Chapter 16
Brief Psychiatric Rating Scale

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Clinicians often are faced with the need to quickly assess a broad range of symptoms and psychopathology. Patient symptoms may vary greatly across settings, ranging from constructs common in outpatients (e.g., guilt, anxiety, depressed mood) to others more often viewed in acutely ill psychiatric inpatients (e.g., hallucinations, delusions, excitement). The rapid assessment of clinical symptoms would be performed optimally with an instrument that can be used routinely with patients across a broad spectrum of diagnoses. Moreover, an ideal instrument for such clinical and research use would be relatively brief in administration time, simple to score, sensitive to change, and designed for repeated administration.

The Brief Psychiatric Rating Scale (BPRS) is a widely employed instrument that meets many of the goals for rapid and reliable assessment of psychiatric symptoms. This instrument is a clinician-based rating scale that provides fairly rapid evaluation of 18 symptom constructs that are present across a range of psychiatric disorders. Although originally developed with inpatient populations, this rating scale may have utility in a broad range of settings. The scale has gained extensive use in the evaluation of patients with a primary diagnosis of schizophrenia and has gained widespread use in clinical psychopharmacology. The BPRS can be completed based on observations noted in a routine clinical interview lasting between 20–30 minutes. The scale is meant to be used as an instrument employing the clinical judgment of mental health professionals who are well-versed in the constructs contained within the scale. Because the scale contains items that are fundamental constructs of psychopathology, the instrument makes for an effective teaching device for mental health trainees. In essence, the psychiatric elements (e.g., affect, mood, reality testing, thought process, orientation) of any routine mental status examination are represented in the scale. The BPRS can be integrated into clinical teaching situations where the desire is to monitor the condition of patients and teach trainees the accurate assessment of psychiatric symptoms.

This chapter provides an overview of the BPRS and summarizes the use of this scale in research and clinical practice. An exhaustive review of the use of the BPRS is well beyond the scope of this chapter, because the scale undoubtedly has been used in thousands of studies. Sufficient information is presented to review the BPRS's variety of uses as an assessment tool and outcome measure. A review of common problems and questions raised in the clinical use of the scale is provided.

Overview

SCALE DEVELOPMENT

The late 1950s and early 1960s were a revolutionary period in the treatment of major psychiatric disorders. Medications were being identified that, for the first time, had the promise of selectively treating psychotic symptoms. These medications included the early phenothiazines that were noted to be useful in the treatment of core symptoms of schizophrenia, such as thought disorder and auditory hallucinations (Hollister & Csernansky, 1990). The sudden availability of these novel and potent treatments created a need for clinical assessment tools that were designed for the measurement of patient change. The BPRS was developed in the early 1960s to fill this need (Overall, 1974).

The original scale (Overall & Gorham, 1962) represents an empirically derived set of 16 items that grew out of two longer rating instruments (Multidimensional Scale for Rating Psychiatric Patients [Lorr, Jenkins & Holsopple, 1953] and the Inpatient Multidimensional Psychiatric Scale). Preliminary work (e.g., Gorham & Overall, 1961; Overall, Gorham, & Shawver, 1961) detailed the evolution of the instrument. The 16-item scale was derived from larger samples of prospective items by means of factor analysis. Two additional items (excitement, disorientation) not contained in the original instrument were added in later years and form the 18 items now found in the typically administered BPRS. These items were added to increase the utility of the scale in classification work (Overall, 1974), and they have proved useful in geropsychiatric patients (Beller & Overall, 1984). Overall and Gorham (1988) provide a recent copy of the scale and note that the BPRS has been in the public domain since 1965. The scale (Overall and Gorham, 1988) is presented in Fig. 16.1. Each symptom concept is scored on a 7-point scale ranging from "not present" to "extremely severe." Scoring takes the form of adding up a total score for the 18 items (i.e., total BPRS score) or examining scores formed from linear combinations of items derived from factor analytic studies discussed later (see interpretive strategy). Different versions of the scale may use different ranges for point scoring. In most cases, the scale can be scored with "not present" assigned a score of 1 (i.e., minimum score for a rating = 18) and "extremely severe" being given a score of 7. In other cases, the scale has been written so that "not present" is scored as a 0 and "extremely severe" being given a score of 6.

BPRS ITEM DEFINITIONS

The 18 items of the BPRS represent common constructs familiar to mental health professionals. Six of the items (emotional withdrawal, tension, mannerisms/posturing, motor retardation, uncooperativeness, and excitement) purely reflect clinical judgment of behavior observed during the BPRS interview (Overall & Klett, 1972). The other 12 items are scored based on the clinician's impression of the content and quality of the patient interview. To maintain consistency in the definition of the items for clinical and research use, the following BPRS item descriptions are reproduced with permission from Overall and Klett (J. E. Overall & C. J. Klett, *Applied Multivariate Analysis*, McGraw-Hill, 1972, pp. 6–12). The 18 items of the scale are defined as follows:

1. Somatic Concern. The severity of physical complaints should be rated solely on the number and nature of complaints or fears of bodily illness or malfunction, or suspiciousness of them, alleged during the interview period. The evaluation is of the degree to which the patient perceives or suspects physical ailments to play an important part in his total lack of well-being. Worry and concern over physical

THE BRIEF PSYCHIATRIC RATING SCALE

Patient _____
Rater _____
No. _____
Date _____

	Not Present	Very Mild	Mild	Moderate	Moderately Severe	Severe	Extremely Severe
1. SOMATIC CONERN	1	2	3	4	5	6	7
2. ANXIETY	1	2	3	4	5	6	7
3. EMOTIONAL WITHDRAWAL	1	2	3	4	5	6	7
4. CONCEPTUAL DISORGANIZATION	1	2	3	4	5	6	7
5. GUILT FEELINGS	1	2	3	4	5	6	7
6. TENSION	1	2	3	4	5	6	7
7. MANNERISMS and POSTURING	1	2	3	4	5	6	7
8. GRANDIOSITY	1	2	3	4	5	6	7
9. DEPRESSIVE MOOD	1	2	3	4	5	6	7
10. HOSTILITY	1	2	3	4	5	6	7
11. SUSPICIOUSNESS	1	2	3	4	5	6	7
12. HALLUCINATORY BEHAVIOR	1	2	3	4	5	6	7
13. MOTOR RETARDATION	1	2	3	4	5	6	7
14. UNCOOPERATIVENESS	1	2	3	4	5	6	7
15. UNUSUAL THOUGHT CONTENT	1	2	3	4	5	6	7
16. BLUNTED AFFECT	1	2	3	4	5	6	7
17. EXCITEMENT	1	2	3	4	5	6	7
18. DISORIENTATION	1	2	3	4	5	6	7

FIG. 16.1. The Brief Psychiatric Rating Scale. From Overall and Gorham (1988).

health is the basis for rating somatic concerns. No consideration of the probability of true organic basis for the complaints is required. Only the frequency and severity of complaints are rated.

2. Anxiety. Anxiety is a term restricted to the subjective experience of worry, overconcern, apprehension, or fear. Rating of degree of anxiety should be based upon verbal responses reporting such subjective experiences on the part of the patient. Care should be taken to exclude from consideration in rating anxiety the physical signs which are included in the concept of tension, as defined in the BPRS. The sincerity of the report and the strength of the experiences as indicated by the involvement of the patient may be important in evaluating the degree of anxiety.

3. Emotional Withdrawal. This construct is defined solely in terms of the ability of the patient to relate in the interpersonal interview situation. Thus, an attempt is made to distinguish between motor aspects of general retardation, which are rated as "motor retardation," and the more mental-emotional aspects of withdrawal, even though ratings in the two areas may be expected to covary to some extent. In the factor analyses of change in psychiatric ratings, a "general retardation" factor has emerged in several different analyses, and it has included emotional, affective, and motor retardation items. It is difficult to identify the basis for rating of "ability to relate"; however, initial work has indicated that raters achieve reasonably high agreement in rating this quality. Emotional withdrawal is represented by the feeling on the part of the rater that an invisible barrier exists between the patient and other persons in the interview situation. It is suspected that eyes, facial expression, voice quality, and lack of variability and expressive movements all enter into the evaluation of this important but nebulous quality of psychiatric patients.

4. Conceptual Disorganization. Conceptual disorganization involves the disruption of normal thought processes and is evidenced in confusion, irrelevance, inconsistency, disconnectedness, disjointedness, blocking, confabulation, autism, and unusual chain of associating. Ratings should be

based upon the patient's spontaneous verbal products, especially those longer, spontaneous response sequences, which are likely to be elicited during the initial, nondirective portion of the interview. Attention to the facial expression of the patient during the verbal response may be helpful in evaluating the degree of confusion or blocking.

5. Guilt Feelings. The strength of guilt feelings should be judged from the frequency and intensity of reported experiences of remorse for past behavior. The strength of the guilt feelings must be judged in part from the degree of involvement evidenced by the patient in reporting such experiences. Care should be exercised not to infer guilt feelings from signs of depression or generalized anxiety. Guilt feelings relate to specific past behavior which the patient now believes to have been wrong and the memory of which is a source of conscious concern.

6. Tension. This construct is restricted in the BPRS to physical and motor signs commonly associated with anxiety. Tension does not involve the subjective experience or mental state of the patient. Although research psychologists, in an effort to attain a high degree of objectivity, frequently define anxiety in terms of physical signs, in the BPRS observable physical signs of tension and subjective experiences of anxiety are rated separately. Although anxiety and tension tend to vary together, developmental research with the BPRS has indicated that the degree of pathology in the two areas may be quite different in specific patients. A patient, especially when under the influence of a drug, may report extreme apprehension but give no external evidence of tension whatsoever, or vice versa. In rating the degree of tension, the rater should attend to the number and nature of signs of abnormally heightened activation level such as nervousness, fidgeting, tremors, twitches, sweating, frequent changing of posture, hypertonicity of movements, and heightened muscle tone.

