



Diagnosis and Classification

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Psychology has been called the science of human behavior (e.g., Hilgard, 1987; O'Donohue & Krasner, 1995; Plaud & Eifert, 1998). As scientists—whether basic or applied—psychologists engage in one of the most fundamental steps common to any scientific endeavor, that of classifying the phenomena of interest. Within psychology, particularly the more applied branches, this activity of classification is more commonly known as *diagnosis*. Scientists typically take one of two approaches to the issue of classification: *inductive*—“bottom-up”—or *deductive*—“top down”), (see Cone, 1986, 1988). These two approaches are most closely related, within psychology, to the person-centered and behavior-focused *idiographic* approach, and the group-oriented (or norm-referenced) and trait-focused *nomothetic* approach (see Cone, 1986, 1988), although these distinctions rarely are stated explicitly and typically are highly overlapping. A key difference in these two approaches to the subject matter is that, in the inductive approach, one accumulates multiple observations about typical and atypical behavior and orders them along dimensions of similarity and dissimilarity. The taxonomy that this creates becomes the basis for further observations and eventually leads to the development of theory—in this case, theories of behavior and psychopathology. In the deductive approach, one begins with theory (although this clearly must be based on at least an informal observation of behavior) and seeks to gather data that confirm or disconfirm the theory.

Whether deductively or inductively derived, classification schemes are essentially deductively applied. That is, the amassed clinical data and theoretical conceptualizations that form a scheme of classification and diagnosis are applied by making inferences from the general to the specific case. Eschewing this deductive application of data and theory to the individual case would be tantamount to requiring that practitioners rediscover anew the principles of behavior—normal and pathological—for each case that presents to them. Thus, the categories created in a diagnostic classification

scheme (i.e., “syndromes” or “disorders”) provide “fundamental guidance” in the initial stages of a functional analysis (Hayes & Follette, 1992, p. 352) that ultimately leads to the identification of an intervention strategy. One begins the diagnostic and classification process at the nomothetic level, deductively applying to the single case what is known about persons who engage in similar patterns of behavior, in terms of response classes and behavioral covariation, etiology and prognosis, and lines of intervention likely to be successful (based on past experience and research).

However one proceeds, the focus is on the classification of behavior that is deemed pathological, deviant, or abnormal along some number of dimensions. That behavior, however, may as often be viewed as symptomatic of underlying disease processes or psychodynamic conflicts, as it is of members of a common, covarying class of responses. This distinction—as with several of the others noted previously (i.e., ideographic vs. nomothetic; inductive vs. deductive)—strikes to the heart of a key distinction within the area of diagnosis and classification: traditional versus behavioral assessment (Barrios & Hartmann, 1986; Cone, 1988; Goldfried & Kent, 1972). What we present in this chapter is our view on the integration of behavioral assessment with more traditional approaches in the classification and diagnosis process. We view classification and diagnosis as an important start to the clinical intervention process—although clearly there are times when these are ends in themselves, such as in the conduct of incidence and prevalence studies. We begin where the classification process must always start, with a consideration of what constitutes the very subject matter itself.

ABNORMAL: BY WHAT CRITERIA?

Clearly, the focus of diagnostic classification schemes within psychology has been on behavior that is considered to be deviant, abnormal, or harmful in some way. Not all classification schemes focus on behavior; some also classify contingencies or environments (Bandura, 1968; McReynolds, 1979, 1986), or even the kind and level (e.g., intermittent, limited, extensive, pervasive) of supports (i.e., resources and strategies, such as people, environments, and assistive technology) that enhance a person’s life, for example, independence and interdependence, productivity, community integration, and quality of life (American Association on Mental Retardation, 1992). Generally, however, the focus is on what people do—or fail to do—in ways (i.e., frequency, quality, situational context) that deviate from the norm. Because the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*, currently in its fourth edition (American Psychiatric Association [APA], 1994), is the system of classification that will be most familiar to and utilized by readers of this volume, we note here the definition of a *mental disorder* as given in that work:

[It is] a clinically significant behavioral or psychological syndrome or pattern that occurs in an individual and that is associated with present distress (e.g., painful symptoms) or disability (i.e., impairment in one or more important areas of functioning) or with a significantly increased risk of suffering death, pain, disability, or an important loss of freedom. In addition, this syndrome or pattern must not be merely an expectable and culturally sanctioned response to a particular event, for example, the death of a loved one. Whatever its original cause, it must currently be considered a manifestation of a behavioral, psychological, or biological dysfunction in the individual. Neither deviant behavior (e.g., political, religious, or sexual) nor conflicts that are primarily between the individual and society are mental disorders unless the deviance or conflict is a symptom of a dysfunction in the individual, as described above. (APA, 1994, pp. xxi–xxii)

This definition is a useful one, despite the immediate shortcomings inherent in the very term that is defined: *mental disorders*. The term itself, which the *DSM* openly admits to being inadequate (APA, 1994, p. xxi), conjures up two important "bogymen" in the history of psychological diagnosis: (a) the mind-body dualism implied by "mental," and (b) the disease model of behavior pathology implicit in the term "disorder." It is quite clear that there are both "physical" and "mental" aspects to abnormal behavior, whether one considers this from the viewpoint of the relation between physical (i.e., medical) disorders and their underlying physiological basis and resulting psychological disorders (e.g., depression as a disorder of mood with a physical basis, such as insufficient levels of serotonin); or from a triple-response mode perspective in which all disorders have important overt behavioral, covert cognitive-behavioral (of which one may or may not be aware), and potentially measurable physiological components. The traditional disease model that is implicit in the term "disorder" follows on this distinction, as it connotes the action of an underlying physiological disease process for all mental disorders, behavioral disorders, or both. Our own preference for more behavioral terminology (e.g., symptom, syndrome, and system) carries its own baggage.

