

DISCUSSION 2

Prior to beginning work on this discussion, review Standard 9: Assessment (Links to an external site.) in the APA's Ethical Principles of Psychologists and Code of Conduct and DSM-5.

It is recommended that you read Chapters 1 and 2 The assessment process in the APA handbook of testing and assessment in psychology, Vol. 2: Testing and assessment in clinical and counseling psychology (2013) e-book, as well as the Kielbasa, Pomerantz, Krohn, and Sullivan (2004) "How Does Clients' Method of Payment Influence Psychologists' Diagnostic Decisions?" and the Pomerantz and Segrist (2006) "The Influence of Payment Method on Psychologists' Diagnostic Decisions Regarding Minimally Impaired Clients" articles for further information about how payment method influences the assessment and diagnosis process.

For this discussion, you will assume the role of a clinical or counseling psychologist and diagnose a hypothetical client. Begin by reviewing the PSY650 Week Two Case Studies document and select one of the clients to diagnose.

(Case Study attached)

In your initial post, compare the assessments typically used by clinical and counseling psychologists, and explain which assessment techniques (e.g., tests, surveys, interviews, client records, observational data) you might use to aid in your diagnosis of your selected client. Describe any additional information you would need to help formulate your diagnosis, and propose specific questions you might ask the client in order to obtain this information from him or her. Identify which theoretical orientation you would use with this client and explain how this orientation might influence the assessment and/or diagnostic process. Using the DSM-5 manual, propose a diagnosis for the client in the chosen case study.

Analyze the case and your agency's required timeline for diagnosing from an ethical perspective. Considering the amount of information you currently have for your client, explain whether or not it is ethical to render a diagnosis within the required timeframe. Evaluate the case and describe whether or not it is justifiable in this situation to render a diagnosis in order to obtain a third party payment.

REFERENCES attached

PSY650 Week Two Case Studies

You are a psychologist working for an agency whose policy states that an assessment and diagnosis must be rendered within 48 hours of an initial session with a client. Please review and choose one of the following cases to diagnose.

The Case of Amanda

Amanda is a 16-year-old Hispanic female that was referred to treatment due to body image issues. Her parents believe that she has an eating disorder because she restricts her food intake and exercises excessively. Amanda denies any compensatory behaviors, but reports the following symptoms: anxiety, trouble sleeping through the night, and not feeling like a worthwhile person. She has reservations about seeking treatment because confidentiality is not guaranteed. She has agreed to attend the first session and opted to use insurance to pay for it. Her insurance company will allot her 8 sessions upon receipt of her diagnosis. What diagnosis would you give Amanda?

The Case of Charles

Charles is a 33-year-old African American male seeking treatment due to suicidal ideation. He is currently going through divorce proceedings and reports feeling agitated, angry, sad, and stressed most days. He is concerned that his relationship issues have begun to impact his responsibilities at work and fears losing his job. Charles is open to seeking treatment, but his insurance provider is out-of-network. His insurance company is willing to reimburse him for up to 8 sessions if an acceptable diagnosis is submitted. What diagnosis would you give Charles?

9.01 Bases for Assessments

- (a) Psychologists base the opinions contained in their recommendations, reports, and diagnostic or evaluative statements, including forensic testimony, on information and techniques sufficient to substantiate their findings. (See also Standard 2.04, Bases for Scientific and Professional Judgments (?item=5#204) .)
- (b) Except as noted in 9.01c (#901c) , psychologists provide opinions of the psychological characteristics of individuals only after they have conducted an examination of the individuals adequate to support their statements or conclusions. When, despite reasonable efforts, such an examination is not practical, psychologists document the efforts they made and the result of those efforts, clarify the probable impact of their limited information on the reliability and validity of their opinions, and appropriately limit the nature and extent of their conclusions or recommendations. (See also Standards 2.01, Boundaries of Competence (?item=5#201) , and 9.06, Interpreting Assessment Results (#906) .)
- (c) When psychologists conduct a record review or provide consultation or supervision and an individual examination is not warranted or necessary for the opinion, psychologists explain this and the sources of information on which they based their conclusions and recommendations.

9.02 Use of Assessments

- (a) Psychologists administer, adapt, score, interpret, or use assessment techniques, interviews, tests, or instruments in a manner and for purposes that are appropriate in light of the research on or evidence of the usefulness and proper application of the techniques.
- (b) Psychologists use assessment instruments whose validity and reliability have been established for use with members of the population tested. When such validity or reliability has not been established, psychologists describe the strengths and limitations of test results and interpretation.
- (c) Psychologists use assessment methods that are appropriate to an individual's language preference and competence, unless the use of an alternative language is relevant to the assessment issues.

9.03 Informed Consent in Assessments

- (a) Psychologists obtain informed consent for assessments, evaluations, or diagnostic services, as described in Standard 3.10, Informed Consent, except when (1) testing is mandated by law or governmental regulations; (2) informed consent is implied because testing is conducted as a routine educational, institutional, or organizational activity (e.g., when participants voluntarily agree to assessment when applying for a job); or (3) one purpose of the testing is to evaluate decisional capacity. Informed consent includes an explanation of the nature and purpose of the assessment, fees, involvement of third parties, and limits of confidentiality and sufficient opportunity for the client/patient to ask questions and receive answers.
- (b) Psychologists inform persons with questionable capacity to consent or for whom testing is mandated by law or governmental regulations about the nature and purpose of the proposed assessment services, using language that is reasonably understandable to the person being assessed.
- (c) Psychologists using the services of an interpreter obtain informed consent from the client/patient to use that interpreter, ensure that confidentiality of test results and test security are maintained, and include in their recommendations, reports, and diagnostic or evaluative statements, including forensic testimony, discussion of any limitations on the data obtained. (See also Standards 2.05, Delegation of Work to Others (?item=5#205) ; 4.01, Maintaining Confidentiality (?item=7#401) ; 9.01, Bases for Assessments (#901) ; 9.06, Interpreting Assessment Results (#906) ; and 9.07, Assessment by Unqualified Persons (#907) .)

9.04 Release of Test Data

- (a) The term *test data* refers to raw and scaled scores, client/patient responses to test questions or stimuli, and psychologists' notes and recordings concerning client/patient statements and behavior during an examination. Those portions of test materials that include client/patient responses are included in the definition of *test data*. Pursuant to a client/patient release, psychologists provide test data to the client/patient or other persons identified in the release. Psychologists may refrain from releasing test data to protect a client/patient or others from substantial harm or misuse or misrepresentation of the data or the test, recognizing that in many instances release of confidential information under these circumstances is regulated by law. (See also Standard 9.11, Maintaining Test Security (#911) .)
- (b) In the absence of a client/patient release, psychologists provide test data only as required by law or court order.

9.05 Test Construction

Psychologists who develop tests and other assessment techniques use appropriate psychometric procedures and current scientific or professional knowledge for test design, standardization, validation, reduction or elimination of bias, and recommendations for use.

9.06 Interpreting Assessment Results

When interpreting assessment results, including automated interpretations, psychologists take into account the purpose of the assessment as well as the various test factors, test-taking abilities, and other characteristics of the person being assessed, such as situational, personal, linguistic, and cultural differences, that might affect psychologists' judgments or reduce the accuracy of their interpretations. They indicate any significant limitations of their interpretations. (See also Standards 2.01b and c, Boundaries of Competence (?item=5#201b) , and 3.01, Unfair Discrimination (?item=6#301) .)

9.07 Assessment by Unqualified Persons

Psychologists do not promote the use of psychological assessment techniques by unqualified persons, except when such use is conditional for training purposes with appropriate supervision. (See also Standard 2.05, Delegation of Work to Others (?item=5#205) .)

9.08 Obsolete Tests and Outdated Test Results

(a) Psychologists do not base their assessment or intervention decisions or recommendations on data or test results that are outdated for the current purpose.

(b) Psychologists do not base such decisions or recommendations on tests and measures that are obsolete and not useful for the current purpose.

9.09 Test Scoring and Interpretation Services

(a) Psychologists who offer assessment or scoring services to other professionals accurately describe the purpose, norms, validity, reliability, and applications of the procedures and any special qualifications applicable to their use.

(b) Psychologists select scoring and interpretation services (including automated services) on the basis of evidence of the validity of the program and procedures as well as on other appropriate considerations. (See also Standard 2.01b and c, Boundaries of Competence (? item=5#201b) .)

(c) Psychologists retain responsibility for the appropriate application, interpretation, and use of assessment instruments, whether they score and interpret such tests themselves or use automated or other services.

9.10 Explaining Assessment Results

Regardless of whether the scoring and interpretation are done by psychologists, by employees or assistants, or by automated or other outside services, psychologists take reasonable steps to ensure that explanations of results are given to the individual or designated representative unless the nature of the relationship precludes provision of an explanation of results (such as in some organizational consulting, preemployment or security screenings, and forensic evaluations), and this fact has been clearly explained to the person being assessed in advance.

9.11 Maintaining Test Security

The term *test materials* refers to manuals, instruments, protocols, and test questions or stimuli and does not include *test data* as defined in Standard 9.04, Release of Test Data (#904) . Psychologists make reasonable efforts to maintain the integrity and security of test materials and other assessment techniques consistent with law and contractual obligations, and in a manner that permits adherence to this Ethics Code.

➤ **Section 10: Therapy**

➤ **History and Effective Date**

➤ **Amendments to the 2002 "Ethical Principles of Psychologists and Code of Conduct" in 2010 and 2016**



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Additional Resources

2018 APA Ethics Committee Rules and Procedures (PDF, 197KB)

Revision of Ethics Code Standard 3.04 (Avoiding Harm)

APA Ethical Principles of Psychologists and Code of Conduct (2017) (PDF, 272KB)

2016 APA Ethics Committee Rules and Procedures

Revision of Ethical Standard 3.04 of the "Ethical Principles of Psychologists and Code of Conduct" (2002, as Amended 2010) (PDF, 26KB)

2010 Amendments to the 2002 "Ethical Principles of Psychologists and Code of Conduct" (PDF, 39KB)

Compare the 1992 and 2002 Ethics Codes

CLINICAL AND COUNSELING TESTING

Janet F. Carlson

Many clinical and counseling psychologists depend on tests to help them understand as fully as possible the clients with whom they work (Camara, Nathan, & Puente, 2000; Hood & Johnson, 2007; Masling, 1992; Naugle, 2009). A broad and comprehensive understanding of an individual supports decisions to be made by or regarding a client. Tests provide a means of sampling behavior, with results used to promote better decision making. Decisions may include such matters as (a) what diagnosis or diagnoses may be applicable, (b) what treatments are most likely to produce behavioral or emotional changes in desired directions, (c) what colleges should be considered, (d) what career options might be most satisfying, (e) whether an individual qualifies for a gifted educational program, (f) the extent to which an individual is at risk for given outcomes, (g) the extent to which an individual poses a risk of harm to others or to himself or herself, (h) the extent to which an individual has experienced deterioration in his or her ability to manage important aspects of living, and (i) whether an individual is suitable for particular types of roles or occupations such as those that involve high risk or extreme stress or where human error could have catastrophic effects. The foregoing list is certainly not exhaustive.

The term *assessment* as used in clinical and counseling settings is a broader term than *testing* because it refers to the more encompassing integration of information collected from numerous sources. Tests comprise sources of information that often contribute to assessment efforts. Discussion within this chapter focuses on procedures used in

clinical and counseling assessment, all of which provide samples of behavior and, thus, qualify as tests. The narrative begins with a consideration of how clinical assessment may be framed and then addresses briefly ethics and other guidelines pertinent to assessment practices. Next, specific assessment techniques used in clinical and counseling contexts are reviewed, followed by a discussion of concerns related to interpretation and integration of assessment results. The chapter concludes with a section devoted to the importance of providing assessment feedback.

TRADITIONAL AND THERAPEUTIC ASSESSMENT

A diverse collection of procedures may be viewed as falling within the purview of clinical and counseling assessment (Naugle, 2009). The disparate array of procedures makes it somewhat difficult to appreciate commonalities among them, particularly for individuals who are relatively new to the field of assessment. Although clinical and counseling assessment procedures take many forms, nearly all are applied in a manner that facilitates an intense focus on concerns of a single individual or small unit of individuals, such as a couple or family (Anastasi & Urbina, 1997). The clinician who works one-on-one with a client during a formal assessment effectively serves as data collector, information processor, and clinical judge (Graham, 2006). Procedures that may be administered to groups of people often serve as screening measures that identify respondents who may be at

risk and, therefore, need closer clinical attention (i.e., further testing conducted individually).

The immediate goals of clinical and counseling assessment frequently address mental illness and mental health concerns. Testing can help practitioners to better address an individual's mental illness or mental health needs by identifying those needs, improving treatment effectiveness, and tracking the process or progress of interventions (Carlson & Geisinger, 2009; Kubiszyn et al., 2000). Tests that assist clinicians' diagnostic efforts also may be important in predicting therapeutic outcome (i.e., prognosis) and establishing expectations for improvement. On a practical level, testing can be used to satisfy insurance or managed care requirements for evidence that supports diagnostic determinations or progress monitoring.

Within this basic framework, practitioners view the assessment process and their role within it differently. Indeed, some clinicians regard their role as similar to that of a technician or skilled tradesperson. From this traditional vantage point, skillful assessment begins to develop during graduate training, as trainees become familiar with the tools of the trade—tests, primarily. They learn about a variety of tests and how to use them. As trainees become practitioners, they accumulate experience with specific tests and find certain tests more helpful to their work with clients than other tests. It is not surprising that clinicians rely on tests that have proven most useful to them in their clinical work (Masling, 1992), despite test selection guidelines and standards that emphasize the importance of matching tests to the needs of the specific client or client's agent (American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME], 1999; Eyde, Robertson, & Krug, 2010). As Cates (1999) observed, "the temptation to remain with the familiar [test battery] is an easy one to rationalize, but may serve the client poorly" (p. 637). It is important to note that the clinical milieu is fraught with immediate practical demands to provide client-specific information that is accurate, is useful, and addresses matters such as current conflicts, coping strategies, strengths and weaknesses, degree of distress, risk for self-harm,

and so forth. The dearth of well-developed tests to assess certain clinical features does not alleviate or delay the need for this information in clinical practice. Thus, practitioners may find it necessary to do the best they can with the tools at hand.

Therapeutic assessment represents an alternative to traditional conceptualizations of the assessment process (Finn & Martin, 1997; Finn & Tonsager, 1997; Kubiszyn et al., 2000). In this contemporary framework, test givers and test takers collaborate throughout the assessment process and work as partners in the discovery process. Test takers have a vested interest in the initiation and implementation of assessment as well as in evaluating and interpreting results of the procedures used. Advocates of therapeutic assessment value and seek input from test takers throughout the assessment process and regard their perspectives as valid and informed. Rather than dismissing client input as fraught with self-serving motives and inaccuracies, practitioners who embrace the therapeutic assessment model engage clients as equal partners. This stance, together with the participatory role of the test giver, led Finn and Tonsager (1997) to characterize the process as an empathic collaboration in which tests offer opportunities for dialogue as well as interpersonal and subjective exchanges. A more thorough discussion of therapeutic assessment and its application is given in Chapter 26, this volume.

TEST USAGE

A survey of clinical psychology and neuropsychology practitioners (Camara et al., 2000) indicated that clinical psychologists most frequently used tests for personality or diagnostic assessment. The findings were consistent with those from an earlier study (O'Roark & Exner, 1989, as cited by Camara et al., 2000), in which 53% of psychologists also reported that they used testing to help determine the most effective therapeutic approach. Testing constitutes an integral component of many practitioners' assessment efforts as practitioners report using formal measures with regularity. Ball, Archer, and Imhof (1994) reported results from a national survey of a sample of 151 clinical psychologists who indicated they provided psychological testing services. The seven most used tests

reported by respondents were used by more than half of the practitioners who responded to the survey. In order, these tests included the Wechsler IQ scales, Rorschach, Thematic Apperception Test (TAT), Minnesota Multiphasic Personality Inventory (MMPI), Wide-Range Achievement Test, Bender Visual Motor Gestalt Test, and Sentence Completion. Camara et al.'s (2000) sample comprising 179 clinical psychologists reported remarkably similar frequencies of use, with the Wechsler IQ scales, MMPI, Rorschach, Bender Visual Motor Gestalt Test, TAT, and Wide-Range Achievement Test heading up the list. The preceding reports notwithstanding, considerable evidence suggests that test usage is in decline (Ben-Porath, 1997; Camara et al., 2000; Garb, 2003; Eisman et al., 2000; Meyer et al., 2001), whereas other researchers have noted a corresponding decline in graduate instruction and training in testing and assessment (Aiken, West, Sechrest, & Reno, 1990; Fong, 1995; Hayes, Nelson, & Jarrett, 1987).

The now ubiquitous presence of managed care in all aspects of health care, including mental health care, clearly influences practitioners' use of tests (Carlson & Geisinger, 2009; Yates & Taub, 2003). As is true for health care providers generally, mental health care providers can expect reimbursement for services they provide only if those services can be shown to be cost effective and essential for effective treatment. In a managed care environment, practitioners no longer have the luxury of making unilateral decisions about patient care, including test administration. Clinical assessments that pinpoint a diagnosis and provide direction for effective treatment are reimbursable, within limits, and typically are considered by third-party payers as therapeutic interventions (Griffith, 1997; Kubiszyn et al., 2000; Yates & Taub, 2003). Moreover, a number of studies have demonstrated that clinical tests have therapeutic value in and of themselves (Ben-Porath, 1997; Finn & Tonsager, 1997) and encourage their use as interventions.

STANDARDS, ETHICS, AND RESPONSIBLE TEST USE

Counseling and clinical psychologists who conduct assessments must maintain high standards and abide

by recommendations for best practice. In short, their assessment practices must be beyond reproach.

Considering the important and varied uses to which assessment results may be applied, it is not surprising that an array of rules, guidelines, and recommendations govern testing and assessment practices. For many years, the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999) have served several professions well as far as delineating the standards for test users as well as for test developers, and clinical and counseling psychologists must adhere to ethical principles and codes of conduct that influence testing practices.

The APA's *Ethical Principles of Psychologists and Code of Conduct* (APA *Ethical Principles*; APA, 2010) addresses assessment specifically in Standard 9, although passages relevant to assessment occur in several other standards, too. The 11 subsections of Standard 9 address issues such as use of tests, test construction, release of test data, informed consent, test security, test interpretation, use of automated services for scoring and interpretation, and communication of assessment results. In essence, the standards demand rigorous attention to the relationship between the clinician (as test giver) and the client (as test taker) from inception to completion of the assessment process. Ultimately, practitioners must select and use tests that are psychometrically sound, appropriate for use with the identified client, and responsive to the referral question(s). Furthermore, clinicians retain responsibility for all aspects of the assessment including scoring, interpretation and explanation of results, and test security, regardless of whether they choose to use other agents or services to carry out some of these tasks.

The *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999) and Standard 9 of the APA *Ethical Principles* (APA, 2010) provide sound guidance for counseling and clinical psychologists who provide assessment-related services. A number of other organizations concerned with good testing practices have official policy statements that offer additional assistance to practitioners seeking further explication of testing-related guiding principles or whose services may extend to areas beyond traditional parameters. The policy statements most likely to interest counseling and clinical

psychologists include the *ACA Code of Ethics* (American Counseling Association, 2005), *Specialty Guidelines for Forensic Psychology* (Committee on the Revision of Specialty Guidelines for Forensic Psychology, 2011), *Principles for Professional Ethics* (National Association of School Psychologists, 2010), and the *International Guidelines for Test Use* (International Test Commission, 2001). In addition to the foregoing, many books about ethics in the professional practice of psychology include substantial coverage of ethical considerations in assessment (e.g., Cottone & Tarvydas, 2007; Ford, 2006). A particularly accessible volume by Eyde et al. (2010) provides expert analysis of case studies concerning test use in various settings, including mental health settings, and illustrating real-life testing challenges and conundrums.

ASSESSMENT METHODS

As in all assessment endeavors, tasks associated with assessment in clinical and counseling psychology involve information gathering. Clinical and counseling assessments typically comprise evaluations of individuals with the goal of assisting an individual client in some manner. To determine the best way to help an individual, clinicians rely on comprehensive assessments that evaluate several aspects of an individual's functioning. Thus, most such assessments involve collecting information using a variety of assessment techniques (e.g., interviews, behavioral observations). Moreover, the use of multiple procedures (e.g., tests) facilitates the overarching goal of clinical and counseling assessment and also resonates with the important principle of good testing practice. Specifically, Standard 11.20 of the *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999) states that, in clinical and counseling settings, "a test taker's score should not be interpreted in isolation; collateral information that may lead to alternative explanations for the examinee's test performance should be considered" (p. 117). It follows that inferences drawn from a single measure must be validated against evidence derived from other sources, including other tests and procedures used in the assessment.

Counseling and clinical assessment methods vary widely in their forms. The means of identifying what

information is needed and gathering relevant evidence may include direct communications with examinees, observations of examinees' behavior, input from other interested parties (e.g., family members, peers, coworkers, teachers), reviews of records (e.g., psychiatric, educational, legal), and use of formal measures (i.e., tests). Interviews, behavioral observations, and formal testing procedures represent the primary ways of obtaining clinically relevant information.

Interviewing

Intake or clinical interviews often represent a first point of contact between a client and a clinician in which information that contributes to clinical assessment surfaces. Many important concerns must be handled effectively within what is probably no more than a 50-minute session. Beyond practical (e.g., scheduling, billing, emergency contact information) and ethical (e.g., informed consent, confidentiality and its limits) matters, the practitioner must accurately grasp and convey his or her understanding of the issues to the client. If this understanding captures the client's concerns, then it likely helps the client to believe that his or her problems can be understood and treated by the clinician. If the practitioner's understanding of the client's issues is not accurate, then the client has the opportunity to provide additional information that represents his or her concerns more accurately. At the same time and somewhat in the background, the clinician exudes competence and concern in a manner that inspires hope and commitment, while, in the foreground, he or she establishes a fairly rapid yet accurate appraisal of the client's issues and concerns. Effective treatment depends on the establishment of rapport sufficient to suggest that a productive working relationship is possible along with an appraisal that accurately reflects the severity of the concerns expressed and disruptions in the client's ability to function on a day-to-day basis as well as attendant risks. For a more complete discussion, readers can consult Chapter 7, this volume, concerning clinical interviewing.