7. Mannerisms and Posturing. This symptom area includes the unusual and bizarre motor behavior by which a mentally ill person can often be identified in a crowd of normal people. The severity of manneristic behavior depends both upon the nature and number of unusual motor responses. However, it is the unusualness, and not simply the amount of movement, which is to be rated. Odd, indirect, repetitive movements or movements lacking normal coordination and integration are rated on this scale. Strained, distorted, abnormal posture and integration which are maintained for extended periods are rated. Grimaces and unusual movements of lips, tongue, or eyes are considered here also. Tics and twitches which are rated as signs of tension are not rated as manneristic behavior.

8. Grandiosity. Grandiosity involves the reported feeling of unusual ability, power, wealth, importance, or superiority. The degree of pathology should be rated relative to the discrepancy between self-appraisal and reality. The verbal report of the patient and not his demeanor in the interview situation should provide the primary basis for evaluation of grandiosity. Care should be taken not to infer grandiosity from suspicions of persecution or from other unfounded beliefs where no explicit reference to personal superiority as the basis for persecution has been elicited. Ratings should be based upon opinion currently held by the patient, even though the unfounded superiority may be claimed to have existed in the past.

9. Depressive Mood. Depressive mood includes only the affective component of depression. It should be rated on the basis of expression of discouragement, pessimism, sadness, hopelessness, helplessness, and gloomy thema. Facial expression, weeping, moaning, and other modes of communicating mood should be considered, but motor retardation, guilt, and somatic complaints which are commonly associated with the psychiatric syndrome of depression should not be considered in rating depressive mood.

10. Hostility. Hostility is a term reserved for reported feelings of animosity, belligerence, contempt, or hatred toward other people outside the interview situation. The rater may attend to the sincerity and affect present reporting on such experiences when she/he attempts to evaluate the severity of pathology in the symptom area. It should be noted that evidences of hostility toward the interviewer in the interview situation should be rated on the uncooperativeness scale and should not be considered in rating hostility as defined here.

11. Suspiciousness. Suspiciousness is a term used to designate a wide range of mental experience in which the patient believes to have been wronged by another person or believes that another person has, or has had, intent to wrong. Since no information is usually available as a basis for evaluating the objectivity of the more plausible suspicions, the term "accusation" might be the degree to which the

patient tends to project blame and to accuse other people or forces of maliciousness or discriminatory intent. The pathology in this symptom area may range from mild to suspiciousness through delusions of persecution and ideas of reference.

12. Hallucinatory Behavior. The evaluation of hallucinatory experiences frequently requires judgment on the part of the rater whether the reported experience represents hallucination or merely vivid mental imagery. In general, unless the rater is quite convinced that the experiences represent true deviation from normal perceptual and imagery processes, hallucinatory behavior should be rated as *not present.*

13. Motor Retardation. Motor retardation involves the general slowing down and weakening of voluntary motor responses. Symptomatology in this area is represented by behavior which might be attributed to the loss of energy and vigor necessary to perform voluntary acts in a normal manner. Voluntary acts which are especially affected by reduced energy level include those related to speech as well as gross muscular behavior. With increased motor retardation, speech is slowed, weakened in volume, and reduced in amount. Voluntary movements are slowed, weakened, and less frequent.

14. Uncooperativeness. This is the term adopted to represent signs of hostility and resistance to the interviewer and interview situation. It should be noted that "uncooperativeness" is judged on the basis of response of the patient to the interview situation while "hostility" is rated on the basis of verbal reports and hostile feelings or behavior toward others *outside* the interview situation. It was found necessary to separate the two areas because of an occasional patient who refrains from any reference to hostile feelings and who even denies them while evidencing strong animosity toward the interviewer.

15. Unusual Thought Content. This symptom area is concerned solely with the *content* of the patient's verbalization; the extent to which it is unusual, odd, strange, or bizarre. Notice that a delusional or paranoid patient may present bizarre or unbelievable ideas in a perfectly straightforward, clear, and organized fashion. Only the unusualness of content should be rated for this item, not the degree of organization or disorganization.

16. Blunted Affect. This symptom area is recognized by reduced emotional tone and apparent lack of normal intensity of feeling or involvement. Emotional expressions are apt to be absent or of marked indifference and apathy. Attempted expressions of feeling may appear to be mimetic and without sincerity.

17. Excitement. Excitement refers to the emotional, mental, and psychological aspects of increased activation and heightened reactivity. The excited patient tends to be active, agitated, quick, loud, and emotionally responsive. Whereas tension is a construct concerned with physical or motor manifestations of activation, excitement has reference primarily to the mental and emotional areas. Tension usually implies a binding of the physical activation potential, while excitement is the underlying activation potential. The degree of excitement depends on the strength of arousal and heightened affect.

18. Disorientation. This rating construct has been included to provide a place for recording the particular kind of confusion that is evidenced by lack of memory or proper association for persons, places, or times. The disoriented individual may not know where he is, how to relate where he is to other points in the environment, or how to get from one place to another. The identities of persons that should be familiar may be confused. Location in time and place and even personal identity may be confused or unavailable for recall. Distortions in identity such as those that occur in delusional systems should not be rated under disorientation. Disorientation represents the type of confusion that frequently occurs in organic conditions.