We would remind readers, however, that the current *DSM* system is descriptive; thus, the categories of disorders reflect a cataloging of the overt behaviors and reportable (but often unverifiable, see Evans, 1986) covert (i.e., cognitive) behaviors that appear to covary with each other (either based on clinical experience or—preferably—statistical analysis; for summaries of such factor analytic work with attention deficit hyperactivity disorder [ADHA] and conduct disorder, see Barkley, 1997; McMahon & Estes, 1997). Referring to these covarying sets of behaviors (more neutral than the term *symptoms* or *syndrome*) in as nonpejorative a manner as possible is desirable in order to lessen the implicit assumption of common cause, be that medical, environmental, or psychodynamic, or whatever. The issue may really be one of levels of analysis, however (see Staats, 1990, 1995). It would be foolish to assert that the etiological and maintaining factors for any *DSM* mental disorder are solely genetic, physiological, or environmental in nature. We must consider the role of each of these factors (and others) and then determine the level (or levels) at which conceptualization and intervention will be most fruitful, that is, one must decide whether the most profitable level of intervention will be pharmacological (for disorders with a physical basis), behavioral or cognitive-behavioral (for disorders with strong environmental influences), or some combination of these and other strategies.

Normal Behavior

In deciding what even constitutes "abnormal" behavior, it is interesting to note that the field did not begin with a conceptualization of what constitutes normal behavior, that is, there is little empirical basis for saying how a particular behavior deviates from a known norm, standard, or baseline (Adams & Cassidy, 1993). Several schemes for classifying normal behavior have been proposed (see Adams & Cassidy, 1993; Buss, 1966). For example, within the positive mental health movement, Jahoda (1958) listed six criteria for mental health and normality, including a balance of psychic forces, self-actualization, resistance to stress, autonomy, competence, and perception of reality. More recently, Adams, Doster, and Calhoun (1977) outlined multiple response systems (e.g., emotional, sensory-perceptual, cognitive, motor, biological needs, acquired biological needs, social, and complex variations) within which nor-

mal activity could be specified, thus helping to identify when expected variability became an excessive deviation from the norm. Such systems are not standard practice in psychological classification schemes, however. Instead, the approach generally has been a top-down, deductive one: developing theories of human pathology (based on clinical observations) for which categories and then criteria seem to have been developed in an attempt to garner support (e.g., the “neurosis” as described in psychodynamic theory and later codified in the first edition of the *DSM*).

Criteria for Abnormality

A typical approach to defining abnormal behavior is to evaluate its occurrence within the general population in terms of frequency, duration, or intensity. In such an approach, rarity is equivalent to abnormality—especially when one also can determine that the duration or intensity of the behavior exceeds “normal limits.” Adams and Cassidy (1993) described this as the *multivariate model* and noted Costello’s (1980) warning that the obverse is not always true, that is, a response pattern may not be normal or socially acceptable simply because it is one that occurs with high frequency within the population (sexual abuse is one such example of a frequent but unacceptable set of behaviors). Epidemiological studies of the incidence (i.e., new cases meeting criteria within a specified timeframe) and prevalence (i.e., whether a case has ever met criteria within a specified time-frame) are the main method for establishing this criteria for abnormality. However, this is only one step in classifying a behavior pattern as pathological.

Other critical features that have been considered include whether the pattern of behavior: (a) is harmful to the person or others in their environment; (b) differs significantly from some optimal level of performance or competence (such as being different—even bizarre—in quality, quantity, or intensity; or is inefficient or ineffective); or (c) causes distress for the person or important others in their environment (see Barrios, 1988; Buss, 1966; Hawkins, 1986). These features pertain to the *criterion of labeled deviance*, the violation of social norms, and the *criterion of adjustment*, whether behavior is effective in meeting ones social and biological needs (see Adams & Cassidy, 1993). Homosexuality is the classic example of a behavior pattern that was once considered to be a mental disorder, being listed as a sexual deviation in both the first and second editions of the *DSM* (APA, 1952, 1968). Although local norms and conventions still vary widely, the broader society is more generally accepting of homosexual behavior during the 1990s than it was during the 1950s; thus, homosexual behavior no longer meets the criteria of labeled deviance. If, however, a man who engages in homosexual behavior finds his lifestyle and sexual orientation to be an ongoing source of internal (rather than due to external or social pressures) conflict and distress—so much so that it may be interfering with his social and occupational functioning and even may be related to physical symptoms—then the criterion of adjustment still may be met for this individual. Clearly, as more of these criteria are met—that is, frequency, deviance, and adjustment—the more abnormal and pathological a behavioral pattern becomes.

