular genetics points to the influence of the monoamine oxidase A gene, *MAOA.* (Monoamine oxidase is an enzyme that breaks down the neurotransmitter serotonin.) The low-activity variant of the gene has been found in antisocial persons who had been severely abused as children (Caspi et al. 2002). In contrast, children who had a high-activity variant of the gene rarely became antisocial, despite the presence of abuse. Recently, Tielbeek et al. (2012) conducted a genome-wide association study of adult antisocial behavior in nearly 5,000 persons but were unable to link any genes with antisocial behavior.

Psychophysiology and Neurodevelopment

Autonomic underarousal has been posited as underlying psychopathy, a con-

dition that likely constitutes a poor-prognosis subset of individuals with ASPD (Hare 1986). Briefly, psychopathic persons require greater sensory input to produce normal brain functioning than normal subjects, possibly leading these individuals to seek potentially dangerous or risky situations to raise their level of arousal to desired levels. Evidence supporting this theory includes the finding that antisocial adults (and youth with conduct disorder) have low resting pulse rates, low skin conductance, and increased amplitude on event-related potentials (Scarpa and Raine 1997). One study of 15-year-old English schoolchildren found that those who committed crimes during the subsequent 9 years were more likely to have low resting pulse at baseline, reduced skin conductance, and more slow-wave electroencephalographic (EEG) activity than the others (Raine et al. 1990).

The presence of EEG abnormalities in nearly half of antisocial persons, along with high rates of minor facial anomalies, learning disorders, enuresis, and behavioral hyperactivity, further suggests that ASPD is a neurodevelopmental syndrome (Moffitt 1993b). Maternal smoking and starvation have also been linked with antisocial behavior (Neugebauer et al. 1999; Wakschlag et al. 1997). The mechanism behind these relationships is unclear, but it could be that subtle brain injury contributing to antisocial behavior results from lower levels of oxygen available to the fetus, from fetal exposure to chemicals generated from tobacco smoke, or from the deleterious effect of malnutrition on the developing brain.

Neurotransmission

Central nervous system (CNS) neurotransmitters are thought to have a role in mediating antisocial behavior. Serotonin in particular has been linked with impulsive and aggressive behavior. Low levels of its metabolite 5-hydroxyindoleacetic acid (5-HIAA) have repeatedly been found in cerebrospinal fluid of persons with violent or impulsive behavior (Åsberg et al. 1976; Virkkunen et al. 1987). It is thought that the presence of serotonin may curb impulsive and aggressive behaviors. Genetic disturbances in serotonin function may predispose to impulsive and aggressive behavior (Nielsen et al. 1994).

Neuroimaging

Abnormal CNS functioning in antisocial individuals has been suggested from brain imaging studies (Dolan 2010; Yang et al. 2008). Several crucial brain regions have been implicated, including the prefrontal cortex, the superior temporal cortex, the amygdala-hippocampal complex, and the anterior cingulate cortex.

Raine and coworkers have conducted a series of relevant imaging studies. Using positron emission tomography to measure glucose uptake in murderers, Raine et al. (1997) found impairments in the prefrontal cortex and other underlying structures. Based on results from magnetic resonance imaging, Raine et al. (2000) reported that antisocial men had reduced gray matter volume in the prefrontal lobes; this was the first indication that anomalies in these structures may underlie some antisocial behavior. In an attempt to localize symptoms, they looked at a group of pathological liars—a common characteristic of individuals with ASPD (Yang et al. 2007). The liars had an *increase* in prefrontal white matter volume, prompting the authors to compare this finding with "Pinocchio's nose" (i.e., repeated lying activates the prefrontal circuitry, leading to permanent changes in brain structure). More recently, they

found smaller amygdalae in psychopathic individuals compared with controls, possibly explaining the shallow emotions observed in psychopathic persons (Yang et al. 2009).

Kiehl and colleagues used functional magnetic resonance imaging to investigate brain activity in psychopathic individuals during various emotional and cognitive experiments. Kiehl et al. (2001) reported reduced activity in the amygdala in psychopathic individuals in response to hearing emotionally charged words, a finding that might help explain why these individuals have difficulty learning to avoid behaviors with unwanted or negative outcomes. A later study, conducted under similar conditions but using a different experimental task, showed that psychopaths had *increased* activation in the right temporal lobe, suggesting that a malfunction in this brain region could contribute to the fearlessness that characterizes psychopathy (Kiehl et al. 2004).

Although research points to evidence of subtle structural and functional deficits in the neural circuits that may help mediate antisocial behavior, their clinical significance remains unclear, and data interpretation is hampered by variation among the studies in terms of imaging method and study population. Nonetheless, it is possible that frontal deficits (prefrontal cortex and anterior cingulate cortex) contribute to impulsivity, poor judgment, and irresponsible behavior, whereas dysfunction in temporal regions (amygdala-hippocampal and superior temporal cortex) predisposes to antisocial features such as inability to follow rules and deficient moral judgment (Yang et al. 2009). Taken together, these findings are suggestive of a link between cortical dysfunction and antisocial behavior.

Family and Social Factors

Child abuse is reported to contribute to the development of ASPD. Parents of persons who develop ASPD are often incompetent, absent, or abusive (Robins 1966, 1987). They are often significantly troubled themselves, showing high levels of antisocial behavior; furthermore, some have an alcohol use disorder, are divorced or separated, or exhibit antisocial behavior. Erratic or inappropriate parental discipline and inadequate supervision have been linked with antisocial behavior (Reti et al. 2002). Antisocial parents are unlikely to effectively monitor their child's behavior, set rules and ensure that they are obeyed, check on the child's whereabouts, or steer them away from troubled playmates. However, having an antisocial child also may induce negative, neglectful responses in parents (Bell and Chapman 1986).

Individuals with ASPD are more likely than others to report histories of childhood abuse (Luntz and Widom 1994). In some instances, abuse may become a learned behavior that formerly abused adults perpetuate with their own children, leading to an intergenerational cycle of abuse.

Peer Relationships

Disturbed peer relationships are often overlooked as contributing to the development of antisocial behavior (Black 2013). Glueck and Glueck (1950) reported that 98% of 500 delinquent boys had delinquent friends, compared with 7% of 500 nondelinquent peers. The delinquent boys were also more likely than nondelinquent peers to report that they had been gang members (56% vs. 1%). This pattern of association (i.e., the "birds of a feather" phenomenon) usually begins during the elementary school years.

More recently, Juvonen and Ho (2008) found that youths who are attracted to antisocial peers often engage in antisocial behavior themselves to gain acceptance. These relationships can reward aggressive behavior and encourage gang membership. Gangs may be attractive to those who feel rejected by their families and peer group.

Media Influence

Since the advent of television, media depictions of violence have long been thought to foster the development of antisocial behavior. Huesmann and Taylor (2006) concluded that exposure to media violence is related to the development of violent behavior. It is thought that children become desensitized to violence and learn to accept a more hostile view of the world. Those most vulnerable to the media onslaught appear to be those who already live in a "culture of violence" where there are few curbs against aggressive behavior. It is not known whether violent media depictions are a risk factor for ASPD or other antisocial syndromes.

Course and Outcome

ASPD is a lifelong disorder with an onset in childhood that is fully expressed by the late teens or early 20s. In a 30-year follow-up of 82 antisocial persons originally seen in a child guidance clinic, Robins (1966) found that the disorder was worse early in its course and that antisocial persons tended to improve with advancing age. She observed that at a mean age of 45 years at follow-up, 12% of the subjects had remitted (defined as no symptoms of ASPD) and another 20% had improved; the rest were as disturbed as (or more so than) at study intake. The median age for improvement was 35 years, although Robins pointed out that improvement can occur at any age.

Black et al. (1995a) followed 71 antisocial men (mean age 54 years), who had been admitted to an academic hospital, for a mean of 29 years after discharge. Of these individuals, 27% were rated as having had remission of their antisocial behavior, 31% as improved, and 42% as unimproved. The men most likely to have improved were the least deviant at baseline and were older at follow-up. The course for the men was compared with previously published data from the "Iowa 500" study of individuals with schizophrenia and depression, as well as normal control subjects, all hospitalized at the same facility (Black et al. 1995b). Antisocial men fared less well than depressed subjects and control subjects in their marital, occupational, and psychiatric adjustment. They also functioned better than people with schizophrenia in their marital status and housing, but not in their occupational status or aggregate psychiatric symptoms. In other words, they were more likely than persons with schizophrenia to be married and to have their own housing, but they were just as likely to perform poorly in the workplace and to have disabling psychiatric symptoms (but not psychotic symptoms).

The studies of Robins (1966) and Black et al. (1995a, 1995b) show that most dangerous and destructive behaviors associated with ASPD may improve or remit, yet other troublesome problems remain. Older people with ASPD are less likely to commit crimes or become violent, although many remain troublesome to their families and the community. Some fail to improve at all. When improvement occurs, it typically follows many years of antisocial behavior that has stunted the individuals' educational and work achievement, thus limiting their potential achievement.

Marriage is another moderating variable. In Robins's (1966) study, more than half of married antisocial persons improved, but few unmarried persons did so. More recently, Burt et al. (2010) used twin data to show that men with lower levels of antisocial behavior were more likely to marry and that those who married engaged in less antisocial behavior than their unmarried co-twin. These data appear to confirm Robins's (1966) observation that marriage has a buffering effect on antisocial behavior and are largely consistent with those of the Gluecks (Sampson and Laub 1993), whose work linked job stability and marital attachment with improvement.

The following vignette demonstrates the continuity of antisocial behavior over time, the high frequency of co-occurring substance use disorders, and the toll ASPD takes on individuals, society, and family members (Black and Andreasen 2014, pp. 475–476).

Case Example

Russell, age 18, was admitted for evaluation of antisocial behavior. His early childhood was chaotic and abusive. His alcoholic father had married five times and abandoned his family when Russell was age 6. Because his mother had a history of incarceration and was unable to care for him, Russell was placed in foster care until he was adopted at age 8. His adoptive father was a university professor; his adoptive mother was described as compulsive and strict.

Russell had a criminal streak from early childhood. He lied, cheated at games, shoplifted, and stole money from his mother's purse. He once burglarized a church and, when older, stole an automobile. Despite an above-average IQ, Russell's school performance was poor, and he was frequently in detention for breaking rules. Because of continued law breaking, he was sent to a juvenile reformatory at age 16 for 2 years. While in the reformatory, he slashed another boy with a razor blade in a fight. Russell had his first sexual experience before his peers, and after leaving the reformatory, he had several different sexual partners. He chain-smoked and admitted to abusing alcohol. An electroencephalogram was normal, and his IQ was measured at 112. He was discharged from the hospital after a 16-day stay and was considered unimproved. He had been poorly cooperative with attempts at both individual and group therapy.

Russell was interviewed 30 years later. He used an alias and lived in an impoverished community. Now age 48, Russell appeared ill and haggard. He admitted to more than 20 arrests and more than five felony convictions on charges ranging from attempted murder and armed robbery to driving while intoxicated. He had spent more than 17 years in prison. While in prison, Russell had escaped with the help of his biological mother, with whom he then had a sexual relationship. He was returned to prison 2 months later. His most recent arrest occurred within the past year and was for public intoxication and simple assault.

Russell reported over nine hospitalizations for alcohol detoxification, the latest occurring earlier that year. He admitted to past use of marijuana, amphetamines, tranquilizers, cocaine, and heroin.

Russell had never held a full-time job in his life. The longest job he had held lasted only 60 days. He was currently doing bodywork on cars in his own garage to earn a living but had not done any work for several months. He had lived in six different states and had moved more than 20 times in 10 years.

Russell reported that nine persons lived in his home, including his four children. He had met his common-law wife in a psychiatric hospital. She used tranquilizers for emotional problems, and the marriage was unsatisfactory. He reported occasionally attending Alcoholics Anonymous at a

local church but otherwise did not socialize outside his family.

Russell admitted that he had not yet settled down and told us that he still spent money foolishly, was frequently reckless, and got into frequent fights and arguments. He said that he got a "charge out of doing dangerous things."

Assessment

The patient's history is key to diagnosing ASPD (Black 2013). The diagnosis is made on the basis of a history of chronic and repetitive behavioral problems beginning in childhood or early adolescence. Because antisocial individuals may not be forthcoming regarding their past symptoms, family members and friends may be helpful informants when available (and the patient has consented to their participation). Family members may be more accurate in describing their relatives' antisocial behavior than the patients themselves (Andreasen et al. 1986). Records of previous clinic or hospital visits can provide important diagnostic clues.

Psychological tests can be helpful, particularly when a patient refuses to allow interviews with relatives or when informants are unavailable. The Minnesota Multiphasic Personality Inventory (MMPI), and subsequent revisions, yields a broad profile of personality functioning, and a certain pattern of results is typical of ASPD (Butcher et al. 1989; Dahlstrom et al. 1972; Tellegen et al. 2003). The PCL-R can be used to measure the presence and severity of psychopathic traits and may be useful if the antisocial person is being assessed in a forensic setting (Hare 1991). There are many structured interviews and paper-and-pencil questionnaires that assess personality disorders in general, but they are mainly used by researchers. Formal neuropsychological assessment of cognition, memory, and attention may help to pinpoint specific learning or other cognitive deficits. Antisocial persons generally score about 10 points lower than people without ASPD on traditional IQ tests and are also more likely to show evidence of learning disabilities (Moffitt 1993b). Understanding a patient's specific learning disabilities may help identify goals for therapy or rehabilitation.

A medical history is helpful because of the antisocial person's tendency to engage in impulsive or risky behavior, which places him or her at risk for accidental injuries, closed head injuries, and sexually transmitted diseases including the human immunodeficiency virus and hepatitis C (Brooner et al. 1993). The presence of tattoos has traditionally been associated with ASPD. Even as their frequency in the general population has increased for men (26%) and women (22%), tattoos continue to be associated with risk-taking behaviors, such as greater use of alcohol or other drugs and criminality (Laumann and Derick 2006). Tattoos are especially prevalent in prison populations, where they may have special significance by indicating individual or group identity (Cardasis et al. 2008).

Antisocial persons often die prematurely from accidental deaths, suicides, or homicides (Black et al. 1996; Robins 1966). For that reason they should routinely be asked about suicidal ideations and past suicide attempts.

Differential Diagnosis

The differential diagnosis of ASPD includes other personality disorders (e.g., borderline personality disorder, narcissistic personality disorder), substance use disorders, psychotic and mood disorders, intermittent explosive disorder, and medi-

cal conditions such as temporal lobe epilepsy (Black 2013). Chronic or intermittent alcohol or drug use can contribute to the development of antisocial behavior, either as a by-product of the intoxication itself or from the result of a drug habit that needs financial support. Psychoses or bipolar disorder can also lead to violent or assaultive behavior and should be considered as a cause of antisocial behavior. Psychotic patients occasionally commit criminal offenses, but such behavior typically results from psychotic thought processes. Intermittent explosive disorder involves isolated episodes of assaultive or destructive behavior, but there is usually no history of childhood conduct disorder or other features of ASPD, such as a pattern of chronic irresponsibility or failure to honor obligations. Medical explanations for antisocial behavior that need to be ruled out include temporal lobe epilepsy, which can cause random outbursts of violence, and tumors or strokes, which could lead to personality changes.

The differential diagnosis in children with conduct disorder includes oppositional defiant disorder, ADHD, autistic spectrum disorder, and psychotic and mood disorders, all of which can be associated with sporadic verbal outbursts or physical assaults. Arguably the most difficult aspect of diagnosis involves distinguishing between conduct disorder and oppositional defiant disorder. The child with oppositional defiant disorder is difficult and uncooperative, but his or her behavior generally does not involve outright aggression, destruction of property, theft, or deceit, as with conduct disorder. A child with ADHD may be inattentive, hyperactive, or disruptive but usually does not violate the rights of others or societal norms.

Both ASPD and conduct disorder are distinguishable from normal behavior. Most children experience episodes of rambunctious behavior that can be accompanied by inappropriate language or destructive acts. Similarly, many children or adolescents engage in reckless behavior, vandalism, or even minor criminal activity such as shoplifting, often involving peers. Isolated acts of misbehavior are inconsistent with the diagnosis of either conduct disorder or ASPD, which involve repetitive misbehavior over time. Adults with criminal or antisocial behavior but no evidence of childhood conduct disorder (e.g., a man who is involved in organized crime following a conventional upbringing) have adult antisocial behavior (see "Other Conditions That May Be a Focus of Clinical Attention" in DSM-5).

Clinical Management

Few persons seek psychiatric care specifically for ASPD, yet in the ECA study almost 20% of those with ASPD had sought mental health care in the past year (Shapiro et al. 1984). A more recent study from the United Kingdom showed that nearly 25% of persons with ASPD had sought care (Ullrich and Coid 2009). Antisocial persons are prompted to seek care for cooccurring depression, substance misuse, or problems relating to marital maladjustment, anger dyscontrol, or suicidal behavior (Black and Braun 1998), or they are taken for evaluation by family members or the legal system (e.g., forensic evaluation).

The mental health care needs of a person with ASPD can generally be addressed in outpatient settings via an array of services (e.g., medication management, individual and family therapy). There is generally little reason to psychiatrically hospitalize antisocial persons, who can be disruptive to the ward milieu (Black 2013).

The exception is when a person needs supervision to provide a safe environment because of recent (or imminent) suicidal behavior, recent violent or assaultive acts, or monitoring of alcohol or drug withdrawal.

Psychopharmacology

No drugs are routinely used for the treatment of ASPD, and none have been approved by the U.S. Food and Drug Administration. Medications are sometimes used "off-label" to treat antisocial persons, generally for their aggressive behaviors and irritability, or co-occurring disorders.

The use of psychotropic medications to treat ASPD was reviewed by the National Collaborating Centre for Mental Health (2009), commissioned by the National Institute for Health and Clinical Excellence (NICE) in the United Kingdom. The review was unable to identify any randomized controlled trials conducted in persons with ASPD. The report concluded that the sparse evidence did not support the routine use of medication for antisocial persons, but that medication for co-occurring disorders should be used according to guidelines for the disorder in question (e.g., major depression). NICE cautioned clinicians to be aware of the poor adherence, high attrition, and potential for misuse of prescription medication common to these patients. Similarly, a Cochrane Database review found that the body of evidence was insufficient to allow conclusions about the use of drug treatments for ASPD (Khalifa et al. 2010).

Nonetheless, several drugs have been shown to reduce aggression, a target symptom of many antisocial persons, and these may be helpful in select patients. Lithium carbonate has been reported to reduce anger, threatening behavior, and assaults in prison inmates (Sheard et al. 1976), as well as bullying, fighting, and temper outbursts in aggressive children (Campbell et al. 1995). The anticonvulsant phenytoin has been shown to reduce impulsive aggression in prison settings (Barratt et al. 1991), whereas divalproex has been found to reduce temper outbursts and mood lability in disruptive youths (Donovan et al. 2000). Antipsychotic medications have also been shown to deter aggression in adults as well as youth with conduct disorder (Reyes et al. 2006; Walker et al. 2003).

Other drugs, including carbamazepine, valproate, propranolol, buspirone, and trazodone, have been used to treat aggression primarily in brain-injured or intellectually disabled patients (Black 2013). Response to medication is variable, and although some patients improve, others fail to improve at all. When improvement occurs, it tends to be partial; improvement may only mean that the individual has fewer outbursts than before, or has a "longer fuse" giving him or her more time to reflect before lashing out. Because these drugs target symptoms found in ASPD, it is possible that they may be effective in antisocial persons.

As recommended by NICE (National Collaborating Centre for Mental Health 2009), psychotropic medication can be targeted to treat co-occurring disorders. Mood and anxiety disorders are among the most common conditions accompanying ASPD. These disorders may respond to treatment with antidepressant or tranquilizing medications. Similarly, bipolar patients with antisocial behavior can be treated with mood stabilizers, such as lithium carbonate, carbamazepine, or valproate. Benzodiazepines should be avoided. They have the potential to increase "acting out" behaviors (e.g., aggressive outbursts), as has been shown in patients with borderline personality disorder (Cowdry and Gardner 1988).

Furthermore, the drugs can be habit forming and should be avoided in patients prone to addiction, such as people with ASPD. Stimulant medications can be used to reduce symptoms of co-occurring ADHD. Caution should be used before prescribing potentially addictive stimulants such as methylphenidate or dextroamphetamine. Use of these agents should be preceded by trials with nonaddicting alternatives such as bupropion, clonidine, or atomoxetine.

Psychological Treatments

According to NICE (National Collaborating Centre for Mental Health 2009) and the Cochrane Database reviews, insufficient data are available to assess the value of psychotherapy in persons with ASPD (Gibbon et al. 2010). Complicating these reviews is the fact that most studies reviewed involved participants other than those with ASPD. NICE identified one randomized controlled trial involving subjects with ASPD: Davidson et al. (2009) compared cognitive-behavioral therapy (CBT) with "usual care" in 52 antisocial men but found no effect of CBT on anger or verbal aggression. Nonetheless, Davidson et al. (2010) reported, "The view from the ground…was that doing [CBT] was helpful in reducing antisocial behaviours and changing thinking" (p. 94). They recommended that therapists be aware of personal risks while carrying out therapy and be skilled at modifying session content and their behavior to control levels of "high affect." Although this research and other early data suggest that CBT can be helpful, only larger and longer-term studies will reveal its true effectiveness.

Individual psychotherapy has long been used with antisocial patients, and CBT models, such as that employed by Davidson et al. (2009), have been developed specifically for persons with personality disorders, patterned after those created for the treatment of depression or anxiety disorders. According to Beck et al. (2004), the goal of CBT is to "improve moral and social behavior through enhancement of cognitive functioning" (p. 152). To achieve these aims, the therapist focuses on evaluating situations in which a patient's distorted beliefs and attitudes may have interfered with interpersonal functioning or in achieving goals. Once the patient has gained an understanding of how he or she has contributed to his or her own problems, the therapist can help the patient to gradually make sensible changes in his or her thinking and behavior. Guidelines are set for the patient's involvement, including regular attendance, active participation, and completion of homework outside of office visits. CBT may be helpful to persons with mild antisocial disorders who possess some insight and have reason to improve—for example, those who risk losing a spouse or job if their behavior is not controlled.

The CBT model described by Beck et al. (2004) for antisocial persons focuses on evaluating situations in which a patient's distorted beliefs and attitudes interfere with functioning or achieving success. For example, unable to assess his actions critically, an antisocial man may attribute a history of work conflicts to unjust persecution or other factors beyond his control, never pausing to examine the consequences of his actions. Working together, patient and therapist develop a problem list to help clarify problems and expose tensions, and to show how—and when—they interfere with daily life. Once identified, cognitive distortions that underlie each problem are systematically exposed and challenged. Some of the distortions most common to ASPD, as outlined by Beck et al. (2004), include the following:

- *Justification*—the patient's belief that his desires are adequate grounds for his actions
- *Thinking is believing*—a tendency to assume that his thoughts and feelings are correct simply because they occur to him
- *Personal infallibility*—the idea that he can do no wrong
- *Feelings make facts*—the conviction that his decisions are always right when they feel good
- *The impotence of others*—a belief that everyone else's views are irrelevant unless they directly affect the patient's immediate circumstances
- *Low-impact consequences*—the notion that the results of his behaviors will not affect him

Another therapy model for antisocial persons that has shown promise is mentalization-based therapy (MBT; Bateman 2013), which has a theoretical basis in attachment theory. Mentalizing is considered a key component of self-identity and a central aspect of interpersonal relationships and social function. Developed for people with borderline personality disorder, the model has been adapted to focus on the unique mentalizing problems of ASPD, such as showing overcontrol of their "emotional states within well structured, schematic attachment relationships" (pp. 182–183). A subanalysis of data from a trial of MBT in persons with borderline personality disorder, some of whom had comorbid ASPD, showed that MBT was more effective than a control condition (Bateman 2013).

Antisocial persons often possess traits that interfere with the process of psychotherapy and make working with them difficult; these traits include their tendency to be impulsive, blame others, and have difficulty in trusting others (Strasburger 1986). Therapists must be aware of their own feelings and remain vigilant to prevent countertransference from disrupting therapy. No matter how determined the therapist may be to help an antisocial patient, it is possible that the patient's criminal past, irresponsibility, and unpredictable tendency toward violence may render him or her thoroughly unlikable. Mental health professionals should anticipate their emotions and display an attitude of acceptance without moralizing.

Those persons at the extreme end of the antisocial spectrum may be more difficult to engage in therapy. According to Hare (1993), the rigid personality structure of psychopathic persons generally resists outside influence. He has observed that in therapy, many such persons simply go through the motions and may even learn skills that help them better manipulate others. Hare is particularly skeptical of group therapy for these individuals. There is no evidence, however, that therapy makes psychopaths worse (D'Silva et al. 2004).

Although therapy may not help those at the extreme end of the antisocial spectrum, Beck et al. (2004) point out that antisocial people are unfairly labeled as unable to profit from therapy, which they call the "untreatability myth." Treatment may be challenging, but CBT is one approach that may help some antisocial persons develop the capacity to make appropriate decisions and get their lives on track.

Alcohol and drug abuse are common among antisocial persons and may aggravate antisocial symptoms. Once withdrawal has been medically managed, the patient can be referred to specialized treatment program, the goal of which should be abstinence. Antisocial individuals who abuse substances and who achieve abstinence are less likely to engage in antisocial or criminal behaviors, and also have fewer

family conflicts and emotional problems (Cacciola et al. 1996). Patients should be encouraged to attend meetings of Alcoholics Anonymous or similar organizations (e.g., Narcotics Anonymous). Gambling disorders also are common in those with ASPD, and although few formal treatment programs are available, antisocial persons with these disorders should be encouraged to attend Gamblers Anonymous (Black 2013).

Antisocial people with spouses and families may benefit from marriage and family counseling. Allowing family members into the process may help antisocial persons realize the impact of their disorder on others. Therapists who specialize in family counseling may address the antisocial person's difficulties in maintaining enduring attachments, inability to be an effective parent, problems with dishonesty and irresponsibility, and anger and hostility that can contribute to domestic violence (Dutton and Golant 1995).

With juvenile offenders, treatment programs that emphasize behavior modification or skills training may produce modest benefits and reduce recidivism (Lipsey 1992). Traditional counseling and deterrent strategies such as "shock" incarceration have generally been unhelpful. With shock incarceration, offenders receive stiff sentences to "shock" them into improving; once incarcerated, the sentence is reduced. "Scared straight" type programs, in which troubled youth visit prisons to frighten them out of crime, are also unsuccessful (Gibbons 1981). More recently, "boot camps" or "wilderness" programs have garnered attention; in an attempt to foster prosocial behavior, troubled youth are placed in isolated "camps" away from negative influences for experiences that foster bonding and trust with similarly disturbed kids. Whether these programs offer more than transitory benefit has not been demonstrated.

Family therapy may offer the best help for dealing with children with a conduct disorder (Sholevar 2001). Treatment should focus on enhancing parental management skills to improve communication and to provide more effective and consistent discipline. Parents can learn to supervise the child more effectively, and to steer impressionable children away from troubled peers. In these programs, parents also learn skills to help stop misbehavior before it escalates into violence, which may eventually help reduce their child's risk for ASPD.

Conclusion

Antisocial behavior has been clinically recognized for over two centuries, is common, and is disruptive to individuals, families, and society. There is a full spectrum of severity ranging from psychopathic behavior at the severe end to milder adult antisocial behavior at the other. Although antisocial behaviors improve or even remit in some persons, the majority of individuals with these behaviors have lifelong, recurrent behavioral problems, including criminality. The cause of antisocial behavior is unknown, but it is likely that both genetic and nongenetic factors are involved in its development. There are no standard or proven treatments. Several psychotropic medications, including anticonvulsants, lithium, and antipsychotics, have been shown to reduce aggression and may benefit some antisocial persons. Pharmacological treatment should target cooccurring disorders such as major depression or bipolar disorder. Substance use disorders should be treated with the aim of achieving abstinence; this may reduce antisocial symptoms. CBT models have been developed for antisocial per-

sons and may help those with milder syndromes. Prevention strategies targeting troubled children may offer hope to parents and their troubled offspring.

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CHAPTER 21

Personality Disorders in the Medical Setting

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Patients with personality disorders (PDs) are by nature inherently challenging. Perhaps they are even more so in medical settings because of the murky interface between psychiatric and medical symptoms. In this chapter, we examine these intriguing patients in the context of the medical setting. We initially review the prevalence of PDs in the U.S. general population and in medical settings. We then discuss patient behavioral patterns in medical settings that are suggestive of personality dysfunction as well as syndromes and diagnoses that may be encumbered with higher than expected rates of personality pathology. Finally, we propose management techniques for these patients in both acute and longitudinal patient care contexts. Although patients with PDs are undoubtedly challenging, we believe that most of these individuals can be reasonably managed through effective recognition and use of the proposed techniques.

Prevalence Rates of Personality Disorders

General Population

PDs are surprisingly commonplace in the U.S. general population (see also Chapter 6, "Prevalence, Sociodemographics, and Functional Impairment," this volume). At present, the empirically determined prevalence rate for any type of PD is at least 10% (Sansone and Sansone 2011a). As for the prevalence of specific PDs, the National Epidemiologic Survey on Alcohol and Related Conditions, a robust study that was sponsored by the U.S. Department of Health and Human Services, the National Institutes of Health, and the National Institute on Alcohol Abuse and

The views and opinions expressed in this chapter are those of the authors and do not reflect the official policy or position of the U.S. Air Force, Department of Defense, or U.S. government.

Alcoholism, examined rates of each personality dysfunction in the U.S. general population. Findings indicated that obsessive-compulsive PD was most common (7.8%; Grant et al. 2012), followed by narcissistic PD (6.2%; Stinson et al. 2008) and borderline PD (BPD) (5.9%; Grant et al. 2008). Importantly, the sum of the individual rates for these three PDs alone exceeds the estimated overall rate in the general population, indicating that a number of individuals harbor more than one PD. Of the PDs recognized in DSM-5 (American Psychiatric Association 2013), BPD has undergone the most empirical research—in the general population, in mental health settings, and in medical settings.

Medical Settings

The prevalence of PDs in various types of medical settings is underresearched, but individuals with personality dysfunction are not uncommon and are frequently identified by clinicians as "difficult patients." To our knowledge, no extensive large-scale study has simultaneously examined rates of several PDs within a single or combined group of primary care patients.

With regard to the examination of a single PD in a medical setting, Gross et al. (2002) explored the prevalence of BPD among internal medicine outpatients in a private-practice setting and determined a rate of 6.4%. We have previously examined rates of borderline personality symptomatology among internal medicine outpatients seen predominantly by resident physicians; in this particular clinic, there is a large proportion of indigent individuals as well as high rates of government-sponsored insurance. Using self-report measures, we have encountered rates for borderline personality symptomatology between 18% and 25% (Sansone et al. 2000). As for patients seen in a specialized medical setting, using two measures for BPD among patients undergoing evaluation for cardiac stress testing, we encountered a rate of 8.8% (i.e., confirmed as being positive on either measure) (Sansone et al. 2011a).

Personality Disorders and Comorbidity Loadings in Medical Settings

Personality dysfunction in the medical setting is frequently accompanied by some type of comorbidity, either psychiatric or somatic. As for comorbid major psychiatric disorders, mood and/or anxiety syndromes are fairly common. As for somatic comorbidity, indistinct or ambiguous medical symptoms (e.g., medically unexplained symptoms) are frequently encountered. Therefore, multiple clinical phenomena, psychiatric and/or medical, are likely to be reported by individuals with personality dysfunction.

In individuals with personality dysfunction and comorbid symptoms, it appears that each symptom complex reinforces the intensity of the other symptom complex(es) (i.e., a bidirectional phenomenon). Specifically, personality pathology appears to intensify comorbid major psychiatric disorders and medical symptoms (medically explainable or not), and vice versa. Given this impression of bidirectionality or the mutual exacerbation of symptoms, it is also reasonable to assume that treating one disorder will alleviate, at least to some degree, the symptom intensity of the other disorder(s). Likewise, responses to treatment may be robust if the medical condition itself (e.g., endocrinopathy) or administered drugs account for a significant portion of the pa-

tient's personality changes (Dhossche and Shevitz 1999).