BPRS INTERVIEW PROCEDURES

The completion of the BPRS is based on a clinical interview that typically requires between 20--30 minutes. The format of this interview follows the general format of a routine, brief clinical assessment interview. Overall and Gorham (1962) suggested spending approximately 3 minutes to develop rapport. This is followed by approximately 10 minutes of nondirective

interaction, in which clinical information can be obtained in an informal manner (Overall & Gorham, 1962). The final 5–10 minutes of the interview are used to ask specific questions to address topic areas that may not have been addressed adequately during the nondirective phase of the interview.

Rhoades and Overall (1988) offered a wide variety of sample questions for use with the BPRS. Others (Tarell & Schulz, 1988) developed structured interview procedures to assure adequate symptom coverage and reliability in symptom ratings. However, the wisdom of making the BPRS into a highly structured interview has been questioned (Overall & Klett, 1972; Rhoades & Overall, 1988), because the BPRS authors intended the scale to be based on an adaptable clinical interview that is capable of adjusting to a wide variety of patient and interview situations.

COMMON QUESTIONS ABOUT THE CLINICAL USE OF THE BPRS

In the application of the BPRS, several misunderstandings and questions are raised routinely. The following address some of these common problem areas.

1. *What Time Reference for Symptoms Should Be Used?* The BPRS was designed to document change resulting from treatment interventions. Initial ratings may be performed at the initiation of treatment (e.g., inpatient admission interview, outpatient intake assessment). Clinicians using this instrument should have some reference point as to what exact time period will be used to ask questions regarding psychopathology. At times, patients may relate vividly phenomena that they experienced many weeks ago (e.g., hallucinations, depressed mood, persecutory delusions), but are reported to be currently absent or greatly diminished. Naturally, one would not want to rate these remote experiences as current symptoms, because such a procedure renders the scale less sensitive to the effects of treatment interventions. Questions may be asked regarding how a patient has been feeling lately, with a general time frame of the past week often being appropriate. One should keep in mind that a large percentage of the items are rated based on behavior (e.g., tension, affect, conceptual organization) that the clinician directly observes within the interview.

2. *How Should Information Held by One Specific Rater in a Joint Rating Be Treated?* Several authors (Overall & Gorham, 1962; Overall & Klett, 1972) suggested that two independent raters should be employed when using the BPRS. The goal of this procedure is to maximize reliability. These raters attend a single joint interview and then independently complete rating forms. In clinical research settings, these raters typically may consist of the patient's primary psychiatrist or psychologist and an additional clinical or research staff member (e.g., research assistant, nurse). Each of these interviewers may come to the rating session with uniquely different observations of the patient in the time period immediately preceding the interview. For example, one of the raters may have heard the patient detailing a previously unmentioned bizarre delusion just prior to the rating sessions. However, the primary interviewer in the joint interview may be unaware of this newly detected symptom and not uncover it during the interview. In situations such as this, it is recommended that the rater ask the patient about aspects of the behavior that may be known only to that rater. Such a procedure assures a more thorough assessment with greater validity.

3. *How Much Familiarity with the Patient Does the BPRS Require?* In some settings, staff members may be asked to conduct BPRS interviews with patients with whom they have

little familiarity. Obviously, this is less than an ideal situation. Some patients require extensive evaluation to detect symptoms that may be well defended. It is recommended that at least one of the raters be a clinician who is quite familiar with the patient, such as a treating psychologist or attending psychiatrist. In situations where this is impossible, a brief review of clinical records or discussion with staff members prior to the session may help identify target symptoms for assessment.

4. *What Part Does Clinical Judgment Play in Completing the Instrument?* One of the features that makes the BPRS unique is that it is meant to employ the clinical judgment of skilled mental health professionals. The effective use of the scale certainly is not limited only to advanced clinicians, because trained research assistants and allied staff (e.g., psychiatric nurses, clinical social workers) certainly can become reliable raters. However, a common mistake in using the scale is to fail to factor in clinical judgment, observation, and listening skills. This problem can be evidenced in several ways. For example, although a patient may deny a specific question about experiencing auditory hallucinations, it may be completely clear to raters that the patient is responding actively to internal stimuli. Naive raters may mark "not present" for hallucinations in such a situation because "the patient said he or she was not hearing voices." A similar problem can be evidenced in self-disclosures made by a patient. It is fairly common that, at one point in an interview, a patient will deny a certain symptom, only then to make extensive disclosures about this or similar symptoms at a later point in the interview. Naturally, one should consider all the symptoms described by a patient, rather than merely taking into account the denial of the patient during direct questioning.

5. *Can a Particular Symptom Be Rated on Multiple Items of the BPRS?* Naive raters often feel that symptom constructs are independent and must correspond in a one-to-one manner with the item constructs on the BPRS. However, in a clinical practice, a particular form of psychopathology may be ratable under multiple items. Grandiose delusions are an example, because such pathology frequently may be ratable under both the Grandiosity and Unusual Thought Content items of the scale.