Such considerations often have—implicitly or explicitly—a focus on single behaviors that are deemed abnormal or problematic in and of themselves. In practice, the concern is also with a constellation or class of covarying behaviors that need to be addressed as a system rather than as individual targets or symptoms (Barrios, 1988; Evans, 1985, 1986; Scotti, Evans, Meyer, & DiBenedetto, 1991; Scotti, McMorrow, & Trawitzki, 1993). Such a consideration fits the *class or qualitative difference model*

(Adams & Cassidy, 1993), within which one considers the covariation of multiple responses. These responses individually may not be deviant or problematic, but taken as a co-occurring class may be classifiable as pathological. Consider, for example, recurring intrusive thoughts that any person may have from time to time. These are not, in themselves, problematic, unless they are accompanied by subjective distress and perhaps compulsions (in the case of obsessive-compulsive disorder) or avoidance and arousal (in the case of posttraumatic stress disorder). Thus, presence of other members of a class of responses that typically covary with each other and are functionally related becomes a critical issue. Such covariation is also an important concern from the standpoint of intervention, which in the field of behavior therapy has all too often been focused on single, isolated target behaviors and not the complex system of related responses with which clients actually present (Evans, 1985; Evans, Meyer, Kurkjian, & Kishi, 1988; Scotti et al., 1991; Scotti, Morris, McNeil, & Hawkins, 1996; Voeltz & Evans, 1982).

PURPOSES AND PROBLEMS

Purposes

An important question with regard to classification and diagnosis is "What purpose does it serve?" Clearly, at the most fundamental level, scientists classify the phenomena that they study; psychologists are no different. But for psychologists, there needs to be both viable scientific and clinical objectives beyond this basic level. A number of authors have suggested the following, among other objectives (Adams & Cassidy, 1993; Hersen & Bellack, 1988; Mezzich & Mezzich, 1987; Sprock & Blashfield, 1983). First is the development of a nomenclature, that is, a consistent terminology for communication among clinicians and researchers, thereby enhancing their ability to share information and conduct reliable observations, providing a common ground that is independent of theoretical orientation.

Second is the organization and recovery of information for the purposes of clinical decision-making, statistical reporting, and interpretation of archival information. Critical here is the use of such data in incidence and prevalence studies, and evaluations of the course and prognosis for various disorders. Related to this is the issue of *base-rates*, the known rates of a disorder within the general population (i.e., prevalence), but equally important are the rates at which people with certain disorders are seen in different settings. If a particular disorder is represented at very high or very low rates in the population of interest, even the most sensitive diagnostic instrument is unlikely to be any better than simply diagnosing everyone—or no one—with that disorder, thereby making the diagnostic enterprise a rather futile one (see Meehl, 1973). Generally, insufficient attention is paid to the sensitivity and specificity of diagnostic instruments, relying more often on simply whether two administrations of an instrument (i.e., test-retest or interrater) agree. Unfortunately, reliability does not assure accuracy or validity.

Third is a consideration of the differences and similarities across persons with specific disorders that will lead to an understanding of specific symptoms, course, etiology, and the identification of unique treatments. Clearly, it would be useful to understand the functional relations (the "why" of behavior) among sets of covarying symptoms, as well as etiological and maintaining factors, and the course if left untreated. All of these features should have important implications for the selection of intervention strategies. In fact, one would certainly need to question the utility of diag-

nosis for the practicing clinician if the same intervention package was dispensed across a range of groups regardless of diagnosis or target behavior, or if different packages were not differentially effective for specific problems. Although a variety of intervention packages are well known for their use with specific diagnostic groups (Barkley, 1987; Patterson, Reid, Jones, & Conger, 1975), there is surprisingly little evidence of differential application or efficacy (Eifert, Evans, & McKendrick, 1990; Hersen & Bellack, 1988; Scotti et al., 1993).

A fourth purpose, which is financially motivated, is the very real issue of remuneration for services. In the age of managed-care organizations that increasingly oversee the clinician's every move, reimbursement only comes with a formal diagnosis. Furthermore, the extent of reimbursement for services (i.e., rate or number of sessions) may vary with the organization's perception of the severity of the disorder and the need for specific services.

Problems

Among the most commonly stated reasons for not engaging in the process of diagnostic classification is that of the pejorative nature of diagnostic labels and the reification of disorders. Labels stick. They follow people—especially children—around, being known to employers, health care providers, insurance companies, and school officials and teachers. Labels remain even after clinical improvement has been made, creating an ongoing social stigmatization (Hersen & Bellack, 1988; Sprock & Blashfield, 1983). Diagnoses are also reified, that is, the classification becomes an entity that is seen as causal rather than merely descriptive of behavior. In what has been called a self-fulfilling prophecy, some authors have noted that diagnostic labels remove responsibility and blame for aberrant or undesirable behavior from the patient, placing it instead on the disorder that caused the behavior or that cannot be overcome despite the desire of the person to improve (Laing, 1967; Szasz, 1961). Equally troublesome is the increasing addition of “everyday problems” to the *DSM* (e.g., mathematics disorder, disorder of written expression, and caffeine-induced sleep disorder), running the great risk of medicalizing and pathologizing ever more trivial behaviors that are not true mental disorders (Szasz, 1961; Wade & Tavis, 1998). A special issue of *Cognitive and Behavioral Practice* contained a series of papers that provided an update on the issue of labels and stigmatization, including a model for understanding the impact of stigma on severe mental illness (Corrigan, 1998); personal reflections by Robert Lundin (1998) on his experience with manic-depression; and strategies for coping with stigmas on an individual level (Holmes & River, 1998) and for changing societal attitudes (Dickerson, 1998; Mayville & Penn, 1998).