Many intake procedures involve clinical interviewing that is somewhat formalized by the use of a structured format or questionnaire. The quality of

intake forms varies widely, partly as a function of how they were developed. For example, clinicians may complete an intake form developed or adopted by the facility in which he or she works. Such forms generally include questions about the client's current concerns (e.g., "presenting problem" or "chief complaint") as well as historical information that may bear on the client's status (e.g., history of previous treatment, family history, developmental history). Depending on the quality of the intake form, practitioners may find it necessary to supplement the information collected routinely through completion of the form. In the appendices of her book, *The Beginning Psychotherapist's Companion*, Willer (2009) offers several lists of intake questions that may be used to probe specific areas of concern that may surface during the collection of intake information (e.g., depression and suicide, mania, substance use). Advisable in all clinical settings and essential in clinical settings that provide acute and crisis services, intake procedures must address the extent to which the client poses a danger to others or to himself or herself.

Intake interviews may be considered *semistructured* if they address specific content uniformly from one client to the next but are not tightly "scripted" as are *structured* interviews. According to Garb's (2005) review, semistructured interviews are more reliable than unstructured clinical interviews, most likely because of the similarity of content (if not actual test items) across interviewers. An example of a semistructured technique is the mental status examination (MSE), which refers to a standardized method of conducting a fairly comprehensive interview. The areas of mental status comprising an MSE are summarized in Table 1.1. Many MSE elements may be evaluated through unobtrusive observations made during the meeting or through verbal exchanges that occur naturally in ordinary conversation.

The semistructured nature of the MSE ensures coverage of certain vital elements of mental status but is flexible enough to allow clinicians to ask follow-up questions if he or she believes it is necessary or helpful to do so. The MSE is used by a wide variety of mental health providers (counseling and clinical psychologists as well as social workers,

psychiatrists, and others) and typically is completed at intake or during the course of treatment to assess progress. There are several versions of the MSE, including standardized and nonstandardized forms (Willer, 2009). An example of a structured diagnostic interview is the Structured Clinical Interview for the DSM-IV-TR (SCID; First, Spitzer, Gibbon, & Williams, 2002), where DSM-IV-TR refers to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text revision; American Psychiatric Association, 2000). Completion of the SCID allows practitioners to arrive at an appropriate psychiatric diagnosis.

Regardless of whether an initial clinical contact calls for formal assessment, a crucial area to evaluate during one's initial interactions with clients is the presence of symptoms that indicate risk of harm to self or others. "Assessing risk of suicide is one of the most important yet terrifying tasks that a beginning clinician can do" (Willer, 2009, p. 245) and constitutes the ultimate high-stakes assessment. It is also frequently encountered in clinical practice (Stolberg & Bongar, 2002). Multiple factors contribute to overall risk status either by elevating or diminishing risk. Bauman (2008) describes four areas to examine when evaluating risk of suicide: (a) short-term risk factors, including stressors arising from environmental sources and mental health conditions; (b) long-term precipitating risk factors, including genetic traits or predispositions and personality traits; (c) precipitating events, such as legal matters, significant personal or financial losses, unwanted pregnancy, and so forth; and (d) protective factors or buffers, such as hope, social support, and access to mental health services. An individual's overall risk of suicide represents a combination of risks emanating from the first three elements, which elevate overall risk, adjusted by the buffering effect of the last element, which reduces overall risk.

In practice, assessment of suicide risk relies heavily on clinical interviewing (Stolberg & Bongar, 2002). Specific tests designed to assess suicide risk, such as the Beck Hopelessness Scale (Beck, 1988) and the Suicide Intent Scale (Beck, Schuyler, & Herman, 1974), appear to be used infrequently by practitioners (Jobes, Eyman, & Yufit, 1990; Stolberg & Bongar, 2002). Assessment of risk must consider

TABLE 1.1

Major Areas Assessed During a Mental Status Examination

Area	Content
Appearance	The examiner observes and notes the person's age, race, gender, and overall appearance.
Movement	The examiner observes and notes the person's gait (manner of walking), posture, psychomotor excess or retardation, coordination, agitation, eye contact, facial expressions, and similar behaviors.
Attitude	The examiner notes client's overall demeanor, especially concerning cooperativeness, evasiveness, hostility, and state of consciousness (e.g., lethargic, alert).
Affect	The examiner observes and describes affect (outwardly observable emotional reactions), as well as appropriateness and range of affect.
Mood	The examiner observes and describes mood (underlying emotional climate or overall tone of the client's responses).
Speech	The examiner evaluates the volume and rate of speech production, including length of answers to questions, the appropriateness and clarity of the answers, spontaneity, evidence of pressured speech, and similar characteristics.
Thought content	The examiner assesses what the client says, listening for indications of evidence of misperceptions, hallucinations, delusions, obsessions, phobias, rituals, symptoms of dissociation (feelings of unreality, depersonalization), or thoughts of suicide.
Thought process	The examiner assesses thought processes (logical connections between thoughts and how thoughts connect to the main thread or gist of conversation), noting especially irrelevant detail, verbal perseveration, circumstantial thinking, flight of ideas, interrupted thinking, and loose or illogical connections between thoughts that may indicate a thought disorder.
Cognition	The evaluation assesses the person's orientation (ability to locate himself or herself) with regard to person, place, and time; long- and short-term memory; ability to perform simple arithmetic (e.g., serial sevens); general intellectual level or fund of knowledge (e.g., identifying the last several U.S. presidents, or similar questions); ability to think abstractly (explaining a proverb); ability to name specific objects and read or write complete sentences; ability to understand and perform a task with multiple steps (e.g., showing the examiner how to brush one's teeth, throw a ball, or follow simple directions); ability to draw a simple map or copy a design or geometrical figure; ability to distinguish between right and left.
Judgment	The examiner asks the person what he or she would do about a commonsense problem, such as running out of shampoo.
Insight	The examiner evaluates degree of insight (ability to recognize a problem and understand its nature and severity) demonstrated by the client.
Intellectual	The examiner assesses fund of knowledge, calculation skills (e.g., through simple math problems), and abstract thinking (e.g., through proverbs or verbal similarities).

several features of risk beyond its mere presence including immediacy, lethality, and intent. *Immediacy* represents a temporal consideration with higher levels of immediacy associated with imminent risk—a state of acute concern for the individual's life.

Assessment of imminent risk involves consideration of several empirically derived risk factors including (a) history of prior attempts (with recent attempts given greater weight than attempts that occurred longer ago); (b) family history of suicide or attempt; and (c) presence of mental or behavior disorders such as substance abuse, depression, and conduct disorder. Imminent risk is accelerated by an inability to curb impulses and a need to “blow off steam,”

which constitute poor prognostic signs. *Lethality* refers to the possibility of death occurring as a result of a particular act. In assessing risk of suicide, the act in question is one that is planned or contemplated by the client. Use of firearms connotes higher lethality than overdosing on nonprescription drugs (e.g., aspirin). Lethality differs from *intent*, which refers to what the person seeks to accomplish with a particular act of self-harm. Serious suicidal intent is not necessarily associated with acts of high lethality.

Behavioral Observations

One of the earliest means by which assessment information begins to accumulate is the test taker's

behaviors. Surprisingly little information about behavioral observations appears in the empirical or practice-based literature, despite its traditional inclusion as a section in assessment reports (Leichtman, 2002; Tallent, 1988). Although difficult to standardize and quantify, many psychologists consider the observations and interpretations of an examinee's behavior during testing vital to understanding the client (Oakland, Glutting, & Watkins, 2005). Only a few standardized assessments of test behavior have been developed, sometimes associated with a specific test. For example, Glutting and Oakland (1993) developed the Guide to the Assessment of Test Session Behavior and normed it on the standardization samples of the Wechsler Intelligence Scale for Children (3rd ed.; Wechsler, 1993) and the Wechsler Individual Achievement Test (Psychological Corporation, 1992). To date, standardized measures of test session behavior have not been widely adopted.

Counseling and clinical psychologists typically have sufficient and specialized training to allow them to observe and record an examinee's verbal and nonverbal behaviors. Notations usually are made for several behavioral dimensions including physical appearance, attitude toward testing, content of speech, quality and amount of motor activity, eye contact, spontaneity, voice quality, effort (generally and in the face of challenge), fatigue, cooperation, attention to tasks, willingness to offer guesses (if applicable), and attitude toward success and failure (if applicable). Leichtman (2002) cautioned against either (a) including observations of everything a test taker thinks, feels, says, and does; or (b) reducing behavioral descriptions to such an extent that the resulting narrative fails to provide any real sense of what the test taker is like.

Behavior during clinical and counseling testing is unavoidably influenced by interactions between the test taker and the test giver. As Masling (1992) observed, "the psychologist is simultaneously a participant in the assessment process and an observer of it" (p. 54). A common expectation and responsibility of psychologists who administer such tests is to establish rapport with the test taker before implementing test procedures. Rapport is vital to ensure a test taker's cooperation and best effort, attitudes that

contribute to test results that provide an accurate portrayal of the test taker's characteristics. However, rapport differs from one dyad to another, as stylistic and personality factors vary across both examiners and examinees and affect the quality of their interactions. Although adherence to standardized administration procedures during testing is vital to preserve the integrity of assessment process and test score interpretability (e.g., AERA, APA, & NCME, 1999; Geisinger & Carlson, 2009), practitioners are not automatons who simply set specific tasks before examinees while reciting specific instructions. Actions taken by examiners during individual test administration must be responsive to test-taker behaviors and the examiner's interpretation of those behaviors. Some of these actions are scripted in the test administration procedures, whereas others are subtle, nonverbal—possibly unconscious—ones that serve to allay anxiety or encourage elaboration of a response. Other actions follow logically from an examinee's behavior, such as when the examiner offers a short break after noting the examinee's failed attempt to stifle several yawns. In this vein, Leichtman (2002) suggested that test administration procedures and instructions are "like a play. Examiners are bound by the script, but there is wide latitude for how they and their clients interpret their roles" (p. 209). The traditions of testing encourage the notion that an examiner, "like the physical scientist or engineer, is 'measuring an object' with a technical tool. But the 'object' before him [sic] is a person, and the testing involves a complex psychological relationship" (Cronbach, 1960, p. 602).

Formal Testing

Tests are used by counseling and clinical psychologists at various points in therapeutic contexts. Some tests may be administered during an intake session, before the establishment of a therapeutic relationship, to check for a broad range of possible issues that may need clinical attention. These screening measures represent a "first pass" over the variety of issues that may concern a person who seeks mental health assistance. They are meant to provide a gross indication of level of symptom severity in select areas and, often, to indicate where to focus subsequent assessment efforts (Kessler et al., 2003).

Screening measures typically are quite brief and are seldom, if ever, validated for use as diagnostic instruments. Rather, these measures provide a glimpse into the nature and intensity of a client's concerns. As such, they may reveal problems that need immediate attention as well as areas needing further assessment. An example of a screening measure designed for use in college counseling centers is the Inventory of Common Problems (ICP; Hoffman & Weiss, 1986), a 24-item inventory of specific problems college students may encounter. Respondents use a 5-point Likert-type scale to indicate the extent to which they have been bothered or worried by the stated problem over the past few weeks. Areas assessed include depression, anxiety, academic problems, interpersonal problems, physical health problems, and substance use problems. High scores suggest topics that may be explored further in counseling.

The Symptom Check List-90-R (SCL-90-R; Derogatis, 1994) is a clinical screening inventory with broader applicability than the ICP. The inventory consists of 90 items, each of which presents a symptom of some sort to which respondents indicate the extent to which they were distressed by that symptom over the past week, using a 5-point scale. The SCL-90-R yields scores on nine scales (Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, and Psychoticism) and total scores on three scales (Global Severity Index, Positive Symptom Total, and Positive Symptom Distress Index). Norms are differentiated by age (adolescent and adult) for nonpatients and by psychiatric patient status (nonpatient, inpatient, and outpatient) for adults, with each norm keyed by gender. Some brief clinical measures may be used to screen for problems in a single area of potential concern. For example, the Beck Depression Inventory—II (Beck, Steer, & Brown, 1996) and the State-Trait Anxiety Inventory (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) screen for elevated levels of symptom severity in depression and anxiety, respectively. Overall, these and other screening measures are most useful for detecting cases in need of further examination.

The assessment procedures described thus far are used routinely at or near the outset of a therapeutic

relationship to help specify or clarify the clinical situation that prompted the client to seek treatment. More extensive, formal testing may prove beneficial at an early stage of intervention or anytime during therapy to specify, clarify, or differentiate diagnoses; to monitor treatment progress; or to predict psychotherapy or mental health outcomes (Kubiszyn et al., 2000; see also Chapter 13, this volume, concerning psychological assessment in treatment). Counseling and clinical testing can be used to illuminate a variety of dimensions that may help clinicians to deliver effective treatment for a particular client, including measures of cognitive ability, values, interests, academic achievement, psychopathology, personality, and attitudes. The sheer number of tests available in each of these areas makes it impractical to review (or even mention) every test that may have clinical salience, particularly in light of the coverage afforded these measures in other chapters of this handbook. Thus, in the section that follows, tests are described according to several different ways of grouping them, with implications for clinical and counseling tests highlighted.

DIMENSIONS OF CLINICAL AND COUNSELING TESTING

Various characteristics of tests may be used to distinguish among them. Such distinctions go beyond merely grouping or categorizing tests. For example, tests differ in administration format, nature of the respondent's tasks, and whether the stakes associated with the use of test scores are high or low. These dimensions influence the testing process in counseling and clinical contexts, by affecting expectations and behaviors of test givers and test takers as well as how the tests may be used and the confidence testing professionals may have in the results.

Test administration format is one way to distinguish among tests. Some tests require one-to-one or individual administration, whereas other tests are designed for group administration. Generally speaking, it is possible to administer group tests using an individual format, although the examiner's role in these situations is often reduced as he or she serves primarily as a monitor of the session. As suggested near the beginning of this chapter, clinical measures

focus intensely on individual concerns. It follows that many—although by no means all—clinical measures were developed for individual administration. Individually administered tests are highly dependent on the clinical skills of the examiner. As Meyer et al. (2001) observed, “a psychological test is a dumb tool, and the worth of the tool cannot be separated from the sophistication of the clinician who draws inferences from it and then communicates with patients and other professionals” (p. 153). Among other things, the responsibility to establish and maintain rapport rests with the clinician, and there is no magic formula by which to achieve it and no established criteria by which to establish that a reasonable level of rapport has been achieved. That determination depends on clinical judgment.

At the outset of a testing session, examiners need to ensure that a sufficient level of comfort and communication exists with the test taker to foster his or her best and sustained effort. Examiners need to exude a businesslike manner yet remain responsive to queries from the test taker and aware of fluctuation in the test taker’s energy, focus, and attitude. They need to help test takers understand that testing is important but must avoid overstating this point, lest the test taker become overly anxious about performing well on the test tasks. Test takers differ in terms of their readiness to engage in the assessment process and to give it their best effort: Some are eager to begin, some are anxious, some are irritated, some are suspicious or confused, and so forth. The clinician must keep a finger on the pulse of the testing session and take action as needed to restore rapport and keep motivation high and performance optimal.

Standardized individual administration of tests is vital for the vast majority of tests to assure that testing conditions are the same for all test takers; therefore, results from different test takers may be meaningfully compared (Geisinger & Carlson, 2009). However, given the interpersonal context within which clinical and counseling measures are administered, this procedural sameness is difficult to ensure for all aspects of testing. For example, most projective (performance-based) measures are untimed. How long examiners wait before moving

on to the next stimulus is a matter of judgment and, likely, varies a great deal from one examiner to the next. Some standardized measures include “scripts” for the examiner, in an effort to make administration more uniform across examiners. Despite appearances, there is room for interpretation in the scripts nevertheless (Leichtman, 2002). How scrupulously examiners follow standardized procedures for administration is an open question (Geisinger & Carlson, 2009; Masling, 1992), as studies of even highly scripted individually administered tests reveal many departures (e.g., Moon, Blakey, Gorsuch, & Fantuzzo, 1991; Slate, Jones, & Murray, 1991; Thompson & Bulow, 1994).

On the other hand, group-administered tests are not monitored as closely as individually administered tests and do not depend on rapport to ensure optimal performance. Directions for group-administered tests must be clear to all test takers before the beginning of the test (or inventory or questionnaire) because missteps by examinees cannot be corrected easily. The same instructions and practice procedures are used for everyone. An individual who perhaps would benefit from one more practice item will not get it, and there will be no follow-up opportunities to test limits.

The nature of the tasks that constitute individual tests is another way to distinguish tests. In Chapter 10 of this volume, which addresses performance-based measures (often referred to as *projective techniques*), Irving B. Weiner describes a major distinction between test types—that is, between performance-based measures and self-report measures. The former test type requires test takers to act upon stimuli presented to them (e.g., Rorschach inkblots, TAT cards), to create or construct responses, or to formulate responses to specific questions (e.g., Wechsler scales of intelligence) presented to them, whereas self-report measures ask respondents to answer questions about themselves by selecting responses from a preset array of options. As suggested by Weiner, neither test type is inherently superior, as the test types seek and provide different kinds of information. A test’s clinical value is unrelated to the nature of the tasks that constitute it.

Performance-based measures typically use scoring systems or rubrics that ultimately depend on

some degree of subjectivity in scoring. The tasks that constitute performance-based measures are open-ended and offer wide latitude to test takers as far as how they choose to respond. Some tests or tasks require constructed responses (e.g., TAT, figure drawings), whereas others require retrieval or application of specific information (e.g., Vocabulary and Arithmetic subtests on the Wechsler tests).

Self-report measures require examinees to select or endorse a response presented in a predefined set of possibilities. In part because responses are selected rather than constructed by the examinee, systematic distortion of responses is a concern in many self-report inventories (Graham, 2006). Detecting such response sets is important because, when they occur, they may undermine the validity of the test scores. Validity scales were big news when they were first introduced in the original MMPI (Hathaway & McKinley, 1943); now they are commonplace in many personality and other types of inventories. Scoring of self-report measures is considered to be objective and typically involves the use of either computer software or scoring templates. Other than human errors (e.g., misaligning a scoring template), objective scoring produces test scores that do not require clinical judgment. Detailed discussion of self-report measures is provided later in Chapter 11, this volume.

The level of impact that the use of tests scores may have varies and forms another way to distinguish groups of tests. *High-stakes testing* refers to the situation where test scores are used to make important decisions about an individual. The impact level of such decisions is substantial, sometimes rising to the level of life altering. Tests whose results are used to render such decisions must be psychometrically sound. Evidence supporting the reliability and validity of test scores must surpass the level typically seen in measures used for lesser purposes, such as research or screening. Custody evaluations used to determine parental fitness (for further information, see Chapter 34, this volume) and forensic evaluations used to establish competency to stand trial (for further information, see Chapters 6 and 16, this volume) are but two examples of high-stakes testing situations.

In clinical decision making, the specific test used does not automatically determine the stakes. Rather,

the use to which the test scores are put dictates whether the testing should be considered high stakes. For example, practitioners may use the results of an assessment simply to confirm a diagnosis and formulate interventions. This use of tests is a rather routine practice aimed at improving the mental health of a particular client. In this situation, the stakes likely are low, because the individual is already engaged in treatment and the differential diagnosis that is sought will enhance the clinician's understanding and treatment of his or her psychological difficulties. If the same test results were used as the basis for denying disability benefits, then the testing context would be regarded as high stakes.

Low-stakes measures often include those related to documenting values and interests. The human interest value of these measures notwithstanding, low-stakes situations simply do not have the same level of impact as high-stakes decisions. Test takers frequently are curious to review the assessment results, but many are not surprised by them. However, low-stakes measures may contribute to important decisions that an individual may make concerning career or relationship pursuits or other quality-of-life choices.

INTERPRETING AND INTEGRATING ASSESSMENT RESULTS

Interpreting and integrating test results requires a tenacious, disciplined, and thorough approach. It follows the collection of data from various sources, none of which should be ignored or dismissed. Like test administration, test interpretation represents

an interpersonal activity [that] may be considered part of the influence process of counseling. The counselor communicates his or her own understanding of the client's test data to the client, anticipating that the client will adopt and apply some part of that understanding as self-understanding. (Claiborn & Hanson, 1999, p. 151)

An important objective in interpreting assessment results is to account for as much test data as possible. Formulating many tenable hypotheses at

the outset of test interpretation facilitates this goal. With regard to enhancing clinical judgment, Garb (1989) encouraged clinicians to become more willing to consider alternative hypotheses and to revise their initial views of a client's behavior. Although Garb's point referred broadly to clinical judgment and not specifically to clinical assessment, it applies equally well to test interpretation. For example, an overarching ennui reported by an adult client at intake could stem from numerous causes, including psychological and physical ones. Subsequent results from a comprehensive assessment consisting of a multitude of tests and sources of data may suggest (a) depression or a related derivative, (b) bereavement, (c) malingering, (d) anemia, (e) reaction to situational (e.g., job related) stress, (f) passive-aggressive coping strategy, (g) insomnia, (h) a side effect of a new medication, (i) a combination of two or more of the foregoing, or (j) something else entirely. An intake interview and routine screening measures may rule out several of the possible explanations. Interpretations stemming from more comprehensive measures may be compared against the remaining competing hypotheses to ascertain which hypothesis best accounts for the evidence. In the end, the best explanation is the one that explains most (or all) of the evidence accumulated and considered in the assessment process.

An important first step in evaluating test data often takes place while assessment procedures are under way, in the presence of the test taker or before he or she leaves the premises where testing occurred. This step involves reviewing the examinee's responses to any "critical items" that are included on any of the measures. These items are so called because their content has been judged to be indicative of serious maladjustment, signifying grave concerns such as the propensity for self-harm. Although empirical scrutiny has not tended to offer much support for the utility of critical items for this purpose (Koss, 1980; Koss, Butcher, & Hoffman, 1976), many practitioners consider the items worthy of follow-up efforts, perhaps because failing to act on such a blatant appeal for assistance would be unconscionable and the possible outcome irreversible. Moreover, base-rate problems cloud the issue, as low-base-rate events such as suicide are

notoriously difficult to predict (Sandoval, 1997), especially when one tries to predict such an event on the basis of responses to a small handful of items. Also at issue is the absence of an adequate criterion against which to judge test validity (Hunsley & Meyer, 2003). A client who does not commit suicide after his or her responses to critical items suggested a high risk of suicide was present was not necessarily misjudged. Individuals at high risk for a given outcome do not unerringly suffer that outcome; such is the nature of risk.