6. *What Are the Distinctions Between Hostility Versus Uncooperativeness and Tension Versus Anxiety?* The appropriate distinction of these constructs is important in training raters to use the scale. Specifically, one should take caution to note that hostility is meant to rate feelings directed toward individuals outside the rating setting, whereas feelings of anger directed toward the interviewer or interview situation are scored under the Uncooperativeness item (Overall & Klett, 1972). In essence, a patient cannot be hostile to an interviewer, only uncooperative. Understanding the distinction between the item definitions for Anxiety (scored without accounting for motor behavior) and Tension (scored exclusively by observing motor behavior) is often an important hurdle in training raters to use the scale appropriately.

7. *Does One Rate Observable Neurological Disorders Such as Tardive Dyskinesia?* Tardive dyskinesia (TD) is an involuntary movement disorder that typically is noted in the form of choreoathetoid movements of the orofacial area and upper limbs (Lohr & Wisniewski, 1987). The disorder often is typified by rhythmic, repetitive movements of the mouth, tongue, lips, face, truck, upper extremities (e.g., hands), and lower extremities (e.g., feet). TD is related to chronic administration of most antipsychotic medications (Lohr & Wisniewski, 1987). Clozapine, an atypical neuroleptic, does not appear to produce the syndrome (Naber, Leppig, Grohmann, & Hippius, 1989). Although epidemiologic prevalence studies offer diverse estimates of the incidence of TD, it is undoubtedly present in a

significant percentage (e.g., 20%) of some chronically treated psychiatric populations (Lohr & Wisniewski, 1987).

The high prevalence of this movement disorder in some psychiatric populations can present problems in terms of ratings on the BPRS. Movements of this type can resemble stereotyped movements that potentially could be rated under the BPRS Mannerisms and Posturing item. However, rating TD under Mannerisms/Posturing may have drawbacks in research studies directed toward the evaluation of new antipsychotic compounds. In the double blind testing of potential new antipsychotic medications, a reference medication selected from currently approved medications (e.g., haloperidol) typically is compared to the new compound for treatment efficacy. Prior to randomization to treatment with the new or standardized medication, patients often may show significant TD at an unmedicated baseline. Traditional neuroleptics such as haloperidol have the ability to mask TD (Hollister & Csernansky, 1990), giving at least the appearance that the TD has decreased. New compounds that act through novel mechanisms may not reduce the severity of TD during double blind testing. Accordingly, if one rates TD under Mannerisms/Posturing, one actually may introduce a bias against finding efficacy for novel compounds when one examines some BPRS-derived outcome criteria (e.g., total BPRS score).

In sum, the current recommendation is that, if it is possible, one should use caution in differentiating Mannerisms/Posturing from TD. In some settings (e.g., multicenter clinical drug studies), the use of expert clinicians who are able to identify a syndrome of TD and differentiate TD from psychotic mannerisms may yield greater validity and sensitivity for the BPRS. However, such clinicians may not always be available and the true ability to differentiate TD and mannerisms may not be possible. In the very least, clinicians should address this problem and establish guidelines for the use of the BPRS within individual settings.

8. *Should One Infer Symptom Severity Based on Psychodynamic Hypotheses?* Although one certainly can utilize clinical judgment with the BPRS, one should avoid inferring or assuming symptoms based on psychodynamic or other intrapsychic formulations. For example, a patient who has experienced a recent emotional loss may minimize depressed mood or anxiety. In the absence of direct evidence for such symptoms, one should not rate high levels of these symptoms, because the patient is "defending himself/herself from repressed anxiety and dysphoria."

NORMATIVE INFORMATION

The use of specific norms with this instrument is limited somewhat, because the scale generally is designed to measure change within a patient, rather than make comparisons to specific norms for clinical decisionmaking. Attempts have been made to categorize patient profile subtypes (e.g., anxious-depression, florid thinking disorder) based on factor analytic work, and mean BPRS profiles for these subtypes are offered in Overall (1974). These profile subtypes are used to identify common patterns of symptoms found in psychiatric populations (Overall, 1974). Factor analytic work has identified replicable item factors across patients, and the examination of scores of these factors may aid in symptom evaluation.

BPRS VALIDITY

The major validation of the BPRS takes the form of discriminant validity obtained in a large number of controlled studies of medication response (Rhoades & Overall, 1988). A compre-

hensive accounting of these studies is far beyond the scope of the present work, because the number of studies undoubtedly runs into the hundreds. The scale and its factor subscales have been shown to be sensitive to treatment effects of antipsychotic medications in samples of schizophrenic patients (e.g., Borison, Sinha, Haverstock, McLarnon, & Diamond, 1989; den Boer et al., 1990; Nair et al., 1986). A recent important study (Kane, Honigfeld, Singer, & Meltzer, 1988) used the BPRS to demonstrate the superior efficacy of clozapine, an atypical antipsychotic medication that may be useful in the treatment of schizophrenic patients who are refractory to conventional medications.