Cultural Issues. Diagnostic schemes also have been criticized for largely being Eurocentric and not well representing or even tolerating differences due to culture, ethnicity, language, and socioeconomic status (SES). Classification schemes even have been judged to be racist in nature because minority groups—especially African American males—are overrepresented in the categories of mental retardation and ADHD, to name a few (Adebimpe, 1994; Lawson, Hepler, Holladay, & Cuffel, 1994; Webb-Johnson, 1999). This situation may reflect bias within the diagnostic process or a failure to understand and account for different cultural styles of interacting, attending, expressive skills, and response to authority (Cervantes & Arroyo, 1994; Webb-Johnson, 1999). Lower SES also has been associated with higher rates of psychotic disorders (Kohn, 1973). Whether this represents a diagnostic bias or the

downward drift of persons with psychotic disorders, the cause and effect relations continue to remain unclear in such data. Cross-national studies also find differences in the rates of diagnosis of certain disorders—such as schizophrenia being diagnosed at a higher rate in a U.S. sample than in a British sample. Such differences sometimes can be accounted for by adherence to different diagnostic practices (see Butcher, Narikiyo, & Bemis Vitousek, 1993, for a discussion).

Language creates a further problem in that test and interview questions do not always translate well (Okazaki & Sue, 1995), taking on sometimes important psychological differences in meaning in another language, or even in the same language but with a different cultural perspective (e.g., during an interview of an elderly, African American man in Mississippi, the man understood a question about “anxiety” to be a reference to his “nature,” that is, his eagerness to have sexual intercourse). Finally, there continues to be evidence of culture-specific disorders that do not readily fit into existing Eurocentric diagnostic categories, such as (a) *koro*, an obsessive fear reported in Chinese men that their penis will withdraw into their abdomen; (b) *susto*, a condition reported in Latin America involving insomnia, apathy, depression, and anxiety, among other features; and (c) *windigo*, a cannibalistic obsession among north-eastern Native Americans accompanied by mood disturbance, appetite loss, and homicidal ideation (Butcher et al., 1993; Dana, 1993).

There are two major positions on the issue of cultural differences in diagnosis, an issue that is far from resolved. The first is the *etic* approach, which assumes that there are universal commonalities such that psychiatric disorders have highly similar presentations and causes across cultures. This is a broad nomothetic view that contrasts starkly with the more idiographic and culture-specific *emic* approach. From the emic view, each culture must be understood in its own right, without reference to the perspectives and judgments of other cultures. Clearly, these two views have important implications for the broad application of classification schemes and diagnostic measures. Although there have been attempts to account for cultural difference by devising unbiased, culture-free tests (Anastasi & Urbina, 1997; Dana, 1993), the current movement is away from the construction of special tests and toward a focus on the role of the examiner. The interpretation of test results and other information feeding into the diagnostic process must take into account the examinee’s cultural background, SES, cultural and religious beliefs, and life experiences (e.g., recent immigration or refugee status), among other factors. It has even been suggested that a cultural axis be added to the current *DSM* multiaxial system (Dana, 1993).

Reliability And Validity of Diagnostic Classification. A former criticism of the *DSM* process was that disorders and their criteria were formed by the consensus of a committee of experts. This is less an issue with successive versions of the *DSM*, as there is increasing inclusion of the findings of factor analytic and group studies in the decision process (Frick et al., 1994; Lahey, Loeber, Quay, Frick, & Grimm, 1992), although expert committees still guide the process. The reliability of the diagnostic process also has improved significantly with the greater specification of objective diagnostic criteria and the use of structured clinical interviews based on those criteria.

One problem with determining the relative merit of various classification schemes is the lack of an agreed-on “gold standard” for diagnosis (Tsuang, 1993). The following elements have been cited as necessary for a proper classification system: reliability, internal consistency, specificity, external validity, and utility (Quay, 1986; Werry, 1992).

Reliability for specific diagnostic categories appears to be a function of the assessment method used. Interrater reliability is often quite high when structured diagnos-

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tic interviews are employed, particularly when evaluators all have been trained by the same source. Internal consistency varies more widely across diagnoses. The criteria for certain disorders specify that only a certain subset of symptoms must be met to qualify for the disorder (e.g., 8 of 14 listed symptoms in the case of ADHD). Thus, children qualifying for a diagnosis of ADHD may represent widely heterogeneous groups, each presenting with a more or less well-defined subconstellation of symptoms. The specificity of disorders often is greater between diagnostic classes than within disorders comprising each class. For example, high rates of comorbidity often are cited for anxiety disorders (March, 1995). External validity relates to the ability of classification to relate meaningfully to issues of etiology and prognosis. Clearly, certain diagnoses are useful summary variables and do indeed relate to substantive bodies of information with respect to etiology and prognosis (e.g., mental retardation). However, continued research is necessary to improve the external validity of the diagnostic classification system as a whole. Finally, summative evaluation of the utility of our current classification systems essentially is a matter left to the consideration of each practicing clinician. As Werry (1992) noted, individuals must ask "What use is the diagnosis in the real world?" (p.472) As increasing information is available to relate differential diagnosis to differential therapeutics, the answer increasingly will be "Accurate diagnosis allows me to provide more effective treatment to my client."