Possible Models for the Relationship Between Personality Dysfunction and Medical Symptoms

Given that a substantial proportion of individuals with PDs in medical settings evidence some type of somatic symptom, what might be the functional relationship between personality dysfunction and somatic symptoms? From our experience, two associations appear predominant. First, PD symptoms may simply function as the interpersonal medium through which bona fide medical symptoms are expressed (e.g., a diabetic patient who exhibits noncompliance because of antisocial PD). In other words, the two entities coexist and interface but somewhat separately. Alternatively, PD symptoms may complexly meld with medical symptoms in such a way that the PD symptoms appear to express themselves directly through the medical symptoms (e.g., an obese individual with BPD, who experiences the fundamental self-regulatory disturbances encountered in this type of personality dysfunction and whose excessive calorie ingestion manifests as new-onset diabetes). These proposed relational models do not exclude other possible models. In terms of treatment approach and outcome, the implications of these two proposed models are presently unknown.

Patient Behavioral Patterns Associated With Personality Pathology

Patients in medical settings may display a number of behaviors, discussed in the following subsections, that are *suggestive* of personality pathology. When these behaviors are clinically present, the clinician should consider an assessment for personality pathology. The longitudinal nature or pervasiveness of these behaviors is particularly indicative of the presence of personality dysfunction. In other words, the presence of repetitive or longstanding patterns with regard to any of these behaviors supports the diagnosis of personality pathology, whereas novel fleeting behaviors are more likely due to contemporary psychosocial stressors, medications, and/or the illness itself.

Importantly, the most problematic PDs in the medical setting appear to be those characterized by disinhibition in general and impulsivity in particular (designated as the Cluster B PDs). In contrast, some types of personality pathology may actually be advantageous with regard to medical management, such as obsessive-compulsive PD. Other PDs may be encountered very infrequently by medical personnel (e.g., schizotypal or avoidant PDs). Therefore, much of the following material focuses on those PDs that are most challenging in the medical setting—namely antisocial, narcissistic, and borderline PDs.

Noncompliance With Medications and/or Treatment

Given that a number of PDs are characterized by the temperamental features of disinhibition and impulsivity (e.g., borderline and antisocial PDs), it is not surprising that patient noncompliance with medications and/or other treatment is associated in the empirical literature with personality dysfunction (Dhossche and Shevitz 1999; Meyer and Block 2011). From a psychodynamic perspective, noncompliance with medications and/or other treatment may function as a means to create medical instability, and thereby justify repetitive and ongoing contact with the health care provider and/or treatment team. This is a particularly salient psychodynamic among individuals with BPD. Noncompliance may also be a manifestation of underlying self-regulation difficulties (e.g., BPD) and/or rebellion against authority (e.g., antisocial PD). Overall, when noncompliance is not related to forgetfulness, cognitive changes, or finances, the consideration of personality dysfunction is warranted.

Abuse of Prescription Medications

According to findings of the National Survey on Drug Use and Health, 7% of community participants reported the misuse of prescription medications during the month preceding the survey (Substance Abuse and Mental Health Services Administration 2008). Clearly, misuse of prescription medication is a common and disturbing problem in the United States. This particular behavior is often clinically associated with borderline and/or antisocial PDs. However, empirical examination of the relationships between prescription medication misuse and personality dysfunction has been infrequently undertaken.

In two studies, one a compilation of multiple databases and the other a consecutive sample of 419 internal medicine patients, we confirmed relationships between the self-reported misuse of prescription medications and borderline personality symptomatology (Sansone and Wiederman 2009a; Sansone et al. 2010a). Although the reasons for patient misuse of prescription medications in these two studies remain unclear, explanations may include sensation seeking, blocking traumatic memories, and/or experimenting with self-harm behavior.

Aggressive and/or Disruptive Behaviors in the Medical Setting

A number of authors have indicated that aggressive and/or disruptive behaviors by patients are a potential behavioral marker of personality dysfunction (Dhossche and Shevitz 1999; Meyer and Block 2011; Sansone et al. 2011b), particularly in patients with borderline, narcissistic, and/or antisocial PDs. Although various aggressive and/or disruptive behaviors have been noted in the clinical literature, such as refusing treatment, angry outbursts that are grossly out of proportion to the situation, and/or pressuring demands or intimidation, little empirical research has been undertaken to examine the range of these behaviors.

In an effort to clarify the range of poor patient conduct in medical settings, we explored in a survey of internal medicine outpatients the prevalence of 17 disruptive behaviors as well as their relationship to borderline personality symptomatology (Sansone et al. 2011b). We found that the number of different types of dis-

ruptive office behaviors reported by participants was statistically significantly correlated with both self-report measures for BPD used in this study. Compared with participants without borderline personality symptomatology, patients with such symptoms were significantly more likely to report yelling, screaming, verbal threats, and/or refusing to talk to medical personnel, as well as talking disrespectfully about medical personnel to both family and friends (Sansone et al. 2011b). Although these behaviors are clearly intimidating and demoralizing for treatment-providers as well as disruptive to the patient-clinician environment, they are not necessarily life-threatening to the clinician.

Intentional Sabotage of Medical Care

Intentionally sabotaging one's own medical care is a phenomenon that has been recognized for some time, through clinical experience as well as occasional case reports and small empirical studies of factitious disorder. However, links between medical sabotage and specific types of personality pathology have only recently been clarified. A prime PD contender for the intentional sabotage of one's own medical care is BPD, because this type of behavior may function as a self-injury equivalent (Sansone and Sansone 2012b). However, antisocial PD cannot be excluded, particularly if the intent of medical sabotage serves some illicit purpose such as the procurement of narcotic analgesics with an intent to sell them.

In addition to factitious disorder, another form of medical self-sabotage is intentionally making medical situations worse. We have confirmed relationships between intentionally making medical situations worse and borderline personality symptomatology. Explicitly, we examined a compiled sample of databases and scrutinized the subsample that consisted of internal medicine outpatients only (n=332) (Sansone and Wiederman 2009c). In this subsample, 16.7% of participants acknowledged intentionally making medical situations worse, and this phenomenon demonstrated a statistically significant relationship with the measure for borderline personality symptomatology that was used in this study.

In addition, we recently examined a peculiar variation of making medical situations worse—the intriguing behavior of exercising an injury on purpose (Sansone and Wiederman, in press). To do so, we compiled four databases to enhance the overall sample size (the resulting sample comprised 1,511 internal medicine outpatients). We found that 2.9% of participants reported having intentionally exercised an injury "on purpose." As expected, there were significant statistical correlations between the endorsement of this behavior and scores on two self-report measures for BPD, suggesting that exercising an injury on purpose may be an unusual and covert variant of self-harm behavior.

Preventing wounds from healing—another form of medical self-sabotage—has been empirically investigated in relation to personality dysfunction. At the outset, the idea of preventing wounds from healing is somewhat disconcerting, but the phenomenon is not particularly rare in clinical populations. For example, we have found modest prevalence rates in various types of clinical samples (i.e., between 0.8% in cardiac-stress-test patients and 4.2% in internal medicine outpatients) (Sansone and Sansone 2012b). With regard to links to personality pathology, in a consecutive sample of internal medicine outpatients, an obstetrics-gynecology sample, and a sample of four compiled databases, we consistently

found statistically significant relationships between intentionally preventing wounds from healing and borderline personality symptomatology (Sansone and Wiederman 2009b; Sansone et al. 2010a, 2012c). This association may be the manifestation of the borderline patient's intense needs to be taken care of.

Boundary Issues

With time and experience in the clinical setting, clinicians gradually discern the range of appropriate behaviors that are acceptable in the clinician-patient relationship. As expected, this range of sanctioned behaviors corresponds to an associated set of interpersonal boundaries as well. Unfortunately, individuals with PDs (e.g., narcissistic and/or borderline PDs) often have intense needs to disrupt these professional boundaries—perhaps to be uniquely "known" by the clinician, to be perceived as "the special patient" in the medical setting, and/or to be "loved." These intense needs by the patient can, at times, manifest as overtly inappropriate behaviors and may include sexual innuendos, provocative clothing and/or body displays, awkward solicitations for social outings, inappropriate or premature addressing of the clinician by first name, excessive or expensive gift giving, and/or requests for special services or "favors." Clinicians need to be extremely wary of inappropriately resonating with these types of boundary violations, because to do so may lead to further deterioration in the boundaries of the professional relationship (i.e., an escalating need by the patient for repeated affirmations). These boundary disturbances may ultimately culminate in clinician entrapment and/or legal consequences. When the clinician is unsure about how to respond to a patient's provocative behavior, he or she should consider the "Headlines Test"—that is, how the clinician's behavior would appear to the public if it were publicized in the headlines of the local newspaper (see also Chapter 17, "Boundary Issues," in this volume).

Excessive Health Care Utilization Patterns

Health care utilization and high health care costs are contentious issues in today's fiscal climate. Not surprisingly, personality pathology is one of the various contributory variables to high health care costs. In support of this contention, available empirical data indicate that patients with PDs tend to be high utilizers of health care services. For example, in a study by Hueston et al. (1999), patients in a designated high-risk category (i.e., individuals suffering from one or more of four specific PDs: borderline, dependent, schizotypal, and schizoid PDs) were compared to patients without PDs. The former cohort was found to have significantly higher rates of outpatient, emergency room, and inpatient visits for somatic concerns during the preceding 6 months.

In a study of 389 internal medicine outpatients, we examined relationships between physician utilization patterns and borderline personality symptomatology (Sansone et al. 2011c). According to our findings, over the preceding 5 years, participants with borderline personality symptomatology were significantly more likely to see a greater number of primary care physicians and specialists compared with participants without this personality dysfunction. Indeed, we have consistently found that compared to patients without borderline personality symptomatology, those with such personality pathology consistently

evidence higher rates of health care utilization in the primary care setting, including a greater number of office visits and documented prescriptions (Sansone et al. 1996a, 1998a), more contacts with the treatment facility (e.g., telephone calls) (Sansone et al. 1996a), and more frequent referrals to specialists (Sansone et al. 1996a). Clearly, personality pathology is a significant contributory factor to the high cost of health care.

Possible Diagnostic Patterns Associated With Personality Pathology

Given the preceding sampling of patient behaviors that suggest underlying personality pathology, we next discuss syndromes and diagnoses that may be either suggestive of or highly associated with personality dysfunction. As a caveat, these syndromes and diagnoses are only *suggestive* and not *confirmatory* of personality dysfunction. Specifically, not every patient who harbors these types of symptoms suffers from personality dysfunction. Likewise, not every individual with a PD displays these types of symptoms. However, these diagnostic patterns may be the impetus for evaluating the patient's personality functioning in a more formal manner.

Alcohol and Substance Use Disorders

Substance use disorders are rampant in the United States. In terms of the associated personality pathology, the abuse of substances by individuals with borderline and/or antisocial PD is clinically well known. However, these identified PDs do not exclude other contenders, such as narcissistic PD.

In empirical support of the relationship between substance use disorders and BPD, we found in a review of the extant data that there were four studies denoting lifetime prevalence rates of substance misuse in patients with BPD; the averaged prevalence rate was 64% (Sansone and Sansone 2011c). This averaged percentage indicates that approximately two-thirds of patients with BPD have experienced substantial substance use problems at some point during their lifetimes—this is an astounding rate. Preferred substances in the medical setting commonly include benzodiazepines, opiates, and stimulants (Dhossche and Shevitz 1999).

Prescription substance misuse is a peculiar variant of substance use disorder. We previously presented in this chapter the relationship between the abuse of prescription medications and BPD (see "Patient Behavioral Patterns Associated With Personality Pathology"). In this section, we underscore prevalence rates and gender patterns. In a study of 419 internal medicine outpatients, we found that 9.2% of participants reported the past abuse of prescription medications (Sansone et al. 2010a). Surprisingly, we found no differences in prescription medication misuse when comparing men and women (i.e., this finding is notable in that men are traditionally more likely than women to abuse alcohol and illicit substances) (Sansone et al. 2010b). Therefore, either sex is likely to engage in the misuse of prescription medications.

Multiple Somatic Complaints

A number of investigators have noted associations between multiple somatic complaints and antisocial and/or border-

line PDs. Interestingly, much of the earlier empirical work on the intersection between somatic complaints and personality dysfunction focused on somatization disorder, a very narrowly defined subset of multiple somatic complaints (e.g., diagnosis according to DSM-IV [American Psychiatric Association 1994] required eight somatic symptoms in four distinct categories). However, more recent empirical work has focused on somatic preoccupation (i.e., the presence of multiple somatic symptoms, without category specificity), which, when accompanied by maladaptive thoughts, feelings, and behaviors, is called *somatic symptom disorder* in DSM-5.

Several researchers have found relationships between formal somatization disorder and PDs. Smith et al. (1991) provide a persuasive summary on the relationship between somatization disorder and antisocial PD. Using a diagnostic interview, Prasad et al. (1990) identified a subset of patients with BPD and comorbid somatization disorder. Likewise, Hudziak et al. (1996) examined the prevalence of somatization disorder among a sample of patients with BPD and confirmed a rate of 36%. Finally, Spitzer and Barnow (2005) described a distinct relationship between somatoform disorders and BPD.

In contrast to somatization disorder, somatic preoccupation (i.e., excessive somatic complaints) is a broader and more clinically widespread phenomenon, particularly in primary care settings. Since the 1980s, a number of authors have described clinical relationships between somatic preoccupation and BPD. For example, Schreter (1980–1981) reported a relationship between chronic somatic symptoms and BPD; Giovacchini (1993) described a subset of borderline patients with a psychosomatic focus; and Janssen (1990) reported two cases of BPD in which patients presented with somatic symptoms.

In addition to the clinical observations, empirical research has confirmed relationships between somatic preoccupation and personality pathology, specifically BPD. Lloyd et al. (1983) examined the psychological test responses of patients with BPD and confirmed a proneness to reporting somatic complaints. We examined 120 internal medicine outpatients with regard to somatic preoccupation and borderline personality symptomatology, and found a moderate statistical correlation (Sansone et al. 2000). We repeated this study in a sample of 116 internal medicine outpatients and found statistically significant correlations between these variables in the moderate to high range (Sansone et al. 2008). Finally, in a study using path analysis among family medicine outpatients, we again found evidence for a relationship between somatic preoccupation and borderline personality symptomatology (Sansone et al. 2001). In these three previous studies, we used the Bradford Somatic Inventory (Mumford et al. 1991) for the assessment of somatization.

To further confirm a relationship between somatic preoccupation and borderline personality symptomatology, we undertook a final project using a 35-item medical review of systems for the assessment of somatic preoccupation in a sample of 381 internal medicine outpatients (Sansone et al. 2011d). In keeping with our previous findings, the total number of symptoms endorsed on the medical review of systems was positively correlated with scores on both measures of borderline personality symptomatology (Personality Diagnostic Questionnaire–4 [Hyler 1994]; Self-Harm Inventory [Sansone et al. 1998b]). In addition, the percentages of participants with borderline personality features increased as the num-

ber of endorsed symptoms increased. In this study, no individual symptom or symptom pattern was particularly evident among participants with BPD features. In other words, there was no explicit symptom profile suggestive of BPD—somatic symptoms were panoramic and diverse.

What might be the psychodynamic function of multiple somatic complaints in patients with PDs? A likely explanation is the elicitation of caring responses from others, without the fear of rejection or interpersonal vulnerability entailed in negotiating a relationship in a more naturalistic manner. Somatic symptoms may also function to maintain and sustain an interpersonal connection with the health care provider, as in patients with borderline personality symptoms, as well as to reinforce a dysfunctional and self-defeating lifestyle (e.g., the "victim" role in BPD).

Chronic Pain Syndromes

Chronic pain is a globally complex issue, including its relationship with personality dysfunction. In the context of PDs, chronic pain may be the psychodynamic outgrowth of magnification, helplessness, and/or rumination (i.e., alterations in the actual perception and/or experience of pain); the inability to effectively self-regulate pain; a covert attempt to elicit caring responses from health care professionals; a means of maintaining a disabled status (i.e., a self-defeating lifestyle); and/or a means of procuring prescription medications for illicit purposes. Because of these varying factors, chronic pain syndromes may encompass a number of different types of individuals with personality dysfunction, especially borderline and antisocial PDs.

Through a review of the literature, we examined the prevalence of BPD among samples of individuals with various types of chronic pain syndromes (Sansone and Sansone 2012a). We encountered eight studies since 1994 and found that the average prevalence rate for BPD among these samples was 30%. We also discovered in this review that individuals with BPD reported higher levels of pain than participants without BPD; older individuals with BPD, rather than younger individuals, were more likely to report higher pain levels; and the first-degree relatives of participants with BPD demonstrated statistical coaggregation with somatoform pain disorder. Unexpectedly, we also found that the prevalence of medical disability did *not* substantially differ among chronic-pain participants with versus without BPD.

Chronic pain and the use of narcotic analgesic prescriptions represent a unique clinical dilemma, particularly in the primary care setting. In the current practice climate, clinicians are compelled to screen patients about current pain levels. However, contemporary pain assessments are limited to the use of subjective tools, such as visual analog scales (e.g., a row of 10 faces, transitioning from a smiling face representing no pain to a frowning face representing the highest level of pain). These imprecise approaches to pain assessment may unintentionally invite the overendorsement of pain complaints by patients with characterological problems. Recognizing that patients are not to suffer in pain, clinicians may prescribe unwarranted analgesics and/or overtreat pain in patients with personality pathology. This clinical response may lead to the patient's subsequent addiction or demise through intentional or unintentional overdose. In these cases, screening for and confirming character pathology may indicate the need for careful patient follow-up, contracts with the patient, small prescriptions, low to moder-

ate doses rather than high doses of analgesics, and frequent reevaluation.

Case Example

Janet, a 54-year-old white female who was diagnosed with chronic low back pain and fibromyalgia, was seen by her primary care physician for unrelenting back pain. Because of Janet's poor response to treatment, the primary care physician referred the patient to a pain management specialist, who evaluated the patient.

The pain management specialist initiated with the patient a conservative pain treatment regimen in conjunction with a strict pain management contract that included the proviso that all pain medications be prescribed only through the pain management specialist. However, the treatment response by the patient remained only moderate, and the pain management specialist recommended a referral to an anesthesiologist/pain specialist for injection therapy. Janet agreed to the referral and underwent the recommended injections. However, immediately following the injections, the patient reported excessive pain at the injection site, and the anesthesiologist/pain specialist prescribed 160 tablets of hydrocodone after each injection. When this additional prescribed medication was discovered by the pain management specialist, he promptly terminated his professional relationship with the patient.

This action resulted in a fracas between the two pain specialists and the primary care physician, until a psychiatrist was consulted, evaluated the patient, and informed the other physicians that the patient suffered from BPD and was highly prone to splitting and medication misuse. With this clinical information, the two pain specialists tightened and coordinated their management styles, particularly with regard to medications, and the patient clinically improved.

Hair Pulling

Hair pulling, or trichotillomania, may be clinically conceptualized as a disorder related to either compulsive behavior (i.e., an obsessive-compulsive spectrum disorder) or impulsive behavior. Individuals in the impulsive category may suffer from a disinhibited temperament in the impulsive spectrum, such as BPD. In the specific context of BPD, hair pulling may be viewed as a self-injury equivalent.

To explore the relationship between hair pulling and borderline personality symptomatology, we undertook two separate studies. In the first study, we examined 379 internal medicine outpatients and found a prevalence rate for self-reported hair pulling of 2.9% (Sansone et al. 2012c). Statistical analyses indicated significant associations between hair pulling and two self-report measures for borderline personality pathology. In a second study, we examined women in an obstetrics-gynecology clinic, using the same query for hair pulling and the same two self-report measures for BPD (Sansone et al. 2012a). In this study, 7.2% of participants reported hair pulling, and, as in our previous study, this behavior was statistically significantly associated with both self-report measures for BPD.

Obesity

Although obesity is clearly a multidetermined condition, one relevant contributory variable may be personality pathology—particularly personality pathology of an impulsive nature, such as BPD and associated overeating behavior. Through a review of the literature, we encountered nine studies on the prevalence of BPD among individuals with obesity (Sansone and Sansone 2013). The earliest was published in 1989, sample sizes varied from 17 to 150 individuals, and five of the nine studies were from bariatric surgery sites.

Participants were mostly women, and socioeconomic status was highly varied. The averaged prevalence rate of *all* measures for BPD in these various samples, some of which included multiple measures of BPD, was 27%. Note that this percentage is 4.5 times the rate of BPD encountered in the general population. Because more than half of these samples were from bariatric surgery sites, where assessments were undertaken prior to the surgery, it is likely that a meaningful proportion of participants underreported symptoms (e.g., self-mutilation, suicide attempts, alcohol/substance abuse) in order to secure the surgery, regardless of whether such disclosure would have precluded the surgery. Although the nature of the association between obesity and BPD is speculative (e.g., assuming that they share mutual self-regulation difficulties), there is clearly an association.

From a developmental perspective, it is highly likely that the presence of inherent self-regulation difficulties as encountered in BPD may be a contributory factor to the development of obesity. It is also likely that the treatment of mental health problems with weight-inducing psychotropic medications contributes to weight gain in individuals with BPD. Indeed, in partial support of this latter impression, it is evident that the rate of BPD among obese individuals in mental health settings is higher than among those in primary care settings.

Promiscuity and Sexually Transmitted Diseases

Impulsive sexual behavior, which may lead to sexually transmitted diseases as well as unplanned pregnancies, may also be associated with personality dysfunction, particularly borderline and antisocial PDs. In a review of the literature on sexual behaviors in BPD, we found that various authors have reported among such patients 1) greater sexual preoccupation as well as sexual dissatisfaction; 2) greater promiscuity in the presence of substance abuse; 3) a higher number of casual sexual relationships; 4) more frequent high-risk sexual behaviors; 5) a higher prevalence of sexually transmitted diseases; 6) a higher number of homosexual experiences; 7) earlier sexual experiences; 8) a greater likelihood of date rape; 9) an overall greater number of sexual partners; and 10) a greater likelihood of experiences with sexual coercion (Sansone and Sansone 2011b).

In our review (Sansone and Sansone 2011b), we included our three studies in the area of sexual behavior and BPD. In the first study, we examined 76 women in an internal medicine outpatient setting and found that those with borderline personality symptomatology reported earlier sexual experiences as well as higher rates of date rape. In the second study, which consisted of a compiled database, we found that participants with borderline personality symptomatology from nonpsychiatric settings were twice as likely to endorse casual sexual relationships (a lack of familiarity with partners) as well as promiscuity (multiple sexual partners) than participants without these symptoms. In a third study of 354 internal medicine outpatients, we found that participants with borderline personality features reported twice the number of different sexual partners than participants without this personality dysfunction. Findings generally indicate that individuals with BPD appear to have more sexual experiences, a greater number of sexual partners, and a broader range of sexual experiences. This conclusion may clinically manifest in higher rates of sexually transmitted diseases.

Multiple Allergies to Medications

Patients with personality pathology appear to have a greater number of self-reported allergies than patients without personality dysfunction. These reactions tend to fall into three broad categories: 1) genuine allergic reactions, 2) exaggerated adverse reactions to medication, and 3) unusual idiosyncratic reactions that are novel and at times bizarre (e.g., numbness over the dorsal aspect of the left foot). Therefore, reported allergies may be genuine, or partially or fully influenced by personality dysfunction. Contributory factors to the high numbers of reported allergies among individuals with PDs may include excessive exposure to medications due to multiple somatic complaints; hypervigilance to the side effects of medication due to trauma dynamics, as in BPD; attention-seeking behavior as in narcissistic PD; and/or underlying needs by the patient to be unique and exotic.

Medically Unexplained Symptoms

Medically unexplained symptoms and their association with personality pathology are well known to primary care physicians. However, the extant empirical literature on this association is minimal, and we were not able to locate any studies on the relationship between medically unexplained symptoms and bona fide PDs. On a speculative note, it may be that syndromes with indistinctly defined diagnostic criteria (e.g., chronic fatigue syndrome), easily replicable criteria (e.g., attention-deficit/hyperactivity disorder), and no confirmatory diagnostic tests (e.g., fibromyalgia) attract individuals with personality pathology. In this way, affected individuals can readily assimilate somatic pathology for both interpersonal and intrapsychic purposes as well as foster a self-defeating lifestyle—without the threat of diagnostic exposure.

Psychiatric Consultation

Given the preceding preamble regarding patient behaviors and syndromes/diagnoses that may be associated with personality dysfunction, we now discuss psychiatric assessment and management from the perspective of psychiatric consultation. We divide the consultation approach into acute and longitudinal patient-care situations.

Acute Patient-Care Situation

Clinicians will at times be asked to consult on patients with PDs who are being acutely treated in the hospital or emergency room. In these pressing circumstances, the consultant's emphasis is on the acute and immediate management of the patient in order to accomplish the medical task rather than an ongoing psychotherapeutic approach to the patient's personality dysfunction.

Assessment

At the outset of the assessment, the clinician should identify and document the patient's *explicit* problem behaviors by providing graphic examples in the medical record (i.e., rather than using general descriptions such as "aggressive and disruptive," the clinician should vividly describe patient behaviors, such as "the patient threw a chair against the wall while screaming obscenities such as…"). The clinician should then determine whether acute nonpsychological factors might be contributing to the patient's unaccept-

able behavior, such as acutely administered medications, exposure to illicit drugs, or uncontrolled medical conditions (Dhossche and Shevitz 1999). The assessment should next entail a clinical screen of the patient for any contributory major psychiatric disorders (e.g., a psychotic or bipolar disorder). Following this, the consultant should consider the assessment of personality pathology. During this portion of the assessment, symptom duration may help clarify the role of PD. To substantiate duration, a history from the family may be necessary. Long-standing patterns of problematic behavior suggest personality pathology, whereas acute behavioral changes suggest contemporary influences. In certain circumstances, examination of the effects of the patient's behavior on the clinician and staff may be indicated, particularly if there appears to be evidence of severe manipulation, intimidation, or splitting. Throughout the assessment, the consulting clinician should at all times take reasonable precautions with patients who are emotionally escalating toward a "meltdown" with either self-injurious behavior or violence (e.g., the clinician should use a verbal approach that is calming, maintain an appropriate distance from the patient, leave an open door at all times, place the security team on alert).

Management

The clinical situation may at times be promptly resolved by clarifying limits (i.e., "We need to complete this test by the end of the day"), particularly if family support is available (Dhossche and Shevitz 1999). Brief negotiation and/or verbal contracting with the patient may be helpful (Pare and Rosenbluth 1999). The acute use of psychotropic medications (e.g., antipsychotics) with rapid-onset effects may be indicated to calm or reorganize the patient. (We recommend avoiding the use of benzodiazepines, because these medications can result in disinhibition in some patients, particularly those with character pathology.) It may also be crucial to clear up any distortions in communication between patient and staff (Norton 2000). In addition, if the patient is directing detrimental commentary to specific staff members, these individuals need to be informed to deflect the negative content on a personal level, despite the very personal intent by the patient (Pare and Rosenbluth 1999). Finally, the consulting clinician may need to reinforce boundaries between the patient and staff (Devens 2007), which may entail the reassignment of the patient to another provider or nursing staff member, or even transferring the patient to another medical service or to a mental health facility. The key strategy during the acute consultation is to quickly assess the situation, and review and suggest available options for intervention. (On a side note, if any adjunctive major psychiatric disorders are present, these may be addressed through recommendations for psychotropic medications and/or psychotherapy, although results may not be apparent for weeks or longer and may not benefit the acute situation.)

By focusing in acute patient-care situations on the immediate and reasonable stabilization of the patient instead of on the treatment of the patient's personality pathology, the clinician is aiming to pacify the patient so that the clinical situation will conclude successfully. The goal is to enable the physician and treatment team to provide the appropriate and indicated medical assessment and care.

Longitudinal Patient-Care Situation

In contrast to being asked to consult on the acute needs of an inpatient or a patient in

the emergency room, the consultant may be contacted by a clinician about managing a patient with personality pathology in a longitudinal context, commonly in the primary care setting. Although many of the assessment and management tasks are similar to those of the acute situation, there are additional considerations in the longitudinal situation.

Assessment

During the assessment for longitudinal management, as in the assessment of the acute situation, the clinician should initially and explicitly define the patient's problem behaviors and/or patient-clinician/staff impasses in the medical record. The clinician should next determine whether any administered medications, illicit drugs, or uncontrolled medical conditions might be contributing to the patient's behavior (Dhossche and Shevitz 1999). Likewise, the clinician should consider whether there are any comorbid major psychiatric disorders (e.g., depression, anxiety, posttraumatic stress disorder) that might be aggravating the interpersonal situation between the patient and clinician or staff. Finally, the clinician should determine the patient's explicit personality pathology to enable more precise management planning (e.g., note that at the outset, effective and cooperative liaisons are difficult to establish with patients who suffer from antisocial PD).

On a side note, on occasion, a clinician's personal qualities and attitudes may be unintentionally contributing to the difficulties in his or her relationship with the patient. Although less relevant in the acute patient-care situation, the clinician-patient relationship is paramount in the longitudinal patient-care situation. In this regard, Meyer and Block (2011) broach a number of important points. They indicate that less psychosocially minded clinicians are more prone to reporting difficult encounters with patients. In addition, patients with more severe PDs tend to evoke stronger emotions in clinicians, and these emotions may be expressed by the clinician in problematic ways toward the patient. For example, clinicians who underrespond to the intense emotions of patients by passively withdrawing may cause undue patient distress related to feelings of abandonment. Alternatively, clinicians who actively respond to the strong emotions of patients with brusqueness or confrontation may unintentionally distance the patient. In addition, Meyer and Block (2011) emphasize that some clinicians may struggle with their own personal concepts of appropriate and inappropriate behaviors during patient encounters, be vexed by their sense of personal responsibility for a positive outcome in a seemingly uncooperative patient, and/or be overly attached to the concept of "tireless caregiver" and wind up feeling emotionally exhausted by a demanding patient. The key consideration for the consultant is to entertain the clinician's possible role in a patient-management issue, which may not only acutely alleviate the current situation but also prevent future crises.

On a related note, Pare and Rosenbluth (1999) discuss the role of the clinician's experience in medicine and the resulting impact on his or her expectations of medical practice in relationships with patients. At the outset, newly trained clinicians tend to initially idealize the practice of medicine. Many are initially attracted to the field of medicine because they are driven by their own deep needs to help others, and to feel effective and potent while doing so. Unfortunately, patients with dramatic personality dysfunction tend to leave clinicians feeling ineffective and impotent, particularly

when derailing the treatment course with noncompliance, eruptions of disruptive behavior, and demands for unnecessary and potentially harmful medications. These types of clinical impasses with patients tend to compromise the obsessive-compulsive mindset of many young clinicians by thwarting their efforts to "do the right thing" for the patient. With time in the field, a more realistic perspective begins to gradually evolve. Indeed, Pare and Rosenbluth (1999) stress that "all" clinicians eventually learn that "medicine is not as powerful and effective as they had hoped it would be" (p. 262), suggesting that with seasoning, clinicians will be less susceptible to these kinds of initial unrealistic expectations of the practice of medicine.

Management

Scant empirical research exists on the effectiveness of longitudinal management techniques for patients with PDs in the medical setting. Therefore, the majority of the material in this section is based on clinical experience and tradition.

When consulting in longitudinal patient-care situations, we initially stress to the physician that he or she cannot hope to "fix" or "rescue" the patient who suffers from personality pathology (i.e., to effectively treat and resolve the patient's PD). We stress that in most cases, the only legitimate resolution of the patient's personality pathology is through longitudinal psychotherapy and/or the aging process. Even then, some individuals with PDs (e.g., antisocial PD) may be less amenable to either psychotherapy treatment or the mellowing effects of time. Therefore, we emphasize in the nonpsychiatric setting the importance of *managing* rather than *treating* the patient with PD.