The BPRS has shown discriminant validity in the study of somewhat more novel treatment issues in schizophrenia. Several studies (De Freitas & Schwartz, 1979; Lucas et al., 1990) noted the detrimental effects (e.g., increased psychosis) of caffeine in schizophrenic patients. Antipsychotic medications are often of limited effectiveness in reducing a broad range of both psychotic and other (e.g., anxiety, blunted affect, depression) symptoms in schizophrenia. Accordingly, a growing number of augmentation studies (Kellner, Wilson, Muldawer & Pathak, 1975; Marshall et al., 1989; Small, Kellams, Milstein, & Moore, 1975; Wolkowitz et al., 1988) have been performed and have used the BPRS to document the changes brought about when additional pharmacological treatments (e.g., antianxiety agents) are added to antipsychotics. The BPRS also has been used to document the effects of electroconvulsive therapy (Abraham & Kulhara, 1987). Tandon, Mann, Eisner, and Coppard (1990) used the BPRS to measure the effects of anticholinergic medications in clinical symptoms of schizophrenic patients.

The BPRS has been used in studies examining the clinical efficacy of medications in the treatment of depression (Feighner, Merideth, & Claghorn, 1984; Hollister, Overall, Pokorny, & Shelton, 1971). However, other rating scales such as the Hamilton Rating Scale for Depression (HAMD; Hamilton, 1960) and the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock & Erbaugh, 1961) frequently are included in such studies. Moreover, some data (Raskin & Crook, 1976) suggest that the BPRS may be limited in its sensitivity in documenting antidepressant drug effects.

CONCURRENT VALIDITY

Further work supporting the validity of the BPRS has sought to determine the relationship of the scale with both other clinician-based rating scales and commonly employed self-report instruments. A large percentage of these protocols have sought these relationships within samples of schizophrenic patients, because this is perhaps the most common population for clinical and research application of the BPRS.

DEPRESSIVE SYMPTOMS

Several works have sought correlations between the HAM-D (Hamilton, 1960) and the BPRS in schizophrenia. The evaluation of such relationships is important, because schizophrenic patients often manifest depressive symptoms (Becker, 1988) and the efficient documentation of the overall severity of these symptoms is important in both research and clinical practice. The HAM-D represents a somewhat lengthy scale (24 items) that requires additional questioning, item completion, and data recording. Craig, Richardson, Pass, and Bregman (1985) examined BPRS/HAM-D relationships in 32 medicated inpatients with a diagnosis of schizophrenia. A combination of BPRS items reflecting depressive symptoms was found to be correlated highly ($r = 0.79$) with the HAM-D total score. More recently Newcomer, Faust-

man, Yeh, and Csernansky (1990) evaluated this same relationship in a larger sample (N = 69) of inpatient schizophrenics who were medication-free at the time of assessment. Once again, a robust (Spearman r = 0.80) relationship was obtained between a BPRS cluster of depression related items and the total HAM-D score. Such a correlation is essentially at the level of interrater reliability for the instruments. These data suggest that the BPRS may yield a global depression score in schizophrenic patients.

NEGATIVE SYMPTOMS

The assessment of negative symptoms (e.g., blunted affect, emotional withdrawal) in schizophrenia has been a subject of growing interest in the past 10 years. Negative symptoms often are thought of as an "absence" of behaviors typically found in nonpsychiatric populations (e.g., social interaction, affective modulation) (Kulhara & Chadda, 1987). Recently, Carpenter (1991) proposed the notion of deficit symptoms to encompass enduring traits (e.g., poor vocational adjustment, social isolation) that may be related to an amotivational syndrome.

This growing interest in the assessment of negative symptoms is important for several reasons. Antipsychotic medications used in the treatment of schizophrenia are often effective in the reduction of core positive symptoms, but may be less though not wholly ineffective in the treatment of negative symptoms (Breier et al., 1987). Guelfi, Faustman, and Csernansky (1989) suggested that negative symptoms are independent from core positive symptoms such as hallucinations or unusual thought content. The possibility exists that somewhat different biological mechanisms underlie negative symptoms (Csernansky et al., 1990; Newcomer, Faustman, Whiteford, Moses, & Csernansky, 1991). In addition, the specific treatment of negative symptoms in schizophrenia has become a high priority target for medication design and development.

A broad range of rating scales have been offered for the evaluation of negative symptoms. Perhaps the most widely recognized instrument in current use is the Scale for the Assessment of Negative Symptoms (SANS; Andreasen & Olsen, 1982). This rating scale provides a broad evaluation in areas such as affective modulation and social interaction. Other rating scales tapping negative symptoms include a measure of emotional blunting developed by Abrams and Taylor (1978). The Positive and Negative Syndromes Scale (Kay, Fiszbein, & Opler, 1987) also has been proposed as a more comprehensive negative and positive symptom measure.