Base-rate and criterion problems persist in the area of suicide risk assessment and are unlikely to be resolved. Measures developed to assess suicide risk are intended to be used to avert acts of self-harm and cannot be easily validated in the usual manner because lives are at stake. Critical items denote risk; they do not predict behavior. Recommended practice is to avoid treating critical items as a scale or brief assessment of functioning, but rather consider the items as offering possible clues to content themes that may be important to the client (Butcher, 1989).

After considering a client's responses to critical items, integration of findings obtained from the various methods used in an assessment moves to a review of evidence collected during the assessment, including test and nontest data, from each individual source. Scoring and interpreting or evaluating individual procedures that were implemented constitutes an important first step because it is at this stage that clinicians begin to weigh the credibility of the evidence. Specifically, it is essential to note for each procedure whether the test taker's approach to that procedure allows further consideration of the results. Tests that include validity scales can make this task more objective and fairly straightforward. However, many assessment procedures do not have built-in components to help examiners evaluate whether responses should be considered valid indicators of the test taker's functioning. In these cases, examiners must render a judgment, often based on the test taker's demeanor, attitude toward the procedures, and behaviors demonstrated during the assessment. Obviously and unfortunately, this judgment process is not standardized and is quite open to subjective interpretations. Even so, it is probably safe to conclude that most practitioners would at

least question the validity of assessment results from a client who arrived to the session 20 minutes late, looked at his watch no fewer than 25 times, neglected to respond to half of the items on two test forms, and sighed audibly throughout the assessment while mumbling about how “ridiculous this is.” In any case,

psychologists must consider whether there is a discernible reason for test takers to be less than forthright in their responses, and whether that reason might constitute a motive for faking. If so, the test giver must . . . interpret test findings with these possibilities in mind. (Carlson & Geisinger, 2009, p. 83)

In the early stages of interpretation, possible explanations for the results should be treated as tentative, because various hypotheses may be offered to explain individual test outcomes. All reasonable explanations for the observed results should be considered while examining evidence from other sources. In the face of additional data, some hypotheses will be discarded and some will be retained. Evidence from other sources—test and nontest—that confirms or disconfirms active hypotheses is particularly important, as this type of evidence helps to bolster (i.e., rule in) or weaken (i.e., rule out) putative explanations, respectively. Typically, a small number of hypotheses survive this iterative process, and these viable explanations of the observed results form the prominent themes of a written report.

PROVIDING ASSESSMENT FEEDBACK

Providing test feedback to test takers is an ethical responsibility (e.g., APA, 2010) that appears to be taken lightly by some practitioners according to some published reports (Pope, 1992; Smith, Wiggins, & Gorske, 2007). As Smith et al. (2007) observed, there is surprisingly little written about assessment feedback and “little published research on the assessment feedback practices of psychologists” (p. 310). These researchers surveyed some 719 clinicians (neuropsychologists and members of the Society for Personality Assessment) about their psychological assessment feedback practices to find that

some 71% reported that they frequently provided in-person feedback, either to clients or clients’ family members. The researchers also queried respondents about the time they spent providing feedback, how useful they found the practice, and what kind of feedback they provided (e.g., written, oral).

Although most practitioners reported that they do provide feedback, nearly 41% reported that they provided no direct feedback to clients or their families. Nearly one third of respondents reported that they mailed a report to clients, a practice that Harvey (1997) denounced, because recipients often lack the background and technical knowledge to understand and interpret the results. Even so, Smith et al. viewed the survey results positively overall and suggested that the status of psychological assessment feedback practices may not be as dire as suggested several years ago (Pope, 1992). Interested readers may refer to Chapter 3, this volume, for further guidance on communicating assessment results.

Test feedback may serve several important purposes, not the least of which is to help bring about behavioral changes (Butcher, 2010; Finn & Tonsager, 1997). In discussing the importance of providing test feedback, Pope (1992) suggested that the feedback process offers opportunities on several fronts that bear directly on the therapeutic process and that, in essence, extend the assessment to include the feedback component. Empirical evidence accumulated thereafter, which demonstrated treatment effects of assessment feedback (Kubiszyn et al., 2000). Specifically, several studies compared therapeutic gains made by clients in treatment who received feedback about their test results on the MMPI-2 (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) to those of similar clients who did not receive such feedback (e.g., Finn & Tonsager, 1992, 1997; Fischer, 2000; Newman & Greenway, 1997). Clients who received assessment feedback demonstrated therapeutic improvements, as noted by their higher levels of hope and decrease in reported symptoms.

CONCLUDING THOUGHTS

Assessment methods used in counseling and clinical contexts focus tightly on an individual client’s condition and seek to identify ways in which his or

her concerns may be addressed or resolved. Broadly speaking, the methods used include interview techniques, behavioral observations, and formal tests that place different demands on the examinee as well as the examiner. Information gathered from multiple sources then must be interpreted and integrated into a cohesive explanation of the test data and, by extension, the client's functioning and features. The end goal of assessment in counseling and clinical contexts is to produce an accurate portrayal of the client's functioning that is useful for planning and implementing interventions. Providing feedback to the client about assessment results is vital to promoting the client's interests and effecting treatment.

Cates (1999) observed that clinical assessment is best regarded as providing a "snapshot not a film" of an individual's functioning, that "describes a moment frozen in time, described from the viewpoint of the psychologist" (p. 637). When an observer says something like, "that's a good picture of her," the speaker means that the image represents the subject as she truly is. Good pictures depend on using good tools and good techniques. Clinical assessment, too, uses tools and techniques to reflect the characteristics of the client as he or she exists and functions every day.

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THE ASSESSMENT PROCESS

Sara Maltzman

This chapter reviews the historical purposes of psychological assessment, the components and process of psychological assessment, current issues, and emerging trends. In keeping with the emphases of this handbook, the discussion focuses on the use of assessments and the assessment process within clinical, counseling, and forensic psychology.

THE HISTORY OF PSYCHOLOGICAL ASSESSMENTS

McGuire (1990) traced the development of formal psychological testing to James McKean Cattell in the 1890s and early 20th century. McGuire noted that Cattell and the first few experimental psychologists who came to define themselves as clinical psychologists advocated for education, training, and the establishment of professional standards for the assessment of intellectual and personality functioning. Thus, the assessment and diagnosis of intellectual functioning and personality were the fundamental functions of clinical psychologists. Witmer, who made significant contributions to the development of clinical, developmental, and educational psychology, established the first psychological clinic in 1896 (Baker, 1988). The clinic assessed and treated children who presented with possible mental retardation, learning disabilities, or emotional concerns that prevented attainment of their academic potential. Witmer utilized a multidimensional, functional approach that included a comprehensive psychosocial history taking as well as behavioral observations in multiple environments (e.g., home, school) over time.

A physician completed the physical examination, and often the behavioral observations were made by a social worker. These data were summarized into an integrative assessment of the child's deficiencies, along with treatment recommendations (Baker, 1988). Thus, a primary focus within clinical psychology at the beginning of the 20th century was the multimodal assessment, diagnosis, and treatment of children and youths.

The treatment recommendations made for these youths often included vocational direction (Baker, 2002). With the stock market crash and high unemployment of the 1930s, the vocational needs of adults began to predominate and the vocational assessment of youths transitioned to adult vocational counseling and later into the field of counseling psychology for adults (Baker, 2002; Super, 1955). The assessment of aptitudes as well as of abilities emerged out of the necessity to assist the unemployed. At the same time, Rogerian theory and its associated nondirective, client-centered therapeutic approach began to emerge. The Rogerian approach was applied to vocational counseling in recognition that such an orientation was theoretically compatible with counseling focused on the achievement of vocational aspirations (Super, 1955). These three foci—the assessment of aptitudes, the assessment of abilities, and a Rogerian conceptualization of the person and the therapeutic relationship—converged into a cohesive approach for addressing the psychosocial concerns of the unemployed. Over time, this approach was modified to address the needs of returning World War II (WWII) veterans and to

assist them in maximizing their psychosocial strengths. Addressing the vocational, educational, and adjustment needs of returning WWII veterans led to the establishment of counseling psychology as a distinct position within the U.S. Veterans Administration (VA) system (Meara & Myers, 1999). To meet the needs of returning veterans, the VA encouraged the American Psychological Association (APA) to accredit counseling as well as clinical psychology programs to ensure the training of competent psychologists for the VA system. The VA also was instrumental in encouraging the development of university-based counseling centers to assist veterans with educational and work-related adjustment issues (Meara & Myers, 1999). For these reasons, counseling psychology has historical roots and expertise in career and vocational counseling. Assessments in these areas consider individual differences in career development needs, interests, and barriers to career or employment (Armstrong & Rounds, 2008; Whiston & Rahardja, 2008). Counseling psychologists are in a unique position to address the mental health, educational, and career-planning needs of military veterans and their families because of this historical role and the number of counseling psychologists in college and university settings (Danish & Antonides, 2009).

Currently, one of the primary distinctions between clinical and counseling psychology is the historical focus in clinical psychology on research and practice in the assessment, diagnosis, and treatment of clients with significant psychopathology and emotional disorders. Forensic psychology developed as a subdiscipline within clinical psychology. Although the provision of legal testimony by psychologists dates back to the 1900s, it was not until 2001 that the APA formally recognized forensic psychology as a distinct psychological specialty (Ogloff & Douglas, 2003). In comparison, counseling psychology historically has focused on leveraging and maximizing psychosocial functioning and strengths in individuals who are not experiencing significant psychopathology but are experiencing transitional life stressors (Meara & Myers, 1999).

Thus, the development of clinical and counseling psychology initially was based on the needs of distinct populations. Over time, each discipline has

expanded in scope, and each has contributed to assessment process research and practice on the basis of the respective specialty's history and strengths.

THE PURPOSE OF THE PSYCHOLOGICAL ASSESSMENT

The purpose of a psychological assessment is to answer particular questions related to an individual's intellectual, psychological, emotional-behavioral, or psychosocial functioning, or some combination of these domains. These questions are determined by the assessment context and referral source. As Fernandez-Ballesteros (1997) described, a psychological assessment typically is driven by a particular problem or referral question. A psychological assessment includes more than psychological testing. Historically, the purpose of a psychological assessment has been to gather information directly from the client, obtain collateral information, administer psychological test instruments, interpret the test results, and provide a conceptualization of the client that integrates the test data with the collateral and interview data. This conceptualization is summarized, a diagnosis or diagnostic rule-out is offered (as applicable), and recommendations are made for consideration related to decision-making (e.g., in career- or education-related choices, personnel decision-making, or parental capacity assessments) and, where appropriate, for treatment. In contrast, *psychological testing* is one component of a psychological assessment. It is measurement oriented. The purpose of testing is to provide a standardized administration of an instrument that has research evidence substantiating the reliability of its scores and the validity of these scores in identifying, quantifying, and describing particular characteristics or abilities when used with a specified population within a specified context. These test scores are interpreted within the context of the client's history and the additional data gathered as part of the assessment process.

THE ASSESSMENT PROCESS

Weiner (2003) described the assessment process as consisting of three phases: information input,

information evaluation, and information output. Each is described here.

Information Input

Information input is the collection of information. It is influenced by the assessment context, referral questions, and referral source. These factors inform why the assessment is requested and what questions are expected to be answered. Such a contextual assessment considers the client's culture and language proficiency when selecting instruments and interpreting instrument scales (Butcher, Cabiya, Lucio, & Garrido, 2007). The referral source and assessment context also influence which instruments are appropriate for use. For example, some instruments appropriate for personality assessment in an outpatient counseling or clinical setting have been found to be inappropriate in a forensic setting because of compromised validity (Carr, Moretti, & Cue, 2005). Selecting appropriate instruments, on the basis of the client's cultural context and the referral context, is the first step in ensuring that the assessment provides valid results for answering the particular referral questions for that particular individual (e.g., Perlin & McClain, 2009).

The Assessment Context and Referral Questions

The referral questions addressed by the assessment are determined by the assessment context. The assessment context also determines the potential sources of collateral information. In turn, the context and referral source determine what requisite education, training, and supervised experience are necessary to conduct the assessment as well as which additional professional standards and guidelines for specialized practice might be applicable.

The assessment context and referral source represent key factors in determining which formal instruments are appropriate, on the basis of the normative sample and ability to identify response patterns. For example, the Millon Clinical Multiaxial Inventory (MCMI; Millon, 1977) was normed and standardized on clients engaged in mental health services. It was not normed on a general population standardization sample (Butcher, 2009). The test developers subsequently reported that the third

edition of the MCMI (MCMI-III; Millon, 1994) later was normed on a large sample of newly incarcerated prison inmates for the purpose of predicting adjustment to prison and treatment needs while incarcerated. However, the use of the MCMI-III with populations outside of these standardization samples and for other purposes would be questionable (Butcher, 2009). For further discussion of self-report inventories (and the MCMI-III in particular), readers are referred to Chapter 11, this volume.

Conducting assessments consistent with professional standards and guidelines necessitates staying current with the relevant research. For example, Carr et al. (2005) reported that the Personality Assessment Inventory (PAI; Morey, 1996, as reported in Carr et al., 2005) failed to detect positive self-presentation bias adequately in a sample of 164 parents completing capacity evaluations. This finding suggests that caution should be used in considering the PAI for this type of assessment. However, Boccaccini, Murrie, and Duncan (2006) reported that the PAI Negative Impression Management scale performed as well as the comparison scale (Minnesota Multiphasic Personality Inventory—2 [MMPI-2] F scale) in screening for malingering in a sample of defendants undergoing pretrial evaluations in federal criminal court. Although cross-validation of the results of both studies is important for verifying these conclusions, they underscore the point that an instrument may be appropriate for addressing the referral question in one population yet not perform adequately when the referral question changes and the population differs. Thus, psychologists must pay particular attention to the specific population characteristics, context, and referral questions when selecting test instruments.

Standards and guidelines specific to the type of assessment required and population assessed provide guidance for the selection of appropriate instruments. For example, the APA's *Guidelines for Psychological Practice with Older Adults* (2003) recommend an interdisciplinary approach to the assessment of psychological functioning in older adults. Such an approach facilitates consideration of medication effects and medical conditions on cognitive and emotional functioning. Additional assessment considerations pertinent to this population include

behavioral analyses to identify potential inappropriate or harmful behaviors and interventions to address these behaviors, and a repeated-measures approach to distinguish between stable cognitive and emotional characteristics versus characteristics that are temporally or situation dependent.

The APA (2009) also has issued guidelines for child custody evaluations. A custody evaluation is requested most often when the dissolution of the partner relationship is contentious. What is significant about these evaluations is that the parental assessment is from the perspective of the best psychological interests of the child. The psychologist's role is to provide an impartial opinion that addresses the ability of the parent to provide caretaking consistent with the child's best interests. This task requires that professional opinions or recommendations are based on sufficient objective data to support the psychologist's conclusions (Martindale & Gould, 2007). The assessment assists the court in decision-making concerning the parent's role regarding the physical care, access to, and legal decision-making for the child (APA, 2009).

Parental capacity assessments often are requested in juvenile dependency cases to determine whether a parent's mental health concerns are so severe and incapacitating that the parent cannot safely parent the child or the parent is unable to benefit from services to mitigate the risk of future abuse or neglect of the child. Such assessments require not only requisite education, training, and experience in assessing serious mental illness, including character pathology, but an understanding of judicial and administrative regulations and timelines. Relevant guidelines include the *Guidelines for Psychological Evaluations in Child Protection Matters* (APA, 2011) and the *Specialty Guidelines for Forensic Psychology* (APA, in press). Additional information concerning legal issues in clinical and counseling testing and assessment is provided in Chapter 6, this volume.

Information Evaluation

Information evaluation refers to the interpretation of the assessment data (Weiner, 2003). Accurate interpretation of testing data requires that the psychologist interpret instrument responses and scores according to the test developer's instructions.

The general standards and guidelines applicable to conducting psychological assessments across settings and the interpretation of test data include the *Standards for Educational and Psychological Testing* (American Educational Research Association, APA, & National Council on Measurement in Education, 1999, currently under revision) and the *Ethical Principles of Psychologists and Code of Conduct* (APA, 2010). The psychologist should consult additional relevant professional standards and guidelines on the basis of the referral source, assessment context, and client characteristics.

An evaluation of the assessment data involves more than scoring and interpreting the instruments administered during the data collection phase of the assessment. The evaluation of assessment data requires a critical evaluation and synthesis of the testing data with the collateral data within the context of the specific referral: the reason for the assessment, the referral source, and referral questions (APA, 2010). Ideally, the psychological assessment utilizes a multidimensional, multisource approach (Allen, 2002; Lachar, 2003) consistent with the multitrait-multimethod matrix developed for construct validation by Campbell and Fiske (1959). A multidimensional, multisource approach entails obtaining formal collateral data by persons close to the client (e.g., family, teacher, probation officer, protective services worker) by means of interview, records, or standardized instruments. Mental health records, school report cards, court reports, and criminal history logs are examples of collateral records. The clinical interview of the client and behavioral observations during the assessment process are additional important sources of data. All of these data provide both convergent and divergent data that can be integrated, synthesized, and summarized to address the referral question. Disconfirming data are particularly useful for guarding against the influence of bias and in assisting in the development of an objective conceptualization of the client (Meyer et al., 2001).

The clinical interview. The client in interview is a central component of the psychological assessment. An unstructured clinical interview allows the psychologist to obtain psychosocial history, psychiatric symptomatology, and the perceived rationale for

the assessment from the client's perspective. These data reflect the client's particular perspective and can be compared with test data and collateral information to assess consistency or divergence across data sources. However, if collateral data are scant or missing, an unstructured interview loses the value of reflecting the client's perspective as clinically relevant information. The unstructured interview may not query symptomatology in a systematic manner. Structured and semistructured interview formats typically include critical diagnostic criteria to facilitate differential diagnosis. Client symptoms are assessed and scores are compared against normative data. However, semistructured and structured interviews still rely on client self-report without the ability to assess response style and test-taking attitude. Thus, all three interview formats are subject to distortion and response bias (Bagby, Wild, & Turner, 2003). Because of this shortcoming, inclusion of formal testing is recommended for inclusion in psychological assessments.

Behavioral observations. Another potential important source of information is the psychologist's careful description of client behavior, test-taking attitude, interactive style, and any special needs that necessitate accommodation or modification of the assessment process or standardized testing procedure. As Leichtman (2009) noted, these behavioral observations can be a rich source of data. In spite of this possibility, Leichtman noted that the behavioral observations section of most assessment reports typically consists of just a few sentences, and training in behavioral observation and reporting tends to be given only superficial treatment in graduate training and supervision. Additionally, despite its descriptive name, the reporting of behavioral observations is prone to subjectivity and bias, another reason why this assessment component warrants careful attention in training as well as self-monitoring by the psychologist during the assessment process (Leichtman, 2009). The psychologist's interpretation and documentation of client behaviors as well as interactive style can be influenced in several ways, such as lack of knowledge or misapplication of base rates for that population and the level of training and competence in assessing clients from that

particular population. These topics are discussed in more detail in the section General Assessment Considerations.

Information Output

Information output refers to the utilization of the assessment data to derive conclusions and recommendations that address the referral questions (Weiner, 2003). Accurately synthesizing these data is a complex process that requires critical thinking skills; knowledge of psychological principles, guidelines, and standards related to testing and working with diverse populations; and competence in developing an effective working alliance. These critical thinking skills include an awareness of the relative weight to give to clinical judgment versus actuarial or statistical prediction rules in formulating one's conclusions and guarding against various types of bias in the interpretation and reporting of assessment data.

GENERAL ASSESSMENT CONSIDERATIONS

There are general considerations that apply to all three phases of the assessment process (information input, information evaluation, and information output). For this reason, awareness of these issues guides an appropriate, objective assessment of the client and mitigates the potential for inaccuracy in assessment, synthesis, reporting, and recommendations. These issues include the potential for the introduction of bias and moderator and mediator variables that may influence the working alliance or assessment validity. These two issues may affect any or all of the three phases of the assessment process.

Bias

Test popularity may be considered a type of bias because common usage perpetuates the mistaken belief that an instrument is valid and reliable. For example, the Thematic Apperception Test and other projective techniques are used frequently in clinical and forensic settings, although their use has been seriously questioned (Hunsley & Mash, 2007). An exception may be the Rorschach inkblot method, which has received research support regarding test protocol validity when compared with MMPI protocols (Hiller, Rosenthal, Bornstein, Berry, &

Brunell-Neulieb, 1999). The use of the Rorschach in clinical and forensic settings also has been endorsed by the Society for Personality Assessment (SPA). A thoughtful review of the relevant literature and discussion of the appropriate uses of the Rorschach can be found in the 2005 SPA position statement.

Psychologists also should be aware of the potential for *confirmatory bias*, in which one selectively attends to behaviors that are consistent with the psychologist's expectations or theoretical orientation. These assumptions may be based on the client's cultural or clinical group membership (Sandoval, 1998). A closely related phenomenon is the *availability bias*, in which recent behavior or extreme, vivid behavior is weighted more heavily and is more influential than is warranted by its frequency or clinical significance. These biases result in overinterpretation of assessment data and the potential for overpathologizing the client's behavior or presentation. Seeking out and evaluating sources of potential divergent, as well as convergent (confirmatory), data during the assessment process assists in guarding against confirmatory and availability biases.