The recommended overall management approach to patients with PDs in the medical setting entails a broad menu of options. Suggested options for the clinician include 1) maintaining an emotionally neutral treatment environment (e.g., self-monitoring one's responses to the patient, avoiding the direct expression of anger, not making personal negative comments); 2) being supportive to the patient; 3) limiting in-office attempts at psychotherapy; 4) scheduling multiple brief appointments to address the needs of those individuals who struggle with strong attachment dynamics; and 5) preventing the patient from getting into high-risk medical situations (i.e., maintaining conservative medical management). High-risk medical situations may include the unnecessary prescription of scheduled and potentially harmful medications (e.g., narcotic analgesics, controlled weight-loss medications, stimulants for attention-deficit/hyperactivity disorder, controlled anxiolytic medications), unnecessary laboratory studies (i.e., given a sufficient number of laboratory studies, occasional spurious results are bound to occur, creating more challenges in the treatment), and unnecessary referrals to specialists for invasive diagnostic procedures or treatments (i.e., some specialists may not be aware of the nature of personality pathology and may unintentionally overtreat patients with PDs). In addition, the centering of care in the medical office enables the streamlining of patient management by maintaining clearly defined treatment goals, including a clear explanation of the treatment plan to the patient, and a consistent treatment provider ("one cook in the kitchen"). Because of this, patient visits to the emergency room are to be discouraged except in a genuine emergency. We also encourage establishing a treatment milieu in which symptom resolution is deemed unlikely, but symptom management is the more realistic treatment goal (e.g., by warning patients "We are never

going to rid you of your pain, but we can reduce the amount of pain") (Dhossche and Shevitz 1999).

As in the acute patient-care situation, limits are frequently necessary to maintain stability in long-term patient-care situations (Dhossche and Shevitz 1999). Intermittent brief negotiation and/or verbal contracting with the patient may be useful, particularly around medications and/or procedures (e.g., by stating "We will attempt to complete the testing as soon as possible if you can cooperate and allow us to") (Pare and Rosenbluth 1999). It may also be necessary to resolve communication distortions (Norton 2000); encourage staff not to personalize the patient's derogatory comments (Pare and Rosenbluth 1999); and reinforce boundaries between the patient and staff (Devens 2007). Finally, because of the comorbid nature of symptoms, it is always essential to address any co-occurring major psychiatric disorders by incorporating the traditional and recommended treatments. In Table 21–1, we provide some additional clinical mantras for consultants to consider when directing clinicians who are struggling with patients with PDs in a longitudinal context (Sansone and Sansone 2007).

On a cautionary note, although it may seem appealing to discharge difficult patients from one's medical practice, it may actually be in the patient's best interest to remain in the practice, particularly if the interpersonal situation between the clinician and patient can be stabilized. On occasion, patients with PDs may seek atypical treatments from unprofessional treatment resources—a situation that should be avoided at the outset to protect the patient. Finally, patients with higher levels of insight may be candidates for psychotherapy treatment and may benefit from referral to a mental health professional.

Conclusion

Without doubt, personality pathology in the medical setting is a genuine challenge for clinicians. In the past, these patients have been labeled as "difficult patients." Through ongoing research efforts, a more precise diagnostic picture is beginning to emerge—that the majority of these patients appear to suffer from personality dysfunction. Personality dysfunction in the medical setting may be heralded by the clinician reacting more strongly to the patient than is seemingly warranted as well as the presence of suggestive patient behaviors and syndromes/diagnoses. Patient management is typically individualized and consists of a menu of therapeutic options. Not surprisingly, few intervention techniques have been systematically studied to determine their efficacy among character-disordered patients in the medical setting.

The intersection of personality pathology and the medical setting is prime for various types of research endeavors, including further studies on the prevalence of PDs in various medical settings, simultaneous examination of multiple PDs with regard to a specific syndrome/diagnosis (e.g., fibromyalgia), and assessment of intervention techniques in this under-researched subset of patients. Only future research will clarify these and other intriguing issues, and potentially improve the management of these chronically chaotic individuals.

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TABLE 21–1. Mantras to consider when consulting on patients with personality disorders

- Patients with personality pathology cannot psychologically heal in medical settings.
- Among clinicians in the medical setting, there are vastly different knowledge bases with regard to personality pathology and specific personality disorders.
- Even though the clinician who is seeking consultation in the medical setting may be knowledgeable about a given personality pathology, this does not mean that he or she can effectively manage all patients with this disorder.
- The clinician who is operating from a defensive position with the patient cannot be objective with the patient's care.
- Emotionally neutral limit setting is typically required in the management of patients with personality disorders; however, this will likely affect clinicians' patient-satisfaction scores.
- Regardless of limited options and escalating patient dissatisfaction, "do no harm."
- Patients with personality pathology seen in the medical setting may improve with crisis intervention and management.
- Sustained remissions can be attained by patients with personality disorders who are willing to undergo psychotherapy treatment; one goal of primary care clinicians and consultants is to identify and refer potentially amenable patients.

Source. Adapted from Sansone and Sansone 2007.

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CHAPTER 22

Personality Disorders in the Military Operational Environment

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The unique aspects of military life—particularly in times of prolonged involvement in international conflict—may prove particularly challenging for persons with personality disorders (PDs). To the extent that PDs may be defined as pervasive, stable, and inflexible patterns of inner experience and behavior that deviate markedly from the expectations of an individual's culture (American Psychiatric Association 2013), it is evident that the patterns of behavior characterizing the various PDs would prove particularly maladaptive in a military operational environment requiring strict adherence to regulations, limits on personal freedoms, life in a harsh and austere environment, frequent and lengthy separations from usual sources of social support, repeated exposure to life-threatening situations, and the potential witnessing of sudden and severe injury or death. Impulsivity, disregard for safety of self or others, and lack of empathy or concern for the needs of others, all of which characterize Cluster B pathology, may compromise mission capability. The inability to take initiative or reluctance to engage in new activities and the lack of decisiveness observed in avoidant and dependent PDs also interfere with military occupational tasks. Finally, the emotional and behavioral consequences of difficulty developing and maintaining supportive social relationships experienced by those with Cluster A pathology often declare themselves in deployed environments where service members must live and work in close quarters with little privacy or personal space.

The views expressed in this chapter are those of the authors and do not reflect the official policy or position of the Department of Defense or the U.S. government.

Perhaps less obvious is the notion that behaviors composing various PDs also deviate markedly from the expectations of a service member's organizational culture. Although there are certainly cultural differences between members of the U.S. Army, Navy, Air Force, and Coast Guard, all branches of the uniformed services espouse values of honor and integrity, trust for—and dedication to—fellow service members, personal sacrifice, courage, and devotion to duty (Halvorson and Substance Abuse and Mental Health Services Administration 2010). Thus, patterns of inner experience and behavior, including disregard for regulations or social norms, mistrust of others, discomfort in the presence of others, intense feelings of abandonment, exploitation of others, impulsiveness, or inability to maintain interpersonal or occupational commitments, would most certainly deviate from the expectations of persons steeped in military culture. The vignettes throughout this chapter illustrate the idea that behaviors and affective states observed in persons with PDs may become even more apparent to fellow service members during times of occupational stress and may come to the attention of clinicians in a variety of ways, including self-referral, referral from other (i.e., non–mental health) care providers, or by referral from military command. The following vignette illustrates how some of these personality traits may manifest in the military environment.

Case Example 1

Vanessa Jenkins, an 18-year-old National Guard private, completed basic training and began military occupational skill training as a medic. Shortly afterward, Private Jenkins presented to the mental health clinic with complaints of mood lability with frequent tearfulness and marked difficulty concentrating, stating that she had failed all of her tests on the first try but passed on the second. She reported that she had difficulty sleeping at night and subsequently suffered daytime somnolence that impaired her academic performance. Further history revealed that Private Jenkins had experienced a chaotic childhood, having been raised by her father since age 2 after he divorced her drug-abusing mother. She admitted to physical abuse during her elementary school years, sexual abuse at age 13, and emotional abuse for most of her life, but was reluctant to provide details. She had a history of self-mutilation but none recently. Ms. Jenkins had enlisted in the National Guard "pretty much on a whim" after an argument with her father about her lack of employment. She said she was following in her father's footsteps in an attempt to garner his approval and sought training as a medic in order to be in his unit when she returned to her home state after active duty training. Private Jenkins agreed with the psychiatrist that her personality was a "poor fit with the military" and that she joined mainly to please her father. She expressed that she would feel a sense of relief if the decision to leave the military was made for her rather than a result of her quitting or failing.

The U.S. military has long recognized that persons with behavioral or interpersonal impairments that are commonly manifested in PDs may be poorly suited for military duty. Both military culture and military regulations require that leaders must strive to correct the deficiencies in their service members and to rehabilitate behavior that is detrimental to occupational or social functioning within the military (e.g., through mentoring, corrective training, or even nonjudicial punishment). Behavioral health care, ranging from medication management to individual and group supportive, psychoeducational, cognitive-behavioral, and in some cases intensive psychody-

namic psychotherapy, is available to service members who seek treatment for mental disorders within a wide variety of treatment facilities on military bases and during deployment. However, in recognition of the traditional view of the ingrained and enduring nature of PD-related behaviors and the barriers to effective treatment of PDs imposed by occupational requirements of military service (e.g., ready access to weapons, frequent moves, short-notice deployment to locations without the full panoply of psychiatric resources), all branches of the military also promulgate regulations that allow for relatively expeditious administrative separation (without disability compensation) of service members with PDs. The diagnosis of PD serves as a bar to enlistment, and the emergence of a PD diagnosis after enlistment is viewed, from a disability compensation standpoint, as the recognition of a condition that existed prior to enlistment. More recent studies suggest that personality disordered behavior is more waxing and waning than it is enduring; the recurrent nature of the stressors inherent to military life may precipitate episodes of decompensation rather than protect against them.

In this chapter we outline the limited data available on the prevalence of PDs in the U.S. military and discuss the limitations of these data. We then describe the manner in which individuals with PDs may come to the attention of military leaders and clinicians. After a description of the evolving regulations and processes for administrative disposition of service members with PD and the circumstances prompting recent changes, we conclude the chapter with a discussion of areas for further study pertaining to the treatment and management of service members with PDs.

Epidemiology of Personality Disorders in the U.S. Military

The U.S. military does not conduct comprehensive psychiatric or psychological screening on all persons entering active duty or such surveillance on any periodic basis after entry into active duty. Some specialized military occupations (e.g., Special Forces or recruiting duties) may use psychological screening for assessment and selection purposes, but these represent exceptions rather than the norm for military duty. Military accession standards preclude persons with a variety of medical illnesses, including chronic psychotic disorders, substance abuse disorders, and PDs, from enlistment, and documented histories of these illnesses serve as bars to initial enlistment. However, if such histories are not reported on enlistment applications or in medical records reviewed prior to enlistment, they may be missed. Therefore, prevalence rates for psychiatric diagnoses that do not necessarily come to clinical attention (including PDs) have not been clearly established.

As the military leadership has become increasingly concerned with the psychological burden associated with prolonged combat operations in Iraq and Afghanistan, systematic health surveillance efforts such as those conducted by the Mental Health Advisory Team have led to considerable data on the prevalence of psychiatric disorders in combat personnel. These studies have demonstrated significant increases in rates of diagnoses including major depression, posttraumatic stress disorder (PTSD), and substance use disorders at 3 months, 6 months, and 1 year follow-

ing deployment, as well as increased prevalence of these disorders during deployment when compared with garrison or predeployment rates (Hoge et al. 2004). The Mental Health Advisory Team studies rely heavily on anonymous self-report questionnaires through which service members report symptoms experienced at the time of survey administration. Hence, they are not well suited for measuring prevalence of diagnoses best established by a longitudinally based clinical assessment, as may be desirable for PD diagnosis or diagnoses characterized by symptoms for which patients may lack insight and therefore lack capacity to self-report.

The military's increasing use of electronic data systems since the turn of the century, however, has provided unprecedented opportunity to conduct epidemiological research on health care utilization (Hoge et al. 2003). One recently published systematic examination of military health utilization databases showed that from 2000 to 2011, a total of 936,283 service members received at least one mental disorder diagnosis at a military treatment facility, and nearly half of these individuals had more than one (Armed Forces Health Surveillance Center 2012). Categories of mental diagnosis for this analysis were ICD-9 (World Health Organization 1977) codes for adjustment disorders, alcohol abuse and dependence disorders, substance abuse and dependence disorders, anxiety disorders, PTSD, depressive disorders, PDs, schizophrenia, other psychoses, and other mental health disorders. Over this time period, rates of incident diagnosis of at least one mental disorder increased by approximately 65% (from 75,353 cases or 5,387.1 cases/100,000 person-years in 2000 to 129,678 cases or 8,900.5 cases/100,000 person-years in 2011). Not surprisingly, incidence rates of PTSD, anxiety disorders, depressive disorders, adjustment disorders, and other mental disorders generally increased during this time period (with adjustment disorders accounting for 85% of all incident diagnoses, and incidence rates of PTSD increasing approximately sixfold). However, over the entire period, relatively few incident diagnoses were attributable to PDs (n=81,223 or 4.5%). The incidence rate for the diagnostic category PD—which comprised all subtypes, including mixed—was generally stable at approximately 500 cases/100,000 person-years, and actually declined slightly over the period of study (n=8,281 in 2001; n=4,110 in 2011). Similarly stable patterns were observed for psychotic disorders and substance abuse and dependence disorders (Figure 22–1).

These data are consistent with the notion that disorders whose diagnosis either requires temporal linkage to precipitating events (e.g., PTSD, adjustment disorders) or has been associated with exposure to stressful events (e.g., anxiety disorders, depressive disorders) would be expected to increase during times of heightened military operational tempo, increased deployment, and combat exposure. Although one might anticipate that substance use disorders would increase during such a period, it should be noted that general military orders imposed on all troops in the combat theater specifically precluded the use of alcohol. Because epidemiological studies demonstrate stable rates of PD in the general U.S. population, the slight decrease in incidence rates of PD may also seem counterintuitive. However, the idea that a pattern of behavior and symptoms attributable to PD in times of peace and stability might be otherwise diagnostically accounted for in patients with significant histories of traumatic combat exposure seems plausible—particularly given the

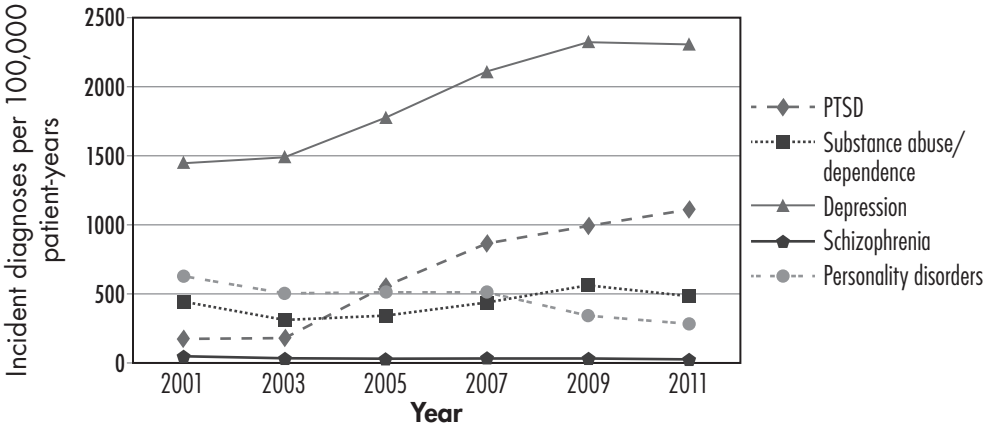

FIGURE 22–1. Incidence rates of mental disorder diagnoses, by category, active component, U.S. Armed Forces, 2001–2011.

Source. Adapted from "Mental Disorders and Mental Health Problems, Active Component, U.S. Armed Forces, 2000–2011." *Medical Surveillance Monthly Report* 19(6):13, 2012.

well-documented overlap of symptoms of PTSD and, in particular, Cluster B PDs (Bollinger et al. 2000). Other contributing factors might include an evolving and heightened degree of caution in rendering a diagnosis of PD, as reflected in recent changes to military policy regarding such diagnoses in conjunction with potential combat exposure in the preceding 2 years (U.S. Department of Defense Instruction 2011).

Clinical Presentation of Personality Disorders in the Military

Behavioral health care is available to members of the active duty and their dependents as well as retirees through a worldwide network of tertiary medical centers, community hospitals, and ambulatory care facilities. In many instances, to facilitate access to care, military installations have established additional mental health–specific ambulatory care centers on bases that already housed behavioral health clinics within their general medical facilities. In addition to issues of access to care created by increased demand, well-described barriers to psychiatric care in military settings include stigma, concerns about impact of receiving care on one's career, concerns about the impact of the use of psychotropic medications on specific career assignments or deployment capability, and the challenges associated with finding the time to receive care (to attend appointments) in the context of a demanding workload (Hoge et al. 2004).

Although service members with PDs may not necessarily seek treatment, in part because of lack of insight into the notion that their inner experience or behavior deviates from cultural norms, they may present to either primary care physicians or mental health specialists for assistance in times of emotional crisis (e.g., suicidal ideation when a deployment threatens the security of a romantic relationship, excessive anger or depressed mood after failing to receive a promotion). In other circumstances, maladaptive behaviors (e.g., impulsive aggression, substance misuse, disregard for direct orders, self-injurious acts) may be

directly observed by or reported to commanders by subordinates concerned for the safety of the service member. Others in the command may become concerned that a mental disorder may be jeopardizing a service member's ability to carry out his or her mission. Commanders, supervisors, or peers may certainly encourage fellow service members to seek mental health treatment in these circumstances. Considerable effort has been invested by the services in promoting the concept that service members should actively encourage their colleagues to voluntarily seek treatment or counseling when such concerns arise.

Case Example 2

A 22-year-old female soldier fails to present for afternoon formation. Her barracks roommate reports having heard Katie arguing with her boyfriend on the phone just before formation, goes back to the barracks to search for her roommate, and discovers she has impulsively lacerated her wrists. The service member is brought to the emergency room, where she tells the emergency room physician that her boyfriend broke up with her over the phone because "he knew I was going overseas for 6 months and didn't want to be tied down to me if I wasn't going to be close by," and notes, "break-ups are always hard for me; I get like this every time I think I am going to be alone again." The service member's commander refers the soldier for psychiatric evaluation.

Case Example 3

While in Kuwait awaiting movement orders to assume a security mission in Iraq, a platoon of 25 soldiers is housed in a medium-sized tent, on cots approximately 18 inches apart. Members of the unit become particularly concerned about a new member of the unit, 20-year-old PFC Smith. PFC Smith politely declines all invitations to play cards, dominoes, or video games with others in the tent. Moreover, he chooses not to join the others for meals or to watch movies, and shies away from all efforts to engage in spontaneously organized athletic or training activities, or even to engage in small talk. Finally, one member of the unit tells his senior enlisted supervisor, "We're all worried about Smith. We don't think we can go into battle with this guy. He won't talk to us—how do we know he's got our back? The commander should have this guy checked out." The supervisor approaches PFC Smith, reminds him of the importance of teamwork and team spirit to mission success, and tells him that others are worried about him. Smith replies, "I'm fine. I don't see what the big deal is. I'm just kind of a loner. I don't need them, and they don't need me. We just need to do our jobs and get home." The supervisor encourages PFC Smith to "do me a favor, and check in with the doctors in the combat stress center. I can't make you go, but if you do and nothing comes of it, I can tell the commander the docs think you are good to go."

Military Administrative Policies Regarding Personality Disorders

Each branch of the service has developed regulations and instructions allowing for command-directed involuntary referral of service members for behavioral health evaluation on an emergent basis if, upon consultation with a mental health professional, there is reason to believe that a mental disorder has rendered a service member at imminent risk of self-harm or harm to others. These same regulations outline procedures for nonemergent command-directed involuntary referrals in situations where the commander believes

mental disorder may be the cause of decrement in job performance to the point of compromising a service member's fitness for duty or ability to carry out the missions unique to his or her military assignment and training. These regulations also outline various protections afforded to the service member under such circumstances, including the required credentials of the person conducting the evaluation, the right to be advised in advance and in writing of the reason for the referral, the right to counsel, and the avenue for appeal of any recommendations made as a result of such a referral (U.S. Department of Defense Directive 2003a, 2003b). Such referrals may result in recommendations for allowing time for ongoing treatment or other accommodations to be made by the command, and may lead to the establishment of a diagnosis which, if treatment is unsuccessful, may result in the initiation of procedures for medical or administrative discharge of the service member.

Regardless of whether service members present of their own accord, present at the encouragement of peers, or come to clinical attention by virtue of command-directed evaluation, appropriate treatment is initiated. In the case of physical illness, injury, or major mental disorders incurred or exacerbated while on active duty or service, the conditions leading to medical retirement (to include disability compensation) are articulated in Army Regulation 40-501, "Standards of Medical Fitness" (U.S. Department of the Army 2011b); Air Force Instruction 148-123, "Medical Examination and Standards" (U.S. Department of the Air Force 2012); and the U.S. Navy Manual of the Medical Department, Chapter 15, "Physical Examinations and Standards for Enlistment, Commission, and Special Duty" (U.S. Department of the Navy 2008). The procedures for disability processing, only after a member has received maximum degree of medical benefit from acute treatment, are enumerated in "Physical Disability Evaluation" (U.S. Department of Defense Instruction 2006).

Military policy and regulations have been devised to take into account the demands of ongoing military service. Historically, service regulations have addressed conditions that are considered *unsuitable* for military service but that do not necessarily render the service member *unfit* for military service (i.e., not amounting to disability). These include such conditions as enuresis and motion sickness, as well as behavioral conditions that would limit the person's ability to adapt to the demands of military service but not otherwise interfere with routine civilian life activities. This regulation allowed for the administrative separation of soldiers demonstrating "a deeply ingrained maladaptive pattern of behavior of long duration that interferes with the Soldier's ability to perform duty" (U.S. Department of the Army 2011a, p. 58). The diagnosis of a PD for the purpose of separation under these regulations may be made only by a psychiatrist or a licensed clinical psychologist. The clinician is advised that a recommendation for this course of action should follow only from a detailed history to support the presence of long-standing maladaptive behavior and difficulties functioning in interpersonal relationships, rather than simply an adjustment reaction to current stressors (Diebold 1997). The individual must meet the diagnostic criteria for the specific PD or the relevant personality traits for a diagnosis of other specified or unspecified PD.

Many of the larger military medical centers are able to offer treatments such as dialectical behavior therapy or other

cognitive-behavioral therapies, both in groups and individually, to address maladaptive symptoms of PDs. Most treatment facilities are able to offer supportive counseling and psychodynamically based therapies. Medication management for associated symptoms of affective dysregulation is also increasingly employed, even though such treatments represent off-label use and have only limited support in the literature. Nonetheless, the clinical utility of these treatments continues to be limited by their relatively long-term nature in many cases and the lack of availability in the deployed environment, where they are more likely to be needed because maladaptive behaviors increase in response to the additional stressors. The commanders' need to address problematic behaviors administratively and/or through disciplinary action will often result in separation before significant therapeutic improvement is possible.

The regulations further provide that even when a service member is diagnosed with a PD, a recommendation for administrative separation remains only a recommendation, with final disposition determined by the commander only after "the Soldier has been counseled formally concerning deficiencies and has been afforded ample opportunity to overcome those deficiencies as reflected in appropriate counseling or personnel records" (p. 56). This guidance is in keeping with the special emphasis the military places on mentorship and leadership, and is consistent with military values exhorting leaders to exhaust efforts to rehabilitate deficiencies in their subordinates before giving up on them. It may be in contradiction, however, to traditional theories which conceptualize PD as being a deeply ingrained and inflexible pattern of response, symptoms of which may become exacerbated under stress and may have low potential for significant change over time (Diebold 1997). Recent developments regarding the effectiveness of treatments targeting particularly maladaptive behaviors in PDs may render this guidance more salient in the future, providing the potential for increased successful rehabilitation.

Service regulations that address conditions considered unsuitable for military service (U.S. Department of the Army 2011a; U.S. Department of the Air Force 2011; U.S. Department of the Navy 2009) are derived from Department of Defense (2011) policy. As previously noted, these include conditions such as motion sickness, enuresis, and sleepwalking, which would not generally be considered disabling but which could obviously be incompatible with military service. This category also includes adjustment disorders, which predictably are frequently comorbid with PDs in the military environment and also constitute a likely reason for presentation to clinical attention. Adjustment disorders are viewed as the manifestation of an inability to adapt to the stressors of military life, which may be situationally driven but also represent some degree of underlying predisposition, whether or not it rises to the level of a PD. If the clinician believes the predisposition is significant enough to make chronic or recurrent adjustment difficulties likely, this establishes the potential for administrative separation of service members for the adjustment disorder without (or before) a diagnosis of PD, even when underlying characterological issues predominate. This option serves to decrease the impetus to prematurely diagnose a PD as a means of offering the individual administrative separation and to avoid the often pejorative label that a PD diagnosis constitutes, when

in reality military enlistment simply represented a poor match for the individual's psychological makeup.

Recent Policy Changes

In 2009, public concern arose about soldiers who had been administratively separated from the army for PD after combat tours in Iraq and Afghanistan. The potential injustice of soldiers being separated without medical or other benefits when symptoms of posttraumatic stress may have contributed to behavior problems led the U.S. Army Medical Command to develop policies assuring that those who had served combat tours undergo screening for PTSD and traumatic brain injury. If subsequent clinical evaluation confirms clinically significant symptoms, such individuals are medically separated instead and thus retain benefits, even if comorbid PD complicates the clinical picture. In 2011, the Department of Defense revised the instruction (U.S. Department of Defense Instruction 2011) to extend these safeguards to all of the military services. Recognizing the potential for other diagnoses, including those considered unsuitable but not disabling, this instruction extended these safeguards to administrative separations for adjustment disorders as well and requires comprehensive screening for mental health issues in addition to PTSD and traumatic brain injury.

In late 2011, concerns were raised about Medical Evaluation Boards for psychiatric conditions conducted at Madigan Army Medical Center at Joint Base Lewis-McChord in Washington State. These concerns eventually resulted in the establishment of the Army Task Force on Behavioral Health, chartered to conduct a comprehensive evaluation of the Disability Evaluation System in an effort to "review, assess and, where needed, improve behavioral health evaluations and diagnoses in the context of Disability Evaluation System" (Army Task Force on Behavioral Health 2013, p. 7). The task force made a number of recommendations regarding processes to improve the efficiency of the disability evaluation system, as well as the need to educate service members and clinicians regarding the diagnostic assessment process. The goals of the recommended changes are to enhance the comprehensiveness of the assessment process and to ensure careful evaluation of all symptoms, including behavioral changes that might stem from PD or adjustment disorder. Although specific guidelines about the conducting of evaluations were not made, the process allows these behavioral changes to be considered in a light that would be most beneficial to the service member in terms of potential disability compensation versus administrative separation.

Case Example 4

A 24-year-old specialist returned from a combat tour in Afghanistan, where his unit had been under attack several times. In one mission, the convoy he was traveling in struck a roadside improvised explosive device, destroying the vehicle in front of his and killing one of his friends. In the weeks following his redeployment, his wife noted that his previous jealous tendencies were now expressed in angry verbal outbursts whenever she returned from errands. She also noted that he was increasingly irritable and slept poorly, awakening in the night thrashing about. When frustrated, he would strike her pet poodle and would frequently sit alone in their suburban backyard drinking beer and watching a campfire, in violation of a city ordinance against building fires in the neighborhood. She convinced him to go to the mental health clinic, where an evaluation additionally revealed a

childhood history of conduct disorder, several legal detentions before age 18 that were expunged from his record, and an increase in speeding and reckless driving since his return. Because these behaviors had markedly increased since his deployment, he was offered treatment for posttraumatic stress and referred for a disability evaluation.

Conclusion

Involvement in long-term combat operations necessitating frequent and prolonged deployment, disruption of families and other sources of social support, repeated exposures to harsh and intermittently life-threatening environments, and higher workloads for service members (even while in garrison) have resulted in a heightened awareness of the emotional and behavioral challenges confronting combat veterans. The military has invested considerable efforts in the development of better approaches to the assessment and management of PTSD, traumatic brain injury, and the interpersonal and occupational impairments that may result from these disorders. These efforts have also resulted in an increased awareness of the diagnostic overlap not only between these entities, but also with adjustment disorders and PDs, as each of these may manifest in patterns of maladaptive behavior that may only come to clinical attention with the added stressors of deployment and redeployment.

All branches of the military have historically recognized PDs as ingrained patterns of behavior developing in childhood or adolescence and blossoming in early adulthood. As such, these disorders have been viewed as having low probability for significant response to rehabilitative efforts in the context of the challenges inherent to military life and therefore as grounds for administrative separation in accordance with military regulations. These same regulations have always left room for commanders to retain service members with PDs and presumably allow or encourage these service members to avail themselves of treatment opportunities in the military. However, recent policy developments seem to suggest recognition that symptoms emerging in the aftermath of combat—which may have in the past been attributed to PD—should be considered in a diagnostic light that best promotes ongoing treatment either within the military system or through the disability system to provide the opportunity for continued treatment in the Veterans Affairs setting after medical rather than administrative discharge.

Further research is needed not only to focus diagnostic efforts but also to develop treatment approaches to behaviors that result in loss of fitness for further military duty. Treatments are needed that target impulsive behavior (including aggression), high-risk behaviors (including substance abuse), and affective instability, whether these behaviors result from PD, PTSD, or comorbid conditions. The extent to which recent advances in the treatment of PDs (e.g., dialectical behavior therapy for borderline PD) may allow for effective treatment in military operational environments must also be explored.

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PART IV

Future Directions

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CHAPTER 23

Translational Research in Borderline Personality Disorder

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In this chapter, we focus on two domains of borderline personality disorder (BPD) psychopathology—dysfunctions of social interaction and perceptual alterations (pain and dissociation)—to demonstrate that modern behavioral neuroscience methodology and translational approaches can be useful for understanding mechanisms underlying this psychopathology and ultimately help to improve therapy for patients with BPD. In these two domains, animal models are of particular value and can be used to better understand underlying disease constructs as well as for testing behavioral and pharmacological interventions. Animal models of research, however, are still in their infancy.

In this chapter, we provide an overview of dysfunctional social interaction in BPD, with a special focus on empathy and the role of oxytocin, with a short side trip to the field of antisocial personality disorder (ASPD). We then discuss disturbed pain processing and the role of pain in the context of emotion regulation in BPD. Closely related to this aspect of BPD, dissociation as a distinct feature of BPD has interesting parallels in animal research, as we outline at the end of this chapter.

Dysfunctions of Social Interaction

Impaired Interpersonal Functioning in BPD

Interpersonal dysfunction is the most prominent characteristic of personality disorders (PDs) in general, although its nature varies among the different types. From the view of translational research, interpersonal dysfunction has been best

studied in BPD, although there has been additional research in the antisocial realm.

Impairments in interpersonal functioning have been discussed as being the best discriminator for diagnosis of BPD (Gunderson et al. 2007; Modestin 1987; Zanarini et al. 1990), and longitudinal studies have shown the impact of interpersonal problems on BPD functioning in the long run (Gunderson et al. 2011; Zanarini et al. 2010). Intolerance of aloneness, long regarded as one of the central features of BPD resulting in dysfunctional attachment behaviors, typically is demonstrated as an oscillation between attention seeking and detached avoidance (Gunderson et al. 1996).