CLASSIFICATION SYSTEMS

Historical Antecedents to Current Systems

Attempts have been made throughout recorded history to classify human behavior. Early evidence of rudimentary classification systems dates to the 5th and 6th century BCE. Several ancient cultures derived astrological systems that purported to correspond to clusters of personality characteristics. Hippocrates developed a personality classification system, later refined by Galen, based on the dominance of specific bodily humors (i.e., choleric, melancholic, phlegmatic, sanguine). Some of these terms remain in use today, including melancholia (i.e., depression) and hysteria (although this is no longer attributed to a "wandering uterus"). Pythagoras supported the concept of physiognomy—the notion that psychological characteristics correspond to overt physical features. This concept was further extended by Franz Gall in the late 18th to early 19th century through the application of phrenology, an individual assessment procedure based on features of the skull (e.g., shape, bumps). Sullivan produced perhaps the most extensive system of classification based on overt features, this being his system of phenotypes (i.e., mesomorphs, endomorphs, etc.).

Diagnostic systems vaguely reminiscent of those in use today began to appear in the 19th century. In the early 1800s, Pinel proposed a diagnostic system that included the following categories: mania, melancholia, dementia, and idiotism. During this era, rapid advancements were being made in the recognition and specification of mental disorders. By 1899, Emil Kraepelin published the sixth edition of his *Textbook of Psychiatry*, in which 16 major categories of psychopathology were included. The first official diagnostic system developed by the American Psychiatric Association—the *Standard Classified Nomenclature of Diseases* (APA, 1933)—was based on the Kraepelinian classification system and included 24 major categories of psychopathology.

Current Approaches

International Classification Of Diseases. The first *International Classification of Diseases (ICD)* was approved in 1893 to provide epidemiologists and practitioners a relatively standard format by which mortality and morbidity data could be presented. However, it was not until the sixth edition of the *ICD* that a formal classification system for mental disorders was developed (World Health Organization [WHO], 1948). The section for mental disorders included 10 diagnostic categories of psychoses; 9 categories of psychoneuroses; and 7 categories for disorders of character, behavior, and intelligence. The *ICD* system has been revised at roughly 10-year intervals. The most recent edition (*ICD-10*, WHO, 1992) is largely compatible with the fourth edition of the *DSM* (APA, 1994), to which we now turn.

Diagnostic And Statistical Manual Of Mental Disorders. The first *DSM* was published by the APA in 1952. Three major categories of psychopathology were delineated: organic brain syndromes, functional disorders, and mental deficiency. The *DSM* was designed by a committee that failed to include any clinicians with special expertise in the area of childhood or adolescence. Only one diagnosis specific to children or adolescents was specified: adjustment reaction of childhood/adolescence, included under the heading of "Transient Situational Disorders." The *DSM* was revised in 1968 (*DSM-II*) to include 11 major diagnostic categories. Increased attention was given to problems of childhood through inclusion of a category titled "Behavior Disorders of Childhood-Adolescence" that consisted of the following diagnoses: hyperkinetic reaction, withdrawing reaction, overanxious reaction, runaway reaction, unsocialized aggressive reaction, and group delinquent reaction.

The third edition of the diagnostic manual (*DSM-III*; APA, 1980) represented a major improvement over the preceding diagnostic systems through the introduction of a multi-axial system, inclusion of explicit criteria, and removal of unsubstantiated theoretical inferences. The multi-axial system was intended to promote a more broad-band assessment of an individual's level of functioning within the context of individual, family, and community systems. The five axes of the *DSM-III* included: (a) Clinical Syndromes, (b) Personality Disorders and Developmental Disorders, (c) Physical Disorders and Conditions, (d) Psychosocial Stressors (severity rating), and (e) Global Assessment of Functioning. Consistent with a trend toward increasing complexity and specification across subsequent versions of the diagnostic classification system, 265 diagnoses were included in the *DSM-III* compared with 182 for the *DSM-II* and 108 for the original *DSM*.

The next revision of the diagnostic system (*DSM-III-R*; APA, 1987) placed more emphasis on the empirical literature with respect to the formulation and specification of operational diagnostic criteria. For the first time, the *DSM-III-R* committee utilized information from field trials with respect to basic reliability analyses to provide support for certain diagnostic categories. Increased attention was given to problems of childhood and adolescence, with the identification of five major categories of "Disorders First Evident in Childhood or Adolescence."