Theoretical orientation. The practitioner's theoretical orientation influences the assessment process in terms of instrument selection, questions asked during the clinical interview, and interpretation of client responses and assessment data (Craig, 2009). For these reasons, the psychologist is encouraged to consider the potential for bias. This potential is particularly salient if the psychologist has a background in counseling or clinical mental health and decides to develop competence in completing parental capacity or forensic risk assessments. Theoretical orientation may guide the selection of particular instruments (Lambert & Lambert, 1999). Theoretical orientation or adherence to a particular clinical model also may influence the psychologist's interpretation of test results, resulting in interpretive error regarding diagnosis, etiology, or treatment recommendations. Such errors were first described by Rosenthal (1966) and constitute a phenomenon distinct from experimenter expectancy because they do not influence the client's behavior. This phenomenon also is distinct from test bias because score differences may be statistically and clinically

significant (Reynolds & Ramsay, 2003). However, this phenomenon may be associated with (a) the failure to consider relevant base rates (Weiner, 2003); (b) *environmental impressions*, a bias that is based on the particular assessment environment within which the psychologist works (Weiner, 2003); or (c) failure to consider the client's social context, environment, and person-environment interaction (Wright, Lindgren, & Zakriski, 2001).

Base rates. Base rate refers to the actuarial probability that a particular clinical phenomenon, such as a particular diagnosis, will be present in a particular population or assessment context. For example, psychotic disorders are more prevalent in acute inpatient psychiatric settings than in student counseling centers. Bias is introduced when the psychologist inadvertently, or consciously, erroneously applies a base rate probability and fails to consider competing hypotheses or fails to conduct an appropriate differential diagnosis when evaluating assessment data (Weiner, 2003). Understanding the base rates within a particular population also provides a context for evaluating the sensitivity and specificity—and, hence, clinical utility and predictive power—of a particular instrument (Faust, Grimm, Ahern, & Sokolik, 2010).

Assessment of diverse populations. The validity of assessment results generally and test scores in particular may be attenuated when instruments are used inappropriately cross-culturally. In addition to culture, ethnicity, and race, variables known to influence test results and thereby warranting consideration when selecting instruments, include client's primary language, socioeconomic status, and level of education (Gray-Little & Kaplan, 1998).

A starting point in developing cross-cultural competence may be a self-assessment of one's own cultural membership(s). Hays (2008) articulated a clear and structured process for this self-evaluation, which can serve to identify potential biases as a first step in the development of cross-cultural competencies. Migration or immigration history, level of acculturation, and acculturative stress are just three areas of knowledge with which the psychologist should be familiar (Acevedo-Polakovich et al., 2007). When working with culturally diverse

clients, it is important for psychologists to be aware of an instrument's *conceptual equivalence*—that is, the test's ability to measure the same construct across cultures in order to determine its validity for use with a particular client population (Geisinger, 2003). This ability can be determined by comparing evidence of construct validity collected in the “host” language and culture with evidence of construct validity collected in additional linguistic and cultural populations (Geisinger, 2003). Because psychological assessments go beyond test administration and interpretation, Acevedo-Polakovich et al. (2007) suggested “proactive steps” related to initial training that were first offered by Hansen (2002, as reported in Acevedo-Polakovich et al., 2007). These suggestions were specific to the Latina/o population but reflect general principles that could be applied to working with other populations. They include the need to (a) develop an understanding of Latina/o-specific cultural variables, constructs, and syndromes to promote accurate assessment and mitigate the potential for misinterpreting culture-specific beliefs or behaviors; (b) be familiar with instruments of known, and acceptable, validity and reliability with U.S. Latina/os; (c) interpret tests and complete assessments that are consistent with, and relevant to, Latina/o culture; and (d) provide test feedback in a language and style that meet the needs of the client.

The client's personal history and context also influence decision-making regarding the direction of the clinical interview, types of collateral information to collect, and appropriate testing (Comas-Díaz & Grenier, 1998). For example, assessing newcomers (refugees and asylum seekers) includes a careful but nonthreatening querying of where the client came from, when the client left his or her country of origin, and what was going on in that country at that time. The responses to these questions provide a context within which to evaluate the probability that the client experienced torture and consequent mental health symptomatology (Maltzman, 2004).

Sandoval (1998) made the following recommendations to facilitate critical thinking and to guard against bias, particularly when assessing clients from diverse populations: (a) Identify one's own preconceptions in advance to better guard against their

influence, (b) ensure that conclusions are drawn after careful consideration, (c) seek appropriate cultural consultation to prevent the misinterpretation of normal behaviors, and (d) ensure that careful notes are taken to prevent reliance on memory.

Moderator and Mediator Variables

Moderator and mediator variables may influence the assessment process in a manner similar to the effects seen in counseling and psychotherapy. Moderator variables include client and psychologist expectations and attitudes about the assessment process. Mediator variables include the behaviors (covert and overt) and client–psychologist interaction that occur during the assessment (Hill & Williams, 2000). Both moderator (input) and mediator (process) variables influence the development of rapport and thus can influence the assessment process and the validity of the collected data and data interpretation.

Developing and maintaining rapport and an effective working alliance is critical to facilitating the assessment process. Despite this necessity, the psychologist has limited time within which to establish a working relationship with the client that promotes cooperation, motivation, and forthrightness in the assessment process.

Client factors. The client's affective state can influence testing and self-report. Anxiety or fear about the testing process may negatively affect attention and concentration and may contribute to mistakes and accidental random responding. In their description of obstacles to establishing rapport from the client's perspective, Lerner and Lerner (1998) described Schafer's (1954, as cited in Lerner & Lerner, 1998) observation that the assessment process requires the client to cede control over what information to hold private and allows intrusiveness by the psychologist without the establishment of a requisite level of trust. The assessment context also can influence the client's approach to participating in the assessment. For example, clients may attempt to minimize symptoms to facilitate discharge from the hospital (Bagby et al., 1997) or present with a defensive style in forensic settings, such as parental custody evaluations (e.g., Bagby, Nicholson, Buis,

Radovanovic, & Fidler, 1999). Traumatized clients may experience the assessment as inherently stressful. They may minimize or deny symptoms in an attempt to avoid remembering and discussing the traumatic events, resulting in the denial of symptoms during the clinical interview and suppressed test scores (Briere, 2004).

Psychologist factors. The psychologist is challenged to engage the client quickly and effectively to promote a collaborative, nondefensive style. In forensic settings, this goal may be difficult to achieve because of the investigative nature of forensic assessments that necessitates a probing, neutral stance in comparison with a more supportive, collaborative role appropriate for a clinical setting (Craig, 2009). In clinical contexts, development of a collaborative working alliance may be impeded if the psychologist is perceived as too distant or inappropriately sympathetic (Briere, 2004). Creed and Kendall (2005) identified therapist variables associated with a positive alliance in therapy with children. These factors included a collaborative stance (in which the therapist encouraged child involvement), not pushing the child to talk when the child was not ready to do so, and emphasizing common ground. Although these variables predicted child ratings of the strength of the therapeutic relationship early in therapy, they did not predict therapist ratings (Creed & Kendall, 2005). This finding suggests that therapists may not be sufficiently sensitive to client responses and reactions in therapy that may mediate the working relationship. These same variables and processes also may be present in and affect the assessment process with children and youths.

As noted earlier, allowing insufficient time to develop a collaborative working relationship and pushing prematurely or inappropriately for information are two psychologist-related variables that may negatively affect the assessment process. Perhaps these behaviors are due, at least in part, to the pressure that psychologists feel to obtain the necessary and sufficient data to answer the referral questions (Lerner & Lerner, 1998). This pressure may feel more acute when the assessment is initiated by a third-party referral who is the payer and the assessment is time sensitive.

Clinical Judgment, Actuarial Prediction, and Utilization of Empirical Guidelines

Meehl's 1954 monograph was the first description of the equivalence or superiority of actuarial prediction in comparison with clinical judgment. Garb (2003) described actuarial prediction as decision rules that are based on empirical data. Actuarial prediction is equivalent to statistical prediction when the latter refers to mathematical equations that are based on empirical data (Garb, 2003). The superiority of actuarial prediction has been confirmed consistently in research, particularly in forensic settings (Ægisdóttir et al., 2006; Garb, 2003). Applied to the assessment process, actuarial prediction is consistent with the utilization of empirical guidelines for deriving assessment conclusions. Weiner (2003) described empirical guidelines as the utilization of decision rules "derive[d] from the replicated results of methodologically sound research" (p. 12). Applying these rules facilitates objective decision-making and mitigates the potential for biases. Empirical guidelines, including the application of appropriate cutoff scores applied within the particular referral context, also mitigate the potential for false-positive or false-negative conclusions (Weiner, 2003). The adoption of an empirical approach also assists in guarding against the influence of confirmatory and personal biases in clinical and counseling settings (Garb, 2003; Heilbrun, DeMatteo, Marczyk, & Goldstein, 2008; Strohmmer & Arm, 2006). Despite these findings, psychologists have tended to resist adoption of an empirical approach to assessment and diagnosis (Graham & Naglieri, 2003).

This perceived resistance has been attributed to two primary considerations that reflect an apparent scientist-practitioner split: (a) the need to ensure the construct validity of clinical diagnoses in clinical research versus the time and resource limitations encountered by the clinician in practice and (b) the suboptimal utility of the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed.; DSM-IV) to facilitate treatment planning versus the paramount need for clinical utility of an assessment in treatment settings (Mullins-Sweatt & Widiger, 2009). What do not appear to have consistent support in the literature are the hypotheses that practitioners are

reluctant to adopt empirically derived assessment practices because of philosophical differences or that practitioners believe that empirically derived diagnoses are simplistic or invalid (Widiger & Samuel, 2009).

Conversely, researchers have acknowledged that the psychological assessment of an adult or child in a clinical mental health setting must address diagnostic clarification for the purpose of treatment planning, prediction of response to treatment, and prognosis for future level of functioning (Bagby et al., 2003; Lachar, 2003). In other words, the clinical utility of the assessment is paramount (Mullins-Sweatt & Widiger, 2009). Despite the research and general consensus supporting the superiority of empirically based assessment, formal psychological testing and structured or semistructured interviews are not always utilized in clinical practice (Widiger & Samuel, 2009). Failure to use standardized assessment procedures potentially compromises the validity and reliability of the resulting clinical diagnoses. This possibility is magnified if, as reported, clinicians do not consistently and routinely adhere to DSM-IV diagnostic criteria when utilizing an unstructured interview format (Mullins-Sweatt & Widiger, 2009; Widiger & Samuel, 2009). Such lapses may occur because the client's self-report may not be candid or because the clinician may not adequately query the client. For this reason, there is an increased risk that the assessment will be compromised, resulting in a diagnosis (or diagnoses) that does not fully describe the client's presentation and functioning. The resulting diagnoses may, in turn, result in inappropriate or inadequate treatment. In particular, failure to assess for the presence of personality disorder or maladaptive personality traits may compromise not only appropriate treatment but also the accuracy of the predicted response to treatment and posttreatment prognosis (Widiger & Samuel, 2009). Widiger and Samuel suggested a tiered approach to the assessment of personality disorder to bridge this schism. The initial tier would be administration of a self-report inventory, such as the MMPI-2-RF (Restructured Form) (Ben-Porath & Tellegen, 2008) or the MCMI-III (Millon, 1994), which would be followed by a semistructured interview targeting personality

traits identified as maladaptive through the self-report inventory. The goal of this tiered approach is to shorten the semistructured interview to target more carefully the personality traits that appear most salient, thus saving the practitioner time. Whether this approach is disseminated and adopted within the practice community remains to be seen. However, a potential obstacle to this approach may be the reluctance of third-party payers to reimburse for any testing or low reimbursement rates when testing is authorized.

Therefore, rather than a philosophical reluctance, it may be that reimbursement and resource issues are primary factors contributing to practitioners' reluctance to implement empirical assessment approaches.

EMERGING TRENDS

Multiple factors, including the mental health consumer movement, government oversight, and reimbursement policies of third-party payers, have contributed to the call for psychology to demonstrate that its services are cost effective, are measurable, and benefit clients in tangible ways. Three emerging trends in assessment are particularly salient within this context: assessing psychosocial functioning, assessing outcomes, and utilizing the assessment as treatment.

Assessment of Psychosocial Functioning

Over the past 20 years, there has been increasing emphasis within clinical settings to assess the client's psychosocial functioning in addition to psychiatric symptomatology. Psychosocial functioning includes assessment of the client's hobbies, leisure activities, and pursuit of values that are hypothesized to contribute to psychological and subjective well-being (Robbins & Kliever, 2000). Thus, psychosocial functioning as a construct is expanded to include the assessment of self-enhancing activities in addition to traditional areas of basic functioning such as activities of daily living, interpersonal relationships, and participation in work or school. This conceptualization of psychosocial functioning more clearly articulates the assessment of client strengths in addition to deficits. This strengths-based

approach is the result of several converging areas of research and public policy, including the following:

- the mental health consumer movement (e.g., Campbell & Leaver, 2003; Pulice & Miccio, 2006),
- the rise of the biopsychosocial model in psychology (e.g., Maltzman, 2012), and
- developmental research in the physiological and psychosocial bases of resilience (e.g., Greenberg, 2006; Werner, 2005).

Ro and Clark (2009) described their initial efforts to clarify the construct of psychosocial functioning. The goal of the factor analysis was to initiate the development of a psychometrically sound instrument that could be used to assess the psychosocial deficits associated with *DSM* Axis I and Axis II psychopathology. A community sample ($N = 429$) that included almost equivalent numbers of students and nonstudent residents completed measures assessing quality of life, daily functioning, and personality functioning. Two principal-axis factor analyses with promax rotation were conducted that included measures of functioning across a variety of domains and with varying levels of specificity and breadth. The first factor analysis excluded the two measures of personality functioning, the Measure of Disordered Personality and Functioning (MDPF; Parker et al., 2004, as cited in Ro & Clark, 2009) and the Severity Indices of Personality Problems (SIPP; Verheul et al., 2008, as cited in Ro & Clark, 2009). By excluding and then including these measures, these investigators were able to explore whether personality functioning, as defined by these instruments, improved the factor solution. A four-factor solution, which included these personality functioning measures, yielded the most psychologically interpretable solution (Ro & Clark, 2009). The resulting four dimensions reflected Basic Functioning (activities of daily living and microlevel functioning), Well-Being (subjective sense of well-being, satisfaction, and high social functioning), and two factors on which the MDPF and SIPP loaded: Self-Mastery (impulsivity, inability to learn from experience, and lack of self-control) and Interpersonal and Social Relationships (lack of empathy or caring for others, difficulty fitting in socially). These two

personality functioning measures were interpreted by these investigators as reflecting social and environmental functioning associated with personality traits. Ro and Clark noted that they could only include general measures of psychosocial functioning that were applicable across a range of client populations.

The growing emphasis on psychosocial functioning reflects the growing imperative to demonstrate the clinical utility of the assessment, defined as the ability to demonstrate that the assessment “makes a difference with respect to the accuracy, outcome, or efficiency of clinical activities” (Hunsley & Mash, 2007, p. 45). This imperative has been an impetus for developing assessment instruments with adequate external validity to ensure that assessment results reflect the client’s capacity to function in “real-world” settings (Kubiszyn et al., 2000). Neuropsychologists have acknowledged this need as their field has shifted from an emphasis on descriptive diagnosis toward clarifying functional capacity and recommending specific rehabilitative interventions (Rabin, Burton, & Barr, 2007). In particular, there is increased emphasis in ensuring instrument ecological validity defined as the generalizability of test results assessed in a controlled setting to the actual skill sets required in daily living (Rabin et al., 2007). A potential advantage of developing and utilizing ecologically oriented instruments (EOIs) is that they could minimize the potential for the misinterpretation of test scores on the basis of client variables known to influence neuropsychological test results.

The confluence of three factors—(a) the growing emphasis on psychosocial functioning, (b) the emergence of EOIs in neuropsychology, and (c) the acknowledgment of the superiority of actuarial and evidence-based assessment measures—may provide the impetus to look beyond self-report instruments in clinical psychology toward the development of more ecologically valid assessments of psychological functioning.

Assessment as Treatment

As noted earlier in this chapter, the assessment context as well as psychologist-related and client-related variables can influence the establishment of rapport and the working alliance. In clinical settings, the

psychological assessment is often the precursor to treatment. One consistent finding in psychotherapy process and outcomes research is that a strong positive working alliance established early in therapy correlates with a decreased probability of early termination and predicts achievement of treatment goals and positive therapy outcomes (Hilsenroth & Cromer, 2007). Extrapolating from these findings, Finn and colleagues (e.g., Finn & Tonsager, 1997) developed the Therapeutic Model of Assessment (TMA), the goal of which is the use the assessment process as a treatment intervention. For a detailed treatment of therapeutic assessment, readers should consult Chapter 26, this volume.

The TMA integrates the multimethod approach to information gathering with an empathic, collaborative approach in which the test feedback session becomes an intervention: "The major goal is for clients to leave their assessments having had new experiences or gained new information about themselves that subsequently helps them make changes in their lives" (Finn & Tonsager, 1997, p. 378). This client-empowering, collaborative, strengths-based approach to clinical assessment is consistent with counseling psychology's historical approach to vocational, career, and personal counseling (Delworth, 1977; Fretz, 1985; Super, 1955). In the TMA, the assessment and, particularly, the test feedback session become the first phase of treatment. Because the TMA facilitates treatment by means of the assessment process, it may be viewed favorably by third-party payers who otherwise might be reluctant to preauthorize and pay for a formal psychological assessment. The TMA assumes that the same psychologist conducts the assessment and provides the therapy. In some clinical settings, this may be appropriate from an ethical perspective (APA, 2010). In other settings and contexts, particularly forensic settings, the provision of assessment and treatment by the same psychologist could be considered a violation of professional standards (APA, 2010, in press).

Assessing Outcomes

With the advent of managed health care and time-limited treatments, there is increased interest on the part of third-party payers for psychologists to demonstrate the clinical utility of the psychological

assessment to justify its cost (Hunsley & Mash, 2005). The public sector (i.e., government agencies) and the private sector (behavioral health care insurance companies) have increased the pressure on mental health professionals to demonstrate the effectiveness of their treatments and interventions (e.g., APA Practice Directorate, 2007; Cavaliere, 1995). This pressure is not likely to abate as financial resources dwindle and public scrutiny regarding the expenditure of government money increases. Although these external bodies are cited as the sources of this pressure, psychology as a profession also historically has demanded that services demonstrate effectiveness to justify reimbursement and inclusion in national health care initiatives. These pressures, from outside and within psychology, were a significant impetus for the development of treatment outcomes research (Maltzman, 2012).

Hill and Corbett (1993) defined outcomes as the changes that result, either directly or indirectly, from the treatment utilized in counseling or psychotherapy. Assessment instruments that can monitor progress in treatment as well as address the referral question have fundamental advantages over instruments that can be used as part of the assessment but whose cost, time, length, or other factors preclude their use over the course of treatment. In addition to tracking individual client progress over time, instruments that can be used as a repeated measure for tracking individual progress over time also can facilitate continuous quality improvement efforts at the organizational or system level by aggregating and analyzing data across clients. The assessment of outcomes necessitates a multimodal approach to ensure that the clinically salient variables targeted in treatment are adequately assessed over time and sufficiently sensitive to detect change over time (Lambert & Lambert, 1999).

Historically, the assessment of outcomes has focused on Axis I clinical disorders, which exclude personality disorders and mental retardation (American Psychiatric Association, 2000), and areas of functioning compromised by these disorders. However, development of instruments for the assessment and change over time of personality functioning, such as capacity for empathy and tendency toward impulsivity, would be enormously helpful in mitigating risk

in forensic settings as well as for potentiating treatment of Axis I disorders in clinical and counseling settings (Widiger & Samuel, 2009). For additional discussion of risk assessment in forensic settings, readers are directed to Chapter 16, this volume.

SUMMARY AND DISCUSSION

The assessment process historically has consisted of a multimethod approach integrating interview, collateral, and formal test data. Both clinical and counseling psychology have brought strengths to the process that are based on the historical populations served by each discipline and referral questions addressed. Clinical psychology introduced psychological testing and the multimethod approach for the assessment of emotional disturbance in children. Counseling psychology emerged to address the vocational needs of these youths. Both disciplines transitioned into the assessment of adults with clinical psychology focusing on the assessment and treatment of major psychopathology. Counseling psychology historically has focused on the assessment and treatment of life-associated stressors in individuals functioning along the continuum of normal psychological functioning. Both specialties have strong bases in empiricism and formal psychological testing. Their historical convergence may be in the assessment process itself. One emerging trend is the increasing focus on psychologist–client collaboration during the assessment, which essentially becomes the initiation of treatment (e.g., Tharinger et al., 2009). Counseling psychologists historically have collaborated with clients, together reviewing test data and their application to vocational and career choices (Swanson & Gore, 2000). This approach has naturally segued into personal counseling for adjustment issues. Clinical psychology appears to be adapting this approach to the process of the clinical assessment for psychotherapy. The assessment context and referral questions will determine the extent to which this collaborative approach is appropriate. In most forensic settings, it may be very limited or inconsistent with applicable professional standards and guidelines.

Balancing the use of subjective sources of data (e.g., the clinical interview and most self-report

instruments) and objective sources of data (e.g., behavioral analyses, test instruments with validity scales) is a topic of continuing discussion and varied practice. Ensuring that multiple methods are used for data collection helps guard against the introduction of biases that can occur if subjective data sources predominate. Adherence to professional standards and guidelines, education and training in assessing diverse populations, and awareness of various sources of bias also facilitate an assessment process that results in a data synthesis and report that can objectively address the referral questions.

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assignment 2

Prior to beginning this assignment, read the PSY650 Week Two Treatment Plan.

Case 16: Attention-Deficit/Hyperactivity Disorder in Gorenstein and Comer (2014), and Attention-Deficit/Hyperactivity Disorders in Hamblin and Gross (2012).

Assess the evidence-based practices implemented in this case study by addressing the following issues:

- Explain the connection between each theoretical orientation used by Dr. Remoc and the four interventions utilized in the case.
- Consider Dr. Remoc's utilization of two theoretical frameworks to guide her treatment plan. Assess the efficacy of integrating two orientations based on the information presented in the case study. Describe some potential problems with prescribing medication as the only treatment option for children with ADHD.
- Identify tasks and positive reinforcements that might be included in Billy's token economy chart given the behavior issues described in the case. (There are articles in the recommended resources that may assist you in this portion of the assignment.)
- Evaluate the effectiveness of the four treatment interventions implemented by Dr. Remoc and support your statements with information from the case and two to three peer-reviewed articles from the Ashford University Library.
- Recommend three additional treatment interventions that would be appropriate in this case. Use information from the Hamblin and Gross "Attention-Deficit/Hyperactivity Disorders" chapter to help support your recommendations. Justify your selections with information from the case.