Gunderson et al. (2008) emphasized "the fearful or highly reactive component of this interpersonal style that is probably the more distinctive and pathogenic component" (p. 2) and referred to this interpersonal style as the *interpersonal hypersensitivity* phenotype. Experimental studies point in particular to interpersonal threat hypersensitivity. Individuals with BPD tend to frequently experience interpersonal threat, making them ascribe resentment to others (Domes et al. 2008). In one study, adolescents with BPD exhibited difficulties in disengaging attention from threatening facial information during early stages of attention (Jovev et al. 2012). High rejection sensitivity, defined as the disposition to anxiously expect, readily perceive, and intensively react to rejection (Berenson et al. 2009), appears to be another facet of threat hypersensitivity, with individuals with BPD scoring highest on related measurements (the Rejection Sensitivity Questionnaire and the Questionnaire of Thoughts and Feelings) compared with several other clinical samples or healthy control subjects (Staebler et al. 2011). Rejection hypersensitivity has also been targeted by using an experimental study design, the Cyberball (a ball-tossing computer game paradigm), which reliably provokes feelings of social exclusion (Staebler et al. 2011). In this study, patients with BPD exhibited a biased perception of exclusion; they felt excluded even when they were objectively included. They had more negative self-referential feelings and more negative feelings against others before the game started, and they reported resentments against others during the ball-tossing game, which increased when being excluded. In a recently developed animal model for social rejection, rejected animals displayed higher emotional reactivity as well as decreased pain sensitivity, thus mirroring features of BPD (Schneider et al. 2013).

Unresolved attachment might lie at the core of BPD (Fonagy and Luyten 2009; see also Chapter 4, "Development, Attachment, and Childhood Experiences," in this volume), so that patients with BPD show no coherent attachment style but instead demonstrate rapid shifts between avoidant and anxious attachment. Reflecting avoidant attachment, they pay little attention to or have low memory for positive social information (Domes et al. 2006a), and in response to their attachment needs, they show hyperreactivity to socially negative, potentially threatening, and even neutral stimuli in a neural network of the brain that has been implicated in aversion, withdrawal, or even defense responses (Vrticka and Vuilleumier 2012). Buchheim et al. (2006) reported a positive relationship between unresolved attachment and activation in both the amygdala and the hippocampus, in response to traumatic adult attachment projective images. In a later study, they showed an increased activation of the anterior cingulate cortex in patients with BPD, as well as increased activity in the superior temporal sulcus when exposed

to adult attachment projective images (Buchheim et al. 2008). They speculated that these cortical sites may be key structures of the theory of mind (ToM) network, probably reflecting high but not entirely successful efforts of mentalization linked to attachment anxiety.

Although individuals with BPD demonstrated no deficits in facial emotion recognition for simple tasks (Domes et al. 2009), they did demonstrate impairment in complex tasks for assessing emotion recognition. For example, patients with BPD showed lower performance when integrated facial and prosodic stimuli were applied, but they showed normal ability to recognize isolated facial or prosodic emotions (Minzenberg et al. 2006). Contradicting the previous assumption of general hypersensitivity to facial emotions in patients with BPD, experimental data suggest subtle impairments in labeling accuracy accompanied by a bias toward negative emotions—that is, a tendency to interpret ambiguous faces in a more negative way (Arntz and Veen 2001; Wagner and Linehan 1999). Interestingly, when modifying presentation times of facial cues, von Ceumern-Lindenstjerna et al. (2010b) showed that adolescent patients with BPD demonstrated stronger initial attention to brief visualization of negative facial expressions than did healthy adolescent comparison subjects, and that, when in a negative mood, the adolescents with BPD also showed difficulties in disengaging attention from negative facial expressions that were presented to them (von Ceumern-Lindenstjerna et al. 2010a). Consistent with the expectation that patients with BPD are prone to anger, participants rather specifically showed a bias toward the perception of anger in a study using ambiguous facial stimuli in the form of blends of basic emotions (Domes et al. 2008). In a study performed by Meyer et al. (2004), the anxious attachment style of patients with BPD was related to negative face appraisals and particularly a tendency to rate faces as less friendly and more rejecting. Considering differences in the presentation times of facial stimuli across recent studies, Daros et al. (2012) claim that the increased arousal of patients with BPD may either lead to enhanced detection of subtle facial threat or hinder classification of fully displayed facial emotions in binding attentional resources by salient social cues. Studies in BPD that have applied physiological measurements of responses to negative facial emotions consistently indicate a bias toward emotionally negative or threatening social information, such as increased and prolonged amygdala responses (Donegan et al. 2003; Minzenberg et al. 2007), and thus support behavioral findings. Interestingly, Vrticka et al. (2008) showed that anxiously attached individuals—analogous to those with BPD—show amygdala hyperactivation in response to angry faces, which may reflect a tendency to experience enhanced distress in aversive, nonvalidating interpersonal situations.

Adaptive interaction requires unbiased perception of social signals as well as the capability to take the perspective of others and exhibit empathy. Empathy subsumes three facets (Decety and Moriguchi 2007): 1) a cognitive capacity to take the perspective of another person (i.e., cognitive empathy), 2) an affective response to another individual (i.e., affective empathy), and 3) a self-regulatory capacity that modulates a person's inner state. Thus, empathy is not sufficiently understood as an affective experience of another person's emotional state but also requires attribution of emotions to others independent of one's own mental state. The latter requires self-awareness, no confusion between self and other, and a

capacity to modulate one's own emotional states. Impaired recognition of intentions and deficient mental state reasoning capacities have been found to be compromised in patients with BPD (Fonagy and Bateman 2006), suggesting impaired cognitive empathy. Using self-report measures of cognitive empathy, such as the Interpersonal Reactivity Index (IRI; Davis 1983), several authors found a diminished capacity for appropriate perspective taking in patients with BPD (Guttman and Laporte 2000; Harari et al. 2010; New et al. 2012). Other studies testing for the capacity of patients with BPD to infer the mental states of others also suggest impairments of cognitive empathy using the faux pas task that challenges participants' capability to accurately infer thoughts and intentions of others (Harari et al. 2010). However, other authors did not find abnormal cognitive empathy using other ToM tasks (Arntz et al. 2009; Ghiassi et al. 2010). Therefore, studies on accuracy in cognitive empathy have not produced consistent results in BPD.

In response to the critique that previous research studies have made use of stimulus material with low ecological validity, Dziobek et al. (2006) developed the Movie for the Assessment of Social Cognition (MASC). The MASC is a highly ecologically valid video-based test that presents social interactions among multiple characters and thereby assesses the viewer's capacity to identify social signals such as language, gestures, and facial expressions. Preiβler et al. (2010) were the first to use this task in patients with BPD and found them to have impaired recognition of the feelings, thoughts, and intentions of others. Sharp et al. (2011) applied the MASC in work with a group of adolescents with BPD and reported impaired cognitive empathy in young subjects scoring high on borderline traits compared with those scoring low. Interestingly, cognitive empathy was shown to correlate with self-report measures of emotion regulation, suggesting that high-arousal emotional states might interfere with cognitive empathy ability, as exemplified by the model of empathy proposed by Decety and Moriguchi (2007). Interestingly, in contrast with results assessed by the MASC, two studies provided evidence of a better and more rapid performance by patients with BPD in the Reading the Mind in the Eyes Test (RMET; Barnow et al. 2012; Fertuck et al. 2009), which is reported to relate to mentalizing processes (but may relate to other psychological mechanisms, as discussed later in this section).

Empathy measurements that facilitate differentiation between cognitive and affective empathy suggest that a dissociation between these two facets is typical of individuals with BPD. Harari et al. (2010), using the IRI as a self-report questionnaire, as well as faux pas tasks, found that patients with BPD showed impaired performance in cognitive empathy and cognitive ToM measures but not impairment in affective aspects of empathy. In a study by New et al. (2012), "personal distress" as one aspect of affective empathy turned out to be even higher among patients with BPD than among healthy control subjects. However, when looking at the Empathic Concern subscale, a measurement of compassion for others, New et al. (2012) found that patients with BPD did not differ from nonclinical controls. Dziobek et al. (2011) found that patients with BPD reported slightly lower values on the IRI, and they reported lower performance on both affective and cognitive empathy, when compared to nonclinical controls, on the Multifaceted Empathy Task (MET), reflecting the re-

sults of a more objective and ecologically valid instrument. The MET consists of photographs depicting people in emotionally charged situations. In the condition of affective empathy, subjects are instructed to label their own emotion in the context of another individual experiencing, for example, distress, whereas in the case of cognitive empathy, participants had to label the emotional state of others in a particular context.

Neurobiological data support the model that cognitive and affective empathy are distinct phenomena that rely on different neurocognitive circuits (Singer 2006). In a functional magnetic resonance imaging (fMRI) study using the MET, Dziobek et al. (2011) found that individuals with BPD exhibited worse performance than healthy control subjects on both cognitive and affective empathy. Neuronal activities were reduced in the left superior temporal sulcus during the cognitive empathy condition, whereas insular activity was enhanced in the emotional empathy condition in the patients with BPD compared with the healthy controls. Interestingly, activation in the right middle insula was positively correlated with skin conductance responses, indicating increased arousal in the patients with BPD. Given that the tendency to experience personal distress in response to the suffering of others has been associated with middle insular activation in healthy subjects (Decety and Moriguchi 2007), this fMRI study was interpreted to reflect increased arousal and personal distress in patients with BPD due to deficient emotion regulatory processes in the interpersonal realm, hampering empathy processes. Roepke and colleagues (2012) claimed that empathy may negatively interact with emotion dysregulation—that is, that high emotional arousal decreases cognitive as well as emotional empathy in patients with BPD. These authors recommended that future research designs use social cognition and empathy tasks under varying conditions of emotional arousal as well as in different social contexts.

Mier et al. (2013), applying an emotional ToM task, found lower neuronal activity in the superior temporal sulcus and superior temporal gyrus together with lower activity in the inferior frontal gyrus in patients with BPD compared to nonclinical controls. In this study, subjects viewed facial stimuli with neutral, joyful, angry, and fearful expressions. Each facial expression was introduced by a different statement. In the emotional intention task (affective ToM), the participants had to indicate by button press whether or not the statement matched the picture of the person. This task, in which participants are instructed to identify the intentions of the presented persons, challenges ToM or mentalizing processes, mediated in the inferior prefrontal cortex as a premotor area and part of the "mirror" neuron system with its activity being associated with the conscious representation and mirroring of actions and intentions (Coricelli 2005; Iacoboni et al. 2005). Using the RMET, Barnow et al. (2012) also found lower activities in mentalizing areas such as the right superior temporal gyrus and the right precuneus, as well as higher activity in the amygdala and the left inferior frontal gyrus (Brodmann area 45), in patients with BPD compared to controls. Different results, however, were obtained by Mier et al. (2013). This inconsistency in findings may result from differences in the tasks presented: the task used by Mier et al. explicitly challenged conscious processing of the other's intentions, whereas the RMET asks the subject to identify the other's emotional state and may be resolved by automatic simulation (i.e., by resonating with the other person's mental

state in concert with one's own emotional response).

In correspondence with the assumption of high automatic simulation (but low conscious mentalizing of the other's emotional states and intentions), patients with BPD exhibited higher activity of the musculus corrugator supercilii during viewing of negative facial stimuli such as anger, sadness, and disgust (Matzke et al. 2013) but lower electromyographic activity in the musculus levator labii in response to happy and surprised faces (i.e., faces that reflect emotional states rather distinct from the subjects' own). Consistent with these behavioral data, the hyperactivation in the somatosensory cortex as well as in the amygdala in persons with BPD found by Mier et al. (2013) is likely to reflect emotional simulation processes of which the person is unaware (Adolphs and Spezio 2006; Decety and Meyer 2008). These processes, in addition to conscious ToM capabilities, are involved during performance of social tasks containing facial cues.

Emotional simulation theory proposes that in social primates the mental states of others can be understood on the basis of one's own mental state (Gallese and Goldman 1998), encompassing an understanding of social situations that is immediate, automatic, and almost reflex-like. "This particular dimension of social cognition is embodied, in that it mediates between the multimodal experiential knowledge of our own lived body and the way we experience others" (Gallese 2007, p. 659). This basal mechanism is not related to higher cognitive functions, and it is less prone to learned knowledge about social interactions (Frith and Frith 2006). The understanding of others' sensory experiences, rather, seems to rely on vicarious activation of somatosensory cortices in the observer. Humans activate their own motor, somatosensory, and nociceptive representations while perceiving the actions of others, and they activate representations of their own emotional states while observing others' emotions. Interestingly, the somatosensory response in the primary somatosensory cortex was found to be associated with the empathy subscale "perspective taking" not only in tasks observing painful stimulation in another person (Chen et al. 2008) but also in tasks that require vicarious somatosensory responses for simple touch (e.g., Schaefer et al. 2012). The somatosensory cortex is part of the mirror neuron system, further consisting of the ventral premotor area of the left inferior frontal cortex (area F5 in monkeys) and the rostral cortical convexity of inferior parietal lobule.

Sharing emotions of others without self-awareness corresponds to the phenomenon of *emotional contagion,* which is not based on the proper discrimination between one's feelings and those of others. High affective empathy as found in some but not all behavioral studies in BPD, and which is sometimes called the phenomenon of *hypermentalizing* (e.g., Sharp et al. 2011), may be designated as emotional contagion due to exaggerated resonance with others' mental states tracing back to identity diffusion in BPD. This phenomenon may hinder the ability of individuals with BPD to experience sympathy with others (i.e., to put themselves in others' shoes) and cause them, instead, to be affected by their own emotions triggered through the emotions of others. In any case, higher-order metacognitive processes may fail to modulate the lower-level automatic emotional contagion.

In the future, researchers should compare responses to tasks that use either borderline-specific or non-borderline-specific themes to test whether patients with BPD are able to feel sympathy by

"putting themselves in others' shoes," or whether they transfer their own feelings onto others, a mechanism similar to projective identification, a common theoretical notion in psychoanalysis.

Social Cognition and Empathy in Psychopathy

In a meta-analysis of 20 studies on findings from antisocial subjects regarding the processing of human faces, Marsh and Blair (2008) reported a robust link between antisocial behavior and deficits in recognizing fearful expressions. Antisocial subjects also showed some deficits when processing sad faces; however, these responses were less prominent than responses to fearful faces, so that a specific rather than a global deficit in expression processing may be characteristic of individuals with ASPD. In functional neuroimaging studies, adolescents with early-onset, but not those with late-onset, conduct disorder exhibited reduced amygdala activation in response to sad faces when compared to neutral faces. However, adolescents with conduct disorder, independent of age at onset, showed diminished amygdala response to angry faces when compared to neutral faces (Fairchild et al. 2009; Passamonti et al. 2010), and this deficit has been associated with amygdala dysfunction of developmental origin. Additionally, the processing of fearful facial expressions has been studied in individuals with psychopathy who showed poor fearful expression recognition as well as poor startle response, and thus a failure of aversive cues to prime normal defensive action (Blair et al. 2004; Patrick 1994). The co-occurrence of both deficiencies has been interpreted to reflect an amygdala-based fear simulation deficit that explains reduced fear response and is associated with an impairment in the capacity to identify the expresser's emotional state (Goldman and Sripada 2005; Lawrence and Calder 2004). More specifically, significantly reduced fractional anisotropy as an indirect measure of microstructural integrity reported from diffusion tensor imaging suggests that abnormal connectivity in the amygdala-orbitofrontal network may contribute to the neurobiological mechanisms underlying emotional detachment and impulsive antisocial behavior in psychopathy (Craig et al. 2009).

Regarding capabilities in ToM functions, psychopathic subjects have been shown to have unimpaired cognitive empathy. Psychopathic patients do well on the Reading the Mind in the Eyes task, but they may perform this task by means of other mechanisms than those used by patients with BPD—namely, by cognitively adopting the perspective of others. In fact, subjects with ASPD or psychopathy, in particular, are probably good at perceiving others' intentions; however, they disregard the emotions of others. "The psychopath cannot simulate emotions he cannot experience, and must rely exclusively on cognitive inputs to his theory of mind mechanism" (Decety and Moriguchi 2007, p. 14). Emotional incapacity has been intensively investigated in males with psychopathic traits, but future research is needed to investigate whether a reliable emotional deficit is also true for psychopathic female offenders.

Studies in psychopathic offenders found reduced gray matter volumes in cortical areas related to empathic processing and moral judgment (i.e., in anterior rostral prefrontal cortex and temporal poles) (Gregory et al. 2012). Volume reductions were also found in midline cortical areas (Bertsch et al. 2013a) involved in the processing of self-referential information and self-reflection (i.e., the dorsomedial prefrontal cortex and

posterior cingulate/precuneus) and in recognizing emotions of others (i.e., the postcentral gyrus). Consistent with these findings, the psychopathy scores of individuals who were instructed to perform moral compared with nonmoral decision-making processes were found to correlate with decreased activation in an area extending from dorsolateral prefrontal cortex to medial prefrontal cortex (Reniers et al. 2012). The authors suggested that moral decision making entails intact self-referential and mentalizing processing, which appears to be disrupted in psychopathic individuals. However, in the study by Bertsch et al. (2013a), reduced gray matter volumes in temporal poles, compared with those in healthy control subjects, were found not in those with ASPD and psychopathic traits, but rather in criminal offenders with comorbid conditions of ASPD and BPD.

Social Dysfunction and the Role of Oxytocin

Oxytocin, the so-called prosocial hormone, plays a critical role in intimate relationships such as parenting and romantic relationships; oxytocin may also, to some degree, play a role in most meaningful interpersonal relationships. Oxytocin is synthesized in magnocellular neurons of the paraventricular and supraoptic nuclei of the hypothalamus, from which it is transported to the posterior pituitary, where it is released. Oxytocin receptors are especially prevalent in brain areas involved in social behaviors, including the bed nucleus of the stria terminalis, the hypothalamic paraventricular nucleus, the amygdala, the ventral tegmental area, and the nucleus accumbens. Interestingly, in the animal model, oxytocin neurons from the hypothalamic, paraventricular, and supraoptic nuclei project to a wide range of oxytocin receptors throughout forebrain structures, including amygdala (Knobloch et al. 2012).

Oxytocin modulates the formation of social memories as well as the processing of social cues, such as facial expressions. A number of studies now shed light on the specific facial processes in which oxytocin is involved: oxytocin improves the recognition of emotions (Lischke et al. 2012) and enhances early attentional processes selectively of happy faces (Domes et al. 2013); it appears to enhance the recognition of emotional expressions in static (Di Simplicio et al. 2009; Guastella et al. 2010; Marsh et al. 2010) and dynamic (Fischer-Shofty et al. 2010) images of faces; and it improves emotion recognition by directing attention to salient facial features, such as the eyes (Gamer et al. 2010; Guastella et al. 2008), with a higher performance when instructed to "read" the emotional state of another from the eye region (Domes et al. 2006b). Interestingly, oxytocin application was associated with greater task-related pupil dilation, a finding that also suggests increased recruitment of attentional resources (Prehn et al. 2013). Furthermore, the latter study provides the first evidence that oxytocin promotes an attentional bias to positive social cues; in correspondence with these data, the intranasal administration of oxytocin was followed by increased ratings of trustworthiness and attractiveness of unfamiliar faces in a study of healthy volunteers by Theodoridou et al. (2009).

Oxytocin is thought not only to be involved in the attentional processing of salient social cues, such as faces, but also to interact with rewards associated with social interactions. Dopaminergic neurons running from the ventral tegmental area to the nucleus accumbens are responsible for the active pathways facilitating the affiliation process. Interestingly, both areas

are known to show high density of oxytocin receptors and to interact with the dopamine system. One theory is that oxytocin enhances the hedonic value of social interactions by activating these areas that are rich in dopamine receptors. Anatomical and immunocytochemical studies have revealed that the receptor binding sites and neuronal fibers of oxytocin and dopamine exist in the same central nervous system regions, often in close apposition to each other (for a review, see Baskerville and Douglas 2010), with oxytocin-dopamine interactions within the nucleus accumbens and the ventral tegmental area probably being bidirectional. In addition, oxytocin may exert effects on dopamine release that mediate its effects on affiliation, social memory, and so on.

In rodent mothers, suckling and maternal cues (e.g., smell) related to their infants enhance maternal care at least in part by enhancing expression of oxytocin receptors in the nucleus accumbens and the ventral tegmental area. Interestingly, oxytocin has been shown to enhance the experience of attachment security in humans (Buchheim et al. 2009). Therefore, this effect may have early evolutionary primed roots: during early development, interpersonal eye contact plays a particular role in facilitating the development of dopaminergic-neuropeptidergic reward circuits that are later responsive to social cues (Skuse and Gallagher 2009). Therefore, oxytocin may promote interpersonal trust by inhibiting, on the one hand, the hypothalamic-pituitary-adrenal (HPA) axis and defensive behaviors and, on the other, activating dopaminergic reward circuits, enhancing the rewarding value of social encounters. Additionally, genetic studies suggest that in infants who carry the 4-repeat variant of the dopamine receptor D_4 allele (*DRD4*) (which is associated with more efficient dopamine function), the reward value of maternal attachment cues may be enhanced so that the quality of parental cues may have greater implications for the child's development (Gervai et al. 2007).

Regarding BPD, Stanley and Siever (2010) explored the hypothesis that the neurobiological underpinnings of maladaptive interpersonal functioning may be related to systems mediating affiliation and affect regulation, which "shape the trajectory of interpersonal development in the context of the specific interpersonal environment" (p. 26). Recent oxytocin studies in individuals with BPD suggest reduced oxytocin concentrations in blood samples, even after controlling for estrogen, progesterone, and contraceptive intake (Bertsch et al. 2013b). Although plasma oxytocin correlated negatively with experiences of childhood trauma, in particular with emotional neglect and abuse, the results of mediation analyses did not support a simple model of oxytocin being a prominent mediator in the link between childhood trauma and BPD. Future studies are needed to further elucidate the relationships among oxytocin in plasma and cerebrospinal fluid, early adversity, attachment style, and adult interpersonal functioning. Recently published oxytocin challenge studies indicate that oxytocin decreases stress response not only in healthy individuals (Heinrichs et al. 2001, 2003, 2009) but also in patients with BPD (Simeon et al. 2011). Using the Trier Social Stress Test, Simeon et al. (2011) found that intranasal oxytocin application was followed by a decrease of poststress dysphoria as well as of cortisol response in patients with BPD. In a study that applied a trust game in which the payoff is highest for both players in case of successful cooperation, oxytocin was not found to uniformly facilitate trust and prosocial behavior in a gender-mixed sample of BPD individu-

als; rather, behavior depended on attachment style (Bartz et al. 2010). Although analyses did not find more trusting behavior in patients with BPD following oxytocin challenge, data revealed that this neuropeptide promoted actual cooperative behavior for anxiously attached but low avoidant individuals but impeded cooperative behavior for anxiously attached, intimacy-avoidant individuals. Future studies should systematically investigate the association between central oxytocin function and attachment style.

Research on the role of oxytocin in the etiology and neurobiology of BPD is still in its infancy. Future studies on the modulating effects of oxytocin administration on face processing and more complex social cognition functions are needed.

Perceptual Alterations

Pain and Nonsuicidal Self-Injury

Nonsuicidal self-injury (NSSI) is frequent in patients with BPD and involves phenomena such as cutting, burning, and head banging; these behaviors can usually be relatively clearly distinguished from suicidal behavior (Nock 2009). In patients with BPD, auto-aggression without suicidal intent is usually repetitive, has limited potential for serious or fatal physical harm, and involves a different spectrum of motives than suicidal or ambivalent auto-aggression (Brown et al. 2002; Favazza 1989; Herpertz 1995). There is robust evidence that patients with BPD use NSSI to achieve quick release from strong aversive inner tension (Brown et al. 2002; Favazza 1989; Herpertz 1995; Kleindienst et al. 2008; Leibenluft et al. 1987). Release from aversive inner tension by NSSI can be understood as a dysfunctional coping mechanism of patients with BPD when they try to regulate emotions (Favazza 1989; Paris 1995) and as a negative reinforcer for repetitive dysfunctional behavior.

"Tension release" (Herpertz 1995) and relief or escape from emotions (Brown et al. 2002; Chapman et al. 2006; Kleindienst et al. 2008) are thought to be the predominant motives for NSSI, although several studies revealed that motives of NSSI in patients with BPD are complex and cannot be easily reduced to a single reason. NSSI is also used to terminate symptoms of dissociation such as derealization and depersonalization. Further motives comprise self-punishment, feeling physical pain, reducing anxiety and despair, emotion generation, controlling others, distraction, and preventing oneself from acting on suicidal feelings (Brown et al. 2002; Favazza 1989; Shearer 1994; Osuch et al. 1999).

Some limited understanding of the neurobiological underpinnings of NSSI is emerging. Self-injury in patients with BPD is clearly related to emotion dysregulation as well as disturbed pain processing. Several studies have demonstrated that self-injurious patients with BPD show reduced pain sensitivity in relation to emotional stress (Bohus et al. 2000; Ludascher et al. 2007; Schmahl et al. 2004). In the first study (Bohus et al. 2000), patients were investigated twice, under baseline conditions and during high levels of stress. Even under baseline conditions, pain sensitivity in the Cold Pressor Test was significantly lower in patients with BPD than in members of a healthy control group. During high levels of stress, the same patients revealed a further decrease of pain sensitivity in comparison to the baseline condition. The close correlation between aversive

tension and pain sensitivity was also replicated on an interindividual level (Ludascher et al. 2007). Reduced pain sensitivity was confirmed using different methods of pain stimulation such as laser (Schmahl et al. 2004) or heat (Schmahl et al. 2006).

It was also demonstrated that reduction of pain sensitivity is not related to a disturbance of the sensory-discriminative component of pain processing but rather to an alteration of affective pain processing (Cardenas-Morales et al. 2011; Schmahl et al. 2004). Spatial discrimination of laser pain stimuli was not disturbed in spite of reduced subjective pain perception (Schmahl et al. 2004). Also, laser-evoked potentials including the P300 component as a measure of attentional processes were not reduced. This finding speaks for normal processing of pain from the periphery through the lateral pain pathway to the somatosensory cortex. Cardenas-Morales et al. (2011) used repetitive peripheral magnetic stimulation to evoke pain in patients with BPD as well as in healthy control participants. In both groups, stimulus intensity was closely correlated with subjective pain perception. However, the correlation between stimulus intensity and affective markers of pain was lost in patients with BPD. These findings again speak for a disturbance of the affective processing of pain in BPD while sensory processing appears to be intact. In addition, a functional polymorphism (Val158Met) of the gene coding for catechol-O-methyltransferase distribution was found to be associated with cognitive neural pain processing in healthy persons but with affective neural pain processing in patients with BPD (Schmahl et al. 2012b).

In an attempt to test the influence of psychopathological states on pain sensitivity, Ludascher et al. (2009) compared patients who had not inflicted NSSI for at least 6 months with patients who showed ongoing NSSI. Sensitivity to pain, including laser and heat pain sensitivity, was measured in these two groups as well as in a healthy comparison group. Overall, a linear trend was found, with the BPD group that had terminated NSSI ranging halfway between the BPD group with ongoing NSSI and the healthy comparison group. These findings suggest that cessation of self-injurious behavior leads to a normalization of pain sensitivity in patients with BPD. Further longitudinal studies, including those measuring pain sensitivity before and after treatment, are necessary to further elucidate the interaction between BPD symptom severity and pain.

On a neural level, reduced pain sensitivity is related to the activation of an antinociceptive network of brain regions in patients with BPD. More specifically, tonic heat pain stimuli, which were adjusted for individual pain sensitivity during an fMRI study, elicited higher activity in dorsolateral prefrontal cortex together with reduced activity in amygdala, perigenual anterior cingulate cortex, and posterior parietal cortex in patients with BPD compared with healthy age-matched control subjects (Schmahl et al. 2006). In a follow-up study, this antinociceptive pattern was more pronounced in patients with BPD and cooccurring PTSD than in those with only BPD (Kraus et al. 2009).

As mentioned in the first paragraph of this section, painful stimuli—for example, in the context of NSSI—appear to play a decisive role in the dysfunctional attempts of patients with BPD to regulate emotions. As cognitive methods of emotion regulation such as reappraisal appear not to be successful to restore prefrontal-limbic dysbalance in patients with BPD (Koenigsberg et al. 2009; Schulze et al. 2011), one can speculate

that painful stimulation may have an effect on brain activation in regions related to emotion regulation. Indeed, thermal stimuli—independent of painfulness—led to a reduction of stress-induced amygdala hyperactivity (Niedtfeld et al. 2010). In this study, viewing of pictures to induce negative versus neutral affect was combined with thermal (painful and nonpainful) stimulation. Picture viewing led to increased activity in the amygdala and insula in patients with BPD compared with healthy control subjects; then, both nonpainful warm and painful hot stimuli were related to a reduction of these increased signals. In a later functional connectivity analysis, Niedtfeld et al. (2012) found that only painful heat stimulation, but not nonpainful warm stimulation, following negative emotional pictures led to more negative coupling of amygdala with medial prefrontal cortex. This negative coupling, which can be associated with a normal inhibitory connection, was found to be present in healthy control participants during nonpainful warm stimulation. Taken together, findings from this study suggest that in patients with BPD, painful stimuli are necessary to restore inhibitory prefrontal-limbic connection. This may explain why patients need strong painful stimuli, as in the context of NSSI, to regulate their emotional arousal.

From a perspective of experimental psychopathology (i.e., modeling of pathological behavior under laboratory conditions), several aspects of NSSI should be considered when studies on its neurobiological background are being designed. NSSI is a complex behavioral pattern, which comprises—besides painful experience—other aspects such as tissue damage or seeing one's own blood flow. To model such a complex behavior under laboratory conditions is a difficult and challenging task. In a first attempt to investigate the role of tissue damage in the context of NSSI, Reitz et al. (2012) studied incision-induced pain in patients with BPD. In a pilot study, stress was first induced by mental arithmetic under time pressure and negative social feedback. Directly after this stress induction, the investigator made a small incision with a scalpel on the subject's forearm and then recorded subjective as well as objective (heart rate) measures of stress. The incision led to a decrease of aversive tension in patients with BPD but to a further increase of aversive tension in healthy controls. Heart rate in patients with BPD decreased after the incision but not after a sham condition, in which the skin was touched with the blunt end of the scalpel. Findings from a recent fMRI study suggest that the incision, but not the sham treatment, leads to a restoration of the typical poststress connectivity pattern between amygdala and medial prefrontal cortex (S. Reitz, R. Kluetsch, I. Niedtfeld, et al., manuscript under review).

From a neurochemical point of view, the endogenous opioid system appears to play an important role in the context of disturbed pain processing and NSSI (Bandelow et al. 2010; Stanley and Siever 2010). The endogenous opioid system is related to stress-induced analgesia, a mechanism related to NSSI as discussed earlier in this section, as well as to dissociation in patients with BPD. NSSI and dissociation can be reduced by treatment with the opioid antagonist naltrexone (Bohus et al. 1999; Schmahl et al. 2012b; Sonne et al. 1996). One potential mechanism, besides blocking opioid-mediated positive reinforcement processes, is the reduction of stress-related dissociative symptoms by naltrexone, which reduces the need to terminate dissociative states by using NSSI.

Dissociation

Dissociation is composed of varying degrees of depersonalization, derealization, and reduced sensory perception, including reduced pain sensitivity. In patients with BPD, dissociation is state dependent and closely related to stress levels (Ludascher et al. 2007; Stiglmayr et al. 2008). Although dissociative states can be reliably assessed, the investigation of neurobiological processes underlying dissociative states is relatively new. Patients with dissociative identity disorder revealed markedly reduced volumes of hippocampus and, particularly, amygdala (Vermetten et al. 2006). On a neurophysiological level, reduced P300 amplitudes (Kirino 2006), altered magnetoencephalography-measured brain waves (Ray et al. 2006), and altered cortical excitability (Spitzer et al. 2004) have been associated with dissociative experience in patients and healthy control subjects. A close correlation between pain sensitivity and dissociation levels has also been demonstrated experimentally (Ludascher et al. 2007, 2010). In these studies, dissociation was related to reduced pain sensitivity.

It has been suggested that dissociation constitutes an emotional overmodulation mode in response to experience of (traumatic) stress as opposed to an emotional undermodulation mode with predominant intrusive symptoms, and that these two modes can also be segregated on a neurofunctional level (Sierra and Berrios 1998; Lanius et al. 2010; Ludascher et al. 2010). Particularly, overactivity of medial prefrontal brain regions with concomitant limbic down-regulation is thought to underlie dissociative psychopathology. Corroboration of these assumptions comes from several sources. Patients with BPD and high levels of dissociation had significantly lower startle responses compared with patients with low levels of dissociation (Ebner-Priemer et al. 2005). This finding may also be interpreted in the light of reduced amygdala activity during dissociative states as suggested by Sierra and Berrios (1998). Results from a study investigating the influence of dissociation on emotional-cognitive processing lends further evidence for the model of emotional overmodulation; dissociation scores were negatively correlated with activity in amygdala, insula, and anterior cingulate cortex during emotional distraction while BPD subjects were performing a working memory task (Krause-Utz et al. 2012).