The BPRS contains a cluster of symptoms measuring withdrawal/retardation that factor analytic studies have noted repeatedly. Several studies have now examined the degree to which such BPRS items correlate with the SANS, a scale specifically developed to measure negative symptoms. Thiemann, Csernansky, and Berger (1987) noted that the BPRS withdrawal/retardation factor (Blunted Affect, Emotional Withdrawal, Psychomotor Retardation) correlated with the SANS total score at the level of interrater reliability. In other words, in this sample of schizophrenic patients, the scales were found to be redundant for yielding an overall measure of negative symptoms. Czobor, Bitter, and Volavka (1991) generally replicated this finding, noting an extremely high correlation between the SANS composite score and the withdrawal/retardation factor of the BPRS. Individual SANS items and subscales appeared to contain information somewhat unique from the BPRS measures. Gur et al. (1991) noted a strong correlation between overall ratings with the SANS and the withdrawal/retardation factor of the BPRS.

Recently, Dingemans (1990) evaluated relationships between the BPRS and the Nurses'

Observation Scale for Inpatient Evaluation (NOSIE; Honigfeld & Klett, 1965). The NOSIE represents an observation scale that contains items that can reflect positive and negative symptoms. Using a diagnostically mixed sample, Dingemans (1990) found some correlations between BPRS and NOSIE items thought to reflect positive symptoms. Negative symptom measures derived from the two scales did not appear to be associated.

In sum, if one desires a global measure of negative symptoms in schizophrenia, the BPRS provides a measure that correlates highly with the SANS, an instrument whose specific intent was to measure negative symptoms. Moreover, as extensively detailed by Thiemann et al. (1987), the BPRS provides other advantages that should be taken into consideration in scale selection. Unlike the SANS, the BPRS provides a broader assessment of symptoms (e.g., positive symptoms such as hallucinations, other symptoms such as depression) other than negative symptoms. Thiemann et al. (1987) noted that the combined use of the SANS and BPRS results in a greater cost (scale completion time, data storage, interview time) for both patients and clinicians. In addition, the use of multiple intercorrelated rating scales can complicate data analyses by increasing the probability of both Type I and Type II errors (Thiemann et al., 1987).

THOUGHT DISORDER AND THE BPRS

Clinical and research scales have been developed to provide a detailed measure of the characteristics of thought disorder often found in psychotic patients. The Scale for the Assessment of Thought, Language, and Communication (TLC; Andreasen, 1979) represents an attempt to provide such a detailed accounting of the structure of speech. Simpson and Davis (1985) examined the relationship between measures derived from ratings that jointly used the BPRS and the TLC. Ratings were conducted in a mixed psychiatric population, and the two scales were jointly entered into a factor analysis. Two separate factors for thought disorder were derived. The first represented disordered thought structure and contained numerous TLC items and the BPRS Conceptual Disorganization item. A second factor was described as disordered thought content (e.g., BPRS items of Hallucinations and Unusual Thought). The results are interpreted as suggesting that the addition of the TLC to the BPRS provides a more complete assessment of thought structure without altering the commonly obtained BPRS factor structure (Simpson & Davis, 1985). Thus, in specific applications where a detailed analysis of thought structure is desired, the addition of scales such as the TLC may be warranted.

CORRELATES WITH SELF-REPORT MEASURES

Self-report measures are often the major source of diagnostic information in treatment settings and are a common component of research studies. Such measures may be inexpensive to obtain and capable of measuring constructs that may not be readily obtainable with clinician-based scales. A limited number of studies have examined the relationship between self-report measures and clinician-based ratings derived from the BPRS. Bitter, Jaeger, Agdeppa, and Volavka (1989) speculated that subjective complaints in schizophrenia can be measured with a scale labeled the Subjective Deficit Syndrome Scale (SDSS). Correlations were noted between this self-report measure and a range of BPRS symptoms. Correlates between a self-report measure of object relations (Bell Object Relations Inventory) and the BPRS have been sought in a mixed diagnostic sample (Bell, Billington, & Becker, 1986).

Although overall BPRS scores were not related significantly with the items from the Bell scale, a wide variety of BPRS items (e.g., Depressed Mood) correlated with self-report measures thought to reflect alienation, insecure attachment, egocentricity, and social incompetence (Bell et al., 1986).

Several studies have examined correlations between the Minnesota Multiphasic Personality Inventory (MMPI) and the BPRS. Tuthill, Overall, and Hollister (1967) noted numerous relationships between MMPI and BPRS items in a sample of patients deemed to be candidates for antidepressant medications. Several other studies (Boerger, Graham, & Lilly, 1974; Lewandowski & Graham, 1972) noted BPRS and MMPI relationships in large samples of patients with mixed diagnostic features. Ward and Dillon (1990) focused on MMPI scale 5 (Masculinity/Femininity, MF) relationships with the BPRS in a mixed-gender outpatient psychiatric sample. Using MF raw scores for analysis, MF scores were found to correlate significantly with ratings of depressed mood, guilt, and anxiety (Ward & Dillon, 1990). Significant MMPI/BPRS correlations also were found for the BPRS items of Somatic Concern, Anxiety, Depressed Mood, and Hostility, and the MMPI scales Hypochondriasis (scale 1), Psychasthenia (scale 7), Depression (scale 2), and Hypomania (scale 9), respectively (Ward & Dillon, 1990). Faustman, Moses, Csernansky, and White (1989) specifically examined replicable MMPI/BPRS correlations in a group of research diagnosed inpatients with schizophrenia. Replicable relationships were found for BPRS measures of Depressed Mood (MMPI scale 2, Depression), Hallucinatory Behavior (MMPI scales F and the Wiggins Psychoticism content scale), Hostility (MMPI scale 4, Psychopathic Deviate), and Tension (Wiggins Psychoticism content scale). In sum, the MMPI and BPRS do appear to share some variance in the documentation of psychopathology. Large sample sizes often are required in this type of work, because the two measures obviously yield a large number of items and scales.