The Case Analysis

- Must be 4 to 5 double-spaced pages in length (not including title and references pages) and formatted according to APA style as outlined in the Ashford Writing Center (Links to an external site.).
- Must include a separate title page with the following:
 - Title of paper
 - Student's name
 - Course name and number
 - Instructor's name
 - Date submitted
- Must use at least two peer-reviewed sources from the Ashford University Library.
- Must document all sources in APA style as outlined in the Ashford Writing Center. (Links to an external site.)
- Must include a separate references page that is formatted according to APA style as outlined in the Ashford Writing Center.

References Attached

PSY650 Week Two Treatment Plan

Behaviorally Defined Symptoms: Billy exhibits both inattention (e.g., short attention span, difficulty sustaining attention on a consistent basis, noncompliance with instructions, easily distracted by external stimuli) and hyperactivity-impulsivity (e.g., high energy level, difficulty remaining seated, excessive motor activity, difficulty waiting his turn, blurting out answers in class, poor social skills). Billy's symptoms were apparent before the age of 12, and occurred at home and in school.

Diagnostic Impression: Attention-Deficit/Hyperactivity Disorder, Combined Presentation

Long-Term Goal: Demonstrate marked improvement in impulse control.

Short-Term Goal 1: Discontinue taking stimulant medication and manage symptoms with behavior modification techniques.

Intervention 1: Billy's psychiatrist will monitor the effectiveness of the medication and side effects every four weeks.

Intervention 2: Billy's parents will attend six individualized "Parental Training" sessions and apply newly learned behavioral modification techniques in the home.

Intervention 3: Billy will attend six "Social Skills" trainings to learn skills such as cooperation, speaking calmly, and making polite requests.

Intervention 4: Billy's teachers will implement a "Token Economy" where he obtains tangible rewards in response to desired behaviors.

For additional information regarding Billy's case history and the outcome of the treatment interventions, please see Dr. Remoc's session notes under Case 16 in Gorenstein and Comer's (2015), *Case Studies in Abnormal Psychology*.

CASE 16

Attention-Deficit/Hyperactivity Disorder

Table 16-1

Dx Checklist

Attention-Deficit/Hyperactivity Disorder

1. Individual presents 1 or both of the following patterns:
 - (a) For 6 months or more, individual frequently displays at least 6 of the following symptoms of inattention, to a degree that is maladaptive and beyond that shown by most similarly aged persons: • Unable to properly attend to details, or frequently makes careless errors • Finds it hard to maintain attention • Fails to listen when spoken to by others • Fails to carry out instructions and finish work • Disorganized • Dislikes or avoids mentally effortful work • Loses items that are needed for successful work • Easily distracted by irrelevant stimuli • Forgets to do many everyday activities.
 - (b) For 6 months or more, individual frequently displays at least 6 of the following symptoms of *hyperactivity* and *impulsivity*, to a degree that is maladaptive and beyond that shown by most similarly aged persons: • Fidgets, taps hands or feet, or squirms • Inappropriately wanders from seat • Inappropriately runs or climbs • Unable to play quietly • In constant motion • Talks excessively • Interrupts questioners during discussions • Unable to wait for turn • Barges in on others' activities or conversations
2. Individual displayed some of the symptoms before 12 years of age.
3. Individual shows symptoms in more than 1 setting.
4. Individual experiences impaired functioning.

(Based on APA, 2013.)

Billy was his parents' first child. He was born after a normal, uncomplicated pregnancy, an especially healthy baby who grew rapidly and reached the standard developmental milestones—sitting, crawling, standing, walking, and so forth—either at or before the expected ages. His parents marveled at his exuberance and his drive to be independent at an early age. He was sitting by the age of 5 months and walking at 11 months. Once mobile, he was a veritable dynamo (in fact, they called him “the Dynamo”) who raced around the house, filled with a curiosity that led him to grab, examine, and frequently destroy almost anything that wasn't nailed down.

Although very low birth weight (less than 1,500 grams) presents a twofold to threefold risk for developing ADHD, most children with low birth weight do not develop the disorder (APA, 2013).

Billy From “Dynamo” to “Dynamite”

During his toddler period, Billy's parents had no inkling that his activity level was at all unusual and, in truth, in many ways it was just an exaggeration of tendencies that most toddlers exhibit. Still, his parents found it exhausting to cope with his behavior. Just watching over him was a full-time job. Billy's mother

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found it exhausting to cope with his behavior. Just watching over him was a full-time job. Billy's mother, Marie, had contemplated doing some freelance accounting at home to earn extra money. However, with her very first project she realized that this was completely unrealistic. Marie had hoped that she could contain Billy by keeping him in a playpen while she worked, but she found that he wouldn't tolerate such confinement for more than 2 minutes before he was yelling to get out. Once out, he was a roving accident scene. Within minutes, Marie would hear a crash or some other noise that demanded investigation.

When Billy's mother became pregnant with his sister, Billy was well into the "terrible twos" and his mother and his father, Stan, were beginning to doubt their suitability as parents. Of course, other new parents often remarked on how demanding children were, but Marie and Stan could tell that the other parents felt nowhere near the same sense of desperation.

With the arrival of Billy's sister, Jennifer, Marie and Stan developed a budding awareness that their problems in handling their son might not be due entirely to their inadequacy. As an infant Jennifer—unlike Billy—did not try to squirm and break free every time she was held. Later, there were other differences. As a toddler, she was content to sit quietly for long periods just playing with her toys, and she listened until the end of the entire story when Marie read to her, whereas Billy would get restless and run off within a couple of minutes.

When Billy reached school age, and Marie and Stan received more objective feedback about his situation, their sense of his difficulties became more defined. After his first day of school, his kindergarten teacher described him as "quite a handful"; then, at the parent-teacher conference, the teacher informed Billy's parents that his activity level was well above that of the other children. In the first and second grades, as the academic component of the curriculum increased and the demands on the children for behavioral control increased correspondingly, Marie and Stan started to get yet stronger complaints from his teachers. In addition, Billy's academic progress was slowed because of his problems with attention. Although he eventually learned to read, he didn't really begin to master the skill until the second grade. Now 8 years old and in the third grade, Billy was falling behind the other children in a wide range of academic tasks. With encouragement—actually, insistence—from his teacher, Mrs. Pease, his parents decided to seek help for him at the Child Development Center.

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Half the children with ADHD also have learning or communication problems, many perform poorly in school, a number have social difficulties, and about 80 percent misbehave (Goldstein, 2011; Mash & Wolfe, 2010).

Billy at Home A Parent's Perspective

By age 8, Billy rarely carried out his parents' requests or instructions, or he carried them out only partially before becoming caught up in some other activity. One evening in November was illustrative: Billy's mother had just finished preparing dinner when she went to her son's room and asked him to stop playing his video game, wash his hands, and take his place at the dining room table. "Okay, Mom," Billy answered.

"Thank you, Billy," Marie said as she went back down to the kitchen to do some final preparations. However, 5 minutes later she realized she still had not seen Billy. She went back up to his room and found he had never turned off the video game.

"Billy, I mean it. Stop playing now!" she told him.

"Oh, all right," he said, and turned the game off.

Although this was Marie's second effort, for once Billy was coming without too much of a struggle, so his mother was relieved. "Go wash your hands," she reminded him.

"Okay," Billy replied. He headed down the hall toward the bathroom, but caught a glimpse of his 5-year-old sister already seated at the dining room table, holding a new doll. Jennifer was pulling a string that made the doll talk.

"Hey, neat!" Billy exclaimed. "Let me try." He ran over, grabbed the doll from Jennifer's hands and pulled the string. The doll spoke in a squeaky voice, while Billy's sister complained that she wanted her toy back. "Does the doll say anything else?" Billy asked, ignoring Jennifer's protests. He began to pull the string over and over in rapid succession until, finally, it broke off.

Twice as many boys as girls have ADHD. This ratio decreases to 1.6:1 when examining ADHD in adults. Females are more likely to present primarily with inattentive features (APA, 2013).

"Un, oh," Billy observed.

"Mommy, he broke my doll!" Jennifer cried.

Billy's mother emerged from the kitchen to find him holding the broken doll while his sister wailed. What had begun as a simple attempt to get Billy to wash his hands and seat himself at the dinner table had ended in a tumultuous scene.

And so it would go. Unless Billy was escorted through every task of the day, he'd get sidetracked, and it usually ended with an argument or something getting broken. Consequently, his parents often found it easier just to do things for Billy—wash his hands, clean his room, get him dressed—because getting him to do the tasks himself was the greater effort.

When left to his own devices, Billy's behavior was disruptive in other ways. He jumped on the beds, ran through the house, or played shrill games of hide-and-seek under the dinner table with his unwilling parents or sister. If his mother was on the phone, he would think nothing of yelling out demands for a drink, a snack, or help in finding some lost toy, despite Marie's numerous warnings not to interrupt her.

Even playing out in the yard was not a solution, because if Billy wasn't watched closely, in a flash he might run out into the street after a ball, without any regard for traffic. When playing indoors with neighborhood children, Billy was bossy, continually grabbing their toys or refusing to share his own. Thus, his play dates had to be closely supervised by his parents to avoid squabbles. Because of these problems, Billy had few friends. Instead, most of his leisure time was spent watching television or playing video games, activities that Marie and Stan were reluctant to encourage, but which they felt forced to accept since the 8-year-old could do little else without supervision.

Billy at School A Teacher's Perspective

Billy's third-grade teacher, Mrs. Pease, found his behavior intolerably disruptive in school. She was also concerned that Billy's behavior problems were interfering with his ability to learn. She believed he was a bright child, but his attention and behavior problems were causing him to fail to complete his lessons and hampering the other children's ability to complete theirs.

Approximately 5 percent of children and 2.5 percent of adults have ADHD (APA, 2013).

One day at school in mid-April Mrs. Pease had called the class to attention to begin an oral exercise: reciting a multiplication table on the blackboard. The first child had just begun her recitation when, suddenly, Billy exclaimed, "Look!" The class turned to see Billy running to the window.

"Look," he exclaimed again, "an airplane!"

A couple of children ran to the window with Billy to see the airplane, but Mrs. Pease called them back, and they returned to their seats. Billy, however, remained at the window, pointing at the sky. Mrs. Pease called him back, too.

"Billy, please return to your desk," Mrs. Pease said firmly. But Billy acted as though he hadn't heard her.

"Look, Mrs. Pease," he exclaimed, "the airplane is blowing smoke!" A couple of other children started from their desks.

"Billy," Mrs. Pease tried once more, "if you don't return to your desk this instant, I'm going to send you to Miss Warren's office." Billy seemed oblivious to her threats and remained at the window, staring excitedly up at the sky.

Mrs. Pease, her patience wearing thin, addressed Billy through gritted teeth. "Billy, come with me back to your seat." She took him by the hand and led him there. She also considered making good on her threat to send him to Miss Warren, the principal, but she glanced at the clock and realized Miss Warren would not be in her office now. Finding someone else to supervise Billy would probably be more disruptive than disciplining him within the class, so she settled for getting him back in his seat, then took her place once more in front of the class. By now she was almost 10 minutes into the lesson period and still had not finished a single multiplication table.

Mrs. Pease tried to resume the lesson. "Who can tell me the answer to 3 times 6?" she asked. Fifteen children raised their hands, but before she could call on anyone, Billy blurted out the correct answer. "Thank you, Billy," she said, barely able to contain her exasperation, "but please raise your hand like the others."

The number of children ever given a diagnosis of ADHD increased from 7 percent in 2000 to 9 percent in 2009 (Akinbami,

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Mrs. Pease tried again. "Who knows 3 times 7?" This time Billy raised his hand, but he still couldn't resist creating a disruption.

"I know, I know!" Billy pleaded, jumping up and down in his seat with his hand raised high.

"That will do, Billy," Mrs. Pease admonished him. She deliberately called on another child. The child responded with the correct answer.

"I knew that!" Billy exclaimed.

"Billy," Mrs. Pease told him, "I don't want you to say one more word for the rest of this class period."

Billy looked down at his desk sulkily, ignoring the rest of the lesson. He began to fiddle with a couple of rubber bands, trying to see how far they would stretch before they broke. He looped the rubber bands around his index fingers and pulled his hands farther and farther apart. This kept him quiet for a while; by this point, Mrs. Pease didn't care what he did, as long as he was quiet. She continued conducting the multiplication lesson while Billy stretched the rubber bands until finally they snapped, flying off and hitting two children, one on each side of him. All three children let out yelps of surprise, and the class turned toward them.

"That's it, Billy," Mrs. Pease told him, "You're going to sit outside the classroom until the period is over."

"No!" Billy protested. "I'm not going. I didn't do anything!"

"You shot those rubber bands at Bonnie and Julian," Mrs. Pease said.

"But it was an accident."

"I don't care. Out you go!"

Billy stalked out of the classroom to sit on a chair in the hall. Before exiting, however, he turned to Mrs. Pease. "I'll sue you for this," he yelled, not really knowing what it meant.

Soon, the school bell rang, signaling the end of the period and the beginning of recess. Mrs. Pease was thankful to get some relief from the obligation of controlling Billy, but was frustrated that almost the entire math period had been wasted due to his disruptions.

Symptoms of ADHD, particularly the hyperactive symptoms, are typically most pronounced during the elementary school years. They become less conspicuous by late childhood and early adolescence (APA, 2013).

Out in the schoolyard during recess, Billy's difficulties continued. As the children lined up for turns on the slide, Billy pushed to the head of the line, almost knocking one child off the ladder as he elbowed his way up. After going down the slide, Billy barged into a dodgeball game that some younger children were playing; he grabbed the ball away from one child and began dribbling it like a basketball, while the other child cried in frustration. The supervising teacher told Billy to give the ball back, but Billy kept dribbling, oblivious to her demands. Finally, she took the ball away from him, and Billy wailed in protest.

"Hey, give that back!" he insisted.

"You took this ball from someone else," the teacher explained.

"But you took it from me. That's not fair!" Billy argued.

The teacher sent Billy to sit on a bench, where he remained sulking and feeling mistreated for the rest of the recess period.

This was an average day for Billy at school. On some of his better days, he was less physically disruptive, but he still had his problems, particularly in attending to and completing his schoolwork. In a typical case, Mrs. Pease would give the class an assignment to work on, such as completing a couple of pages of arithmetic problems. While most of the children worked without supervision until the assignment was completed, Billy was easily distracted. When he got to the end of the first page, he would lose his momentum and, rather than continuing, would begin fiddling with some object on his desk. Other times, if another child asked the teacher a question, Billy would stop his own work to investigate the situation, getting up to view the other child's work and failing to complete his own.

Finally, at a parent-teacher conference, Mrs. Pease told Billy's parents that she thought Billy's problems might be attributable to an attention-deficit disorder. Concerned about Billy's growing academic and social problems—not to mention feeling exhausted from continually having to remind, encourage, and threaten their son to get him to do the most elemental things—Marie and Stan decided to seek professional assistance. They arranged for a consultation at the Child Development Center.

Billy in Treatment The Therapist in Action

After repeatedly observing a child's tornadoes of activity, inattention, and recklessness, teachers or parents often conclude that he or she suffers from attention-deficit/hyperactivity disorder (ADHD). However, 25 years of practice had taught child psychiatrist Dr. Sharon Remoc that such a conclusion is often premature and inaccurate, leading to incorrect and even harmful interventions. Thus, when Billy's parents brought him to the Child Development Center, Dr. Remoc was careful to conduct lengthy interviews with the child, his parents, and his teacher; to arrange for Billy to be observed at home and at school by an intern; to set up a physical examination by a pediatrician to detect any medical conditions (for example, lead poisoning) that might be causing the child's symptoms; and to administer a battery of psychological tests. In addition to obtaining a description of Billy's current problems and his history from his parents, Dr. Remoc had Billy's mother respond to questions from 2 different assessment instruments: the Swanson, Nolan, and Pelham Checklist, which contains questions pertaining specifically to disruptive behavior problems, and the Conners Parent Rating Scale, which contains questions specifically for assessing ADHD. Similarly, Dr. Remoc sent the teacher's versions of the Swanson, Nolan, and Pelham Checklist and the Conners scale to Mrs. Pease.

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Only approximately one-third of children who receive a diagnosis of ADHD from pediatricians actually undergo psychological or educational testing to support the diagnosis (Hoagwood, Kelleher, Feil, & Comer, 2000; Millichap, 2010).

In a 2007 national study of children with and without ADHD, parents reported that 46 percent of children with ADHD had a learning disability compared with 5 percent of children without ADHD who had a learning disability. In addition, 27 percent of children with ADHD versus 2 percent of those children without ADHD were reported to have conduct disorder (Larson, Russ, Kahn & Halfon, 2011).

Billy's battery of tests included the Wechsler Intelligence Scale for Children and the Wechsler Individual Achievement Tests (to provide scores in reading, mathematics, language, and written achievement). The results of these tests confirmed the impression already supplied by Billy's parents and Mrs. Pease: Billy's intelligence was above average, and his academic achievement was lower than his intelligence scores would predict. These findings established that Billy's academic problems were not due to intellectual limitations.

After completing this comprehensive assessment, Dr. Remoc was confident that Billy's difficulties met the criteria in DSM-5 for a diagnosis of attention-deficit/hyperactivity disorder, combined type. He exhibited a majority of the symptoms listed both for inattention (for example, difficulty sustaining attention, failure to follow instructions, oblivious to verbal commands, easily distracted) and for hyperactivity-impulsivity (for example, difficulty remaining seated, excessive motor activity in inappropriate situations, difficulty waiting his turn). The symptoms were apparent before the age of 12, occurred both at home and school, and caused significant impairments in both the social and academic spheres.

Over the years, research has indicated that many children with ADHD respond well to either stimulant drugs or systematic behavioral treatment. Although some therapists prefer one of these approaches over the other, Dr. Remoc had come to believe that a combination of the interventions increases a child's chances of recovery. By helping the child to focus better and slow down, the medications may help him or her to profit from the procedures and rewards used in the behavioral program.

An estimated 3.5 percent of U.S. children received stimulant medication in 2008 compared with 2.4 percent in 1996 (Zuvekas & Vitiello, 2012).

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Stimulant drugs, which include amphetamine/dextroamphetamine mixed salts (Adderall), methylphenidate (Ritalin), methylphenidate extended-release (Concerta), dextroamphetamine (Dexedrine), and pemoline (Cylert), were first used to treat ADHD decades ago, when clinicians noted that the drugs seemed to have a "paradoxical" tranquilizing, quieting effect on these children. Subsequent research has shown that all children—both those with and those without ADHD—experience an increase in attentional capacity when taking stimulant drugs, resulting in behavior that is more focused and controlled. This may create the appearance of sedation, but the children are actually not sedated at all.

Unfortunately, the drugs are not effective for all children, and only partially effective for others. And even when a drug is optimally effective, other areas of behavioral adjustment may still need to be addressed, because the ADHD child may have little practice in the more appropriate behaviors that he or she now is

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because the ADHD child may have more practice in the more appropriate behaviors that he or she now is theoretically capable of producing. This is where behavioral programs may come into play.

In the ideal case, both parents and teachers are involved in implementing a behavior modification program, which is based on the ABC model of behavior. The A in the model denotes *antecedents*, the conditions that provide the occasion for a particular behavior; the B denotes the *behavior* itself; and the C denotes the *consequences* of the behavior. Thus, a given behavior is seen as prompted by certain antecedents, and maintained by its consequences. For example, Billy's sprint to the window was prompted by the antecedent condition of a boring classroom exercise and the appearance of an exciting stimulus (the airplane). It was maintained, according to the model, by the rewarding effect of viewing the airplane, which was much greater than the punishing effect of Mrs. Pease's warnings or even of being sent out of the room. In a behavior modification program, the usual strategy is to increase the rewards for engaging in alternative behaviors under the same antecedent conditions. Thus, if the reward for remaining seated can be made to exceed the reward for viewing the airplane, then, theoretically, the child will be more inclined to remain seated.

Learning alternative behaviors may involve more than just adjusting incentives or antecedents. Some skills may have to be taught directly. A child who has never practiced asking politely for a toy, as opposed to grabbing it, will need to learn this skill before he or she can respond to incentives to implement it. Direct behavioral skills training usually follows a standard sequence. First, the child receives an explanation of the skill; next, he observes a model demonstrating the skill; then, he practices performing the skill, first through role-playing in the training session and then through real-life behavioral practice. After the skill is learned, both parents and teachers can prompt the child to employ it in a given situation. For example, after the skill of sharing is well learned, the parent can prompt the child to "share" in a situation calling for cooperation with another child, and then praise the child appropriately for so doing. Theoretically, the more the skill is employed and reinforced in a variety of appropriate circumstances, the more the child will use the skill spontaneously, receiving naturalistic positive reinforcement from the environment in the form of friendly or gratified reactions from others.

Thus, Dr. Remoc outlined for Billy's parents four treatment components: (a) stimulant medication, (b) parental training in the use of behavioral modification principles, (c) social skills training for Billy, and (d) token economy in the school environment.

Research suggests that a combination of drug therapy and behavioral therapy is often helpful to children with ADHD (Parker, Wales, Chalhoub, & Harpin, 2013).

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Dr. Remoc explained that stimulant medication was important for increasing Billy's attention and impulse control; this, in turn, would enhance his capacity to do what was expected of him, both in general and in response to the behavior modification plan. The parental training, she explained, would acquaint Marie and Stan with principles of behavior modification, allowing them to deal optimally with any remaining behavior problems, as well as with Billy's behavior during periods when he might not be taking medication (so-called drug holidays). Social skills training seemed necessary, Dr. Remoc said, in light of Billy's problems in getting along with other children and in cooperating at home. Finally, she explained that, since a large portion of Billy's difficulties occurred in the classroom, it would be helpful for both Billy and Mrs. Pease to have a behavioral program operating in that environment. Dr. Remoc spoke to Mrs. Pease about the matter, and the teacher was agreeable to instituting a program provided it wasn't too burdensome; but given Billy's problems up to now, Mrs. Pease said that almost anything seemed less burdensome than simply doing nothing.