The results of a classical conditioning study highlight a potential negative side effect of dampened limbic, particularly amygdala, activity: a significant reduction of fear conditioning and emotional learning processes during dissociative states (Ebner-Priemer et al. 2009). When patients with BPD were retrospectively separated into two groups (those with dissociation during fear conditioning and those without), only those without dissociation revealed normal fear conditioning processes, whereas patients with dissociation did not show differential conditioning in terms of skin conductance responses or emotional valence coding. This experiment was repeated using experimentally induced (script-driven imagery) dissociative states. Script-driven imagery is well suited to specifically inducing dissociation in patients with BPD (Ludascher et al. 2010). Individual situations eliciting dissociation are depicted for each patient. During the presentation of the script, higher values for dissociation as well as reduced pain sensitivity during induced dissociation were found (Ludascher et al. 2010). After script-induced dissociation, classical conditioning was again demonstrated to be disturbed in patients with BPD, and this disturbance appeared to be based on al-

terations in amygdalar and hippocampal processing (Friederike Schriner, personal communication, August 15, 2013).

Given the disturbance of emotional learning processes in relation to changes in limbic brain activity, it is not surprising to find a profound negative impact of dissociation on psychotherapy outcome, because most psychological treatments rely on basic learning processes to reach changes in psychopathology. In several psychiatric disorders, dissociation could be demonstrated to be a negative predictor of psychotherapy outcome (Rufer et al. 2006; Spitzer et al. 2007). In a study in patients with BPD, high baseline scores on the Dissociative Experience Scale predicted poor improvement after a 3-month course of dialectical behavior therapy, even after controlling for overall baseline symptom severity (Kleindienst et al. 2011).

The construct of dissociation has been derived from clinical experience as well as research in humans. There is to date no animal model for dissociation. Hence, animal research must rely on human analogues of this phenomenon. Translational research has to develop research designs to study these components in parallel in animals and humans.

Dissociation is a phylogenetically evolved, complex behavioral pattern with species-specific modifications. One possible analogue of dissociation in animals can be derived from behavioral research using fear-conditioning paradigms. The behavior systems approach views an animal as having a set of several genetically determined, prepackaged behaviors that it uses to solve particular functional problems. If the problem has to be solved immediately, the animal's behavioral repertoire becomes restricted to those genetically hardwired behaviors. This was outlined by Bolles (1970) in his *species-specific defense reaction* (SSDR) theory. When an animal is confronted by a natural environmental threat (e.g., a predator) or an artificial one (e.g., an electrical shock), its behavioral repertoire becomes restricted to its SSDRs. Freeze, fight, and flight are examples of SSDRs. The so-called defensive behavior system (Fanselow 1994) is organized by the imminence of a predator and can be divided into three stages: preencounter, postencounter, and circa-strike. *Preencounter* defensive behaviors comprise reorganization of meal patterns and protective nest maintenance, if an animal has to leave a safe nesting area. When the level of fear increases (e.g., because of actual detection of a predator), the *postencounter* defensive behavior mode becomes active. This mode includes multiple dimensions (Bohus et al. 1996; Fanselow 1994; Mayer and Fanselow 2003): 1) a motor component (freezing), 2) a sensory component (opiate analgesia), 3) an autonomic component (activity of the sympathetic and parasympathetic nervous systems), 4) an endocrinological component (HPA axis), and 5) an emotional component (anxiety). In the case of physical contact (e.g., by the experience of pain), the animal engages in more active defenses, such as biting and jumping. This is an example of *circa-strike* behavior. Analogies between these types of animal behavior and dissociation in humans have been discussed (Nijenhuis and den Boer 2007).

In animals, critical anatomical structures for postencounter defensive behavior are the amygdala, the ventral periaqueductal gray, and the hypothalamus (for an overview, see Brandao et al. 2008). The amygdala has a central relay function or mediation of postencounter defensive behavior with important glutamatergic input from the thalamus to the lateral amygdala (Fanselow 1994). Furthermore, the

central amygdala mediates transfer of information about the threat level to the ventral periaqueductal gray (PAG), which in turn appears to mediate analgesia and freezing by opioidergic neurotransmission (Fanselow and Gale 2003; LeDoux 1992). The switch between freezing and more active behavioral patterns (fight, flight) appears to involve two parts of the PAG: whereas freezing is mediated by the ventral PAG, fight and flight responses involve the dorsal PAG (Brandao et al. 2008). Autonomic and endocrinological responses are mediated by connections of the amygdala with the hypothalamus (LeDoux et al. 1988). The exact localization of the emotional component is unclear but can be assumed to rely on amygdala-prefrontal cortex pathways (LeDoux 2002). *Circa-strike* behavior is mediated by the superior colliculus and the dorsolateral PAG, which receive nociceptive input from the spinal cord and the trigeminal nucleus (Blomqvist and Craig 1991). In phylogenetically more recent species, such as humans, these systems can be assumed to be usually controlled by higher cortical regions and to be activated under high levels of stress.

It can be hypothesized that dissociation is the representation of the postencounter defense mode in humans, comprising the same dimensions as described in animals but extended by an emotional-psychological component (depersonalization, derealization, and emotional numbness). In this model, self-destructive behavior, which can be observed frequently during dissociative states, such as in patients with BPD, may represent an analogue of the pain-induced switch of behavioral modes from postencounter to the circa-strike behavioral mode in a human being faced with high levels of aversive stress.

Conclusion

Research in the field of specific types of PDs, particularly BPD and ASPD, has significantly deepened the understanding of the nature of these disorders by applying methods of experimental psychopathology and neuroscience. Although affect regulation—the pathological trait of emotional lability, according to DSM-5 Section III, "Emerging Measures and Models"—is the functional domain that has been most intensively studied in PDs, recent research has focused on the interpersonal domain and on perception issues. Future studies should conflate these approaches by giving priority to detecting the unfavorable interaction between these domains. The alternative model for PDs in Section III of DSM-5 provides an elaborate classificatory approach to future studies in this field, making possible more homogeneous samples of patients to include in research studies. The evaluation of the degree and quality of impairment of interpersonal functioning (empathy and intimacy) will enable clinicians and researchers to profoundly describe interpersonal dysfunctioning in patients beyond nosological categorization and to identify its relation to brain dysfunctions and facilitate translational research.

Although animal models related to the complex psychopathology of PDs are still at the very beginning, they promise further advance in understanding gene × environment interactions and their epigenetic modulations in individuals prone to be highly vulnerable to adversity throughout their lives. Finally, translational research not only can contribute to clarifying the pathophysiology of PDs but, based on a deepened understanding of treatment mechanisms, also contribute

to developing innovative treatment options, whether it is psychotherapy or pharmacological add-on treatments with substances that may enhance psychotherapeutic effects, such as oxytocin in the interpersonal realm.

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CHAPTER 24

An Alternative Model for Personality Disorders

DSM-5 Section III and Beyond

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The diagnosis of personality disorders (PDs) according to explicit criteria, and their placement on Axis II of the multiaxial diagnostic system of DSM-III (American Psychiatric Association 1980), have had beneficial effects on this often confusing and poorly understood area of psychopathology. Since the innovations of DSM-III, assessment methods have been developed and refined, and sound research on PDs has increased dramatically. Axis II provided a framework with which to determine the independent consequences of personality psychopathology for the individual and for society and the impact of PDs on the course and outcomes of other forms of psychopathology. It is now generally understood that PDs are prevalent in both clinical and community settings. They are associated with high rates of social and occupational impairment and predict slower recovery, more likely relapse, and a more chronic course for a host of other mental disorders. These broad effects of personality psychopathology have costly implications for both individual well-being and society.

Critiques of DSM's approach to the diagnosis of PD, however, appeared almost immediately after the publication of DSM-III (Frances 1980, 1982). DSM's exclusively categorical approach has resulted in well-documented problems: extensive co-occurrence of PDs such that most patients receiving a PD diagnosis

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have personality features that meet criteria for more than one (e.g., Grant et al. 2005; Oldham et al. 1992; Zimmerman et al. 2005); extreme heterogeneity among patients with the same PD diagnosis, meaning that two patients with a particular disorder may share very few features (Johansen et al. 2004); temporal instability of PD diagnoses occurring at rates incompatible with the basic definition of a PD (Gunderson et al. 2011; Zanarini et al. 2012); arbitrary diagnostic thresholds in polythetic criteria sets with little or no empirical basis, resulting in the reification of disorders as present or absent with variable levels of underlying pathology (Balsis et al. 2011) and limited validity and clinical utility (Hyman 2010; Morey et al. 2007, 2012); poor coverage of personality pathology such that the diagnosis of PD not otherwise specified (PDNOS) has been the most commonly diagnosed (Verheul and Widiger 2004); and poor convergent validity of PD criteria sets such that patient groups diagnosed by different methods may be only weakly related to one another (Clark et al. 1997). None of these problems was successfully addressed in the ensuing iterations of DSM, including DSM-IV (American Psychiatric Association 1994).

As a consequence of these myriad problems, DSM-IV PD diagnoses have often not been used (e.g., "Diagnosis Deferred on Axis II"), have been underused (e.g., PDNOS), or have been erroneously used (e.g., diagnoses made on the basis of too few of the required criteria). Despite these long-recognized and significant shortcomings, however, the criteria for PDs in DSM-5 Section II, "Diagnostic Criteria and Codes," have not changed from those in DSM-IV.

The Personality and Personality Disorders (P&PD) Work Group for DSM-5 was charged with developing a new approach to the PD section that would begin to rectify some of these problems (Kupfer et al. 2002; Rounsaville et al. 2002). When the work group began its deliberations, a study endorsed by influential North American (Association for Research on Personality Disorders) and international (International Society for the Study of Personality Disorders) PD research organizations surveyed PD experts and found that 74% thought that the DSM-IV categorical approach to PDs should be replaced, 87% stated that personality pathology was dimensional in nature, and 70% supported a mixed categorical-dimensional approach to PD diagnosis as the most desirable alternative to DSM-IV (Bernstein et al. 2007). Hybrid models combining elements of dimensions and categories have been suggested by PD experts since before the publication of DSM-IV (Benjamin 1993; Blashfield 1993).

Such a categorical-dimensional hybrid had been developed in a DSM-5 planning meeting (Krueger et al. 2007), which preceded the formation of the P&PD Work Group and the start of work group discussions. A mixed approach improves on the DSM-IV system by striking a balance between introducing new elements called for by the field (e.g., dimensional elements) and maintaining continuity (e.g., preservation of PD categories)—an approach that takes into account research developments since the time of DSM-III, while still aiming to be minimally disruptive to clinical practice and research.

The alternative model for PDs in DSM-5 Section III, "Emerging Measures and Models" (American Psychiatric Association 2013), consists of assessments of the following: 1) new general criteria for PDs, 2) impairment in personality functioning, 3) pathological personality traits, and 4) criteria for six specific PDs.

Impairments in personality functioning and pathological personality traits are fundamentally dimensional in nature and, when combined with other DSM-IV-like inclusion and exclusion criteria, yield categorical diagnoses of the six PDs and a category called personality disorder–trait specified (PD-TS) for all other PD presentations. All six of these PDs were included in DSM-IV, but in the new model they are more consistently and coherently represented by impairment and trait manifestations. In this chapter, we review the rationale behind the alternative, hybrid model and discuss future research needs relevant to the possible inclusion of the model in the main section of the next revision of DSM.

General Criteria for Personality Disorder

The DSM-IV general criteria for a PD (GCPD) describe an enduring pattern of inner experience and behavior that is manifest in two or more of the following areas: cognition, affectivity, interpersonal functioning, and impulse control. These general criteria were introduced without justification or indication of an empirical basis. There is no mention of the GCPD in the PD chapters of the *DSM-IV Sourcebook* (Gunderson 1996; Widiger et al. 1996) or in papers that described the development of the revised classification (Frances et al. 1990, 1991; Pincus et al. 1992; Widiger et al. 1991). The DSM-IV GCPD do not appear to be specific for PDs; other chronic mental disorders seem likely to also meet the GCPD, leading to problems in differential diagnosis. Furthermore, the specific criteria for individual PDs in DSM-IV are often inconsistent with the GCPD, creating additional possible confusion.

In the DSM-5 Section III GCPD (see the appendix to this textbook), the DSM-IV A criterion is divided into two criteria: the new Criterion A requires moderate or greater impairment in personality functioning, and the new Criterion B requires the presence of pathological personality traits. All PDs in Section III include specific, typical expressions of these A and B criteria, and PD-TS includes the GCPD A and B criteria themselves, making all PD diagnoses in DSM-5 Section III consistent with the GCPD.

Impairment in Personality (Self and Interpersonal) Functioning

Self and interpersonal impairments are at the core of personality psychopathology. Hopwood et al. (2011) demonstrated empirically that the DSM-IV PD criteria most strongly related to a PD severity dimension (based on a count of all criteria) were preoccupation with social rejection, fear of social ineptness, feelings of inadequacy, anger, identity disturbance, and paranoid ideation. The nature and importance of these criteria are consistent with the proposition that at the core of PDs of all types is disturbance in how one views one's self and other people. Previously, Morey (2005) demonstrated that difficulties in empathic capacity, at varying levels, can be found at the core of all types of personality psychopathology (for a detailed discussion of this self-other core of personality psychopathology, see Chapter 3, "Articulating a Core Dimension of Personality Pathology," in this volume).

DSM-IV PD criteria are heavily oriented toward self and interpersonal difficulties. In the DSM-IV GCPD, the "cognition" area under Criterion A gives "ways of perceiving and interpreting self,

other people, and events" as a definition. The "interpersonal" criterion refers to "interpersonal functioning" (American Psychiatric Association 1994). Thus, the centrality of self and interpersonal issues in PDs was recognized in DSM-IV but was not represented systematically or consistently. Hundreds of studies have been conducted on the relations between self and interpersonal constructs and personality psychopathology. The inclusion of impairment in self and interpersonal functioning in the GCPD of the DSM-5 Section III model, and as core elements of the Level of Personality Functioning Scale (LPFS, see the following subsection) and the Section III PDs, is an explicit extension of what was implicit in DSM-IV and has been well supported empirically.

The process of formulating the core impairments in personality functioning that are central to PDs began with a literature review (Bender et al. 2011) that considered a number of reliable and valid clinician-administered measures for assessing personality functioning and psychopathology. The review demonstrated that a self-other dimensional perspective has an empirical basis and significant clinical utility. Numerous studies using measures of self and interpersonal functioning have shown that a self-other approach is informative in determining the existence, type, and severity of personality pathology. For example, Salvatore et al. (2005) illustrated that patients with paranoid PD (PPD) typically see themselves as weak and inadequate, and view others as hostile and deceitful. Patients with narcissistic PD (NPD) have been found to have dominant states of mind pervaded by distrust toward others and feelings of either being excluded or being harmed (Dimaggio et al. 2008). Jovev and Jackson (2004) demonstrated that individuals with avoidant PD (AVPD) utilize maladaptive schemas centering on a self that is defective and shame-ridden, expecting to be abandoned because of their shortcomings, and that persons with obsessive-compulsive PD (OCPD) are burdened by a schema of self-imposed, unrelenting standards. Eikenaes et al. (2013) found that patients with AVPD could be distinguished from patients with social phobia on the basis of having more problems with self-esteem, identity, and relationships. Several studies have found the representations of self and others of patients with borderline PD (BPD) to be more elaborated and complex than those of other types of patients, but also more distorted and biased toward hostile attributions (e.g., Blatt and Lerner 1983; Lerner and St. Peter 1984; Stuart et al. 1990; Westen et al. 1990). For example, patients with BPD are significantly more likely to assign negative attributes and emotions to the picture of a face with a neutral expression (Donegan et al. 2003; Wagner and Linehan 1999).

Reliable ratings can be made on a broad range of self-other constructs, such as identity and identity integration, agency, self-control, sense of relatedness, capacity for emotional investment in and maturity of relationships with others, responsibility, and social concordance. The most reliable (ICC $\geq$ 0.75) dimensions found in the measures considered in the review by Bender et al. (2011) were *identity, self-direction, empathy,* and *intimacy.* These were retained for the definition of personality functioning in the DSM-5 alternative model. Definitions of these four elements are presented in Table 24–1.

Self-other constructs have shown robust reliability and validity in characterizing PDs. Criterion-level reliability studies have found that criteria related to self (e.g., chronic emptiness, identity disturbance) and interpersonal (e.g., unsta-

TABLE 24–1. Elements of personality functioning

Self:

1. ***Identity:*** Experience of oneself as unique, with clear boundaries between self and others; stability of self-esteem and accuracy of self-appraisal; capacity for, and ability to regulate, a range of emotional experience.
2. ***Self-direction:*** Pursuit of coherent and meaningful short-term and life goals; utilization of constructive and prosocial internal standards of behavior; ability to self-reflect productively.

Interpersonal:

1. ***Empathy:*** Comprehension and appreciation of others' experiences and motivations; tolerance of differing perspectives; understanding the effects of one's own behavior on others.
2. ***Intimacy:*** Depth and duration of connection with others; desire and capacity for closeness; mutuality of regard reflected in interpersonal behavior.

ble or stormy relationships) functioning are rated as having reliability equal to or greater than other BPD criteria (e.g., affective instability, physically self-damaging acts), with no significant differences between self and interpersonal criteria (Frances et al. 1984; Gamache et al. 2009; Grilo et al. 2004, 2007; Gunderson et al. 1981; Pfohl et al. 1986; Zanarini et al. 2002a, 2003). A two-item self-report measure of personality functioning (one self item, one interpersonal item) had good test-retest reliability across four DSM-5 Academic Centers Field Trial sites (pooled ICC=0.686) (Narrow et al. 2013).

Verheul et al. (2008) assessed core components of personality functioning in 2,730 patients and community members in the Netherlands using the Severity Indices of Personality Problems (SIPP-118), a self-report questionnaire. Twelve of 16 facets of personality functioning distinguished patients with PDs from *both* psychiatrically healthy comparison subjects and patients with other mental disorders, with a median effect size of 0.92 (moderate to large) for the differences between PD and normal samples. The 16 facets factored into five higher-order domains: self-control, identity integration, relational capacities, social concordance, and responsibility. Each of the five domains distinguished patients with no PDs from those with one PD and those with one PD from those with two or more PDs. These results were replicated in a sample of 767 adolescent patients and comparison subjects by Feenstra et al. (2011), who found that all 16 SIPP-118 personality functioning facets reflected greater impairments in patients with PDs. Patients with the most PD traits (criteria) had the most impairment in the five domains of the SIPP-118, with self-control and identity integration showing the largest differences. Berghuis et al. (2012) assessed personality functioning with the General Assessment of Personality Disorder and the SIPP-118, PDs with the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II), and personality traits with the NEO Personality Inventory—Revised (NEO-PI-R) in 424 patients. Principal component analysis clearly distinguished general personality dysfunction from personality traits. The general personality dysfunction model consisted of three factors: self-identity dysfunction, relational dysfunction, and prosocial functioning. These three studies, involving almost 4,000 patients and control subjects, lend strong support for the inclusion of impairment in personality functioning (both

self and interpersonal) in Criterion A of the GCPD.

Morey et al. (2011) conducted secondary analyses of data from two of the previously mentioned studies in the Netherlands (Berghuis et al. 2012; Verheul et al. 2008) with more than 2,000 patient and community subjects who had completed the self-report measures of personality functioning and had received semi-structured interview assessments of DSM-IV PDs. Approximately 44% of patients in the Berghuis sample and 52% in the Verheul sample met criteria for a DSM-IV PD. Item Response Theory analyses characterized the types of self and interpersonal problems associated with different levels of impairment as represented by the LPFS in DSM-5 Section III (see the following subsection). The results delineated a coherent global dimension of impairment in personality functioning that was related to the likelihood of receiving any PD diagnosis, two or more PD diagnoses, and one of the more severe PDs (e.g., BPD, STPD, ASPD) (Morey et al. 2011).

Impairment in self and interpersonal functioning is consistent with multiple theories of PD and their research bases, including cognitive-behavioral, interpersonal, psychodynamic, attachment, developmental, social-cognitive, and evolutionary theories, and has been viewed as a key aspect of personality pathology in need of clinical attention (e.g., Clarkin and Huprich 2011; Hopwood et al. 2013b; Luyten and Blatt 2011, 2013; Pincus 2011). A factor-analytic study of existing measures of psychosocial functioning found "self-mastery" and "interpersonal and social relationships" to be two of four major factors (Ro and Clark 2009). Furthermore, personality functioning constructs align well with the National Institute of Mental Health Research Domain Criterion of "social processes" (Sanislow et al. 2010), in which "perception and understanding of self" and "perception and understanding of others" are core constructs. The interpersonal dimension of personality pathology has been related to attachment and affiliative systems regulated by neuropeptides (Stanley and Siever 2010), and variation in the encoding of receptors for these neuropeptides may contribute to variation in complex human social behavior and social cognition, such as trust, altruism, social bonding, and the ability to infer the emotional state of others (Donaldson and Young 2008). Neural instantiations of the "self" and of empathy for others also have been linked to the medial prefrontal cortex and other cortical midline structures—the sites of the brain's so-called "default network" (Fair et al. 2008; Northoff et al. 2006; Preston et al. 2007; Qin and Northoff 2011).

Impairment in personality functioning exists on a continuum, and empirical analyses determined the level at which a "disorder" is diagnosed. Moderate impairment in personality functioning is required by the revised Criterion A. Moderate impairment is indicated by a rating of 2 or greater on the LPFS. Moderate impairment in personality functioning had a sensitivity of 0.85, a specificity of 0.73, and an area under the ROC (receiver operating characteristic) curve of 0.83 for a DSM-IV PD in a study of 337 clinician-rated patients conducted by Morey et al. (2013a). Requiring only mild impairment increased sensitivity (99%) but decreased specificity dramatically (15%). From the clinician's point of view, therefore, a single-item rating on the LPFS constitutes a highly efficient and effective screen for the possible presence of a PD.

Level of Personality Functioning Scale

Research indicates that generalized severity is the most important single predictor of concurrent and prospective dysfunction in assessing personality psychopathology (Hopwood et al. 2011). Furthermore, PDs are optimally characterized by a generalized personality severity continuum with additional stylistic elements, derived from both PD symptom constellations (e.g., peculiarity) and personality traits. There is wide consensus (e.g., Crawford et al. 2011; Parker et al. 2002; Pulay et al. 2008; Tyrer 2005; Wakefield 1992, 2008) that severity assessment is essential to any dimensional system for personality psychopathology. Moreover, the ICD-11 PD Work Group has proposed severity as the central element of PD (Tyrer et al. 2011). Thus, the DSM-5 P&PD Work Group determined that a personality dysfunction severity scale would be a necessary improvement to PD assessment for DSM-5, and included the LPFS in the Section III model (see the appendix to this textbook).

The LPFS uses each of the elements of personality functioning that are incorporated into Criterion A of the alternative model—identity, self-direction, empathy, and intimacy—to differentiate five levels of impairment on a continuum of severity ranging from little or no impairment (Level 0) to extreme impairment (Level 4). The appendix to this textbook provides the full LPFS with definitions for every level of functioning. In the DSM-5 Academic Center Field Trials, the LPFS was rated with adequate test-retest reliability overall (ICC=0.416) by untrained but experienced clinicians, and rated with higher reliability than a number of other DSM-5 dimensional measures.

With respect to utility, self-interpersonal problems such as insecure attachment and maladaptive schemas have been shown to be associated significantly with PD psychopathology and impairments in psychosocial functioning, as well as to affect clinical outcome (e.g., Bender et al. 1997; Fonagy et al. 1996; Jovev and Jackson 2004; Levy et al. 2006). Self-other dimensions have discriminated different types of PD pathology, predicted various areas of psychosocial functioning, and been shown to be moderators of treatment alliance and outcome (e.g., DeFife et al. 2013; Diguer et al. 2004; Feenstra et al. 2011; Peters et al. 2006; Piper et al. 2004; Verheul et al. 2008).

For example, in a sample of 90 patients in outpatient treatment, a Social Cognitions and Object Relations Scale (SCORS) composite was significantly correlated with psychosocial functioning measured by the Global Assessment of Functioning (GAF), the Global Assessment of Relational Functioning (GARF), and the Social and Occupational Functioning Assessment Scale (SOFAS) (Peters et al. 2006). The correlation was strongest (0.53, large effect) for relational functioning. In a sample of 294 adolescent patients, the composite self-other variables from the SCORS predicted global functioning, school functioning, externalizing behavior, and past hospitalization (DeFife et al. 2013). In this study, the SCORS composite significantly predicted variance in the domains of adaptive functioning above and beyond age and DSM-IV PD diagnosis. In another sample of 378 adolescent patients and 389 community adolescents (Feenstra et al. 2011), the total amount of PD pathology, as represented by the number of diagnostic criteria met, was significantly related to the amount of impairment in the domains of self-control, identity integration, relational capacities, social concordance, and responsibility, as measured by the SIPP-118. These studies support the clinical significance of mea-

suring severity of impairment in personality functioning on a continuum.

The severity of impairment in self and interpersonal functioning also has predicted empirically important factors such as treatment utilization and treatment course and outcome (e.g., Ackerman et al. 2000; Bateman and Fonagy 2008; Feenstra et al. 2011; Harpaz-Rotem and Blatt 2009; Piper et al. 2004; Verheul et al. 2008; Vermote et al. 2010). The degree of impairment in personality functioning shows short-term stability but is sensitive to change. For example, in a sample of university students, 14- to 21-day test-retest reliabilities of SIPP-118 domains were very good to excellent, with correlations ranging from 0.87 for social concordance to 0.95 for self-control (median =0.93) (Verheul et al. 2008). In 60 patients in that study who were treated for an average of 11+ months as outpatients or in a day hospital and followed-up after 2 years, SIPP-118 domains of self-control, identity integration, and responsibility gradually improved over time, relational capacities improved over the first year, and social concordance improved during the second year. In a subsample of 53 adolescents in the Feenstra et al. (2011) study who were treated as inpatients, 14 of 16 facets of the SIPP-118 showed significant improvement after 1 year, with effect sizes ranging from 0.37 to 1.24, indicating small to very large effects. In a study of interpretative treatment in 72 outpatients, level of the quality of object relations predicted outcome measured by general symptomatology and dysfunction (including self-esteem and interpersonal distress) and by social and sexual maladjustment (Piper et al. 2004). These studies illustrate that the self-other dimension is not subject to brief changes in clinical state but can reflect adaptive change, for example as a result of treatment. Thus, the LPFS provides a useful dimensional severity assessment capability to the realm of DSM PDs.

Pathological Personality Traits

DSM-IV (and DSM-5 Section II) defines personality traits as "enduring patterns of perceiving, relating to, and thinking about the environment and oneself that are exhibited in a wide range of social and personal contexts" (American Psychiatric Association 1994, p. 630) and states that it is "only when personality traits are inflexible and maladaptive and cause significant functional impairment or subjective distress [that] they constitute Personality Disorders" (p. 630). For each specific DSM-IV PD, a brief summary of its particular "pattern" (i.e., defining traits) is provided in the criteria "stem," which is followed by seven to nine specific criteria designed to indicate the pattern. For example, diagnosis of BPD indicates a pattern of "instability of interpersonal relationships, self-image, and affects, and marked impulsivity," with five or more of nine specific criteria that represent manifestations of this pattern required.

Thus, DSM-IV defines PDs in terms of personality traits. However, there are a number of shortcomings of the DSM-IV implementation of maladaptive personality traits for describing PDs that the DSM-5 Section III model sought to rectify. First, DSM-IV does not provide a comprehensive set of maladaptive personality traits for the criteria of PDs. Instead, 79 specific (adult) PD criteria are provided, which together are an amalgam of traits, behaviors, symptoms, and consequences. Second, for some DSM-IV PDs, there are inconsistencies between

the defining trait(s) (i.e., those in the "stem") and the specific criteria by which the trait(s) is to be indicated. For example, STPD is defined by two basic traits: 1) discomfort with, and reduced capacity for, close relationships and 2) cognitive or perceptual distortions and eccentricities of behavior. However, because STPD is then indicated by nine criteria—four of which relate to interpersonal discomfort and five of which relate to cognitive distortions and eccentricity—and any five of these nine criteria are sufficient for a diagnosis, it is possible to meet criteria for STPD with no indicators of one of the two presumed principal traits. For some DSM-IV PDs, criteria indicators do not appear to reflect the disorder's defining trait(s). For example, ASPD is defined in DSM-IV as "disregard for and violation of the rights of others," but Criterion 3, "impulsivity or failure to plan ahead," does not necessarily reflect this trait, because impulsivity need not result in the violation of others' rights.

Furthermore, the DSM-IV PD diagnostic criteria provide a very limited set of indicators for each defining trait. In most cases, there are four or five indicators for a defining trait, which are too few for an internally consistent (reliable) assessment (Clark and Watson 1995). The results of four studies of the internal consistency of DSM criteria sets with a combined sample size of 980 show that no PD had an average alpha coefficient of 0.80; only avoidant and dependent PDs had average alphas $\geq$0.70, indicating less than optimal reliability (Blais et al. 1998; Clark et al. 2009; Morey1988; Warren and South 2009). Finally, the specific trait indicators of the DSM-IV PDs have limited applicability across gender, age, culture, or life circumstances. For example, Criterion 7 of PPD, "recurrent suspicions, without justification, regarding fidelity of spouse or sexual partner," would not apply to a person who has no partner, effectively limiting the number of criteria available for the diagnosis. Criterion 1 of AVPD, "avoids occupational activities that involve significant interpersonal contact," could not apply to one of the spouses in a single-earner, two-person household, or to a retired person.

To address these shortcomings, the DSM-5 P&PD Work Group recommended a number of changes. First, the DSM-5 Section III model provides a set of 25 maladaptive personality trait facets whose empirically based structure reflects that of the well-established five-factor model (FFM) of personality traits. The model is an extension of the FFM of personality that specifically delineates and encompasses the more extreme and maladaptive personality variants necessary to capture the maladaptive personality dispositions of individuals with PDs (Costa and Widiger 2002). The model includes five broad, higher-order personality trait domains—Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism—each comprised of three to nine lower-order, more specific trait facets that are representative of the domains (e.g., manipulativeness and callousness are two of the seven specific facets in the Antagonism domain) (Krueger and Eaton 2010; Krueger et al. 2011a, 2011b, 2012; Wright et al. 2012b). Trait domains and facets can be rated by clinicians on 4-point dimensional scales of descriptiveness, and patient-report and lay informant-report forms have also been developed. The structural validity of an original 37-trait model was tested in a three-wave community survey (Krueger et al. 2011b, 2012), and the model was subsequently revised to yield the five-domain, 25-trait model on which the DSM-5 Section III diagnostic criteria for PDs are based.

There is extensive evidence that the FFM represents a universal structure of personality traits that encompasses both the normal and abnormal range of traits in both self and observer ratings, as well as across age groups and diverse cultures (McCrae and Costa 1997). For example, Yamagata et al. (2006) found high congruence for the FFM across descriptive, genetic, and environmental factors in three countries (Canada, Germany, and Japan) in a sample of 1,209 monozygotic and 701 dizygotic twin pairs, and De Fruyt et al. (2009) found a universal structure in observer ratings of over 5,000 adolescents in 24 countries. The initial set of 37 recommended traits was refined empirically using representative population samples (including treatment-seeking samples), as described by Krueger et al. (2012). The appendix to this textbook lists the definitions of the five PD trait domains and 25 facets of DSM-5. (Further explanation on how to evaluate and rate traits can be found in Chapter 7, "Manifestations, Assessment, and Differential Diagnosis," in this volume.)