The *DSM-IV* (APA, 1994) was released to coincide with the 10th version of the *ICD* (WHO, 1992). The *DSM-IV* extends the emphasis on empirical findings, initiated with the *DSM-III*. Several diagnostic categories were restructured within *DSM-IV*. In particular, the number of diagnostic categories specific to childhood and adolescence has been reduced, with several diagnoses being subsumed within the corresponding

“adult” diagnoses (e.g., overanxious disorder of childhood has been subsumed under generalized anxiety disorder; avoidant disorder of childhood has been subsumed under social phobia). Critics of the *DSM-IV* note that there still remains relatively insufficient emphasis on situational or contextual factors (Scotti et al., 1996).

Supplemental And Alternative Classification Schemes. Recognizing the need for a classification scheme to address problems relevant to very young children, who largely have been ignored in the *DSM* systems, the National Center for Clinical Infant Programs has developed the (Diagnostic Classification: 0–3; DC: 0–3 Zero to Three/National Center for Clinical Programs, 1994). DC: 0–3 is a multiaxial system for classifying problems during the first 3 to 4 years of life. Similar in structure to the *DSM-IV*, the five axes of the DC: 0–3 include the following: (a) Primary Diagnosis, (b) Relationship Disorder, (c) Medical and Developmental Disorders and Conditions, (d) Psychosocial Stressors, and (e) Functional Emotional Developmental Level. Axis II (Relationship Disorder) considers three aspects of the relationship between infants and children and their caregivers: (a) behavioral quality of the interaction, (b) affective tone, and (c) psychological involvement. Assessment of functional developmental level is based largely on direct observations of child–caregiver interaction. The DC: 0–3 was designed from a developmental perspective and emphasizes the assessment of, and integration of information regarding, multiple domains of functioning (physical, cognitive, emotional, social).

In addition to “categorical” schemes such as the *DSM-IV*, empirically based “dimensional” schemes have been derived through multivariate statistical procedures (e.g., Achenbach, 1985; Quay, 1986). Dimensional approaches typically delineate symptom clusters derived from behavior problem or symptom checklists. A major assumption of the dimensional approach is that independent dimensions of behavior may be identified on which all individuals vary to certain degrees. For example, Achenbach (1991; Achenbach & Edelbrock, 1981) has identified two broad-band dimensions, labeled *internalizing behavior problems* and *externalizing behavior problems* that subsume narrow-band clusters such as *anxious/depressed* and *aggressive behavior*.

ADDITIONAL CONSIDERATIONS

Developmental Considerations

Thorough and accurate assessment requires an understanding of child development. In order to determine whether a given behavior is age-appropriate, one must have an adequate understanding of the behavior and skills that children should demonstrate across various ages (see Garber, 1984; Kavanagh & Hops, 1994). Unfortunately, many clinicians have not received adequate training in “normal” child development and thus have limited ability to evaluate adequately whether certain behaviors are indeed “abnormal.” Normative information regarding physical, cognitive, and social development is necessary to place many behaviors in a proper context. Clearly, a 3-year-old child who wets the bed would not be considered in need of treatment for enuresis. In contrast, bed-wetting is considered abnormal for a 13-year-old and would warrant further evaluation and intervention. In addition to age-related factors, attention must be paid to gender differences when determining the normalcy of a given behavior. Drawing again on the example of enuresis, bed-wetting is equally common for boys and girls under age 5. However, a steeper curve with respect to the

age at which bed-wetting declines is evident for girls than for boys, such that by age 11 more than twice as many boys continue to wet the bed than do girls. Such differences have led many pediatricians and child clinical psychologists to use different age criteria in determining whether bed-wetting should be a focus of clinical concern for boys versus girls. Such examples are rather straightforward; however, behavioral presentation in clinical settings is rarely so clear.

With respect to diagnostic classification, gender, race, and class differences have been reported for many categories. For example, male-to-female ratios of between 4:1 and 8:1 have been reported for ADHD (Barkley, 1996). Furthermore, differences in the behavioral expression of children meeting criteria for ADHD have been found to differ by gender, with girls evincing more social withdrawal and less aggression than do boys. Prevalence rates for ADHD also have been found to differ across cultures (Taylor, 1994) and socioeconomic groups (Biederman et al., 1995). At this point, it is unclear whether differences across gender, culture, and SES are indeed legitimate or are merely artifacts of the inconsistent application of diagnostic criteria (see Butcher et al., 1993; Dana, 1993). However, research utilizing standardized procedures, such as structured diagnostic interviews, may help determine the validity of differences in prevalence and expression. Cohen et al. (1993) provided epidemiological information, derived from structured interview data, regarding the Age x Gender trajectories of specific disorders. Should such differences consistently be confirmed, analysis of contextual differences between groups may help elucidate relevant etiological factors.

Children Within Context

Comprehensive evaluation also requires examination of the context or contexts in which the presenting problem occurs. It is seldom the case that children refer themselves for diagnostic evaluation. Rather, one or more adults in a child's life make a judgment that the child is in need of assessment and treatment. It is incumbent on evaluators to assess the system or systems in which the presenting problem is said to have arisen. All too often, errors are made by undue focus on the child as an individual target, with failure to examine the family or school context. Issues such as parental psychopathology, interpartner conflict, and educational or economic disadvantage may influence parental perceptions and expectations of child behavior. In many cases, the most appropriate route of intervention may be to provide direct services to improve the overall functioning of the parent or parents and, consequently, the family system.