Stimulant medication After ruling out any physical problems (e.g., motor tics) that might preclude the use of stimulant medication, Dr. Remoc discussed the basic rationale for use of the medication with Billy's parents. She explained that the medication had been used for years to treat children with symptoms of inattention, impulsivity, and hyperactivity. She also explained that the medication is not a tranquilizer. On the contrary, the medication stimulates the central nervous system for 3 to 4 hours after it is ingested. This stimulant effect, she explained, seems to increase the capacity of children with ADHD to maintain their attention and to control their impulses. As a result, they are better equipped to meet the requirements of school, home, and a social life.

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In additional group sessions, Marie and Stan were progressively introduced to the ABC principles of behavior management. Among the points they found helpful was the idea that parents can become unduly focused on discouraging problem behaviors through criticism or punishments; the punishments, in turn, are often ineffective and just fuel resentment. A different approach, Dr. Grendon explained, was to think in terms of the alternative behaviors (B) that parents would like their children to perform under the same circumstances (A), and to provide praise and rewards (C) accordingly.

Billy's parents explored this principle in greater detail in individual sessions with the group leader, as they felt it applied particularly to the way they were handling (or mishandling) many situations with their son. For example, a regular problem with Billy was that he interrupted his mother when she was on the phone. She had to lock herself in the bedroom in order to have a coherent conversation with a pediatrician, repairman, friend, or relative. Often, even locking herself in was not enough to insure peace and quiet, as Billy might start pounding on the door in order to convey his demands, in spite of repeated scolding.

To address the problem, the psychologist asked Billy's parents to think of specific, alternative actions they would like Billy to carry out under these conditions. At first, all Marie and Stan could think of was "not interrupt," but Dr. Grendon reminded them of the stipulation that they think of a tangible alternative behavior for Billy to carry out under the same circumstances. After some discussion, they came up with the idea of having Billy write down his requests whenever his mother was on the phone. They noted that their son loved to write notes, so this might be a tangible thing he could do to satisfy his demands temporarily, and allow him to resist interrupting. With further discussion, Billy's parents and the psychologist worked out the following procedure: Before Marie made a call or answered the phone, she would hand Billy a special message pad, reminding him to write down any questions or problems that he had while she was talking; Marie would then give prompt attention to Billy's messages as soon as she was off the phone; finally, if Billy succeeded in using the pad, instead of interrupting, for the majority of calls in a given week (his mother would keep a checklist to tabulate Billy's compliance), he would be given a special reward on the weekend (such as eating out at his favorite restaurant).

Children whose parents or other close relatives had ADHD are more likely than others to develop the disorder (APA, 2013).

This was the first behavioral plan that Billy's parents put into effect, and after ironing out a few wrinkles, Billy was able to follow the procedure, even to the point of fetching the message pad himself whenever the phone rang. Eventually, he resisted interrupting almost entirely.

Other behavioral plans were then put into effect for other matters, such as household chores and homework completion. In both cases, Billy's parents found an effective formula by reversing antecedent conditions and behavioral consequences. For example, they saw to it that television viewing would always follow the completion of homework, rather than vice versa.

Social skills training Marie and Stan also enrolled their son in a class where he could learn skills for getting along better with other children. The class was composed of other children receiving treatment at the center for ADHD.

About half of children with ADHD, combined type, also have oppositional defiant disorder. Conduct disorder is present in about 25 percent of children and adolescents with ADHD, combined type (APA, 2013).

During each class the focus was on learning one particular social skill, such as sharing. First, the group leader explained the concept of sharing, and then asked the children their own opinions of what it meant. Next, she demonstrated the implementation of the skill with several children in different, contrived, situations: sharing toys, sharing food, or sharing a seat. Then each child came up, one by one, and practiced sharing in each of these hypothetical circumstances. The group leader and the other children then gave the child corrective feedback on how well he or she had shared. Similar classes were devoted to other social skills, such as cooperating, speaking calmly, making polite requests, and following rules.

Billy's parents and Mrs. Pease received written guidelines for discussing the social skills training sessions at home and in school and for guiding Billy to use the skills in everyday situations. Many of the opportunities to prompt him arose at home in his interactions with his 5-year-old sister. With continued prompting, Billy started to share things with his sister spontaneously on many occasions, which increased the harmony in the household.

Because of these successes, and Billy's additional successes using the social skill of cooperation, Marie and Stan finally felt confident enough to invite one of Billy's schoolmates over for a play date. The last time a child had come to their house, it had been a disaster, as Billy had refused to relinquish any of his toys to his guest. Needless to say no child was likely to return after such treatment. Although this play date was far from perfect and needed Marie's constant attention, it turned out to be reasonably pleasant.

Token economy The token economy is an element of the ABC behavior modification system; it uses tokens, rather than immediate, tangible rewards, to reinforce desired behavior. The tokens are exchanged for an actual reward at a later time. Token reinforcement is particularly advantageous for ADHD children, who can get so wrapped up in the attractiveness of the actual reward that they find it difficult to remain mindful of the behaviors that the reward is designed to encourage.

Mrs. Pease thought that some form of behavior modification might assist her in regulating several of Billy's behaviors. Accordingly, she and the therapist decided to focus on encouraging three specific school behaviors in Billy: raising his hand to answer questions (instead of blurting out answers), staying in line, and finishing in-class assignments. As token reinforcers, Mrs. Pease would use dinosaur stickers affixed to a piece of paper, with the number of stickers in each of three columns reflecting Billy's compliance with the three behavioral objectives. According to the plan (explained to Billy in a meeting with his parents and Mrs. Pease), Mrs. Pease would keep track of Billy's compliance separately for the morning period and the afternoon period, and award him one sticker if he achieved full compliance with a given behavioral objective in a given period. He would receive his morning stickers at lunchtime, and his afternoon stickers upon dismissal. The stickers could then be redeemed at home for special privileges (going out to eat, going out to a movie, an extra half hour of television or a video game, and so forth).

Billy liked the idea of getting stickers so he agreed to the plan. On the first morning of the program, he received only one sticker: for finishing his assignment within the allotted time (he had blurted out a couple of answers and had wandered off the line going to art class). In the afternoon, however, he received two stickers: for staying in line and for finishing assignments. After a few more days on the program, Billy was averaging five stickers per day, a level that he was able to maintain, and which reflected a substantial improvement in all three areas.

Within 2 months of the combined treatment program, Billy had improved considerably. He was conforming to classroom rules by staying in his seat, not talking, and finishing his assignments most of the time. When he deviated, he required only gentle reminders from Mrs. Pease to get back on track. Similarly, at home, he was less frenetic. He could carry out instructions more dependably, and he usually accepted his household responsibilities without too much argument. In peer relations, Billy was still learning the culture of give and take, but with periodic guidance and further experience he was becoming increasingly effective. As a result, he was getting along well with his sister, and he now had a couple of friends who would come over regularly to play, and who invited him to their homes as well.

In the DSM-II (1968), ADHD was known officially as hyperkinetic reaction of childhood, and it was commonly referred to simply as hyperactivity or hyperkinesis (the latter term from the Greek for *over* and *motion*).

Unfortunately, after about 4 months of this improved functioning, Billy began to slip into some of his old patterns both at home and at school. His parents felt that the problems had to be addressed, as he seemed to be losing ground. The recurrence of problems seemed to coincide with the birth of his new baby brother. In a discussion with Dr. Remoc, Billy's parents wondered whether their total preoccupation with the birth of the baby, and their consequent inability to implement many features of the behavioral program (including not following through on redeeming Billy's dinosaur stickers), was responsible for the slippage in his progress. A renewed effort by the parents to apply the behavioral program, and an adjustment in the dosage of Billy's medication, helped him to regain his previous achievements within a few weeks.

Epilogue

After 18 sessions of group parental training (over a 6-month period), 6 sessions of individual parent training, 6 sessions of social skills training for Billy, and 4 meetings at school with Billy's teacher, his ADHD symptoms stabilized at an improved level.

In addition to being viewed negatively by peers and parents, children with ADHD often view themselves negatively and have significantly lower self-esteem than children without ADHD (Mazzone et al., 2013; McCormick, 2000).

Billy reported that he was happier at school and enjoying time at home with his family. He still took medication and saw Dr. Remoc for a checkup every 4 months. Billy's parents planned to give Billy a drug holiday in the summer and felt confident of their ability to manage his behavior during that time with just the behavioral techniques. They were a family again—sometimes laughing, sometimes crying—but, overall, enjoying their lives and activities together.

Assessment Questions

1. When did Billy's parents begin to suspect that Billy's "dynamo" personality might be a behavioral disorder?
2. Describe at least 3 behaviors that suggest that Billy's activity level is beyond what's normal for a child his age.
3. When did Billy's family finally receive more objective feedback about Billy's behavior?
4. How long did it take for Billy's teachers to suggest professional consultation regarding Billy's disruptive behavior?
5. Why did Dr. Remoc, the therapist at the Child Development Center, feel it was important to conduct a thorough assessment of Billy before diagnosing ADHD?
6. Describe at least 4 different assessment techniques used by Dr. Remoc to test for ADHD.
7. What were the assessment results that led Dr. Remoc to diagnose ADHD in Billy?
8. Why did Dr. Remoc decide to use both medication and behavioral therapy to treat Billy?
9. What are some potential problems with prescribing medication as the only treatment option for children with ADHD? What are some side effects of stimulant medications?
10. Describe the ABC model of behavioral therapy and give examples.
11. What were the four treatment components outlined for Billy's treatment?
12. Why is it important for Billy's parents to be a part of the treatment plan?
13. Describe the ABC plan that Billy's parents developed to control his "interrupting" behaviors.
14. What other childhood behavioral diagnoses are often comorbid with ADHD?
15. Describe the concept of a token economy.
16. What event disrupted Billy's progress?
17. What was the ultimate outcome after 18 sessions of group parental training?

Attention-Deficit/ Hyperactivity Disorders

REBECCA J. HAMBLIN AND ALAN M. GROSS

OVERVIEW

Attention-deficit/hyperactivity disorder (ADHD) is one of the most well-studied child psychopathologies, and a tremendous amount of research has been published related to its etiology, primary problems and impact, demographic and contextual variability, and treatment methods. The label has also received heavy criticism as being an artificial U.S. construct for labeling normally exuberant children; however, early clinical descriptions of attention impairments date to 1798 (Barkley, 2006; Palmer & Finger, 2001). Attention-deficit/hyperactivity disorder symptoms are reported to occur in all countries in which ADHD has been studied (Polanczyk, de Lima, Horta, Biederman, & Rohde, 2007). Despite early conceptualization of the disorder as resulting from poor character or wayward parenting, ADHD is now seen as a neurologically based disorder (Barkley, 2006).

ADHD is one of the most common disorders of childhood, affecting an estimated 3% to 5% of children in the United States, and is the most common reason for clinical referral of children to psychiatric clinics (American Psychiatric Association, 2000). Children with ADHD display symptoms of inattention, impulsivity, and hyperactivity across multiple situations beginning at an

early age. The frequency of these behaviors is out of bounds with respect to normal development, and symptoms cause significant impairments in family and peer relationships, academic functioning, and emotional well-being (Barkley, 2006).

This chapter will provide an overview of the core symptoms and current diagnostic features of the disorder, describe its prevalence and epidemiology, impairments to daily life, comorbid disorders, and long-term outcomes. The next sections will describe various psychosocial treatments that have been empirically explored, and will review the most current research on treatment efficacy. The chapter concludes with a summary and list of evidence-based treatments for ADHD.

CORE SYMPTOMS

Inattention

Relative to children without ADHD, those with the disorder have difficulty maintaining attention or vigilance in responding to environmental demands. That is, they have trouble sustaining effort in tasks, particularly for activities that are tedious, difficult, or with little intrinsic appeal (Barkley, 2006). In the classroom setting, impairment in attention and task vigilance may be evident in inability to

complete independent assignments or listen to class instruction. In unstructured settings, inattention may be apparent in frequent shifts between play activities. Parents and teachers report that these children have difficulty focusing, are often forgetful, lose things, frequently daydream, fail to complete chores and schoolwork, and require more redirection and supervision than others the same age. Children with high levels of inattentive symptoms in the absence of hyperactive or impulsive symptoms may also have a different kind of attention problem marked by sluggish cognitive processing and deficiency in selective attention (Barkley, 2003).

Hyperactivity and Impulsivity

Hyperactivity and impulsivity almost always co-occur and are therefore considered a single dimension of ADHD. The hyperactive-impulsive dimension of the disorder is often conceptualized as behavioral disinhibition. Hyperactivity is displayed in fidgeting, restlessness, loud and excessive talking, and excessive levels of motor activity. Impulsive behaviors include interrupting or intruding on others, difficulty waiting and taking turns, and blurting out without thinking. Children and adolescents with hyperactive-impulsive features are described by caregivers as reckless, irresponsible, rude, immature, squirmy, and on the go (APA, 2000; Barkley, 2006).

Diagnostic Criteria and Subtypes

Diagnostic criteria for ADHD are defined by the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR)* as presence of several symptoms in inattention, hyperactivity-impulsivity, or both, as seen in Table 10.1 (APA, 2000). Individuals with symptoms in both domains are classified as having ADHD, combined type (ADHD-C). Those who manifest multiple symptoms of inattention but no or few hyperactive-impulsive characteristics are diagnosed with ADHD,

predominately inattentive type (ADHD-PI). The ADHD, predominately hyperactive-impulsive type (ADHD-PHI) describes individuals with behavioral disinhibition without significant symptoms of inattention. Table 10.1 contains the complete diagnostic contained in the *DSM-IV-TR*.

PREVALENCE AND DEMOGRAPHIC VARIABLES

Nearly 5 million children in the United States are diagnosed with ADHD (Centers for Disease Control and Prevention [CDC], 2005). Prevalence rates of ADHD translate, on average, to one to two children in every classroom in America (APA, 2000). The most commonly diagnosed subtype is ADHD-C, representing about 50% to 75% of children diagnosed. Another 20% to 30% are classified with ADHD-PI, while fewer than 15% are diagnosed with ADHD-PHI. It is thought that ADHD-PHI may be a developmental precursor to the combined type, seen in preschool-age children who have not yet manifested symptoms of inattention.

Boys are 2 to 9 times more likely than girls to be diagnosed with ADHD (APA, 2000). The gender discrepancy is more pronounced in clinic referred than in community samples. Higher rates among males may be at least partially attributable to a stronger tendency for males to present ADHD-C and comorbid disruptive behavior disorders, which are more likely to rise to the level of clinical attention. Girls are more likely to have ADHD-PI and comorbid disorders are more likely to be internalizing disorders. Because symptoms of ADHD-PI and emotional disorders are more likely to go unnoticed, girls with ADHD may be underidentified and undertreated (Biederman, 2005).

ADHD is present among all socioeconomic levels and ethnic groups within the United States, though prevalence and symptoms vary by gender, age, and ethnicity (Barkley, 2003;

TABLE 10.1 DSM-IV-TR Criteria for Attention-Deficit/Hyperactivity Disorder**I. Either A or B:**

- A. Six or more of the following symptoms of inattention have been present for at least 6 months to a point that is inappropriate for developmental level:

Inattention

1. Often does not give close attention to details or makes careless mistakes in schoolwork, work, or other activities.
2. Often has trouble keeping attention on tasks or play activities.
3. Often does not seem to listen when spoken to directly.
4. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the work-place (not due to oppositional behavior or failure to understand instructions).
5. Often has trouble organizing activities.
6. Often avoids, dislikes, or doesn't want to do things that take a lot of mental effort for a long period of time (such as schoolwork or homework).
7. Often loses things needed for tasks and activities (e.g., toys, school assignments, pencils, books, or tools).
8. Is often easily distracted.
9. Is often forgetful in daily activities.

- B. Six or more of the following symptoms of hyperactivity-impulsivity have been present for at least 6 months to an extent that is disruptive and inappropriate for developmental level:

Hyperactivity

1. Often fidgets with hands or feet or squirms in seat when sitting still is expected.
2. Often gets up from seat when remaining in seat is expected.
3. Often excessively runs about or climbs when and where it is not appropriate (adolescents or adults may feel very restless).
4. Often has trouble playing or doing leisure activities quietly.
5. Is often "on the go" or often acts as if "driven by a motor."
6. Often talks excessively.

Impulsivity

7. Often blurts out answers before questions have been finished.
8. Often has trouble waiting one's turn.
9. Often interrupts or intrudes on others (e.g., butts into conversations or games).

II. Some symptoms that cause impairment were present before age 7 years.**III. Some impairment from the symptoms is present in two or more settings (e.g., at school/work and at home).****IV. There must be clear evidence of clinically significant impairment in social, school, or work functioning.****V. The symptoms do not happen only during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder. The symptoms are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).****Based on these criteria, three types of ADHD are identified:**

IA. ADHD, *Combined Type*: If both criteria IA and IB are met for the past 6 months.

IB. ADHD, *Predominantly Inattentive Type*: If criterion IA is met but criterion IB is not met for the past six months.

IC. ADHD, *Predominantly Hyperactive-Impulsive Type*: If criterion IB is met but criterion IA is not met for the past 6 months.

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Cuffe, Moore, & McKeown, 2005). World-wide prevalence estimates typically range from 3% to 8% of the world population. Estimates vary by geographic region, but this is thought to be primarily due to differences in diagnostic criteria and study methodologies (Biederman, 2005; Polanczyk et al., 2007).

Studies of current and lifetime prevalence rates in the United States indicate that Hispanics and Latinos have lower risk for ADHD than either African Americans or Caucasians. Some studies show a higher rate of ADHD diagnosed among African Americans than in Caucasians, but these differences are not always statistically significant (Breslau et al., 2006; Cuffe et al., 2005). Lower socioeconomic status is related to higher incidence of ADHD. This difference may be attributable to lower socioeconomic status being a risk factor for development of the disorder; additionally, parents of children with ADHD are likely to also have ADHD, and therefore may have low educational attainment and occupational difficulties (Barkley, 2003; Cuffe et al., 2005). Results of the 2003 National Survey of Children's Health (CDC, 2005) showed that ADHD was more commonly diagnosed among children whose parents had obtained a high school education than those whose parents had achieved more or less education. Children in ethnic minority populations and uninsured children were less likely than others to receive medication treatment. Finally, prevalence of reported ADHD increased with age and was greater for children 9 years and up than for younger children (CDC, 2005; Visser, Lesesne, & Perou, 2007).

IMPACT OF ADHD

Social

Children with ADHD experience a great deal of difficulty in their family and peer relationships. They tend to have more conflict with their

parents over issues like chores and homework. Parents are more likely to be harsh and inconsistent in their discipline, and children respond with greater hostility and avoidance of their parents than their non-ADHD peers. This pattern of negative interaction results in strained and distant parent-child relationships (Anastopolous, Sommer, & Schatz, 2009; Wehmeier, Schacht, & Barkley, 2010).

Children and teens with ADHD also engage in more conflict with their siblings than do other children of the same age. Externalizing behavior problems seem to be one of the major sources of this conflict; when comorbid disruptive behavior disorders are present, conflict increases substantially. While children with ADHD generally do not rate their sibling relationships as less close than do other children, the presence of comorbid internalizing or externalizing disorders has been shown to relate to less warmth and closeness in these interactions (Mikami & Pfiffner, 2008).

Social skills deficits and conflictual interactions extend to peer relations as well. A majority (70%) of these children have been found to have serious problems in peer and friend relationships. Younger children with ADHD can be difficult playmates as they have a harder time waiting and taking turns, and paying attention to and following rules of games. Those with ADHD-C in particular tend to interact in an impulsive, intrusive manner, and are disruptive (Wehmeier et al., 2010). In contrast, children with ADHD-PI are often characterized as being socially passive, shy, and withdrawn (Barkley, 2006). As a result of these skill deficits, they tend to be less well-liked, experience more frequent rejection, and have fewer reciprocal friendships than their peers. Those with oppositional defiant disorder (ODD) or conduct disorder (CD) display the most serious social problems; for these youth, most do not develop any close friendships by the third grade, and in adolescence are more likely to become bullies or victims of bullies (Wehmeier et al., 2010). Treatment with psychostimulant medication frequently does

not improve social problems even when it decreases aggression and other negative behaviors (Pelham & Fabiano, 2008).

Academic

The academic environment may be the most challenging context that students with ADHD have to navigate. Symptoms appear dramatically in the school setting, where children are required to remain vigilant to instruction and tasks at longer intervals than at home or in social settings (Barkley, 2003). Nearly all children with ADHD experience significant impairment in academic achievement throughout their school years, and on average score a full standard deviation below classmates on achievement tests (G. J. DuPaul & Stoner, 2003; Loe & Feldman, 2007). Problems with inattention manifest in increased off-task behavior, and increased time to return to an activity after being distracted, resulting in decreased productivity. Children with ADHD have difficulty completing homework and assignments, organizing materials and tasks, and planning completion for long-term projects. Hyperactivity and impulsivity appear in such behaviors as getting up without permission, disturbing others, talking noisily, and rule-breaking, which lead to punishments and negative interactions with teachers. They may spend less time in the classroom as a result of frequent disciplinary action, and thus miss out on instruction. It is not surprising that children with ADHD are at higher risk than their peers for grade retention, suspension, expulsion, and school drop out (Barkley, 2006; G. J. DuPaul et al., 2006).

Emotional

Adolescents and children with ADHD experience rejection, failure, frustration, and conflict on a day-to-day basis. The ADHD-related impairments often take an emotional toll on these children as they navigate a variety of social and performance situations, often facing

criticism from all sides. They may learn to anticipate failure instead of success, developing a sense of learned helplessness and dejection (Wehmeier et al., 2010). They also tend to have poorer self-perception than their peers and rate themselves more negatively on social and communication skills (Klimkeit et al., 2006). Related to the impairment in behavioral inhibition, children with ADHD are less able to moderate or regulate their emotions and to suppress their external emotional reactions. Consequently, they may experience extreme emotional reactions to stressful situations (Barkley, 2006).