Next, the DSM-5 Section III GCPD requires that there be one or more pathological traits to diagnose PD. This requirement provides continuity with the DSM-IV definition of PD (as maladaptive personality traits) and with DSM-IV PD diagnoses. Then, rather than providing a limited set of indicators for the traits of each PD, the DSM-5 Section III model includes the traits themselves to comprise the B criteria. Using traits as indicators solves the current problems of the lack of correspondence between the defining traits of the PDs and the specific indicators and allows for variation in the expression of traits, depending on an individual's circumstances and personal characteristics (e.g., age).

From a psychometric perspective, personality traits can be assessed reliably. For example, the personality trait domains all had very good test-retest reliability in the DSM-5 Academic Centers Field Trials, as measured by a 36-item self-report Patient Rated Personality Scale (ICCs ranged from 0.84 for Negative Affectivity to 0.77 for Antagonism and averaged 0.81). Structured interviews for personality traits also show strong psychometric properties: Stepp et al. (2005) reported ICCs>0.90 for all domains and facets of the Structured Interview for the Five-Factor Model (SIFFM) in clinical and nonclinical samples.

The DSM-5 Section III model lists the component traits for six specific PDs (see section "Translation of Six DSM-IV Personality Disorders" later in this chapter). For PD-TS, the clinician is directed simply to note the patient's prominent maladaptive personality traits, whichever they may be. To maximize continuity with the DSM-IV PDs and also to create a tighter connection between the hallmark features of PDs and the criteria required to make a diagnosis, threshold algorithms for diagnoses are provided for the specific DSM-5 Section III PDs. For example, ASPD is defined by four specific trait facets of the higher-order trait domain of Antagonism and three specific trait facets of the higher-order trait domain of Disinhibition. As determined by empirical methods (Morey and Skodol 2013), a total of six of these seven trait facets are required for diagnosis, thus ensuring that there are at least two trait facets from each of the broad domains that comprise the trait set of ASPD (see also later subsection "Diagnostic Thresholds").

The 25 facet-level Personality Inventory for DSM-5 (PID-5) scales have been shown to be reliable (alphas re-

ported by Krueger et al. [2012] ranged from 0.72 to 0.96 in the normative U.S. population sample, with a median of 0.86). Domain-level scales of the PID-5 are also highly reliable because they consist of empirically based combinations of facet-level scales (range=0.84–0.96). (The PID-5, available in several versions, can be accessed online at http://www.psychiatry.org/practice/dsm/dsm5/online-assessment-measures.)

Comprehensive Coverage of DSM-IV Personality Disorders

An initial investigation of the link between the DSM-5 facets and DSM-IV PDs was provided by Hopwood et al. (2012). DSM-IV PDs were assessed with the Personality Diagnostic Questionnaire–4 (PDQ-4; Hyler 1994), a 99-item self-report instrument that assesses each of the diagnostic criteria for the 10 DSM-IV PDs. Traits proposed for DSM-5 PD types (see Table 24–2), as assessed by the PID-5, explained substantial variance in DSM-IV PDs as assessed by the PDQ-4, and trait indicators for the six PDs were mostly specific for those disorders. Traits and an indicator of general personality pathology severity also provided incremental information about PDs in this study, further supporting the validity of the hybrid personality functioning–trait model.

An empirically structured set of traits helps make the observed comorbidity between PDs comprehensible. Some PDs share traits in common. For example, BPD and AVPD are both characterized by the trait facet anxiousness, which "builds in" a certain degree of overlap or comorbidity. Similarly, BPD and ASPD may be expected to overlap even more frequently because they have three facets in common: hostility, impulsivity, and risk taking. Importantly, defining PDs by an empirically structured set of trait facets also explains overlap between some disorders that do *not* have any facets in common because of the hierarchical structure of personality traits. Specifically, PDs that are characterized by facets from the same domain can be expected to overlap more than those whose facets are from different domains, because trait facets within a domain are more strongly intercorrelated than trait facets across distinct domains. Thus, even though ASPD and NPD share no specific trait facets, they may be expected to co-occur with some frequency because traits in the Antagonism domain characterize both types. Thus, although the DSM-5 formulation does not eliminate the comorbidity built into the DSM-IV system, the observed empirical overlap is now well explained via shared traits within the hierarchical empirical structure of personality trait variation, and by the core components of the LPFS (see also Chapter 3, "Articulating a Core Dimension of Personality Pathology," in this volume).

Convergence With the Empirical Structure of Personality

In addition to providing reproductions of DSM-IV PDs, the DSM-5 trait set provides a *synthetic bridge* between DSM-IV PDs and the empirical structure of human personality, thus creating a pathway for moving systematically not only from DSM-IV to DSM-5, but also from DSM-5 to an even better system grounded in data that will be collected using the proposed structured set of trait facets. This synthetic bridge can be seen by examining the joint structure of the DSM-5 facets and established markers of the five major domains of personality variation. That is, an extensive literature shows that personality constructs are organized empirically

TABLE 24–2. Assignment of 25 trait facets to DSM-5 personality disorders

	Personality disorders					
Trait domains/facets	**ASPD**	**AVPD**	**BPD**	**NPD**	**OCPD**	**STPD**
Negative Affectivity (vs. Emotional Stability)						
Emotional lability			X			
Anxiousness		X	X			
Separation insecurity			X			
Perseveration					X	
Depressivity			X			
Detachment (vs. Extraversion)						
Withdrawal		X				X
Intimacy avoidance		X			X	
Anhedonia		X				
Restricted affectivity					X	X
Suspiciousness						X
Antagonism (vs. Agreeableness)						
Manipulativeness	X					
Deceitfulness	X					
Grandiosity				X		
Attention seeking				X		
Callousness	X					
Hostility	X		X			
Disinhibition (vs. Conscientiousness)						
Irresponsibility	X					
Impulsivity	X		X			
Risk taking	X		X			
Rigid perfectionism (lack of)					X	
Psychoticism (vs. Lucidity)						
Unusual beliefs and experiences						X
Eccentricity						X
Cognitive and perceptual dysregulation						X

Note. Underlining indicates common facets.
ASPD=antisocial personality disorder; AVPD=avoidant personality disorder; BPD=borderline personality disorder; NPD=narcissistic personality disorder; OCPD=obsessive-compulsive personality disorder; STPD=schizotypal personality disorder.

into five broad domains (Costa and Widiger 2002; Widiger and Simonsen 2005). These domains often are labeled Neuroticism (tense, anxious), Agreeableness (oriented toward getting along with other people), Extraversion (outgoing, friendly), Openness (to unusual and novel experiences), and Conscientiousness (orderly, planful). These domains have been shown to organize both normal- and abnormal-range personality constructs (Markon et al. 2005). This organizational continuity

emerges because abnormal- and normal-range variation are continuous with each other, a fact for which there is considerable and compelling evidence and, contrariwise, *no* compelling evidence that abnormal personality is different in *kind*, as opposed to being different in *degree*, from normal-range personality (Eaton et al. 2011; Haslam et al. 2012).

Recent studies have validated the relationship of the DSM-5 trait model to existing measures of the FFM and its variants. Thomas et al. (2013) conjointly factor analyzed data on 808 participants from a nonpatient sample collected using the PID-5 and the Five Factor Model Rating Form (FFMRF) and found a factor structure that reflected the domains of the FFM. Wright et al. (2012b) examined the hierarchical structure of DSM-5 traits measured by the PID-5 in 2,461 students. Exploratory factor analysis replicated the five-factor structure initially reported by the work group (Krueger et al. 2011a). The two-, three-, and four-factor solutions bore a close resemblance to existing models of common mental disorders, temperament, and personality pathology. In another student sample in Belgium, the five-factor structure from the U.S. derivation sample was also confirmed, and the joint structure of the DSM-5 pathological traits and general personality traits as measured by the NEO Personality Inventory–3 (NEO-PI-3) resembled the major dimensions of FFM and the Personality Psychopathology Five (PSY-5) (De Fruyt et al. 2013). Anderson et al. (2013) examined the convergence of PID-5 domains and facets and the PSY-5 domains as measured by the Minnesota Multiphasic Personality Inventory–2 Restructured Form (MMPI-2-RF). Correspondence between PSY-5 scales and their PID-5 counterpart domains was high, and a joint factor analysis indicated the five-factor structure shared by the two approaches. Finally, in the only sample of clinician ratings of patients on the DSM-5 pathological personality trait system, Morey et al. (2013b) found the same five-factor structure as proposed and replicated in the above-mentioned studies which used self-report measures and nonpatient samples.

Revision of DSM-IV General Criteria for PD for DSM-5 Section III

Relatively minor changes have been made to DSM-IV GCPD Criteria B through F for the DSM-5 Section III alternative model. A brief discussion of each of these criteria follows. (Some criteria letters differ in the two DSM editions, as clarified in the following text.)

GCPD Criterion B

DSM-IV Criterion B stated, "The enduring pattern is inflexible and pervasive across a broad range of personal and social situations" (American Psychiatric Association 1994, p. 633). The DSM-5 Section III model includes a revised GCPD Criterion C: "The impairments in personality functioning and the individual's personality trait expression are *relatively* [italics added] inflexible and pervasive across a broad range of personal and social situations" (American Psychiatric Association 2013, p. 761). The key elements of Criteria A and B (i.e., impairments in personality functioning and the individual's personality trait expression) are repeated in this criterion, as well as all subsequent GCPD, to keep the focus on these key elements, which the other GCPD modify or elaborate. The insertion of "relatively" before "inflexible and pervasive" is intended to dispel the mistaken belief that personality characteristics are cast in stone, and to convey that PD fea-

tures are not absolutely and completely unresponsive to any and all environmental circumstances.

GCPD Criterion C

Criterion C of DSM-IV stated, "The enduring pattern leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning" (American Psychiatric Association 1994, p. 633). This criterion has been deleted from the DSM-5 Section III model because it is redundant with the proposed Criterion A for impairment in personality functioning, which includes social functioning. Furthermore, the DSM-5 Impairment and Disability Assessment Study Group recommended that DSM-5 criteria should describe signs, symptoms, and manifestations of disorders, and not their consequences, neither internal (i.e., distress) nor external (e.g., occupational).

GCPD Criterion D

DSM-IV Criterion D referred to the longitudinal course of PDs as follows: "The pattern is stable and of long duration, and its onset can be traced back at least to adolescence or early adulthood" (American Psychiatric Association 1994, p. 633). Criterion D in DSM-5 Section III describes this pattern similarly: "The impairments in personality functioning and the individual's personality trait expression are *relatively* [italics added] stable across time, with onsets that can be traced back to at least adolescence or early adulthood" (American Psychiatric Association 2013, p. 761).

The notion of PDs as stable disorders to be distinguished from the more episodic mental disorders, such as mood disorders, has persisted despite a large number of one-time follow-up studies in the DSM-III and DSM-III-R (American Psychiatric Association 1987) eras that showed that less than 50% of patients diagnosed with PDs retained these diagnoses over time (Skodol 2008, 2013). The results of three methodologically rigorous, large-scale studies of the naturalistic course of PDs—The Collaborative Longitudinal Personality Disorders Study (CLPS) (Gunderson et al. 2000; Skodol et al. 2005c), The McLean Study of Adult Development (MSAD) (Zanarini et al. 2005), and The Children in the Community Study (CICS) (Cohen et al. 2005), conducted on patient (CLPS and MSAD) and community (CICS) populations—confirm that the longitudinal course of PD psychopathology is much more waxing and waning than stable. In addition, personality traits show clear temperamental antecedents (Shiner 2005) such that by school age, children's personality structure is similar to adults' structure (Shiner 2009; Tackett et al. 2009). As early as age 3 years, personality traits are moderately stable, but their stability increases across the lifespan until at least age 50 (Roberts and DelVecchio 2000). The insertion of "relatively" to modify "stable" in the revised Criterion D reflects this large body of empirical evidence. The redefinition of PDs in terms of personality functioning and pathological traits is expected to increase the stability of PD diagnoses, because both the functional impairments (Skodol et al. 2005b) and the trait manifestations (Hopwood et al. 2013a) of PDs have been found to be more stable than the symptomatic manifestations (McGlashan et al. 2005). A more detailed discussion of the longitudinal course of PDs can be found in Chapter 8, "Course and Outcome," in this volume.

GCPD Criterion E

DSM-IV Criterion E stated, "The enduring pattern is not better accounted for as a manifestation or consequence of an-

other mental disorder" (American Psychiatric Association 1994, p. 633). The revised criteria adopt the "standard" DSM-5 language for Criterion E: "The impairments in personality functioning and the individual's personality trait expression are not better explained by another mental disorder" (American Psychiatric Association 2013, p. 761).

GCPD Criterion F

Criterion F was meant to rule out substances and other medical conditions as a cause of personality psychopathology: "The enduring pattern is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., head trauma)" American Psychiatric Association 1994, p. 633). The revised criteria again reflect the "standard" DSM-5 language for this criterion: "The impairments in personality functioning and the individual's personality trait expression are not solely attributable to the physiological effects of a substance or another medical condition (e.g., severe head trauma)" (American Psychiatric Association 2013, p. 761). Mental disorders in DSM-5 are considered medical conditions.

GCPD Criterion G

Criterion G has been added to the DSM-5 Section III model for the GCPD and the individual PDs. It states, "The impairments in personality functioning and the individual's personality trait expression are not better understood as normal for an individual's developmental stage or sociocultural environment" (American Psychiatric Association 2013, p. 761). In DSM-IV, GCPD Criterion A includes the stipulation that the "enduring pattern" must deviate "markedly from the expectations of the individual's culture." In the DSM-5 alternative model, this concept is incorporated into a separate criterion, and developmental considerations are added. This change is consistent with the intention of DSM-5 to be widely applicable in different cultures and developmental age groups.

Translation of Six DSM-IV Personality Disorders

Criteria for individual PDs in DSM-IV were amalgams of traits, cognitions about self and others, behaviors, emotions, signs, symptoms, and interpersonal consequences of maladaptive personality functioning. Many of the individual criteria for the DSM-IV PDs reflect disturbances in sense of self and interpersonal functioning. Also, DSM-IV acknowledges the importance of personality traits in its description of a PD when it says, "Only when personality traits are inflexible and maladaptive and cause significant functional impairment or subjective distress do they constitute Personality Disorders" (American Psychiatric Association 1994, p. 630). Most of the criterion "stems" or lead-ins to the specific PD manifestations in DSM-IV rely heavily on self-interpersonal or trait language. For example, the criteria for NPD begin with "A pervasive pattern of grandiosity (in fantasy or behavior), need for admiration, and lack of empathy…" (American Psychiatric Association 1994, p. 661), and the criteria for AVPD begin with "A pervasive pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation…" (American Psychiatric Association 1994, p. 664). Many criteria for individual disorders vary from those that are directly trait-based (e.g., ASPD's "deceitfulness," "impulsivity," "irritability and aggressiveness," "reckless disregard for safety," and "irresponsibility";

American Psychiatric Association 1994, p. 650) to those that are more specific manifestations of traits (e.g., STPD's "ideas of reference," "odd beliefs or magical thinking," "unusual perceptual experiences," and "odd thinking and speech" [American Psychiatric Association 1994, p. 645], which are all manifestations of various facets of the broad trait domain of Psychoticism).

One result of the extreme variation in the ways PDs are characterized is their low convergent validity when operationalized in different measures. In an early study, the average kappa across specific PDs between an unstructured clinical interview and the Personality Disorder Questionnaire—Revised (Hyler and Rieder 1987) was an abysmal 0.08 (Hyler et al. 1989). A study comparing the LEAD (Longitudinal Evaluation using All Data; Spitzer 1983) standard to two different structured assessments yielded an average kappa of 0.25 for *any PD*—that is, simply whether individuals did or did not have a PD (Pilkonis et al. 1991). Importantly, these are not isolated examples. Meta-analytic convergence between structured interviews and between structured interviews and personality questionnaires, respectively, yielded kappas of 0.27 for specific PDs and 0.29 for any PD (Clark et al. 1997).

The P&PD Work Group was charged by the DSM-5 Task Force with developing a standard approach to diagnostic criterion sets that would be consistent with core personality functioning and trait dimensional constructs. Therefore, revised diagnostic criteria are included in DSM-5 Section III for six specific PDs: ASPD, AVPD, BPD, NPD, OCPD, and STPD. Each PD is translated into typical impairments in personality functioning (Criterion A) and particular sets of pathological personality traits (Criterion B). The other DSM-IV PDs (paranoid, schizoid, histrionic, and dependent), DSM-IV Appendix B PDs (depressive, passive-aggressive), and the residual category of PDNOS are diagnosed by the DSM-5 Section III model with PD-TS (Skodol 2012), which is represented by moderate or greater impairment in personality functioning, combined with specification by pathological personality traits based on individuals' most prominent descriptive trait features.

Specific Personality Disorders

The PDs with the most extensive empirical evidence of validity and clinical utility are BPD, ASPD, and STPD (Blashfield and Intoccia 2000; Morey and Stagner 2012). In contrast, there are very few empirical studies focused explicitly on paranoid, schizoid, or histrionic PDs. The rationales for retaining six of the 10 DSM-IV PDs (Skodol et al. 2011a) in DSM-5 Section III were based on their prevalence (and its consistency) in community and clinical populations, associated functional impairment, treatment and prognostic significance, and (where information was available) neurobiological and genetic studies. Moreover, the DSM-IV PDs for which the P&PD Work Group elected not to provide full descriptions in DSM-5 were characterized by the relative simplicity of their trait composition, such that they are easily represented. A recent study in a very large outpatient population revealed that 84% of PD diagnoses fell into one of the six specific PDs included in DSM-5 Section III (Zimmerman et al. 2012).

In both epidemiological (Torgersen 2009) and clinical (Stuart et al. 1998; Zimmerman et al. 2005) samples, AVPD and OCPD are consistently among the most

common PDs. BPD has a moderate prevalence in community studies but is one of the most common in clinical settings. STPD has relatively low prevalence in both populations but is highly impairing. ASPD is less common but has considerable individual and collective impact on society and related relevance in forensic settings. NPD is among the less common PDs, but constructs of narcissism have utility in treatment planning.

All DSM-IV PDs have moderate heritability (Coolidge et al. 2001; Kendler et al. 2006; Reichborn-Kjennerud et al. 2007; Torgersen et al. 2000, 2008); however, estimates are inconsistent across samples. Behavioral genetics evidence supports at least five of the six PD types retained for DSM-5 (the exception being NPD). STPD has been found to have the strongest loadings on genetic and environmental risk factors among DSM-IV Cluster A PDs (Kendler et al. 2006); ASPD and BPD have a second genetic and non-shared environmental factor over and above the genetic factor influencing all Cluster B disorders (Torgersen et al. 2008); and of the Cluster C PDs, AVPD has been found to be more heritable than dependent PD, and OCPD has disorder-specific genetic influence not found for the other two PDs (Reichborn-Kjennerud et al. 2007). The retained PD types also have been associated with increased rate of various types of abuse and neglect in both prospective (e.g., Johnson et al. 1999; Widom 1989) and retrospective (e.g., Battle et al. 2004; Zanarini et al. 2002b) studies. The retained PDs are associated with high and persistent degrees of functional impairment (Skodol et al. 2002, 2005a, 2005b), and BPD is associated with an increased risk for suicidal behavior (Oldham 2006). The retained specific PDs also are associated with poorer outcomes of a range of mood, anxiety, and substance use disorders (Ansell et al. 2011; Fenton et al. 2012; Grilo et al. 2005, 2010; Hasin et al. 2011; Skodol et al. 2011b).

Criteria Assignment

Initially, assignment of the specific A criteria to the six individual PD types was made by inspection of the related DSM-IV criteria involving self and interpersonal functioning, by consideration of the definitions of the proposed core components of personality functioning, and by clinical judgment; the proposed criteria were then examined in a survey of 337 clinician ratings of patients, hereafter referred to as "the Morey survey." Item-total correlations for the 24 A criteria (four for each of the six PDs) with the entire DSM-5 PD criterion set ranged from 0.70 (ASPD empathy) to 0.25 (OCPD empathy), with an overall mean of 0.48. The item-total correlation range was from 0.64 (ASPD) to 0.38 (OCPD). Self functioning (identity, self-direction) criteria had a mean item-total correlation across the six PDs of 0.45, and interpersonal functioning (empathy, intimacy) criteria had a mean of 0.51 (L.C. Morey, "Developing and Evaluating a DSM-5 Model for Personality Disorder Diagnosis: Data From a National Clinician Sample," unpublished manuscript, August 2012).

Saulsman and Page (2004) conducted a meta-analysis of 15 independent samples on relationships between the DSM-IV PDs and the broad, higher-order trait domains of the FFM as measured by the self-report NEO-PI-R (Costa and McCrae 1992). Samuel and Widiger (2008) conducted a non-overlapping meta-analysis of 18 independent samples, first replicating Saulsman and Page's (2004) domain-level findings and then further examining relationships between the DSM-IV PDs and the more specific, lower-order trait facets of the FFM. In addition to the NEO-PI-R, Samuel and Widiger also examined

studies that used either the SIFFM (Trull et al. 1998) or the FFM Rating Form (Mullins-Sweatt et al. 2006). The results of the two domain-level meta-analyses showed a high degree of similarity, indicating the robustness of the relations. The results of the FFM facet-level meta-analysis were used for the preliminary assignment of pathological personality traits to the B criteria for PDs, as represented in DSM-5 Section III.

These assignments then were examined by Hopwood et al. (2012) and by Morey et al. (L.C. Morey, "Developing and Evaluating a DSM-5 Model for Personality Disorder Diagnosis: Data From a National Clinician Sample," unpublished manuscript, August 2012). In the Morey survey, each of the 25 traits from the pathological trait model proposed for DSM-5 was correlated to the criterion count for DSM-IV PDs to examine the fidelity of the rendering of DSM-IV criteria by trait terms. For ASPD, each of the seven assigned traits had higher correlations with a DSM-IV diagnosis of ASPD than any of the other 18 traits (range 0.49 for hostility to 0.73 for irresponsibility; mean=0.65). The same was true for the six criteria for STPD. For OCPD, both of the assigned traits had the highest correlations, and two additional traits with significant correlations consistent with rationale-theoretical considerations were added; for AVPD, three of the four assigned traits had the highest correlations; and for BPD, five of seven had the highest correlations. Using Cohen's metric, half the correlations indicated a large effect size, 47% a medium effect size, and only one a small effect size; in all cases, the correlations were statistically significant ($P<0.01$). For NPD, grandiosity had the highest correlation (0.77), but several other traits including callousness, deceitfulness, and manipulativeness had higher correlations than attention seeking (0.54). These results paralleled the findings for NPD in the Hopwood et al. (2012) study. However, adding these traits to NPD increased overlap with ASPD considerably, so rather than being added to the NPD criterion set, they are mentioned as common "trait specifiers" for NPD, to modify the diagnosis and capture the concept of "malignant narcissism." After comparing the results from the Morey survey and the Hopwood et al. study, a change was made to the assigned traits of only one PD: intimacy avoidance and restricted affectivity were added to OCPD.

The new criteria for BPD were rated with moderately good reliability in the DSM-5 field trials (pooled interclass kappa=0.54), despite a monothetic B criterion set used at the time requiring seven of seven traits for a diagnosis (Regier et al. 2013). Subsequent analyses of the field trial data suggested that a polythetic rule for the B criterion set requiring four or five or greater of the trait facets would improve reliability and increase correspondence with the DSM-IV diagnosis. It is important to recognize that the DSM-5 Section III model provides a scientifically based framework (of impairment in personality functioning and maladaptive personality traits) in which DSM-IV PD concepts can be faithfully represented, meaning that validated aspects of these concepts will have continuity under the new system. As a demonstration, in the Morey survey comparing patients on all DSM-IV and DSM-5 specific PD criteria and dimensions, the correlations between rated criterion counts of DSM-IV and DSM-5 diagnostic concepts from the 337 patients are as follows: BPD, 0.80; ASPD, 0.80; AVPD, 0.77; NPD, 0.74; STPD, 0.63; and OCPD, 0.57 (Morey and Skodol 2013). In most instances, these values are comparable to the established joint in-

terview reliabilities of these diagnoses under DSM-IV, suggesting that *the agreement between DSM-IV and DSM-5 Section III PD diagnoses is likely to be as high as the agreement between two diagnosticians on DSM-IV (and now DSM-5 Section II) diagnoses.* However, an important difference is that in DSM-5, a coherent framework for representing the potential underlying endophenotypic structure of the PDs is provided, in contrast to the mixed collection of signs, symptoms, traits, and behaviors that make up the DSM-5 Section II diagnostic criteria.

Diagnostic Thresholds

Three scoring rules were compared for the A criteria for each PD using the data from the Morey survey: one or more each from self and from interpersonal functioning, any single A criterion, and any two A criteria. Maximizing sensitivity and specificity for the corresponding DSM-IV PDs were used as the outcomes. Sensitivity values are of particular importance relative to specificity for the A criteria, because all DSM-5 PDs are presumed to have core impairments in personality functioning and specificity will likely further result from pathological traits (B criteria). Over all six PDs, any two A criteria resulted in the best combination of strong sensitivities and adequate specificities (Morey et al. 2013a).

Originally, all specified PD traits were required for the diagnosis of a given PD. As mentioned in the previous subsection, these monothetic scoring rules were tested in the DSM-5 field trials. Although monothetic scoring reduces heterogeneity, it also reduces prevalence and reliability, so polythetic decision rules were investigated in the Morey survey. As an example, based on the DSM-5 field trial result that requiring either four or five of seven traits for BPD equally increased the test-retest reliability of the diagnosis, a threshold of any four B criteria was compared to any five using the Morey survey data. A threshold of any four criteria, compared to any five criteria, was associated with a higher kappa of agreement with a DSM-IV diagnosis (0.64 vs. 0.57), a prevalence more closely approximating the DSM-IV prevalence of 40.2% (40.1% vs. 28.7%), better discrimination from four of the five other DSM-5 PDs, and a stronger correlation to functioning (–0.30 vs. –0.25). Requiring only four criteria, however, means that a patient could be diagnosed with BPD with only the four criteria listed under the Negative Affectivity domain and, therefore, without any evidence of Disinhibition or Antagonism. Therefore, "any four criteria" was compared to an algorithm requiring four criteria and also requiring that one criterion be from either the Disinhibition domain (i.e., impulsivity or risk taking) or the Antagonism domain (hostility). This algorithm produced an equivalent kappa to the any four rule with DSM-IV BPD of 0.64, little change in prevalence (38.9%), and slightly more overlap with other PDs, but a slightly stronger relationship to functioning (–0.32). Thus, the final algorithm requires four or more Criterion B traits, one of which must be a trait from either the Disinhibition or the Antagonism domains (Morey and Skodol 2013).

A similar iterative process was followed for selecting the diagnostic thresholds for the B criteria for the other five specified PDs proposed for DSM-5. Balancing consideration of agreement with DSM-IV diagnosis (kappa) and prevalence, minimizing overlap with other PDs (i.e., discriminant validity), and maximizing the correlation to the composite of psychosocial functioning (social, occupational, leisure) in the Morey survey, the decision rules for the B criteria have been set as listed in Table 24–3.

TABLE 24–3. B criteria (trait domains/facets) diagnostic threshold algorithms for six DSM-5 personality disorder types

Personality disorder	Trait domains (facet *N*s)	Proposed algorithm
Antisocial	Antagonism (4) Disinhibition (3)	6 or more of 7
Avoidant	Detachment (3) Negative Affectivity (1)	3 or more of 4, and 1 must be anxiousness
Borderline	Negative Affectivity (4) Disinhibition (2) Antagonism (1)	4 or more of 7, and 1 must be impulsivity, risk taking, or hostility
Narcissistic	Antagonism (2)	Both
Obsessive-compulsive	Conscientiousness (1) Negative Affectivity (1) Detachment (2)	3 or more of 4, and 1 must be rigid perfectionism
Schizotypal	Psychoticism (3) Detachment (3)	4 or more of 6

Elimination of Childhood Conduct Disorder as a Requirement for Antisocial PD

In previous DSM editions, ASPD could be diagnosed only if childhood conduct disorder (CCD), with onset before age 15 years, was also present in the developmental history of the patient. In DSM-5 Section III, ASPD can be diagnosed in the absence of CCD. This significant change was made for several reasons.

First, the ASPD diagnosis in previous editions of DSM involved retrospective recall and/or review of records to establish that the CCD requirement was met. Retrospective recall has well-known shortcomings: not all patients are accurate reporters of their own history (Moffitt et al. 2010); in addition, historical records with sufficient information content and detail to establish or rule out a CCD diagnosis are not always available for adult patients or may be inaccessible to the clinician for legal reasons (e.g., juvenile criminal records are often inaccessible). Thus, the ASPD diagnosis in Section III is based solely on contemporary assessment data, pertaining to a person's personality, and consistent with all other PDs.

Second, the requirement of CCD for the diagnosis of ASPD implies that adult antisocial behavior (AAB) can only present in persons who met criteria for CCD. This is not empirically accurate. AAB can also present in the absence of CCD. Also, the majority (more than 50%) of children with conduct disorder do not go on to develop ASPD (Zoccoillo et al. 1992). For example, Silberg et al. (2007) studied CCD and AAB in a sample of male twins and reported a correlation of 0.46 between CCD and AAB, indicating both continuity and discontinuity in the development of antisocial behavior that is not recognized by the CCD requirement for ASPD. Moreover, AAB was associated with novel genetic effects that were not overlapping with genetic effects on CCD, indicating etiological distinctiveness between antisocial behavior syndromes occurring in different developmental periods. By removing the CCD require-

ment from ASPD, both conduct disorder and ASPD can be diagnosed as appropriate, recognizing the fact that people can and do change in their antisocial propensities over the life course. Children with conduct disorder are also at risk for developing other externalizing and internalizing mental disorders, not only for ASPD (e.g., Kim-Cohen et al. 2003). Moreover, other childhood disorders, in addition to conduct disorder, increase the risk of ASPD (e.g., Kasen et al. 2001).

Third, AAB (ASPD in the DSM-5 Section III) has been studied in both clinical and epidemiological samples and has been found to be both prevalent and consequential. Goldstein and Grant (2011) provided an extensive review of literature on the validity of AAB versus ASPD, focusing on both psychiatric and medical correlates of these syndromes, and concluded as follows: "Findings concerning the similarities between AAB and ASPD indicate the clinical and public health importance of AAB, calling into question the requirement under DSM criteria of CCD for the diagnosis of clinically serious antisociality in adults" (p. 52). They noted also that the prevalence of AAB is greater than the prevalence of ASPD, in spite of both syndromes having similar validity evidence. By removing the CCD requirement from ASPD, the proposed DSM-5 ASPD recognizes the substantial social costs of antisocial behavior in adulthood that is not necessarily accompanied by antisocial behavior in a developmentally earlier period.

Redefinition of PDNOS as PD-TS

DSM-IV states that PDNOS "is a category provided for two situations: 1) the individual's personality pattern meets the general criteria for a Personality Disorder and traits of several different Personality Disorders are present, but the criteria for any specific Personality Disorder are not met; or 2) the individual's personality pattern meets the general criteria for a Personality Disorder, but the individual is considered to have a Personality Disorder that is not included in the Classification (e.g., passive-aggressive personality disorder)" (American Psychiatric Association 1994, p. 629). DSM-5 Section III includes the more useful category personality disorder–trait specified (PD-TS) to replace PDNOS.

This new diagnosis in DSM-5 Section III allows clinicians to turn the residual PDNOS category into a clinically more useful one by selecting from the set of maladaptive traits those that are most characteristic of an individual and assigning an appropriate specific level of impairment in personality functioning. This can be done in both the instances described in DSM-IV—that is, 1) when an individual meets the GCPD but not the specific criteria for one of the specifically named disorders and 2) when an individual has a PD not included in DSM-5, whether it is a disorder from the DSM-IV appendix (i.e., depressive, passive-aggressive) or one that was rendered as a specific disorder in DSM-IV but is not specifically included in DSM-5 Section III (i.e., paranoid, schizoid, histrionic, dependent). For example, an individual meeting all the criteria for DSMIV-TR depressive PD might be characterized by depressivity (e.g., "is pessimistic"), anxiousness (e.g., "is brooding and given to worry"), anhedonia (e.g., "usual mood is dominated by dejection, gloominess, cheerlessness, joylessness, unhappiness"), and hostility (e.g., "is negativistic, critical, and judgmental toward others") (American Psychiatric Association 1994, p. 733).