A significant shortcoming of the *DSM-IV* is the insufficient availability of diagnoses relating to disturbances within family systems. The *DSM-IV* is reflective of the practice of many professionals in which individuals—rather than couples, families, or broader systems—are seen as the focus of treatment. The diagnosis of “parent-child relational problem” is inadequate to represent fully the range of problems to which it is frequently applied. Further work is necessary to devise classification systems that go beyond specification of individual psychopathology.

Furthermore, it is important to note that behavior may vary across situations. A child may engage in extreme oppositional behavior at school, yet not at home, and vice versa. Parents should not be considered the gold standard for all information about their children. Information should be solicited from all relevant parties in the situations in which problem behaviors are reported to occur. Preferably, the evaluator will arrange direct observation of child behavior whenever possible. Additionally, evaluators are cautioned to pay attention to notes in the *DSM-IV* that point out the different presentation of specific symptoms that may occur with children.

Ethical Considerations

The use of diagnostic labels is a matter of controversy. As noted previously, diagnostic labels function as important summary variables. However, critics point to the potentially devastating effects of labeling children (e.g., self-fulfilling prophecy). Such criticisms are compounded by concerns regarding the validity of available taxonomic systems and the consistency with which diagnostic criteria are adhered. It is doubtful that diagnostic labels ever will be rejected in favor of purely idiographic specification of target behaviors, nor are we suggesting that such should be the case (Scotti et al., 1996). Clearly the impetus must be on developing taxonomies that may be employed reliably and that relate directly to differential therapeutics.

A potentially problematic issue is that of how to communicate diagnostic information to clients (Pope, 1992). In the case of children, diagnostic information generally is communicated to parents. However, it is often the case that diagnostic information is requested by school officials or child-care providers. Mere provision of a diagnostic label is insufficient to address the needs of the referral source. Relevant information must be provided with respect to effective intervention strategies available to address the presenting problem or problems, as well as information regarding the nature and course of the disorder. Information must be provided in terms that are easily understood by the person being addressed. One must keep in mind the emotional connotation that many members of the public may have to psychological jargon and the concept of "mental disorders." In fact, many practitioners prefer to focus on the functional aspects of the presenting problem and provide specific diagnostic labels to clients only when absolutely necessary (e.g., school placement).

Assessment Methods

Methods of assessment used to obtain information for diagnostic classification purposes include clinical interviews (Silverman & Albano, 1996); parent- and teacher-completed checklists (Achenbach, 1991; Conners, 1990); child-completed self-report measures (Beidel, Turner, & Morris, 1998; Kovacs, 1992); self-monitoring of behavior (Beidel, Neal, & Lederer, 1991; Shapiro & Cole, 1993), peer-informant data (Coie, Dodge, & Coppotelli, 1982; Masten, Morrison, & Pelligrini, 1985); behavioral performance or challenge tasks (Beidel, 1988; Murphy & Bootzin, 1973); and direct observation of behavior (Dadds & Sanders, 1992; Reid, 1978). Comprehensive assessment will incorporate multiple methods across multiple informants to access information with respect to behavior within multiple contexts. The dangers of relying on a single source of information to assign a diagnosis can not be overly stressed. However, the task of the evaluator is not merely to obtain a large quantity of assessment information. Attention must be paid to the potential relevance of the assessment measures selected. Additionally, when information is found to differ across informants the evaluator should examine potential reasons for disagreement. Mash and Dozois (1996) noted the following potential reasons why multiple informants, may present discrepant information: (a) bias or error on the part of one of the informants; (b) variability in child behavior across situations observed by the informants; (c) lack of access to specific behavior (i.e., private events); (d) denial of the problem; or (e) active distortion of information in service of some other goal.

Differential Diagnosis

Theoretically, differential diagnosis would lead to differential therapeutics. Unfortunately, there is little empirical data available to address the issue of the association be-

tween differential diagnosis and the provision of effective treatment for the vast majority of diagnostic categories. At a molar level, broad-band categories are generally associated with specific forms of intervention. For example, pharmacotherapy is widely used in the case of psychotic disorders, and contingency management approaches are widely used with disruptive behavior disorders. However, within diagnostic categories (e.g., mood disorders), it is unclear whether the application of a specific diagnostic label (e.g., dysthymia vs. major depressive episode) necessitates a specific therapeutic approach. Despite the limited empirical evidence currently available, accurate differential diagnosis may assist in etiological research and ultimately may lead to identification of effective differential therapeutics.

Importantly, one must acknowledge that the same behavior may have different functions. The case of school refusal is one in which the same presenting behavior may be a component of several different diagnostic classes. Identifying the function of school-refusal behavior assists differential diagnosis. School-refusal behavior commonly occurs in three diagnostic groups (Last & Strauss, 1990). Children may refuse to attend school because they are afraid to read aloud or engage in social interaction with peers (as with social anxiety disorder); they may fear that harm may befall a parent in their absence (as with separation anxiety disorder); or they may evidence a general lack of compliance and resistance to authority (as with oppositional defiant disorder). Differential diagnosis through identification of the function of the school-refusal behavior typically would result in a somewhat different treatment approach with each diagnostic category: social skills training and performance-based exposure therapy for the child with social anxiety disorder; parent-child relationship therapy and separation-based exposure exercises for separation anxiety disorder; and contingency management and environmental supports in the case of oppositional defiant disorder.