COMORBID DISORDERS

Children with ADHD frequently have one or more comorbid psychiatric disorders. Recent studies suggest that around 80% of children and adolescents with ADHD have at least one comorbid disorder, and over half have two or more (Biederman, Petty, Evans, Small, & Faracone, 2010; Cuffe et al., 2005). The most common pattern of comorbidity seen in children with ADHD is that of ADHD-C with other externalizing behavior disorders. About half of youth diagnosed with ADHD also meet diagnostic criteria for ODD or CD. ODD is characterized by a pattern of defiant behavior and rule-breaking, including noncompliance with direct commands, denying responsibility for actions, and arguing. CD is more severe, defined by a pattern of aggression, destruction, lying, stealing, or truancy (APA, 2000).

Internalizing disorders also commonly co-occur with ADHD. About 30% of youth with ADHD have a comorbid anxiety disorder, and about 25% have a mood disorder (Biederman, 2005). Rates of anxiety disorders may be slightly higher in individuals with ADHD-PI. Anxiety disorders are found to reduce the risk of impulsiveness compared to ADHD without anxiety. As noted before, children with ADHD experience considerable rejection and failure;

it may be that high rates of comorbidity are related to such a negative learning history (Barkley, 2003; Wehmeier et al., 2010). ADHD and mood disorders may share a common genetic factor predisposing an individual to both disorders, but no genetic link or familial pattern has been found for comorbidity of anxiety disorders (Barkley, 2003; Biederman, 2005). Learning disabilities, tic disorders, and sleep disorders and disturbances are other problems frequently seen in children with ADHD (Barkley, 2003).

DEVELOPMENTAL COURSE

Although usually diagnosed in childhood, ADHD is increasingly conceptualized as a chronic disorder, often persisting through adulthood. Hyperactivity and impulsivity tend to present in the preschool years, at around age 3 to 4 years, and symptoms of inattention typically appear slightly later at 5 or 6 years. Some evidence suggests that ADHD-PI has a slightly later onset than ADHD-C, and symptoms may not occur until age 8 or later. Almost all cases of ADHD have an onset prior to age 16 years (Barkley, 2003, 2006).

Hyperactivity symptoms begin to decline in adolescence, and at this time take on a more internalized subjective sense of restlessness rather than external motor activity. For this reason, ADHD was previously thought to be a remitting disorder in which most children outgrew their symptoms; however, while hyperactivity tends to decline, symptoms of inattention typically do not, and most children with ADHD continue to have impairments as adolescents and as adults. Symptoms of ADHD decline in a similar manner for males and females (Monuteaux, Mick, Faraone, & Biederman, 2010). A longitudinal study that followed boys with ADHD showed that 78% of participants continued to experience clinically significant symptoms as young adults (Beiderman et al., 2010). Adults with ADHD also continue to display high rates of

psychiatric comorbidity relative to comparisons, with higher lifetime prevalence for mood and anxiety disorders, substance use disorders, externalizing disorders, bulimia nervosa, Tourette's, and language disorders (Beiderman et al., 2010; Kessler et al., 2006). For adults, anxiety disorders are the most common comorbid diagnoses; estimates suggest that around 50% of adults with ADHD also have an anxiety disorder (Biederman, 2005).

TREATMENT APPROACHES

Treatments for ADHD proliferate and include such various approaches as behavioral parent training, academic interventions, classroom management, summer treatment programs, neurofeedback, psychostimulant medication, and cognitive behavior therapy, among others. The two most empirically tested interventions for ADHD are psychostimulants and behavior contingency management, which is usually delivered as parent or teacher training.

Administration of psychotropic medication, generally in the form of central nervous system stimulants, is the most commonly employed treatment method for ADHD. Evidence for the effectiveness of psychostimulant medication for ADHD is extensive; it is considered the gold standard of treatment as it results in large improvements in the short term for ADHD symptoms of inattention, hyperactivity, and impulsivity and in some related impairments, such as aggression, compliance, and productivity at school. About 80% of individuals treated with psychostimulants show some improvement in symptoms, but the remaining portion are considered nonresponders to medication. Among those who show a positive response, most do not achieve normalized functioning with medication alone. Still others experience significant adverse effects, such as dry mouth, loss of appetite, nausea, and insomnia and prefer not to take medications for those reasons. Parents commonly prefer

alternative treatment options. Additionally, psychostimulants may not be adequate in addressing all significant life impairments, such as parent-child relationships, social skills and peer relations, long-term academic achievement, and comorbid disorders. Because of these limitations, a number of psychosocial interventions for ADHD have been developed and investigated both as stand-alone therapies and as adjunctive treatments to psychostimulant medication (Biederman, 2005; Pelham & Fabiano, 2008).

The second most commonly implemented treatment is behavior modification, also known as contingency management, usually delivered as training in behavior techniques to parents and teachers. For this treatment, parents and teachers are instructed by a professional in methods to systematically administer consequences to reduce unwanted behavior and increase desired behavior. By contrast, direct contingency management is delivered directly to children by clinicians, and also involves shaping consequences to promote desired behavior. For children with ADHD, direct contingency management is delivered in summer treatment programs. A combination of these behavioral strategies is frequently used to maximize effectiveness and generalize gains.

BEHAVIOR MODIFICATION

Behavior contingency management/behavior modification was initially used for children with hyperactive and inattentive symptoms because they had successfully been implemented with children with intellectual disabilities. Their use was originally driven by the idea that faulty learning or social contingencies were the cause of the disorder, and that correcting the contingencies by training the parents would produce lasting changes. Although social learning is not to blame for the symptoms and impairments that arise from ADHD, training parents and teachers to

manipulate antecedents and consequences is a technique that may serve to cue and motivate appropriate behavior (Antshel & Barkley, 2008). Antecedent modification involves using cues to prompt desired behavior (e.g., effective commands, visual reminders). Reinforcement contingencies are created to increase desired behaviors, such as compliance with commands, completion of schoolwork, and so forth, and are often implemented in the form of point systems or token economies. Punishments are applied to reduce inappropriate behaviors such as arguing and aggression; a common punishment for young children is time-out. Parents and teachers are trained in the use of operant conditioning techniques in the child's natural environment. Behavior management strategies are not likely to completely eliminate symptoms and impairments of such a strongly neurologically based disorder; however, if delivered consistently and appropriately, behavior management strategies that are focused on immediate and significant relationships and environmental settings often reduce some of the more devastating psychosocial consequences of ADHD through improving parent-child relationships, social functioning, academic achievement, and reducing or eliminating comorbid psychiatric problems. No one treatment approach is likely to be adequate in addressing every area of difficulty for a child with ADHD.

Behavioral parent training (BPT) is the most frequently implemented behavioral intervention for ADHD. Several manualized BPT programs have been effective in the treatment of ODD and have been used in children with ADHD and with comorbid ADHD and ODD. Barkley's (1987) *Defiant Children* program has been adapted for use with ADHD and is described here as a representation of a typical program; similar programs include *Community Parent Education Program*, and the *Incredible Years Series (IYS)* (Cunningham, Bremner, & Secord, 1997; Webster-Stratton, 1992).

Barkley's (1987) BPT program consists of 8–12 weekly training sessions taught by a

mental health professional either to groups or individual parents. Each session focuses on a different behavioral technique that parents then apply at home. Treatment begins with psychoeducation on ADHD, behavior problems, and basic learning/behavior principles. Parents are taught to increase positive attention by spending daily one-on-one special time with the child. Attention is used to reinforce compliance and independent play. Increasing compliance is one of the more important targets for children with ADHD (even those without ODD) because parents so often have to cue appropriate behavior (e.g., “stop at the curb,” “look at your homework”). The program incorporates the use of a token economy for increasing individualized target behaviors and teaches use of appropriate time-out as a mild punisher for misbehavior. A daily report card system between parents and teachers is implemented to generalize behavioral gains to the school environment. Table 10.2 provides an example sequence of steps in a BPT program.

Consensus Panel Recommendations

Expert panels created among medical and psychiatric associations and government health organizations periodically review existing empirical research and develop guidelines to aid practitioners in choosing the most well-established, scientifically supported treatments

for ADHD. Published guidelines include recommendations of best practice for assessment, treatment, and treatment maintenance of ADHD. The American Academy of Child and Adolescent Psychiatry (2007) practice parameters for the assessment and treatment of ADHD recommend psychopharmacological treatment with an FDA-approved psychostimulant as the first line of treatment for most individuals with ADHD. Behavior therapy, including BPT and behavioral classroom management, is suggested as the first-line treatment option for cases in which ADHD symptoms are mild or in which parents reject treatment with psychostimulants. Behavior therapy is recommended as the second intervention alternative when an individual does not respond to an FDA-approved drug. A combination of treatment with medication and behavioral intervention is recommended for children with less than optimal response to medication and for those with comorbid psychiatric disorders or significant impairments in daily functioning. These recommendations include behavior therapy as treatment consideration for a considerable portion of children and adolescents with ADHD.

The National Institute for Health and Clinical Excellence (NICE) of the United Kingdom guidelines for assessment and treatment of ADHD (NICE, 2009) endorse behavioral treatments for all children and adolescents diagnosed with ADHD. Group parent training

TABLE 10.2 Sequence of Sessions for Behavioral Parent Training

1. Overview of ADHD and ODD and behavior management principles
2. Establishing special time, increasing positive attention
3. Attending to appropriate behavior (e.g., compliance) and ignoring minor, inappropriate behaviors (e.g., whining)
4. Giving effective commands and reprimands
5. Establishing and enforcing rules and contingencies
6. Teaching effective time-out procedures
7. Home token economy system for rewards and sometimes response costs
8. Enforcing contingencies in public places; planning ahead for misbehavior outside the home
9. Implementing a daily school behavior report card
10. Troubleshooting techniques, managing future misconduct
11. One month booster session

programs are recommended as the first-line treatment for all preschool-age children. For school-age children and adolescents with moderate levels of symptoms and psychosocial impairments, the NICE guidelines recommend a combination of a parent training program and behavioral interventions implemented in the classroom. Medication is recommended as an adjunctive therapy when school-age children and adolescents do not show adequate response to behavioral and psychological interventions. In instances in which symptoms and impairments are severe, the guidelines recommend a combination of psychostimulant medication, parent training, and classroom behavior management. The NICE guidelines state that pharmacological ADHD treatments should always be accompanied by a comprehensive treatment plan that includes behavioral, psychological, educational, and interventions.

Randomized Controlled Trials

Development of clinical practice guidelines is based upon a review of empirical studies of various treatment methods and comparison of cumulative support of each therapy. Particular weight is given to randomized controlled trials (RCTs), which compare a particular treatment method with control groups and alternative treatments. A number of early RCTs that compared BPT to wait-list controls established a base of empirical support for BPT in the treatment of children with ADHD (Gittelman-Klein et al., 1980; Horn, Ialongo, Greenberg, Packard, & Smith-Winberry, 1990; Horn et al., 1991; Pisterman et al., 1989). These studies generally showed BPT to reduce problem behaviors in children as rated by parents, improve parent-child interactions, and decrease parental stress (Chronis, Chacko, Fabiano, Wymbs, & Pelham, 2004).

For example, one early study examined the effectiveness of BPT for ADHD symptoms and parental stress among families of school-aged children randomly assigned to either a

BPT group or wait-list control. The BPT group received nine sessions of BPT training. Pre- and postmeasures of parent and child functioning were taken. The BPT participants showed significant gains in comparison to the control group on measures of parent-reported child ADHD symptoms, parenting stress, and parenting self-esteem. These gains were shown to be maintained in a 2-month follow-up measure (Anastopoulos, Shelton, DuPaul, & Guevremont, 1993).

A more recent study compared the effectiveness of BPT as adjunct to routine care with routine care alone (treatment as usual). Children ages 4 through 12 years receiving care in an outpatient clinic for treatment of ADHD were randomly assigned to either 5 months of BPT in conjunction with routine clinical care ($N=47$) or to routine care alone, which consisted of family support and medication treatment as indicated (BPT consisted of 12 group training sessions). Parent-reported ADHD symptoms, conduct problems, internalizing symptoms, and parenting stress were assessed for both groups pre- and posttreatment, and a follow-up assessment of the BPT group was conducted 25 weeks after treatment. Both treatment groups improved on all measures. The BPT group showed larger improvements for conduct problems and internalizing symptoms than the routine care group, but no group differences were found for either parenting stress or ADHD symptoms. Results were equivalent for children receiving medication and not receiving medication, although those in the BPT treatment received less medication treatment. The researchers suggested that BPT enhances the effectiveness of routine clinical treatment for children with ADHD for behavioral and internalizing problems, but not for ADHD symptoms or parenting stress. They also suggest that BPT may limit the need for medication treatment (Van den Hoofdakker et al., 2007).

As a result of consistent positive findings regarding the effectiveness of BPT for enhancing parent behavior management skills and

reducing child externalizing behavior, attention has increasingly focused on enhancing BPT programs to increase effectiveness for core ADHD symptoms and to address correlates associated with poor treatment response, such as low socioeconomic status, parental psychopathology, and single-parenting. For example, single mothers of children with ADHD face special challenges and barriers to receiving treatment, and tend to show decreased treatment response to BPT. In response to this special need, an enhanced version of BPT was created, including additional treatment components addressing treatment influences identified in this population (e.g., low-intensity, didactic format). In order to evaluate the efficacy of the program, 120 single mothers of 5- to 12-year-old children with ADHD were randomly assigned to a wait-list control group, a traditional behavioral parent training program, or an enhanced behavioral parent training program—the Strategies to Enhance Positive Parenting (STEPP) program. Both traditional BPT and STEPP resulted in significant improvements in several areas of functioning, including oppositional behavior, and parent-child relations. While both treatments were superior to the control group, the STEPP group demonstrated superior outcomes to the standard BPT group for these domains (overall mean effect sizes were 0.36 and 0.44 across all outcomes). Participants in the STEPP program attended more frequently, were more engaged, and were more satisfied with treatment compared to single mothers in the traditional BPT program. Similar to other studies of BPT, the BPT and STEPP programs in this study did not significantly improve core ADHD symptoms and improvements were not maintained at 3-month follow-up (Chacko et al., 2009).

A similar BPT program was designed to increase fathers' engagement in BPT. Fathers of 6- to 12-year-old children with *DSM* diagnoses of ADHD were randomly assigned to attend either a standard BPT program or the

Coaching Our Acting-Out Children: Heightening Essential Skills (COACHES) program. The COACHES program included BPT plus sports skills training for the children and parent-child interactions in which the fathers practiced parenting techniques in the context of a soccer game. Children's ADHD and ODD symptoms were similarly improved across groups, but fathers who participated in the COACHES program were significantly more engaged in the treatment process, as demonstrated by more frequent punctuality and attendance of sessions, increased compliance with homework assignments, and greater consumer satisfaction on posttreatment measures (Fabiano et al., 2009). The studies demonstrating benefits of enhanced BPT programs indicates the possibility that tailoring psychosocial treatments to meet individual client needs may be an effective means of increasing treatment compliance and may result in larger treatment gains for children targeted in the interventions.

A number of studies have shown BPT to result in greater improvement for conduct problems and internalizing problems than for core ADHD symptoms (inattention, hyperactivity) among school-aged children (Barkley et al., 2000; Chacko et al., 2009; Corcoran and Dattalo, 2006; MTA, 1999; Van den Hoofdakker et al., 2007). A handful of enhanced BPT programs have shown more favorable results on both ADHD symptoms and related impairments for preschool-aged children. The New Forest Parenting Package (NFPP) (Weeks, Thompson, & Laver-Bradbury, 1999) is a BPT intervention that was evaluated in a community sample of 78 three-year-olds diagnosed with ADHD. Participants were randomized to NFPP, parent counseling and support, or a waiting-list control group. The NFPP group received directive coaching in child management techniques while the counseling group received only nondirective support and counseling. The management techniques were not geared only toward oppositional behavior, but also trained parents

to help children self-regulate through a variety of activities. Pre-, post-, and follow-up measures of child ADHD symptoms and mother's sense of well-being were obtained. The BPT group proved superior to the counseling and wait-list groups for both ADHD symptom reduction and increased maternal well-being. The ADHD symptom improvement was clinically significant for 53% of children in the BPT group, and treatment effects were maintained at the 15-week posttreatment follow-up. Authors concluded that BPT is a valuable treatment option for preschoolers with ADHD, and that constructive training in parenting strategies is an essential component of BPT over and above therapist contact and support (Sonuga-Barke, Daley, Thompson, Laver-Bradbury, & Weeks, 2001).

A more recent study of the NFPP program showed similarly positive outcomes. Forty-one preschoolers were randomly assigned to either NFPP or treatment as usual conditions. Measures of ADHD and ODD symptoms, mothers' mental health, and the quality of mother-child interactions were taken pre- and posttreatment, and at a 9-week follow-up. The ADHD symptoms were significantly lower for the treatment groups versus control group (effect size > 1) and were maintained at a 9-week follow-up measure. Improvement in ODD symptoms was more moderate but favored the treatment group. No improvements were seen in maternal mental health or parenting behavior during mother-child interactions, although mothers spoke more positively of their children in a speech sample following treatment. The authors concluded that results support efficacy of the NFPP program, though replication with a larger sample size is needed (Thompson et al., 2009).

Similar evaluations of the IYS and the Triple P Positive Parenting Program with preschool children have shown reductions in ADHD and disruptive behavior problems for families randomized to BPT compared to wait-list conditions (Jones, Daley, Hutchings, Bywater, & Eames, 2007; Bor, Sanders, &

Markie-Dadds, 2002). The IYS participants showed maintenance in treatment gains at 18-month follow-up (Jones, Daley, Hutchings, Bywater, & Eames, 2008). Other RCTs evaluating the Triple P program have shown clinically significant reductions in conduct problems in preschoolers, though these studies were not specific to children with ADHD (Sanders, Markie-Dadds, Tully, & Bor, 2000). Such positive findings from BPT with preschoolers are especially encouraging considering the potential long-term outcomes associated with the disorder.

Parent training for adolescents with ADHD has been studied far less than for younger children. The BPT programs that were developed for younger children are modified for use with a teenage population. Behavior targets for adolescents are decided on by child and parent, and privilege loss (grounding) is used in place of time-out. Positive reinforcement and token economies are adjusted to be appropriate with teenagers (Antshel & Barkley, 2008; Young & Myanathi Amarasinghe, 2010). A few uncontrolled studies have shown BPT to be modestly beneficial for this age group, but no controlled studies have been conducted to date demonstrating superiority of BPT to other treatment options (Young & Myanathi Amarasinghe, 2010).

Barkley, Edwards, Laneri, Fletcher, and Metevia (2001) compared two family-based psychosocial therapies for adolescents with ADHD. Families ($N = 97$) were assigned to either 18 sessions of problem-solving communication training or behavior management training for nine sessions followed by PSCT for nine sessions. Posttreatment, both groups were equally improved on ratings and observations of parent-teen conflicts, although significantly more families dropped out of PSCT alone than out of BMT/PSCT. For both treatment groups, only about one fourth demonstrated reliable, clinically significant improvement, and some families worsened in their degree of conflict. Thus the verdict is out regarding parent training with adolescent ADHD.

Improvements at home resulting from BPT are not likely to generalize to the school environment because the structure and contingencies created by the parent are not immediately present for the child at school. In order to improve behavior and performance at school, antecedent modification and contingency management need to be implemented there as well (Abramowitz & O'Leary, 1991). Some school-based behavioral programs have focused on school-wide training of teachers and programs that are inclusive of many children in the school with ADHD (e.g., Pfiffner et al., 2007). More commonly, mental health professionals are contacted as consultants for individual children when ADHD symptoms create behavioral disruptions in the classroom and interfere with academic progress (Abramowitz & O'Leary, 1991; G. J. DuPaul et al., 2006; Fabiano & Pelham, 2003). Behavioral training procedures used with parents are generally very similar to those used to help teachers manage ADHD in the classroom. Behavioral classroom management is a parallel form of behavior modification treatment in which the child's classroom teacher is trained in the use of effective commands, time-out, token systems, immediate feedback, and increased positive reinforcement (Antshel & Barkley, 2008).

As with BPT, a frequent behavioral target in classroom management is increasing compliance with commands. A recent study focused on the effectiveness of Barkley's method of reducing repetition of commands to increase compliance within the school setting. Elementary school teachers were randomly assigned to either a treatment group (which received instruction on reducing repetition and increasing effectiveness of commands) or to a nontreatment control group. Students whose teachers received the training significantly reduced noncompliance while students in the control group did not. The author concluded that this method is effective in the classroom setting and should be implemented for students with ADHD (Kapalka, 2005).

One study examined the effects of an intensive classroom treatment in 158 kindergartners identified as having high levels of hyperactive, inattentive, impulsive, and aggressive behaviors. Participants were randomly assigned to one of four treatment groups: no treatment, parent training, classroom behavioral treatment, or a combination of classroom and parent training treatments. Unfortunately, parents assigned to the BPT-only group showed very poor attendance and this group did not demonstrate treatment gains; however, the classroom management treatment condition resulted in improvements in objective observations of externalizing behavior in the classroom, teacher ratings of attention, social skills, self-control, and aggression, as well as parent ratings of adaptive behavior. Behavior improvements in the classroom did not generalize to the home environment per parent ratings. Additionally, while externalizing behaviors improved, no gains were seen in academic achievement or laboratory-based measures of attention (i.e., Continuous Performance Test). The intervention was conducted for one school year only (Barkley et al., 2000). A 2-year follow-up of the intervention indicated no difference between those treated in the classroom condition and those not treated, and the children continued to display high levels of ADHD and ODD symptoms compared to peers (Shelton et al., 2000). These results again demonstrate that behavioral gains resulting from contingency management in one setting are not likely to generalize to other settings or to persist once the contingencies have been removed; therefore, it is important that contingency management be implemented across settings.

Several other investigation teams have found beneficial results in both home and school settings, as indicated by parent and teacher ratings when incorporating parent training and classroom management into the same treatment package. Corkum, McKinnon, and Mullane (2005) demonstrated superior results when adding a behavioral training intervention

with children's teachers to the behavior training provided to parents alone. Similarly, Owens et al. (2005) reported treatment gains across contexts from a small-scale RCT of a behavioral package that included parent and teacher behavior contingency management strategies. A study that compared a behavioral package to medication found superior results for the medication group, although the behavioral group showed gains at home and at school (Van der Oord, Prins, Oosterlaan, & Emmelkamp, 2008).