PD-TS also can be used as the diagnosis when patients have such extensive personality pathology that they meet criteria for several of the specific PD, with or without additional traits. In such a case, it may be clinically more useful to state, for example, that the individual has extreme and extensive Negative Affectivity, Detachment, and Disinhibition, with manipulativeness and eccentricity, than to list the several diagnoses met (e.g., STPD, BPD, and AVPD plus manipulativeness), because it provides a more precise picture of the individual's specific pattern of trait psychopathology.

Use of Level of Personality Functioning and Pathological Traits as Specifiers

DSM-IV lacked a PD-specific severity specifier. In DSM-IV, neither the general severity specifiers nor the Axis V GAF Scale had sufficient specificity for personality psychopathology to be useful in measuring its severity. The LPFS, therefore, functions as a PD-specific severity measure in the alternative DSM-5 Section III model.

Both the severity level of personality functioning and the trait specifiers may be used to record additional personality features that may be present in a PD but are not required for the diagnosis. For example, although moderate or greater impairment in personality functioning is required for the diagnosis of BPD (Criterion A), the severity of impairment in personality functioning can vary between patients and thus can also be specified, if it is more severe and/or if it improves over time. In addition, traits of Psychoticism (e.g., cognitive and perceptual dysregulation) are not diagnostic criteria for BPD but can be specified if present. The provision of 25 pathological personality traits permits more systematic use of personality information to inform clinical case formulation and treatment planning than was possible in DSM-IV.

Traits to Augment the Description of Personality Disorders

DSM-IV states that when an individual meets criteria for more than one PD, both should be diagnosed. This is true in DSM-5 Section III PDs as well; however, in addition, if an individual meets criteria for a specific PD and has several prominent personality traits besides those needed to diagnose a specific PD, the additional traits may be listed to provide valuable personality information for use in treatment planning.

Traits of Clinical Significance in Patients Who Do Not Have a Personality Disorder

DSM-IV also states that specific maladaptive personality traits that do not meet the threshold for a PD may be listed. This is unchanged in DSM-5 Section III, except for the important difference that DSM-5 Section III provides a set of 25 specific trait facets for clinicians to use in describing the personality difficulties of their clients and in treatment planning. Given that personality has been shown to be an important modifier of a wide range of clinical phenomena and a source of dysfunction (e.g., Lahey 2009; Rapee 2002; Roberts et al. 2007), and is associated with economic costs exceeding those of many mental disorders themselves (Cuijpers et al. 2010), a dimensional trait model will strengthen DSM-5 Section III–based assessments, in general.

Clinical Utility of a Hybrid Model of Personality Disorder

In addition to the independent utility of measures of personality functioning and of pathological personality traits in identifying and describing personality pathology and in planning and predicting the outcome of treatment, a number of recent studies support a model of personality psychopathology that specifically combines ratings of disorder and trait constructs. Each has been shown to add incremental value to the other in predicting important antecedent (e.g., family history, history of child abuse), concurrent (e.g., functional impairment, medication use), and predictive (e.g., functioning, hospitalization, suicide attempts) variables (Hopwood and Zanarini 2010; Morey and Zanarini 2000; Morey et al. 2007, 2012).

Morey and Zanarini (2000) found that FFM personality domains captured substantial variance in the diagnosis of BPD with respect to its differentiation from non-borderline PDs, but also that residual variance not explained by the FFM was related significantly to important clinical correlates of BPD, such as childhood abuse history, family history of mood and substance use disorders, concurrent (especially impulsive) symptoms, and 2- and 4-year outcomes. In the CLPS, dimensional representations of DSM-IV PD diagnoses (i.e., criterion counts) predicted concurrent functional impairment, but their predictive power diminished over time (Morey et al. 2007). In contrast, the FFM (assessed with the NEO-PI-R) provided less information about current behavior and functioning, but was more stable over time and more predictive of future outcomes. The model used in the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark 1993) and its second edition (SNAP-2; Clark et al. 2009) performed the best, both at baseline and prospectively, because it combines the strengths of a pathological disorder diagnosis and more normal-range personality traits by assessing personality traits across the normal-to-abnormal spectrum and by including clinically important trait dimensions (e.g., self-harm, dependency) that are not included in measures of normal-range personality. In fact, a model combining FFM and DSM-IV PD constructs performed much like the SNAP model. The results indicated that models of personality pathology that incorporate stable trait dispositions and dynamic, maladaptive manifestations are most clinically informative.

Hopwood and Zanarini (2010) found that FFM extraversion and agreeableness were incrementally predictive (over a BPD diagnosis) of psychosocial functioning over a 10-year period and that borderline cognitive and impulse action features had incremental effects over FFM traits. They concluded that both BPD symptoms and personality traits are important long-term predictors of clinical functioning and supported the integration of traits and disorder in DSM-5. Morey et al. (2012) extended their earlier findings comparing the FFM, SNAP, and DSM-IV PDs in a 10-year follow-up of CLPS patients. Baseline data were used to predict long-term outcomes, including functioning, Axis I psychopathology, and medication use. Each model was significantly valid, predicting a host of important clinical outcomes. Overall, approaches that integrate normative traits and personality pathology proved to be most predictive: the SNAP generally showed the largest validity coefficients overall, and the DSM-IV PD syndromes and FFM traits tended to provide substan-

tial incremental information relative to one another (Morey et al. 2012).The results again indicated that DSM-5 PD assessment ideally would involve an integration of characteristic PD features and personality traits, to maximize clinical utility. Such a hybrid model is presented in DSM-5 Section III.

Perceived Clinical Utility

In the DSM-5 field trials, clinicians were asked to rate the usefulness of tested diagnostic criteria for all disorders. In both the academic centers and the routine clinical practice field trials (Kraemer et al. 2010), the Section III PD model was rated as "moderately," "very," or "extremely" useful by over 80% of clinicians. In the academic centers trial, the Section III model was rated as "very" or "extremely" useful compared to DSM-IV by more clinicians than all disorders except somatic symptom disorders and feeding and eating disorders. In the routine clinical practice trial, the Section III model was rated as "very" or "extremely" useful compared with DSM-IV by more clinicians than all disorders except neurocognitive disorders and substance use and addictive disorders. The Morey survey asked clinicians to rate the perceived utility of the proposed DSM-5 rendering of personality pathology compared with DSM-IV. Questions addressed ease of use and usefulness for communication, description, and treatment planning. Although the clinicians were much more familiar with DSM-IV PDs, they rated all DSM-5 components to be generally "as useful" or "more useful" than DSM-IV for clinical description and treatment planning (L.C. Morey, "Developing and Evaluating a DSM-5 Model for Personality Disorder Diagnosis: Data From a National Clinician Sample," unpublished manuscript, August 2012).

Relationships to Clinical Judgments

The Morey survey investigated the relationships of DSM-IV PDs and DSM-5 PDs and their components to important clinical validators including psychosocial functioning; risk for self-harm, violence, and criminality; optimal level of treatment intensity; and prognosis (Morey et al., unpublished data). DSM-5 components together and individually (personality functioning level and traits) had appreciably stronger unadjusted and corrected correlations with these concurrent validators than DSM-IV disorders in 11 of 12 comparisons. The only exception was for level of personality functioning and the composite risk prediction, which was more associated with DSM-IV PDs (L.C. Morey, "Developing and Evaluating a DSM-5 Model for Personality Disorder Diagnosis: Data From a National Clinician Sample," unpublished manuscript, August 2012).

The incremental validity of the DSM-IV and DSM-5 PD systems—that is, the associations between each of the two PD systems and the four validators while controlling for the effects of the other—was also examined. The partial multiple correlations (and corresponding PRESS (Predicted Residual Sums of Squares)–corrected—for different numbers of variables—correlations) show that DSM-5 PD renderings significantly added to DSM-IV in predicting all four clinical judgments, while DSM-IV did not provide any validity information above and beyond that provided by DSM-5. Thus, *virtually all valid variance in DSM-IV PD diagnoses was captured by DSM-5, but the converse was not true.* The DSM-5 formulation accounted for significant elements of functioning, risk, treatment needs, and prognosis that were not captured by DSM-IV.

Conclusion and Future Directions

A new alternative model of PD psychopathology is included in DSM-5 Section III, based on dimensional assessments of impairment in personality (self/interpersonal) functioning and of pathological personality traits. Each of these aspects of personality pathology has an extensive empirical basis. Six DSM-IV PDs were translated into consistent criteria sets defined by typical impairments in personality functioning and specific pathological personality traits for DSM-5 Section III. The PDs selected to be represented as specific PDs are those with the greatest research bases and clinical utility. Assignments of revised criteria were based on careful consideration of continuity with DSM-IV, literature reviews, and empirical data. Diagnostic thresholds were set for the first time for all of the PD diagnoses using rational, empirical methods. The alternative model represents DSM-IV (and DSM-5 Section II) PDs with high fidelity, thereby reducing concerns about potentially disruptive effects of the changes on clinical practice or research. The new hybrid model is expected to increase the clinical utility of personality assessment over the 10-category DSM-IV PD classification, based on prior research. Data comparing the DSM-IV classification and the proposed DSM-5 PD model reveals that the revised formulations are viewed by clinicians as equally or more useful than DSM-IV and have considerably greater ability to predict important clinical correlates, including functioning, risks, treatment needs, and prognosis.

More research in diverse settings and populations is obviously desired. First et al. (2002) outlined ideal steps for validating a new model for the PDs in *A Research Agenda for DSM-V.* Specifically, they suggested that alternatives should 1) better account for existing behavioral, neurobiological, genetic, and epidemiological data and adequately represent all clinically important aspects of a PD; 2) be more reliable, specific, and clinically informative; 3) be more effectively guide treatment decisions; 4) have adequate levels of temporal stability in clinical settings; 5) relate to motivational and cognitive systems of the brain; 6) provide a better understanding of the interaction between temperaments and environment that result in PD; and 7) explicate the mechanisms by which maladaptive and adaptive personality traits impact physical disease and health. Although prior research on which the Section III alternative model is based suggests affirmative answers to many of these questions, only extensive research could address them with certainty.

At the beginning of the deliberations of the DSM-5 work groups, a "paradigm shift" was deemed necessary for DSM-5 because of the shortcomings of the "neo-Kraepelinian model" of mental disorders. The P&PD Work Group persisted in the pursuit of a hybrid dimensional-categorical model for PDs for which the PD field was eager (Bernstein et al. 2007; Clark 2007; Widiger and Trull 2007) and which the DSM-5 research agenda embraced. A set of criteria for change were proposed for DSM-5 to be applied across all categories, which focused on traditional measures of validity (antecedent, concurrent, and predictive) for making changes. It is ironic that the motivation for DSM-5 was that existing categories of mental disorders could not be validated using traditional (e.g., Robins and Guze 1970) criteria, but new options for these disorders seem intended to meet these standards. Furthermore, different valida-

tors (e.g., familiality vs. consistent longitudinal course) are known to support different definitions of disorder, and which is prioritized depends on the specific purpose of the diagnosis (e.g., to study heritability vs. to predict prognosis).

The guidelines for change in DSM-5 stated that the magnitude of a suggested change should be supported by a proportional amount and quality of evidence in support of the change. In the PD field, the problems with the existing 10-category system for diagnosing PDs were deemed so severe that a reduced threshold for change seemed warranted. Furthermore, the relationship of empirical literature and clinical utility is not entirely clear. Should the recommended changes in the classification reflect and promote progress on understanding pathophysiology and etiology, or should they assist clinicians in doing their essential tasks? When these goals are in conflict, on what basis, by what process, and by whom should decisions be made (Skodol 2011)?

In addition, clinical utility should not be limited to user friendliness, feasibility, and clinician acceptability of diagnostic approaches; rather, their usefulness in communication between clinicians or between clinicians and patients, or their ability to guide treatment decisions or estimates of prognosis should be considered (First et al. 2004). According to strict definitions of validity (e.g., Kendell and Jablensky 2003), few psychiatric diagnoses can be said to be valid, because few "zones of rarity" (p. 4) in the manifestations of disorders have been found, and few disorders have been identified to have specific mechanisms of pathophysiology or etiology. According to Kendell and Jablensky (2003), however, a diagnosis possesses utility "if it provides nontrivial information about prognosis and likely treatment outcomes, and/or testable propositions about biological and social correlates.…Diagnostic categories provide invaluable information about the likelihood of future recovery, relapse, deterioration, and social handicap; they guide decisions about treatment; and they provide a wealth of information about similar patients encountered in clinical populations or community surveys throughout the world…" (p. 9). Therefore, in addition to the structural, genetic, and neurobiological validity of personality pathology, it is the belief of many of the clinicians and researchers on the P&PD Work Group that attention should be paid to the clinical utilities for which diagnostic assessments are used.

DSM-5, as a whole, is intended to be a "living document," with the potential for partial revision in an ongoing process, as research advances in a particular area warrant (Regier et al. 2009). Thus, the edition published in 2013 technically should have been called DSM-5.0, with future revisions called 5.1, 5.2, and so on. Whether the notion of a continuing process of revision will be acceptable and can be implemented by the American Psychiatric Association, or will be too disruptive to practice and research, is also a matter for the future.

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APPENDIX

Alternative DSM-5 Model for Personality Disorders

The current approach to personality disorders appears in Section II of DSM-5, and an alternative model developed for DSM-5 is presented here in Section III. The inclusion of both models in DSM-5 reflects the decision of the APA Board of Trustees to preserve continuity with current clinical practice, while also introducing a new approach that aims to address numerous shortcomings of the current approach to personality disorders. For example, the typical patient meeting criteria for a specific personality disorder frequently also meets criteria for other personality disorders. Similarly, other specified or unspecified personality disorder is often the correct (but mostly uninformative) diagnosis, in the sense that patients do not tend to present with patterns of symptoms that correspond with one and only one personality disorder.

In the following alternative DSM-5 model, personality disorders are characterized by impairments in personality *functioning* and pathological personality *traits.* The specific personality disorder diagnoses that may be derived from this model include antisocial, avoidant, borderline, narcissistic, obsessive-compulsive, and schizotypal personality disorders. This approach also includes a diagnosis of personality disorder—trait specified (PD-TS) that can be made when a personality disorder is considered present but the criteria for a specific disorder are not met.

General Criteria for Personality Disorder

General Criteria for Personality Disorder

The essential features of a personality disorder are

A. Moderate or greater impairment in personality (self/interpersonal) functioning.
B. One or more pathological personality traits.
C. The impairments in personality functioning and the individual's personality trait expression are relatively inflexible and pervasive across a broad range of personal and social situations.
D. The impairments in personality functioning and the individual's personality trait expression are relatively stable across time, with onsets that can be traced back to at least adolescence or early adulthood.
E. The impairments in personality functioning and the individual's personality trait expression are not better explained by another mental disorder.
F. The impairments in personality functioning and the individual's personality trait expression are not solely attributable to the physiological effects of a substance or another medical condition (e.g., severe head trauma).
G. The impairments in personality functioning and the individual's personality trait expression are not better understood as normal for an individual's developmental stage or sociocultural environment.

A diagnosis of a personality disorder requires two determinations: 1) an assessment of the level of impairment in personality functioning, which is needed for Criterion A, and 2) an evaluation of pathological personality traits, which is required for Criterion B. The impairments in personality functioning and personality trait expression are relatively inflexible and pervasive across a broad range of personal and social situations (Criterion C); relatively stable across time, with onsets that can be traced back to at least adolescence or early adulthood (Criterion D); not better explained by another mental disorder (Criterion E); not attributable to the effects of a substance or another medical condition (Criterion F); and not better understood as normal for an individual's developmental stage or sociocultural environment (Criterion G). All Section III personality disorders described by criteria sets, as well as PD-TS, meet these general criteria, by definition.

Criterion A: Level of Personality Functioning

Disturbances in **self** and **interpersonal** functioning constitute the core of personality psychopathology and in this alternative diagnostic model they are evaluated on a continuum. Self functioning involves identity and self-direction; interpersonal functioning involves empathy and intimacy (see Table 1). The Level of Personality Functioning Scale (LPFS; see Table 2) uses each of these elements to differentiate five levels of impairment, ranging from little or no impairment (i.e., healthy, adaptive functioning; Level 0) to some (Level 1), moderate (Level 2), severe (Level 3), and extreme (Level 4) impairment.

TABLE 1. Elements of personality functioning

Self:

1. ***Identity:*** Experience of oneself as unique, with clear boundaries between self and others; stability of self-esteem and accuracy of self-appraisal; capacity for, and ability to regulate, a range of emotional experience.
2. ***Self-direction:*** Pursuit of coherent and meaningful short-term and life goals; utilization of constructive and prosocial internal standards of behavior; ability to self-reflect productively.

Interpersonal:

1. ***Empathy:*** Comprehension and appreciation of others' experiences and motivations; tolerance of differing perspectives; understanding the effects of one's own behavior on others.
2. ***Intimacy:*** Depth and duration of connection with others; desire and capacity for closeness; mutuality of regard reflected in interpersonal behavior.

Impairment in personality functioning predicts the presence of a personality disorder, and the severity of impairment predicts whether an individual has more than one personality disorder or one of the more typically severe personality disorders. A moderate level of impairment in personality functioning is required for the diagnosis of a personality disorder; this threshold is based on empirical evidence that the moderate level of impairment maximizes the ability of clinicians to accurately and efficiently identify personality disorder pathology.

Criterion B: Pathological Personality Traits

Pathological personality traits are organized into five broad domains: Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. Within the five broad **trait domains** are 25 specific **trait facets** that were developed initially from a review of existing trait models and subsequently through iterative research with samples of persons who sought mental health services. The full trait taxonomy is presented in Table 3. The B criteria for the specific personality disorders comprise subsets of the 25 trait facets, based on meta-analytic reviews and empirical data on the relationships of the traits to DSM-IV personality disorder diagnoses.

Criteria C and D: Pervasiveness and Stability

Impairments in personality functioning and pathological personality traits are *relatively* pervasive across a range of personal and social contexts, as personality is defined as a pattern of perceiving, relating to, and thinking about the environment and oneself. The term *relatively* reflects the fact that all except the most extremely pathological personalities show some degree of adaptability. The pattern in personality disorders is maladaptive and relatively inflexible, which leads to disabilities in social, occupational, or other important pursuits, as individuals are unable to modify their thinking or behavior, even in the face of evidence that their approach is not working. The impairments in functioning and personality traits are also *relatively* stable. Personality traits—the dispositions to behave or feel in certain ways—are more stable than the symptomatic expressions of these dispositions, but personality traits can also change. Impairments in personality functioning are more stable than symptoms.

Criteria E, F, and G: Alternative Explanations for Personality Pathology (Differential Diagnosis)

On some occasions, what appears to be a personality disorder may be better explained by another mental disorder, the effects of a substance or another medical condition, or a normal developmental stage (e.g., adolescence, late life) or the individual's sociocultural environment. When another mental disorder is present, the diagnosis of a personality disorder is not made, if the manifestations of the personality disorder clearly are an expression of the other mental disorder (e.g., if features of schizotypal personality disorder are present only in the context of schizophrenia). On the other hand, personality disorders can be accurately diagnosed in the presence of another mental disorder, such as major depressive disorder, and patients with other mental disorders should be assessed for comorbid personality disorders because personality disorders often impact the course of other mental disorders. Therefore, it is always appropriate to assess personality functioning and pathological personality traits to provide a context for other psychopathology.

Specific Personality Disorders

Section III includes diagnostic criteria for antisocial, avoidant, borderline, narcissistic, obsessive-compulsive, and schizotypal personality disorders. Each personality disorder is defined by typical impairments in personality functioning (Criterion A) and characteristic pathological personality traits (Criterion B):

- Typical features of **antisocial personality disorder** are a failure to conform to lawful and ethical behavior, and an egocentric, callous lack of concern for others, accompanied by deceitfulness, irresponsibility, manipulativeness, and/or risk taking.
- Typical features of **avoidant personality disorder** are avoidance of social situations and inhibition in interpersonal relationships related to feelings of ineptitude and inadequacy, anxious preoccupation with negative evaluation and rejection, and fears of ridicule or embarrassment.
- Typical features of **borderline personality disorder** are instability of self-image, personal goals, interpersonal relationships, and affects, accompanied by impulsivity, risk taking, and/or hostility.
- Typical features of **narcissistic personality disorder** are variable and vulnerable self-esteem, with attempts at regulation through attention and approval seeking, and either overt or covert grandiosity.
- Typical features of **obsessive-compulsive personality disorder** are difficulties in establishing and sustaining close relationships, associated with rigid perfectionism, inflexibility, and restricted emotional expression.
- Typical features of **schizotypal personality disorder** are impairments in the capacity for social and close relationships, and eccentricities in cognition, perception, and behavior that are associated with distorted self-image and incoherent personal goals and accompanied by suspiciousness and restricted emotional expression.

The A and B criteria for the six specific personality disorders and for PD-TS follow. All personality disorders also meet criteria C through G of the General Criteria for Personality Disorder.

Antisocial Personality Disorder

Typical features of antisocial personality disorder are a failure to conform to lawful and ethical behavior, and an egocentric, callous lack of concern for others, accompanied by deceitfulness, irresponsibility, manipulativeness, and/or risk taking. Characteristic difficulties are apparent in identity, self-direction, empathy, and/or intimacy, as described below, along with specific maladaptive traits in the domains of Antagonism and Disinhibition.

Proposed Diagnostic Criteria

A. Moderate or greater impairment in personality functioning, manifested by characteristic difficulties in two or more of the following four areas:

   1. ***Identity:*** Egocentrism; self-esteem derived from personal gain, power, or pleasure.
   2. ***Self-direction:*** Goal setting based on personal gratification; absence of prosocial internal standards, associated with failure to conform to lawful or culturally normative ethical behavior.
   3. ***Empathy:*** Lack of concern for feelings, needs, or suffering of others; lack of remorse after hurting or mistreating another.
   4. ***Intimacy:*** Incapacity for mutually intimate relationships, as exploitation is a primary means of relating to others, including by deceit and coercion; use of dominance or intimidation to control others.

B. Six or more of the following seven pathological personality traits:

   1. ***Manipulativeness*** (an aspect of **Antagonism**): Frequent use of subterfuge to influence or control others; use of seduction, charm, glibness, or ingratiation to achieve one's ends.
   2. ***Callousness*** (an aspect of **Antagonism**): Lack of concern for feelings or problems of others; lack of guilt or remorse about the negative or harmful effects of one's actions on others; aggression; sadism.
   3. ***Deceitfulness*** (an aspect of **Antagonism**): Dishonesty and fraudulence; misrepresentation of self; embellishment or fabrication when relating events.
   4. ***Hostility*** (an aspect of **Antagonism**): Persistent or frequent angry feelings; anger or irritability in response to minor slights and insults; mean, nasty, or vengeful behavior.
   5. ***Risk taking*** (an aspect of **Disinhibition**): Engagement in dangerous, risky, and potentially self-damaging activities, unnecessarily and without regard for consequences; boredom proneness and thoughtless initiation of activities to counter boredom; lack of concern for one's limitations and denial of the reality of personal danger.
   6. ***Impulsivity*** (an aspect of **Disinhibition**): Acting on the spur of the moment in response to immediate stimuli; acting on a momentary basis without a plan or consideration of outcomes; difficulty establishing and following plans.
   7. ***Irresponsibility*** (an aspect of **Disinhibition**): Disregard for—and failure to honor—financial and other obligations or commitments; lack of respect for—and lack of follow-through on—agreements and promises.

Note. The individual is at least 18 years of age.

Specify if:

With psychopathic features.

Specifiers

A distinct variant often termed *psychopathy* (or "primary" psychopathy) is marked by a lack of anxiety or fear and by a bold interpersonal style that may mask maladaptive behaviors (e.g., fraudulence). This psychopathic variant is characterized by low levels of anxiousness (Negative Affectivity domain) and withdrawal (Detachment domain) and high levels of attention seeking (Antagonism domain). High attention seeking and low withdrawal capture the social potency (assertive/dominant) component of psychopathy, whereas low anxiousness captures the stress immunity (emotional stability/resilience) component.

In addition to psychopathic features, trait and personality functioning specifiers may be used to record other personality features that may be present in antisocial personality disorder but are not required for the diagnosis. For example, traits of Negative Affectivity (e.g., anxiousness), are not diagnostic criteria for antisocial personality disorder (see Criterion B) but can be specified when appropriate. Furthermore, although moderate or greater impairment in personality functioning is required for the diagnosis of antisocial personality disorder (Criterion A), the level of personality functioning can also be specified.

Avoidant Personality Disorder

Typical features of avoidant personality disorder are avoidance of social situations and inhibition in interpersonal relationships related to feelings of ineptitude and inadequacy, anxious preoccupation with negative evaluation and rejection, and fears of ridicule or embarrassment. Characteristic difficulties are apparent in identity, self-direction, empathy, and/or intimacy, as described below, along with specific maladaptive traits in the domains of Negative Affectivity and Detachment.

Proposed Diagnostic Criteria

A. Moderate or greater impairment in personality functioning, manifest by characteristic difficulties in two or more of the following four areas:
   1. ***Identity:*** Low self-esteem associated with self-appraisal as socially inept, personally unappealing, or inferior; excessive feelings of shame.
   2. ***Self-direction:*** Unrealistic standards for behavior associated with reluctance to pursue goals, take personal risks, or engage in new activities involving interpersonal contact.
   3. ***Empathy:*** Preoccupation with, and sensitivity to, criticism or rejection, associated with distorted inference of others' perspectives as negative.
   4. ***Intimacy:*** Reluctance to get involved with people unless being certain of being liked; diminished mutuality within intimate relationships because of fear of being shamed or ridiculed.

B. Three or more of the following four pathological personality traits, one of which must be (1) Anxiousness:
   1. ***Anxiousness*** (an aspect of **Negative Affectivity**): Intense feelings of nervousness, tenseness, or panic, often in reaction to social situations; worry about the negative effects of past unpleasant experiences and future negative possibilities; feeling fearful, apprehensive, or threatened by uncertainty; fears of embarrassment.

2. ***Withdrawal*** (an aspect of **Detachment**): Reticence in social situations; avoidance of social contacts and activity; lack of initiation of social contact.
3. ***Anhedonia*** (an aspect of **Detachment**): Lack of enjoyment from, engagement in, or energy for life's experiences; deficits in the capacity to feel pleasure or take interest in things.
4. ***Intimacy avoidance*** (an aspect of **Detachment**): Avoidance of close or romantic relationships, interpersonal attachments, and intimate sexual relationships.

Specifiers

Considerable heterogeneity in the form of additional personality traits is found among individuals diagnosed with avoidant personality disorder. Trait and level of personality functioning specifiers can be used to record additional personality features that may be present in avoidant personality disorder. For example, other Negative Affectivity traits (e.g., depressivity, separation insecurity, submissiveness, suspiciousness, hostility) are not diagnostic criteria for avoidant personality disorder (see Criterion B) but can be specified when appropriate. Furthermore, although moderate or greater impairment in personality functioning is required for the diagnosis of avoidant personality disorder (Criterion A), the level of personality functioning also can be specified.

Borderline Personality Disorder

Typical features of borderline personality disorder are instability of self-image, personal goals, interpersonal relationships, and affects, accompanied by impulsivity, risk taking, and/or hostility. Characteristic difficulties are apparent in identity, self-direction, empathy, and/or intimacy, as described below, along with specific maladaptive traits in the domain of Negative Affectivity, and also Antagonism and/or Disinhibition.

Proposed Diagnostic Criteria

A. Moderate or greater impairment in personality functioning, manifested by characteristic difficulties in two or more of the following four areas:
   1. ***Identity:*** Markedly impoverished, poorly developed, or unstable self-image, often associated with excessive self-criticism; chronic feelings of emptiness; dissociative states under stress.
   2. ***Self-direction:*** Instability in goals, aspirations, values, or career plans.
   3. ***Empathy:*** Compromised ability to recognize the feelings and needs of others associated with interpersonal hypersensitivity (i.e., prone to feel slighted or insulted); perceptions of others selectively biased toward negative attributes or vulnerabilities.
   4. ***Intimacy:*** Intense, unstable, and conflicted close relationships, marked by mistrust, neediness, and anxious preoccupation with real or imagined abandonment; close relationships often viewed in extremes of idealization and devaluation and alternating between overinvolvement and withdrawal.

B. Four or more of the following seven pathological personality traits, at least one of which must be (5) Impulsivity, (6) Risk taking, or (7) Hostility:
   1. ***Emotional lability*** (an aspect of **Negative Affectivity**): Unstable emotional experiences and frequent mood changes; emotions that are easily aroused, intense, and/or out of proportion to events and circumstances.
   2. ***Anxiousness*** (an aspect of **Negative Affectivity**): Intense feelings of nervousness, tenseness, or panic, often in reaction to interpersonal stresses; worry about

the negative effects of past unpleasant experiences and future negative possibilities; feeling fearful, apprehensive, or threatened by uncertainty; fears of falling apart or losing control.

3. ***Separation insecurity*** (an aspect of **Negative Affectivity**): Fears of rejection by—and/or separation from—significant others, associated with fears of excessive dependency and complete loss of autonomy.
4. ***Depressivity*** (an aspect of **Negative Affectivity**): Frequent feelings of being down, miserable, and/or hopeless; difficulty recovering from such moods; pessimism about the future; pervasive shame; feelings of inferior self-worth; thoughts of suicide and suicidal behavior.
5. ***Impulsivity*** (an aspect of **Disinhibition**): Acting on the spur of the moment in response to immediate stimuli; acting on a momentary basis without a plan or consideration of outcomes; difficulty establishing or following plans; a sense of urgency and self-harming behavior under emotional distress.
6. ***Risk taking*** (an aspect of **Disinhibition**): Engagement in dangerous, risky, and potentially self-damaging activities, unnecessarily and without regard to consequences; lack of concern for one's limitations and denial of the reality of personal danger.
7. ***Hostility*** (an aspect of **Antagonism**): Persistent or frequent angry feelings; anger or irritability in response to minor slights and insults.

Specifiers

Trait and level of personality functioning specifiers may be used to record additional personality features that may be present in borderline personality disorder but are not required for the diagnosis. For example, traits of Psychoticism (e.g., cognitive and perceptual dysregulation) are not diagnostic criteria for borderline personality disorder (see Criterion B) but can be specified when appropriate. Furthermore, although moderate or greater impairment in personality functioning is required for the diagnosis of borderline personality disorder (Criterion A), the level of personality functioning can also be specified.

Narcissistic Personality Disorder

Typical features of narcissistic personality disorder are variable and vulnerable self-esteem, with attempts at regulation through attention and approval seeking, and either overt or covert grandiosity. Characteristic difficulties are apparent in identity, self-direction, empathy, and/or intimacy, as described below, along with specific maladaptive traits in the domain of Antagonism.

Proposed Diagnostic Criteria

A. Moderate or greater impairment in personality functioning, manifested by characteristic difficulties in two or more of the following four areas:

1. ***Identity:*** Excessive reference to others for self-definition and self-esteem regulation; exaggerated self-appraisal inflated or deflated, or vacillating between extremes; emotional regulation mirrors fluctuations in self-esteem.
2. ***Self-direction:*** Goal setting based on gaining approval from others; personal standards unreasonably high in order to see oneself as exceptional, or too low based on a sense of entitlement; often unaware of own motivations.

3. ***Empathy:*** Impaired ability to recognize or identify with the feelings and needs of others; excessively attuned to reactions of others, but only if perceived as relevant to self; over- or underestimate of own effect on others.
4. ***Intimacy:*** Relationships largely superficial and exist to serve self-esteem regulation; mutuality constrained by little genuine interest in others' experiences and predominance of a need for personal gain.

B. Both of the following pathological personality traits:

1. ***Grandiosity*** (an aspect of **Antagonism**): Feelings of entitlement, either overt or covert; self-centeredness; firmly holding to the belief that one is better than others; condescension toward others.
2. ***Attention seeking*** (an aspect of **Antagonism**): Excessive attempts to attract and be the focus of the attention of others; admiration seeking.