INTEGRATING DIAGNOSIS AND INTERVENTION

Diagnostic classification may be an end in itself (e.g., epidemiological studies) but is more likely to be one of the initial steps in the process of case conceptualization and intervention. Hawkins (1979; see also Barrios, 1988; Barrios & Hartmann, 1986) described the assessment process as including a number of steps that are followed in order and which successively move from a relatively broad to a narrow focus. Hawkins referred to this process as the "assessment funnel," with specific types of questions being addressed during each phase. The first several phases of the assessment process, or funnel, include "screening" and "problem identification and analysis." It is at this level that one evaluates whether the target person exhibits a problem requiring further assessment and intervention and begins to identify specific problem areas and target behaviors (i.e., symptoms). A range of behavioral and traditional assessment measures may be employed to determine important environmental and organismic factors in the case. Undoubtedly, particularly if reimbursement is sought through an insurance company or managed-care organization, a formal diagnosis will be assigned. This section of the funnel—a broad level of assessment—is wholly compatible with current *DSM* Axis I and Axis II diagnoses, that is, identifying a child as meeting criteria for a disorder based on formal testing, interviews, and observations, and their similarity to specific diagnostic groups by virtue of meeting symptom criteria.

The subsequent phases of the assessment funnel focus on the identification of specific, clearly defined target behaviors and selecting, implementing, and evaluating interventions designed to address those targets. These are the "target behavior

and treatment selection," "monitoring progress," and "follow-up" phases of the process. At these levels, the work is case-specific (i.e., narrow focus), although intervention may be selected based on packages known to be effective with similar cases (i.e., persons with similar diagnoses). Here is the deductive application of a body of knowledge to the individual case, as discussed at the start of this chapter. This also begins an iterative process such that diagnostic and other assessment information leads to the selection of interventions. Assessment then continues throughout treatment, allowing an evaluation of progress and pointing toward needed modifications to the treatment plan. This is the essence of the scientist-practitioner model (Barlow, Hayes, & Nelson, 1984), and it is also the level at which individual functional analyses and systems models can be developed and tested for the case at hand (Evans, 1985; Scotti et al., 1996). A change in diagnostic status is rarely the primary outcome that is sought in therapy; rather, the objective is typically the modification of certain behaviors or interactional styles. However, one could see that real, significant treatment gains should mean real resolution to a disorder, in the sense that the behaviors specified in the diagnostic criteria are no longer evident.

Idiographic functional analyses might take several forms, but a specification of excess and deficit behaviors and skills, as well as their relation to each other, and the psychosocial and environmental resources and deficits that support—or fail to support—current repertoires, would be considered. This level of analysis, however, is clearly not part of classification systems such as the *DSM*. Scotti et al. (1996) have proposed that several axes of the *DSM* system be modified or added, providing clinicians the opportunity to incorporate specific case features into the diagnostic process. These axes might include (a) psychosocial and environmental resources and deficits, and (b) idiographic case analysis (including biological factors and general medical conditions). Currently, the *DSM* requires specification of psychosocial and environmental problems, but a consideration of psychosocial and environmental strengths, assets, and supports is equally important in the treatment planning process. Here, the system of supports outlined in the diagnostic manual of the American Association on Mental Retardation (1992) seems particularly relevant, as it would identify the kind and level of resources and supports needed to address the individual case, including people, environments, assistive technology, educational strategies, and so forth. The idiographic case analysis would formalize the assessment of critical antecedents (both proximal and distal), repertoires, and consequences for the particular case: These might include relevant historical features (e.g., prior suicide attempts, parental sexual abuse); immediate antecedents (e.g., parental demands); current skills or deficits (e.g., good social and vocational skills, but poor math and reading skills); and the consequences of their behaviors (e.g., aggressive behavior results in termination of parental demands; academic success is not valued by the parents). Incorporation of such idiographic information into a classification scheme would bring together the traditional nomothetic aspects and purposes of diagnosis and classification and make that enterprise useful in the description, conceptualization, and treatment of the individual case.

CONCLUSION

The attempt to define and classify abnormal behavior has a long history. We have outlined here a number of the critical features and considerations of diagnostic and classifications systems, including the goals and purposes of classification, decisions concerning the subject matter (i.e., what is "abnormal" behavior?), and the pros and

cons of engaging in the diagnostic process. We also have outlined a number of features of past and current systems, providing what we see as important considerations in the use of these systems. Finally, we have discussed briefly the place of classification and diagnosis in the clinical intervention process, stressing the need to consider both the nomothetic and idiographic aspects of the process.

Classification and diagnosis remains an important clinical, research, and epidemiological activity. It is also an activity fraught with negative implications, not the least of which are the political implications of labeling people and their behavior as "deviant," and the requirements to engage in the process for the purposes of financial reimbursement. Because psychology is a science, we can expect that classification and diagnosis will not disappear as a critical enterprise of scientists and practitioners. It will remain necessary, however, that the methods, purposes, and ramifications remain a point of discussion, thereby enhancing the usefulness of this important activity and reducing the likelihood of its misuse.

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