Meta-Analyses of Group Designs

Corcoran and Dattalo (2006) examined a small set of studies examining BPT published between 1980 and 2003. Studies that compared BPT to control or comparison groups were included. The overall effect size (Cohen's *d*) of BPT on ADHD symptoms was relatively low (0.40), as was the effect size (0.36) on externalizing symptoms. A moderate effect was observed for family functioning (0.67) and internalizing symptoms (0.64). This finding is also consistent with those of individual RCTs; however, an effect size of 8.2 was reported for academic performance. This finding is not consistent with data from RCTs, which failed to show generalization of treatment gains to the school environment. This discrepancy may be at least partially attributable to inclusion of only two studies that reported this outcome. Consistent with a number of studies the effects of BPT on social functioning were near zero. Similar to individual RCTs described earlier, the findings indicate that BPT produces some change in ADHD symptoms of inattention and hyperactivity, and results in more substantial improvements in family relationships and internalizing symptoms.

A meta-analytic review of BPT studies to identify effective components of BPT programs examined 77 published evaluations of BPT outcomes for children up to age 7 years. Component analysis was conducted by using content and delivery methods of training

programs to predict effect sizes on measures of children's externalizing behavior and parenting behaviors, controlling for differences among research designs. Components of BPT programs consistently associated with larger effect sizes were teaching parents the use of time-out and the value of consistency, increasing positive parent-child interactions, enhancing emotional communication skills, and incorporating practice of new skills with their children during training sessions. Program components consistently associated with smaller effects included teaching parents problem solving; teaching parents to promote children's cognitive, academic, or social skills; and providing various additional services (Kaminski, Valle, Filenne, & Boyle, 2008).

G. DuPaul and Eckert (1997) conducted a meta-analysis examining the effects of school-based interventions for children and teenagers with ADHD. Studies included were those based on either contingency management, academic interventions that use antecedent modification (such as adding structure to a task), or cognitive behavior therapy (which includes teaching of strategies such as reflective problem solving). Behavior effect sizes (weighted least squares) for within-subject and between-subject designs were computed for all three types of interventions. For within-subjects design studies, behavior effect sizes were greater for contingency management (0.94) and academic interventions (0.69) than for cognitive behavioral interventions (0.19). Behavior effect sizes for between-subjects designs were not different among the three types of interventions. Academic outcome effect sizes for within-subjects designs were small among all three interventions types; the effect size for contingency management was 0.11. Academic effect sizes were not available for between-subjects designs. The authors concluded that behavior modification techniques are more effective than cognitive techniques in improving behavioral outcomes for children with ADHD.

Single-Subject Experimental Analyses

Between-group design studies evaluating behavior modification techniques are based on positive findings from earlier work using single-case designs. Results of single-subject studies demonstrate effectiveness of behavioral principles in managing ADHD. For example, in a study of a 6-year-old girl with ADHD, a system of positive reinforcement and response costs was implemented in the classroom. The teacher was trained to implement the class-wide management system. An ABA reversal design was used in order to determine effectiveness of the behavioral interventions used in combination. Direct behavioral observations were made to determine baseline levels of appropriate versus oppositional and on-task versus off-task behaviors. Preintervention, the child displayed appropriate behavior for 61% of observed intervals. During the intervention phase, her appropriate behavior increased to 79%, and when the treatment was withdrawn, appropriate behavior decreased, though not to baseline level (71%). On-task behavior increased from 76% at baseline to 88% during the treatment interval, and dropped to 82% when the treatment was withdrawn (Anhalt, McNeil, & Bahl, 1998).

Similarly, McGoe and DuPaul (2000) used a single-subject withdrawal design to compare the effects of a token reinforcement and a response cost intervention in improving classroom behavior for four preschool-age children with ADHD. A reversal design was used to compare behavior at baseline (A), with implementation of a token economy system (B), and with a response cost intervention (C). Two participants received the ABACABAC intervention, and the other two received treatments in the opposite order. The results of behavior observations and teacher rating scales showed that both interventions were effective in improving behavior for all four children. Three of the children improved to levels equal to their peers. The teachers found the response cost procedures to be easier to administer in a large group setting.

An 8-year-old boy attending the third grade was the subject of a consultant directed behavior modification program. John was in a general education classroom and received remediation in math and reading in a small group special education setting. John received special education services because ADHD significantly impaired his academic progress. His disruptive behaviors at the start of treatment included interrupting others, poor academic work, being out of his seat without permission, talking back when corrected, teasing peers, and noncompliance. John's teachers expressed frustration with his behavior and his peers did not want to be seated next to him. In addition to small group instruction, John also received a behavioral intervention that involved a behavior tracking sheet through which John could earn biweekly rewards. Five behavior goals were identified for John, and he met with his teacher at the end of each academic period to determine whether he had achieved his goals. With this intervention in place for several weeks, John had not earned a reinforcer. The behavioral consultant observed John and his classmates in the morning and afternoon for a few weeks in order to gather baseline data on the frequency of John's disruptive and off-task behavior in relation to that of his classmates. In order to make his behavioral targets more objective and clear for John, and to provide him with immediate feedback when he was violating a rule, John's teacher was instructed to issue a reprimand when he was violating a rule (i.e., off-task or disruptive). In order to receive reinforcement, John had to have fewer than three violations of each objective. Instead of receiving a delayed reinforcer, John earned the opportunity to play a video game for a few minutes after each academic period in which he met his behavioral targets (fewer than three violations). John's off-task behavior declined immediately with the implementation of the new plan. Over a few weeks, both off-task behavior and classroom disruptions were brought to the level of the average for his class. Unfortunately, the authors did not report on academic

achievement or work productivity gains as a result of the intervention. It was not possible to follow-up with John's progress because the school year ended (Fabiano & Pelham, 2003).

Meta-Analyses of Single-Subject Experiments

Although behavioral interventions were developed based on findings and methods of small *N* experiment, few meta-analytic reviews have been devoted to single-subject designs. Thirty-eight single-case designs were included within a larger meta-analysis (G. DuPaul & Eckert, 1997) of school-based interventions for ADHD. Both published and unpublished studies that used behavioral (contingency management or antecedent modification) or cognitive behavioral interventions were included. The overall weighted least squares effect size for behavioral outcomes was 1.16 with a median of 0.80. Interventions using contingency management ($ES = 1.44$) and antecedent modification (academic intervention) ($ES = 1.61$) were significantly more effective than cognitive behavioral treatments ($ES = 0.80$). Interestingly, interventions based in public school settings were significantly more effective than those implemented in private schools. Effect sizes from cases in special education settings ($ES = 1.52$) were significantly greater than those obtained in general education or combined general education/special education programs (0.96; 1.30). The mean effect size for academic outcomes was 0.82 with a median of 0.30 for all treatment interventions. No differences were found among types of treatment on academic outcomes. For both behavioral and academic outcomes, effect sizes from published studies were significantly greater than those from unpublished studies.

Conclusions

Results of RCTs, single-subject studies, and meta-analyses show that stand-alone behavior

modification interventions are effective treatments for ADHD. They are not as effective as psychostimulant medication for core symptoms of ADHD (inattention and hyperactivity), but are especially helpful in targeting specific impairments including oppositional behavior, parent-child relationships, externalizing behavior, and internalizing disorders. Many programs are based on treatments originally developed for ODD and tend to focus on conduct or externalizing problems more so than attention impairments; this is a major limitation on the part of behavior management. Many studies do not address academic performance, inattention symptoms, or organization and time management, but more recently developed programs are beginning to include strategies targeting these areas (Pfiffner et al., 2007). Parents tend to prefer behavioral interventions over stimulant medication as a first line of treatment, which is important to consider when deciding how beneficial contingency management strategies are in comparison to medication. These treatments tend to be time consuming in comparison to stimulant medication, but if offered in community mental health settings or in public schools, they may be provided in a more cost-effective manner. A major limitation of behavioral modification strategies is that treatment gains are usually not maintained postintervention and do not generalize across settings in which contingencies are not implemented (Antshel & Barkley, 2008; Barkley et al., 2000; Kaiser, Hoza, & Hurt, 2008; MTA, 1999). Psychostimulants also do not result in lasting gains and are not effective on days when the child does not take them (Biederman, 2005). Common impediments to both treatments include single-parent household, low socioeconomic status, and ethnic minority status (Chronis et al., 2004). While behavior modification improves areas of functioning not affected by medication, neither intervention has consistently shown enhancement of academic achievement, although some of the more recent school-based treatments have begun to focus more intensely on this

area (Evans, Serpell, Schultz, & Pastor, 2007). Overall, behavior contingency management would likely be beneficial for nearly all children who have ADHD, as they result in some gains in ADHD symptoms and larger gains in family functioning, academic productivity, and symptom improvement for internalizing and externalizing disorders. In order for lasting effects to occur, treatment boosters should be delivered and contingencies maintained across settings.

SUMMER TREATMENT PROGRAM

Summer treatment programs (STPs) were developed in order to provide a comprehensive treatment model for children and teenagers with ADHD in a camp-like recreational setting. The STPs do not focus directly on ADHD symptoms as listed in the *DSM-IV-TR*, but instead focuses on social, academic, and parenting functional impairments that are theorized to moderate long-term outcomes for children with ADHD. Goals of treatment are to improve peer relationships, interactions with adults, academic performance, and self-efficacy, each of which is related to long-term functioning (Pelham et al., 2010).

The STPs are held in the summer months during school breaks. Programs generally are conducted for 7 to 8 weeks, 5 days per week, 8 or 9 hours per day. The STPs are designed for children between the ages of 5 and 15 years. Small groups of 12 to 16 youth matched by age are created at the beginning of the program and are led by trained interns. Treatment components include social reinforcement for appropriate behavior, teaching the use of effective commands, a reward/response cost point system, social skills training, daily report cards to parents, sports training, time-out, and academic instruction. Camp participants spend 3 hours per day in a classroom setting that employs a point system for managing behavior and encouraging work completion. Much of the remainder of each day is devoted to

recreational activities (Pelham et al., 2010; Pelham, Greiner, & Gnagy, 1997).

Social skills training is delivered in 10-minute group sessions, and appropriate social behavior is prompted and reinforced throughout the day. While clinic-based social skills training has not been shown to be effective, developers of the STP system argue that social skills can be targeted more directly in STP. Sports skills training is also included in order to promote social interaction and to enhance motor skills, which are typically poor in children with ADHD. Parents attend weekly BPT sessions in order to acquire management skills for facilitating generalization and maintenance of treatment gains. Many children involved in STPs also take stimulant medication; optional placebo-controlled evaluations are provided in order to find the most effective dose or to determine whether medication provides benefits beyond those produced by the program (Pelham et al., 2010; Pelham, Greiner, & Gnagy, 1997).

This intensive, multicomponent treatment is based on conceptualization of ADHD as a chronic disorder with long-lasting psychosocial consequences. Developers argue that in order to be effective in improving quality of life and produce meaningful changes, intensive long-term psychosocial interventions need to be implemented across settings. The STP also includes intensive monitoring through the daily point system, academic work, and daily ratings by adults (Pelham et al., 2010).

Consensus Panel Recommendations

The APA Task Force (Brown et al., 2007) review of behavioral, pharmacological, and combined treatments recommended behavioral treatments as the first-line intervention and medication as an adjunct treatment for those who need it. The panel concluded that behavioral, pharmacological, and combined treatments are each effective interventions. Considering side effects of medication and consumer preference for psychosocial

treatment, a cost-benefit analysis favored behavioral treatment.

The American Academy of Pediatrics (AAP) guidelines are less clear concerning which treatments to try first but recommend stimulant medication and/or behavior therapy as appropriate treatments. Further, the guidelines suggest establishing a treatment program that recognizes ADHD as a chronic condition, collaboration among the clinician, parents, child, and school to specify target outcomes, and continued monitoring of progress with information from parents, teachers, and the child. Evaluation of the treatment plan, original diagnosis, and possibility of comorbid disorders is recommended when target outcomes are not reached (American Academy of Pediatrics [AAP], 2001).

Although not specifically endorsed, STPs are consistent with AAP practice guidelines. The STP allows for easy identification of target outcomes, collaboration with parents, clinician, school, and child, and systematic monitoring of treatment outcomes. Maintenance of parent and school contingency strategies through the school year addresses the chronic nature of the disorder. In the clinical setting, such intensive management is impractical if not impossible. Inclusion of the placebo-controlled medication trials and communication with parents and teachers helps to meet individual treatment needs and maximize positive outcomes.

Randomized Controlled Trials

No between-group RCTs have been published for STPs as a stand-alone treatment; however, RCTs have been published that demonstrate the efficacy of individual components of STPs. Additionally, the Multimodal Treatment Study of Children with ADHD (MTA) included STP as part of a multicomponent behavioral treatment package along with BPT and classroom contingency management. While the MTA did not evaluate the effectiveness of STP as a stand-alone treatment, examining the results of

the study is beneficial in determining the potential for STPs.

The MTA is the largest, multisite RCT to date. Based on research supporting psychostimulants and behavior therapy as efficacious treatments, the MTA study compared the two treatments, their combination, and treatment as usual regarding efficacy, generalizability, and sustained improvement. Participants were 579 children ages 7–9.9 years in grades one to four who met *DSM-IV* criteria for ADHD-C. Children with comorbid disorders were included in the study. All were randomly assigned to one of four treatment strategies: (1) medication management carefully monitored and titrated by the research group; (2) behavioral treatment package including behavioral parent training based on Barkley's and Forehand and McMahon's procedures, the summer treatment program developed by Pelham, and school-based contingency management; (3) combined medication and behavioral interventions; or (4) treatment as usual (community care). Most of the participants (67.4%) in the treatment as usual group were on medication but did not receive treatment from the study group. Participants were assessed and monitored before, during, and after 14 months of treatment on outcomes including core ADHD symptoms and impairment domains related to ADHD. All treatment groups showed clinically meaningful symptom reduction. Medication management and combined treatment were superior to community care and behavioral treatments for core ADHD symptom reduction and did not differ from one another. Those in the combined group required significantly lower doses of medication than those in the medication management group. Combined treatment was superior to treatment as usual and behavioral treatments for internalizing symptoms, opposition/aggression, teacher-rated social skills, parent-child relations, and reading achievement score, while medication management was not. Behavior treatment outperformed treatment as usual in improving

parent-child relations. Parents of children in the behavioral and combined treatment groups rated treatments with greater satisfaction than the medication management group; the study group suggested that behavioral treatment components likely benefitted family functioning. Using success rates, a significantly higher success rate is reported for the combined treatment condition (67%) compared to the methylphenidate treatment condition (55%) (Swanson et al., 2001).

Overall, results suggest that medication management and combination treatment are efficacious treatments for reducing ADHD symptoms, and that a combination of intensive behavioral treatments and medication are most effective in improving secondary impairments. Thus for pure ADHD-C, medication alone may be adequate to treat symptoms, but for those with comorbid disorders or significant family disruption, combination treatment provides incremental improvement in functioning. The authors note that these findings cannot be generalized to other subtypes (ADHD-PI) or age groups. Additionally, the authors caution that results do not suggest that behavioral treatment was ineffective, as those in the treatment condition showed significant improvements in the course of treatment (MTA Cooperative Group, 1999).

The lack of greater impact of the intensive behavioral intervention in the absence of medication and on ADHD/ODD symptoms generally was unexpected. A limitation of the study is that posttreatment measures were gathered after the behavioral interventions were discontinued and were no longer implemented at their highest intensity, while medication was still being used at its most effective dose. The absence of maintenance of treatment gains following the cessation of behavioral interventions has been a significant problem. As noted before, return to baseline levels of problem behavior is also reported when individuals with ADHD discontinue taking medication.

Secondary analyses for the MTA study derived a composite score of treatment

outcome across measures and showed that the combination treatment was significantly better than the other treatments on the composite. For children with a comorbid anxiety disorder, behavioral treatment was as effective as the medication management, and the combination condition proved superior to other conditions, particularly when a disruptive behavior disorder was also present. This finding is particularly noteworthy when considering that nearly 40% of the sample had a comorbid anxiety disorder, and nearly one fourth had both an anxiety and disruptive behavior disorder (Jensen et al., 2001). Also noteworthy is the finding that 8 years after completion of the study, the MTA treatment groups did not differ significantly from one another on repeated measures or newly analyzed variables including hospitalizations and academic achievement. Despite having received intensive intervention, the adolescents fared more poorly than their non-ADHD peers on 91% of measures. Neither the type nor intensity of treatment delivered in the 14-month trial predicted functioning for the teenagers (Molina et al., 2009).

Meta-Analyses of Group Designs

In order to provide an updated quantitative account of the magnitude of the effectiveness of behavioral interventions for ADHD, a comprehensive meta-analysis of behavioral treatment reports was conducted using 174 studies identified in the literature (Fabiano et al., 2009). Authors aimed to incorporate all behavioral treatment studies conducted to date, across type of intervention (BPT, Summer Treatment Program, Classroom Contingency Management) and study design. Effect sizes varied by study design. Effect sizes in pre-post studies (0.70), between-group studies (0.83), and within-group studies (2.64) demonstrate effectiveness. Authors concluded that results add to an existing body of strong evidence that behavioral treatments are effective for treating ADHD.

Van der Oord et al. (2008) conducted a meta-analysis of group design studies comparing medication, behavioral, and combination medication and behavioral interventions for ADHD in order to evaluate the relative effectiveness of each. Analyses were conducted using RCTs published from 1985–2006 with children ages 6–12 years. Medication and combined treatments yielded large effect sizes for ADHD symptoms, ODD, and conduct problems. By contrast, behavioral treatments had moderate effect sizes for these outcomes. All treatment modalities had a moderate effect size for social behavior and small effect size for academic functioning. Efficacy rates of combined conditions were larger than medication on all outcome domains, but these differences were not statistically significant. Based on these results, researchers concluded that behavioral treatments are less effective than medication and do not appear to have additive treatment effects when used in combination with medication. The researchers also noted that children who are nonresponders to medication or who take low doses would likely benefit from behavioral interventions.

Single-Subject Experimental Analyses

In order to evaluate individual response to behavior modification within the STP, four children aged 11–12 years participated in a treatment withdrawal study. The comprehensive behavioral treatment package was delivered and withdrawn in a BABAB reversal design over the course of the 8-week program. Measures were frequency of negative behaviors, counts of rule violations in recreational and classroom settings, and accuracy and completion in academic work. Behavioral intervention was effective for each of the children, as demonstrated by rapid increase in rule violations and negative behavior, and decrease in accuracy and completion of academic work when the treatment was withdrawn. Behavior worsened increasingly over the course of the withdrawal weeks.

Following the second withdrawal, behaviors took longer to return to levels seen in the initial treatment condition. In general, behavior worsened progressively during the withdrawal period (Coles et al., 2005).

Meta-Analyses of Single-Subject Experiments

Fabiano et al. (2009) recently reported on single-case experiments within a larger meta-analysis of behavioral interventions of ADHD that included group designs (described earlier). A total of 100 single-case studies for ADHD published from 1968–2006 were included in the analysis. Outcomes were based on parent observations of ADHD symptoms, direct observations of child behavior, and academic productivity. Effect sizes were large across these domains. The unweighted effect size for behavioral treatments averaged 3.78.

Conclusions

STPs offer numerous advantages compared to other behavioral interventions, including the direct administration of intensive behavior therapy, combination of multiple well-established treatment components, and collaboration among treatment providers, teachers, and parents. STPs also demonstrate high attendance and low dropout rate compared to other psychosocial interventions. Parents and children rate STPs very favorably. The recreational setting seems to make STPs a particularly palatable treatment option. Additionally, children who attend STPs have shown decreased need for stimulants, an important outcome considering incremental adverse effects with increased doses of psychostimulants (Pelham et al., 2010).

Research support for the efficacy of STP comes primarily from the laboratory of the original developers. Chambless and Hollon (1998) require independent replication of treatment effects in a randomized controlled design by more than one investigation team in

order for a treatment to be considered efficacious and specific. No published studies have yet compared STP as a stand-alone treatment with a nontreatment control group in a randomized trial, although several crossover designs have shown efficacy. Existing research including multiple single-case studies and within-group designs have shown promising results. Additionally, while the MTA study incorporated multiple behavior treatments into the behavior treatment condition, two out of those three treatments are delivered in STPs: STP and BPT.

As with other treatment for ADHD, much of the treatment gains made during the STP disappear almost immediately upon removal of treatment (Coles et al., 2005). While direct contingency management demonstrates results, it is not feasible for clinicians and STP staff to follow children through their daily routines year-round. Therefore, following direct contingency management as delivered in STP with parent and teacher training in contingency management is critical to maintain improvements gained during the summer weeks.

EVIDENCE-BASED PRACTICES

BPT is the most widely implemented and thoroughly researched behavioral treatment for ADHD. BPT, classroom management, and STPs have strong support. None of these psychosocial treatments is as effective as psychostimulant medication for ADHD symptoms (inattention, hyperactivity), but each is more efficacious in reducing secondary functional impairments, though only while treatment is in place (MTA, 1999; Molina et al., 2009). Multimodal treatment includes a combination of behavior contingency modification at home and at school, STP, and psychostimulant medication, and is the most effective mode of addressing ADHD and its secondary impairments.

BPT and classroom management are relatively costly and time-consuming compared to stimulant medication, and STP is the most expensive and time-intensive intervention available. Evaluation of the long-term cost-effectiveness of STPs when delivered across multiple consecutive summers could provide crucial information in selecting the best treatments; if STPs result in long-term benefits to psychosocial functioning, it may be that they serve as an investment preventing significant future costs. Some evidence supports the notion that BPT programs developed specifically for preschoolers with ADHD may be effective in curtailing ADHD symptoms and result in lasting gains, though longitudinal analyses of such programs are needed. More research is needed in areas of dissemination and implementation of evidence-based practices in general and specifically in ADHD. Also of concern is how to tailor treatments to meet the individual needs of the child and family, and how to gain generalization and maintenance of treatment effects.

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