Specifiers

Trait and personality functioning specifiers may be used to record additional personality features that may be present in narcissistic personality disorder but are not required for the diagnosis. For example, other traits of Antagonism (e.g., manipulativeness, deceitfulness, callousness) are not diagnostic criteria for narcissistic personality disorder (see Criterion B) but can be specified when more pervasive antagonistic features (e.g., "malignant narcissism") are present. Other traits of Negative Affectivity (e.g., depressivity, anxiousness) can be specified to record more "vulnerable" presentations. Furthermore, although moderate or greater impairment in personality functioning is required for the diagnosis of narcissistic personality disorder (Criterion A), the level of personality functioning can also be specified.

Obsessive-Compulsive Personality Disorder

Typical features of obsessive-compulsive personality disorder are difficulties in establishing and sustaining close relationships, associated with rigid perfectionism, inflexibility, and restricted emotional expression. Characteristic difficulties are apparent in identity, self-direction, empathy, and/or intimacy, as described below, along with specific maladaptive traits in the domains of Negative Affectivity and/or Detachment.

Proposed Diagnostic Criteria

A. Moderate or greater impairment in personality functioning, manifested by characteristic difficulties in two or more of the following four areas:

1. ***Identity:*** Sense of self derived predominantly from work or productivity; constricted experience and expression of strong emotions.
2. ***Self-direction:*** Difficulty completing tasks and realizing goals, associated with rigid and unreasonably high and inflexible internal standards of behavior; overly conscientious and moralistic attitudes.
3. ***Empathy:*** Difficulty understanding and appreciating the ideas, feelings, or behaviors of others.
4. ***Intimacy:*** Relationships seen as secondary to work and productivity; rigidity and stubbornness negatively affect relationships with others.

B. Three or more of the following four pathological personality traits, one of which must be (1) Rigid perfectionism:

1. ***Rigid perfectionism*** (an aspect of extreme **Conscientiousness** [the opposite pole of Disinhibition]): Rigid insistence on everything being flawless, perfect, and without errors or faults, including one's own and others' performance; sacrificing of timeliness to ensure correctness in every detail; believing that there is only one right way to do things; difficulty changing ideas and/or viewpoint; preoccupation with details, organization, and order.
2. ***Perseveration*** (an aspect of **Negative Affectivity**): Persistence at tasks long after the behavior has ceased to be functional or effective; continuance of the same behavior despite repeated failures.
3. ***Intimacy avoidance*** (an aspect of **Detachment**): Avoidance of close or romantic relationships, interpersonal attachments, and intimate sexual relationships.
4. ***Restricted affectivity*** (an aspect of **Detachment**): Little reaction to emotionally arousing situations; constricted emotional experience and expression; indifference or coldness.

Specifiers

Trait and personality functioning specifiers may be used to record additional personality features that may be present in obsessive-compulsive personality disorder but are not required for the diagnosis. For example, other traits of Negative Affectivity (e.g., anxiousness) are not diagnostic criteria for obsessive-compulsive personality disorder (see Criterion B) but can be specified when appropriate. Furthermore, although moderate or greater impairment in personality functioning is required for the diagnosis of obsessive-compulsive personality disorder (Criterion A), the level of personality functioning can also be specified.

Schizotypal Personality Disorder

Typical features of schizotypal personality disorder are impairments in the capacity for social and close relationships and eccentricities in cognition, perception, and behavior that are associated with distorted self-image and incoherent personal goals and accompanied by suspiciousness and restricted emotional expression. Characteristic difficulties are apparent in identity, self-direction, empathy, and/or intimacy, along with specific maladaptive traits in the domains of Psychoticism and Detachment.

Proposed Diagnostic Criteria

A. Moderate or greater impairment in personality functioning, manifested by characteristic difficulties in two or more of the following four areas:
   1. ***Identity:*** Confused boundaries between self and others; distorted self-concept; emotional expression often not congruent with context or internal experience.
   2. ***Self-direction:*** Unrealistic or incoherent goals; no clear set of internal standards.
   3. ***Empathy:*** Pronounced difficulty understanding impact of own behaviors on others; frequent misinterpretations of others' motivations and behaviors.
   4. ***Intimacy:*** Marked impairments in developing close relationships, associated with mistrust and anxiety.

B. Four or more of the following six pathological personality traits:
   1. ***Cognitive and perceptual dysregulation*** (an aspect of **Psychoticism**): Odd or unusual thought processes; vague, circumstantial, metaphorical, overelaborate, or stereotyped thought or speech; odd sensations in various sensory modalities.

2. ***Unusual beliefs and experiences*** (an aspect of **Psychoticism**): Thought content and views of reality that are viewed by others as bizarre or idiosyncratic; unusual experiences of reality.
3. ***Eccentricity*** (an aspect of **Psychoticism**): Odd, unusual, or bizarre behavior or appearance; saying unusual or inappropriate things.
4. ***Restricted affectivity*** (an aspect of **Detachment**): Little reaction to emotionally arousing situations; constricted emotional experience and expression; indifference or coldness.
5. ***Withdrawal*** (an aspect of **Detachment**): Preference for being alone to being with others; reticence in social situations; avoidance of social contacts and activity; lack of initiation of social contact.
6. ***Suspiciousness*** (an aspect of **Detachment**): Expectations of—and heightened sensitivity to—signs of interpersonal ill-intent or harm; doubts about loyalty and fidelity of others; feelings of persecution.

Specifiers

Trait and personality functioning specifiers may be used to record additional personality features that may be present in schizotypal personality disorder but are not required for the diagnosis. For example, traits of Negative Affectivity (e.g., depressivity, anxiousness) are not diagnostic criteria for schizotypal personality disorder (see Criterion B) but can be specified when appropriate. Furthermore, although moderate or greater impairment in personality functioning is required for the diagnosis of schizotypal personality disorder (Criterion A), the level of personality functioning can also be specified.

Personality Disorder—Trait Specified

Proposed Diagnostic Criteria

A. Moderate or greater impairment in personality functioning, manifested by difficulties in two or more of the following four areas:
   1. ***Identity***
   2. ***Self-direction***
   3. ***Empathy***
   4. ***Intimacy***

B. One or more pathological personality trait domains OR specific trait facets within domains, considering ALL of the following domains:
   1. **Negative Affectivity** (vs. Emotional Stability): Frequent and intense experiences of high levels of a wide range of negative emotions (e.g., anxiety, depression, guilt/shame, worry, anger), and their behavioral (e.g., self-harm) and interpersonal (e.g., dependency) manifestations.
   2. **Detachment** (vs. Extraversion): Avoidance of socioemotional experience, including both withdrawal from interpersonal interactions, ranging from casual, daily interactions to friendships to intimate relationships, as well as restricted affective experience and expression, particularly limited hedonic capacity.
   3. **Antagonism** (vs. Agreeableness): Behaviors that put the individual at odds with other people, including an exaggerated sense of self-importance and a concomitant expectation of special treatment, as well as a callous antipathy toward others, encompassing both unawareness of others' needs and feelings, and a readiness to use others in the service of self-enhancement.

4. **Disinhibition** (vs. Conscientiousness): Orientation toward immediate gratification, leading to impulsive behavior driven by current thoughts, feelings, and external stimuli, without regard for past learning or consideration of future consequences.
5. **Psychoticism** (vs. Lucidity): Exhibiting a wide range of culturally incongruent odd, eccentric, or unusual behaviors and cognitions, including both process (e.g., perception, dissociation) and content (e.g., beliefs).

Subtypes

Because personality features vary continuously along multiple trait dimensions, a comprehensive set of potential expressions of PD-TS can be represented by DSM-5's dimensional model of maladaptive personality trait variants (see Table 3). Thus, subtypes are unnecessary for PD-TS, and instead, the descriptive elements that constitute personality are provided, arranged in an empirically based model. This arrangement allows clinicians to tailor the description of each individual's personality disorder profile, considering all five broad domains of personality trait variation and drawing on the descriptive features of these domains as needed to characterize the individual.

Specifiers

The specific personality features of individuals are always recorded in evaluating Criterion B, so the combination of personality features characterizing an individual directly constitutes the specifiers in each case. For example, two individuals who are both characterized by emotional lability, hostility, and depressivity may differ such that the first individual is characterized additionally by callousness, whereas the second is not.

Personality Disorder Scoring Algorithms

The requirement for any two of the four A criteria for each of the six personality disorders was based on maximizing the relationship of these criteria to their corresponding personality disorder. Diagnostic thresholds for the B criteria were also set empirically to minimize change in prevalence of the disorders from DSM-IV and overlap with other personality disorders, and to maximize relationships with functional impairment. The resulting diagnostic criteria sets represent clinically useful personality disorders with high fidelity, in terms of core impairments in personality functioning of varying degrees of severity and constellations of pathological personality traits.

Personality Disorder Diagnosis

Individuals who have a pattern of impairment in personality functioning and maladaptive traits that matches one of the six defined personality disorders should be diagnosed with that personality disorder. If an individual also has one or even several prominent traits that may have clinical relevance in addition to those required for the diagnosis (e.g., see narcissistic personality disorder), the option exists for these to be noted as specifiers. Individuals whose personality functioning or trait pattern is substantially different from that of any of the six specific personality disorders should be diagnosed with PD-TS. The individual may not meet the required number of A or B criteria and, thus, have a subthreshold presentation of a personality disorder. The individual may

have a mix of features of personality disorder types or some features that are less characteristic of a type and more accurately considered a mixed or atypical presentation. The specific level of impairment in personality functioning and the pathological personality traits that characterize the individual's personality can be specified for PD-TS, using the Level of Personality Functioning Scale (Table 2) and the pathological trait taxonomy (Table 3). The current diagnoses of paranoid, schizoid, histrionic, and dependent personality disorders are represented also by the diagnosis of PD-TS; these are defined by moderate or greater impairment in personality functioning and can be specified by the relevant pathological personality trait combinations.

Level of Personality Functioning Scale

Like most human tendencies, personality functioning is distributed on a continuum. Central to functioning and adaptation are individuals' characteristic ways of thinking about and understanding themselves and their interactions with others. An optimally functioning individual has a complex, fully elaborated, and well-integrated psychological world that includes a mostly positive, volitional, and adaptive self-concept; a rich, broad, and appropriately regulated emotional life; and the capacity to behave as a productive member of society with reciprocal and fulfilling interpersonal relationships. At the opposite end of the continuum, an individual with severe personality pathology has an impoverished, disorganized, and/or conflicted psychological world that includes a weak, unclear, and maladaptive self-concept; a propensity to negative, dysregulated emotions; and a deficient capacity for adaptive interpersonal functioning and social behavior.

Self- and *Interpersonal* Functioning Dimensional Definition

Generalized severity may be the most important single predictor of concurrent and prospective dysfunction in assessing personality psychopathology. Personality disorders are optimally characterized by a generalized personality severity continuum with additional specification of stylistic elements, derived from personality disorder symptom constellations and personality traits. At the same time, the core of personality psychopathology is impairment in ideas and feelings regarding self and interpersonal relationships; this notion is consistent with multiple theories of personality disorder and their research bases. The components of the Level of Personality Functioning Scale—identity, self-direction, empathy, and intimacy—are particularly central in describing a personality functioning continuum.

Mental representations of the self and interpersonal relationships are reciprocally influential and inextricably tied, affect the nature of interaction with mental health professionals, and can have a significant impact on both treatment efficacy and outcome, underscoring the importance of assessing an individual's characteristic self-concept as well as views of other people and relationships. Although the degree of disturbance in the self and interpersonal functioning is continuously distributed, it is useful to consider the level of impairment in functioning for clinical characterization and for treatment planning and prognosis.

Rating Level of Personality Functioning

To use the Level of Personality Functioning Scale (LPFS) (Table 2), the clinician selects the level that most closely captures the individual's *current overall* level of impairment in personality functioning. The rating is necessary for the diagnosis of a personality disorder (moderate or greater impairment) and can be used to specify the severity of impairment present for an individual with any personality disorder at a given point in time. The LPFS may also be used as a global indicator of personality functioning without specification of a personality disorder diagnosis, or in the event that personality impairment is subthreshold for a disorder diagnosis.

Personality Traits

Definition and Description

Criterion B in the alternative model involves assessments of personality traits that are grouped into five domains. A *personality trait* is a tendency to feel, perceive, behave, and think in relatively consistent ways across time and across situations in which the trait may manifest. For example, individuals with a high level of the personality trait of *anxiousness* would tend to *feel* anxious readily, including in circumstances in which most people would be calm and relaxed. Individuals high in trait anxiousness also would *perceive* situations to be anxiety-provoking more frequently than would individuals with lower levels of this trait, and those high in the trait would tend to *behave* so as to avoid situations that they *think* would make them anxious. They would thereby tend to *think* about the world as more anxiety provoking than other people.

Importantly, individuals high in trait anxiousness would not necessarily be anxious at all times and in all situations. Individuals' trait levels also can and do change throughout life. Some changes are very general and reflect maturation (e.g., teenagers generally are higher on trait impulsivity than are older adults), whereas other changes reflect individuals' life experiences.

Dimensionality of Personality Traits

All individuals can be located on the spectrum of trait dimensions; that is, personality traits apply to everyone in different degrees rather than being present versus absent. Moreover, personality traits, including those identified specifically in the Section III model, exist on a spectrum with two opposing poles. For example, the opposite of the trait of *callousness* is the tendency to be empathic and kind-hearted, even in circumstances in which most persons would not feel that way. Hence, although in Section III this trait is labeled *callousness,* because that pole of the dimension is the primary focus, it could be described in full as *callousness versus kind-heartedness.* Moreover, its opposite pole can be recognized and may not be adaptive in all circumstances (e.g., individuals who, due to extreme kind-heartedness, repeatedly allow themselves to be taken advantage of by unscrupulous others).

Hierarchical Structure of Personality

Some trait terms are quite specific (e.g., "talkative") and describe a narrow range of behaviors, whereas others are quite broad (e.g., Detachment) and characterize a wide

TABLE 2. Level of Personality Functioning Scale

	SELF		INTERPERSONAL	
Level of impairment	**Identity**	**Self-direction**	**Empathy**	**Intimacy**
0—Little or no impairment	Has ongoing awareness of a unique self; maintains role-appropriate boundaries. Has consistent and self-regulated positive self-esteem, with accurate self-appraisal. Is capable of experiencing, tolerating, and regulating a full range of emotions.	Sets and aspires to reasonable goals based on a realistic assessment of personal capacities. Utilizes appropriate standards of behavior, attaining fulfillment in multiple realms. Can reflect on, and make constructive meaning of, internal experience.	Is capable of accurately understanding others' experiences and motivations in most situations. Comprehends and appreciates others' perspectives, even if disagreeing. Is aware of the effect of own actions on others.	Maintains multiple satisfying and enduring relationships in personal and community life. Desires and engages in a number of caring, close, and reciprocal relationships. Strives for cooperation and mutual benefit and flexibly responds to a range of others' ideas, emotions, and behaviors.
1—Some impairment	Has relatively intact sense of self, with some decrease in clarity of boundaries when strong emotions and mental distress are experienced. Self-esteem diminished at times, with overly critical or somewhat distorted self-appraisal. Strong emotions may be distressing, associated with a restriction in range of emotional experience.	Is excessively goal-directed, somewhat goal-inhibited, or conflicted about goals. May have an unrealistic or socially inappropriate set of personal standards, limiting some aspects of fulfillment. Is able to reflect on internal experiences, but may overemphasize a single (e.g., intellectual, emotional) type of self-knowledge.	Is somewhat compromised in ability to appreciate and understand others' experiences; may tend to see others as having unreasonable expectations or a wish for control. Although capable of considering and understanding different perspectives, resists doing so. Has inconsistent awareness of effect of own behavior on others.	Is able to establish enduring relationships in personal and community life, with some limitations on degree of depth and satisfaction. Is capable of forming and desires to form intimate and reciprocal relationships, but may be inhibited in meaningful expression and sometimes constrained if intense emotions or conflicts arise. Cooperation may be inhibited by unrealistic standards; somewhat limited in ability to respect or respond to others' ideas, emotions, and behaviors.

TABLE 2. Level of Personality Functioning Scale *(continued)*

	SELF		INTERPERSONAL	
Level of impairment	**Identity**	**Self-direction**	**Empathy**	**Intimacy**
2—Moderate impairment	Depends excessively on others for identity definition, with compromised boundary delineation. Has vulnerable self-esteem controlled by exaggerated concern about external evaluation, with a wish for approval. Has sense of incompleteness or inferiority, with compensatory inflated, or deflated, self-appraisal. Emotional regulation depends on positive external appraisal. Threats to self-esteem may engender strong emotions such as rage or shame.	Goals are more often a means of gaining external approval than self-generated, and thus may lack coherence and/or stability. Personal standards may be unreasonably high (e.g., a need to be special or please others) or low (e.g., not consonant with prevailing social values). Fulfillment is compromised by a sense of lack of authenticity. Has impaired capacity to reflect on internal experience.	Is hyperattuned to the experience of others, but only with respect to perceived relevance to self. Is excessively self-referential; significantly compromised ability to appreciate and understand others' experiences and to consider alternative perspectives. Is generally unaware of or unconcerned about effect of own behavior on others, or unrealistic appraisal of own effect.	Is capable of forming and desires to form relationships in personal and community life, but connections may be largely superficial. Intimate relationships are predominantly based on meeting self-regulatory and self-esteem needs, with an unrealistic expectation of being perfectly understood by others. Tends not to view relationships in reciprocal terms, and cooperates predominantly for personal gain.

TABLE 2. Level of Personality Functioning Scale *(continued)*

	SELF		INTERPERSONAL	
Level of impairment	**Identity**	**Self-direction**	**Empathy**	**Intimacy**
3—Severe impairment	Has a weak sense of autonomy/agency; experience of a lack of identity, or emptiness. Boundary definition is poor or rigid: may show overidentification with others, overemphasis on independence from others, or vacillation between these. Fragile self-esteem is easily influenced by events, and self-image lacks coherence. Self-appraisal is un-nuanced: self-loathing, self-aggrandizing, or an illogical, unrealistic combination. Emotions may be rapidly shifting or a chronic, unwavering feeling of despair.	Has difficulty establishing and/or achieving personal goals. Internal standards for behavior are unclear or contradictory. Life is experienced as meaningless or dangerous. Has significantly compromised ability to reflect on and understand own mental processes.	Ability to consider and understand the thoughts, feelings, and behavior of other people is significantly limited; may discern very specific aspects of others' experience, particularly vulnerabilities and suffering. Is generally unable to consider alternative perspectives; highly threatened by differences of opinion or alternative viewpoints. Is confused about or unaware of impact of own actions on others; often bewildered about peoples' thoughts and actions, with destructive motivations frequently misattributed to others.	Has some desire to form relationships in community and personal life is present, but capacity for positive and enduring connections is significantly impaired. Relationships are based on a strong belief in the absolute need for the intimate other(s), and/or expectations of abandonment or abuse. Feelings about intimate involvement with others alternate between fear/rejection and desperate desire for connection. Little mutuality: others are conceptualized primarily in terms of how they affect the self (negatively or positively); cooperative efforts are often disrupted due to the perception of slights from others.

TABLE 2. Level of Personality Functioning Scale *(continued)*

	SELF		INTERPERSONAL	
Level of impairment	**Identity**	**Self-direction**	**Empathy**	**Intimacy**
4—Extreme impairment	Experience of a unique self and sense of agency/autonomy are virtually absent, or are organized around perceived external persecution. Boundaries with others are confused or lacking. Has weak or distorted self-image easily threatened by interactions with others; significant distortions and confusion around self-appraisal. Emotions not congruent with context or internal experience. Hatred and aggression may be dominant affects, although they may be disavowed and attributed to others.	Has poor differentiation of thoughts from actions, so goal-setting ability is severely compromised, with unrealistic or incoherent goals. Internal standards for behavior are virtually lacking. Genuine fulfillment is virtually inconceivable. Is profoundly unable to constructively reflect on own experience. Personal motivations may be unrecognized and/or experienced as external to self.	Has pronounced inability to consider and understand others' experience and motivation. Attention to others' perspectives is virtually absent (attention is hypervigilant, focused on need fulfillment and harm avoidance). Social interactions can be confusing and disorienting.	Desire for affiliation is limited because of profound disinterest or expectation of harm. Engagement with others is detached, disorganized, or consistently negative. Relationships are conceptualized almost exclusively in terms of their ability to provide comfort or inflict pain and suffering. Social/interpersonal behavior is not reciprocal; rather, it seeks fulfillment of basic needs or escape from pain.

range of behavioral propensities. Broad trait dimensions are called *domains,* and specific trait dimensions are called *facets.* Personality trait *domains* comprise a spectrum of more specific personality *facets* that tend to occur together. For example, withdrawal and anhedonia are specific trait *facets* in the trait *domain* of Detachment. Despite some cross-cultural variation in personality trait facets, the broad domains they collectively comprise are relatively consistent across cultures.

The Personality Trait Model

The Section III personality trait system includes five broad domains of personality trait variation—Negative Affectivity (vs. Emotional Stability), Detachment (vs. Extraversion), Antagonism (vs. Agreeableness), Disinhibition (vs. Conscientiousness), and Psychoticism (vs. Lucidity)—comprising 25 specific personality trait facets. Table 3 provides definitions of all personality domains and facets. These five broad domains are maladaptive variants of the five domains of the extensively validated and replicated personality model known as the "Big Five", or Five Factor Model of personality (FFM), and are also similar to the domains of the Personality Psychopathology Five (PSY-5). The specific 25 facets represent a list of personality facets chosen for their clinical relevance.

Although the Trait Model focuses on personality traits associated with psychopathology, there are healthy, adaptive, and resilient personality traits identified as the polar opposites of these traits, as noted in the parentheses above (i.e., Emotional Stability, Extraversion, Agreeableness, Conscientiousness, and Lucidity). Their presence can greatly mitigate the effects of mental disorders and facilitate coping and recovery from traumatic injuries and other medical illness.

Distinguishing Traits, Symptoms, and Specific Behaviors

Although traits are by no means immutable and do change throughout the life span, they show relative consistency compared with symptoms and specific behaviors. For example, a person may behave impulsively at a specific time for a specific reason (e.g., a person who is rarely impulsive suddenly decides to spend a great deal of money on a particular item because of an unusual opportunity to purchase something of unique value), but it is only when behaviors aggregate across time and circumstance, such that a pattern of behavior distinguishes between individuals, that they reflect traits. Nevertheless, it is important to recognize, for example, that even people who are impulsive are not acting impulsively all of the time. A trait is a tendency or disposition toward specific behaviors; a specific behavior is an instance or manifestation of a trait.

Similarly, traits are distinguished from most symptoms because symptoms tend to wax and wane, whereas traits are relatively more stable. For example, individuals with higher levels of *depressivity* have a greater likelihood of experiencing discrete episodes of a depressive disorder and of showing the symptoms of these disorders, such difficulty concentrating. However, even patients who have a trait propensity to *depressivity* typically cycle through distinguishable episodes of mood disturbance, and specific symptoms such as difficulty concentrating tend to wax and wane in concert with specific episodes, so they do not form part of the trait definition. Importantly, however, symptoms and traits are both amenable to intervention, and many interventions tar-

geted at symptoms can affect the longer term patterns of personality functioning that are captured by personality traits.

Assessment of the DSM-5 Section III Personality Trait Model

The clinical utility of the Section III multidimensional personality trait model lies in its ability to focus attention on multiple relevant areas of personality variation in each individual patient. Rather than focusing attention on the identification of one and only one optimal diagnostic label, clinical application of the Section III personality trait model involves reviewing all five broad personality domains portrayed in Table 3. The clinical approach to personality is similar to the well-known review of systems in clinical medicine. For example, an individual's presenting complaint may focus on a specific neurological symptom, yet during an initial evaluation clinicians still systematically review functioning in all relevant systems (e.g., cardiovascular, respiratory, gastrointestinal), lest an important area of diminished functioning and corresponding opportunity for effective intervention be missed.

Clinical use of the Section III personality trait model proceeds similarly. An initial inquiry reviews all five broad domains of personality. This systematic review is facilitated by the use of formal psychometric instruments designed to measure specific facets and domains of personality. For example, the personality trait model is operationalized in the Personality Inventory for DSM-5 (PID-5), which can be completed in its self-report form by patients and in its informant-report form by those who know the patient well (e.g., a spouse). A detailed clinical assessment would involve collection of both patient- and informant-report data on all 25 facets of the personality trait model. However, if this is not possible, due to time or other constraints, assessment focused at the five-domain level is an acceptable clinical option when only a general (vs. detailed) portrait of a patient's personality is needed (see Criterion B of PD-TS). However, if personality-based problems are the focus of treatment, then it will be important to assess individuals' trait facets as well as domains.

Because personality traits are continuously distributed in the population, an approach to making the judgment that a specific trait is elevated (and therefore is present for diagnostic purposes) could involve comparing individuals' personality trait levels with population norms and/or clinical judgment. If a trait is elevated—that is, formal psychometric testing and/or interview data support the clinical judgment of elevation—then it is considered as contributing to meeting Criterion B of Section III personality disorders.

Clinical Utility of the Multidimensional Personality Functioning and Trait Model

Disorder and trait constructs each add value to the other in predicting important antecedent (e.g., family history, history of child abuse), concurrent (e.g., functional impairment, medication use), and predictive (e.g., hospitalization, suicide attempts) variables. DSM-5 impairments in personality functioning and pathological personality traits each contribute independently to clinical decisions about degree of disability; risks for self-harm, violence, and criminality; recommended treatment type and intensity; and prog-

TABLE 3. Definitions of DSM-5 personality disorder trait domains and facets

DOMAINS (Polar Opposites) and Facets	Definitions
NEGATIVE AFFECTIVITY (vs. Emotional Stability)	Frequent and intense experiences of high levels of a wide range of negative emotions (e.g., anxiety, depression, guilt/shame, worry, anger) and their behavioral (e.g., self-harm) and interpersonal (e.g., dependency) manifestations.
Emotional lability	Instability of emotional experiences and mood; emotions that are easily aroused, intense, and/or out of proportion to events and circumstances.
Anxiousness	Feelings of nervousness, tenseness, or panic in reaction to diverse situations; frequent worry about the negative effects of past unpleasant experiences and future negative possibilities; feeling fearful and apprehensive about uncertainty; expecting the worst to happen.
Separation insecurity	Fears of being alone due to rejection by—and/or separation from—significant others, based in a lack of confidence in one's ability to care for oneself, both physically and emotionally.
Submissiveness	Adaptation of one's behavior to the actual or perceived interests and desires of others even when doing so is antithetical to one's own interests, needs, or desires.
Hostility	Persistent or frequent angry feelings; anger or irritability in response to minor slights and insults; mean, nasty, or vengeful behavior. *See also* Antagonism.
Perseveration	Persistence at tasks or in a particular way of doing things long after the behavior has ceased to be functional or effective; continuance of the same behavior despite repeated failures or clear reasons for stopping.
Depressivity	*See* Detachment.
Suspiciousness	*See* Detachment.
Restricted affectivity (lack of)	The ***lack of*** this facet characterizes ***low levels*** of Negative Affectivity. *See* Detachment for definition of this facet.
DETACHMENT (vs. Extraversion)	Avoidance of socioemotional experience, including both withdrawal from interpersonal interactions (ranging from casual, daily interactions to friendships to intimate relationships) and restricted affective experience and expression, particularly limited hedonic capacity.
Withdrawal	Preference for being alone to being with others; reticence in social situations; avoidance of social contacts and activity; lack of initiation of social contact.
Intimacy avoidance	Avoidance of close or romantic relationships, interpersonal attachments, and intimate sexual relationships.
Anhedonia	Lack of enjoyment from, engagement in, or energy for life's experiences; deficits in the capacity to feel pleasure and take interest in things.
Depressivity	Feelings of being down, miserable, and/or hopeless; difficulty recovering from such moods; pessimism about the future; pervasive shame and/or guilt; feelings of inferior self-worth; thoughts of suicide and suicidal behavior.
Restricted affectivity	Little reaction to emotionally arousing situations; constricted emotional experience and expression; indifference and aloofness in normatively engaging situations.
Suspiciousness	Expectations of—and sensitivity to—signs of interpersonal ill-intent or harm; doubts about loyalty and fidelity of others; feelings of being mistreated, used, and/or persecuted by others.

TABLE 3. Definitions of DSM-5 personality disorder trait domains and facets *(continued)*

DOMAINS (Polar Opposites) and Facets	Definitions
ANTAGONISM (vs. Agreeableness)	Behaviors that put the individual at odds with other people, including an exaggerated sense of self-importance and a concomitant expectation of special treatment, as well as a callous antipathy toward others, encompassing both an unawareness of others' needs and feelings and a readiness to use others in the service of self-enhancement.
Manipulativeness	Use of subterfuge to influence or control others; use of seduction, charm, glibness, or ingratiation to achieve one's ends.
Deceitfulness	Dishonesty and fraudulence; misrepresentation of self; embellishment or fabrication when relating events.
Grandiosity	Believing that one is superior to others and deserves special treatment; self-centeredness; feelings of entitlement; condescension toward others.
Attention seeking	Engaging in behavior designed to attract notice and to make oneself the focus of others' attention and admiration.
Callousness	Lack of concern for the feelings or problems of others; lack of guilt or remorse about the negative or harmful effects of one's actions on others.
Hostility	*See* Negative Affectivity.
DISINHIBITION (vs. Conscientiousness)	Orientation toward immediate gratification, leading to impulsive behavior driven by current thoughts, feelings, and external stimuli, without regard for past learning or consideration of future consequences.
Irresponsibility	Disregard for—and failure to honor—financial and other obligations or commitments; lack of respect for—and lack of follow-through on—agreements and promises; carelessness with others' property.
Impulsivity	Acting on the spur of the moment in response to immediate stimuli; acting on a momentary basis without a plan or consideration of outcomes; difficulty establishing and following plans; a sense of urgency and self-harming behavior under emotional distress.
Distractibility	Difficulty concentrating and focusing on tasks; attention is easily diverted by extraneous stimuli; difficulty maintaining goal-focused behavior, including both planning and completing tasks.
Risk taking	Engagement in dangerous, risky, and potentially self-damaging activities, unnecessarily and without regard to consequences; lack of concern for one's limitations and denial of the reality of personal danger; reckless pursuit of goals regardless of the level of risk involved.
Rigid perfectionism (lack of)	Rigid insistence on everything being flawless, perfect, and without errors or faults, including one's own and others' performance; sacrificing of timeliness to ensure correctness in every detail; believing that there is only one right way to do things; difficulty changing ideas and/or viewpoint; preoccupation with details, organization, and order. The ***lack of*** this facet characterizes ***low levels*** of Disinhibition.

TABLE 3. Definitions of DSM-5 personality disorder trait domains and facets *(continued)*

DOMAINS (Polar Opposites) and Facets	Definitions
PSYCHOTICISM (vs. Lucidity)	Exhibiting a wide range of culturally incongruent odd, eccentric, or unusual behaviors and cognitions, including both process (e.g., perception, dissociation) and content (e.g., beliefs).
Unusual beliefs and experiences	Belief that one has unusual abilities, such as mind reading, telekinesis, thought-action fusion, unusual experiences of reality, including hallucination-like experiences.
Eccentricity	Odd, unusual, or bizarre behavior, appearance, and/or speech; having strange and unpredictable thoughts; saying unusual or inappropriate things.
Cognitive and perceptual dysregulation	Odd or unusual thought processes and experiences, including depersonalization, derealization, and dissociative experiences; mixed sleep-wake state experiences; thought-control experiences.

nosis—all important aspects of the utility of psychiatric diagnoses. Notably, knowing the level of an individual's personality functioning and his or her pathological trait profile also provides the clinician with a rich base of information and is valuable in treatment planning and in predicting the course and outcome of many mental disorders in addition to personality disorders. Therefore, assessment of personality functioning and pathological personality traits may be relevant whether an individual has a personality disorder or not.

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