RELIABILITY OF THE BPRS

The use of clinician-based psychopathology rating scales such as the BPRS raises some unique issues in reliability assessment. A major variance determinant for the reliability of the BPRS probably does not lie with the scale, but rather with the raters using the scale. This fact was noted by Flemenbaum and Zimmermann (1973), who wrote "the principal factors determining the reproducibility of the ratings are probably associated not with the rating scale, but with the rater using the rating scale" (p. 784). Accordingly, to properly use the BPRS, raters must be familiar with the identification of the constructs contained within the scale and rate patients with firm adherence to the definitions outlined for the BPRS items (Overall & Gorham, 1962; Overall & Klett, 1972).

Adequate reliability levels for the BPRS total score and individual items have been outlined in several studies. The original work of Overall and Gorham (1962) noted generally adequate interrater item reliability (r = .62 to .87, except for the tension item where r = .56) when used by experienced raters observing a jointly conducted interview. A summary of numerous studies offering BPRS reliability data was performed in an extensive review article by Hedlund and Vieweg (1980). Overall interrater reliability of the scale was shown to be fairly high, with typical reliability measures (expressed as Pearson correlations) for the BPRS total score of 0.85 (Hedlund & Vieweg, 1980). Individual item reliabilities can fall to lower levels; this observation has been the concern of some authors (e.g., Gabbard et al., 1987). Further work has noted adequate interrater reliability in an inpatient setting in the Netherlands (Dingemans, Winter, Bleeker, & Rathod, 1983). Gottlieb, Gur, and Gur (1988)

examined the interrater reliability of the BPRS in a sample of patients with dementia of the Alzheimer type. Interrater reliability was found to be quite high, even though this population represents a diagnostic group that varies greatly from the types of patients who typically are assessed with the BPRS.

It is important to stress that interrater reliabilities typically are derived from a single joint interview and reliability measures decrease if raters interview patients and complete ratings based on independent rating sessions (Flemenbaum and Zimmermann, 1973). Moreover, long-term test–retest reliability often is not of interest with the BPRS, because one principal goal of the scale is to measure change brought about from acute treatment.

Reliability always will set the upper limit of validity. Therefore techniques to maximize reliability are essential within settings using the BPRS for clinical or research purposes. First, adequate training and practice with the scale is essential. A weekly BPRS rating calibration session may be performed in research settings such as an inpatient clinical research center. A volunteer patient from the treatment program is interviewed by a clinician in front of a group of other clinicians, and independent ratings are completed after the interview. One procedure that can be performed is to have the two most experienced BPRS raters form a consensus rating based on either a mean of their two ratings or a negotiated consensus based on a discussion of their independent ratings. Measures of agreement (e.g., Mahalanobis distance) then can be calculated between other raters and the consensus rating. Raters can be entered into the pool of calibrated raters after they meet a consistent standard of agreement that can be designated (e.g., within a certain Mahalanobis distance for a fixed number of consecutive ratings). Ongoing measures of agreement can be calculated for all raters in such settings, and raters who drift out of reliable agreement can be removed temporarily from the rating pool until they once again demonstrate an adequate standard of reliability. This use of the BPRS as a training and research tool can be integrated easily into weekly clinical case conferences that perform diagnostic interviews in a broad range of clinical settings.

Another technique for maximizing reliability is the use of multiple raters observing a joint interview and independently completing ratings that are averaged subsequently. This technique was recommended in the original work of Overall and Gorham (1962), but it is not always used for practical reasons such as a lack of available staff time. Using multiple raters always increases reliability. As noted by Kraemer (1991), increasing reliability also increases the statistical power of experiments designed to detect treatment effects (e.g., medication studies). This ability to increase statistical power by using multiple raters rarely is considered in multicenter clinical drug studies, which typically require only one rater during patient evaluations. However, when one considers the practical and ethical issues of such studies (e.g., risks of unknown side effects), it is somewhat surprising that the standard of practice is to employ less than multiple raters. For example, with the increased power obtained from multiple raters, initial assessments of medication efficacy could employ fewer patients. In detecting efficacy with fewer subjects, risks can be minimized in initial drug screening (i.e., minimizing the risks in studies of medications that lack treatment efficacy, but do cause serious side effects).

An additional strategy for increasing the reliability of the BPRS has been the development of versions of the BPRS with behavioral anchors. These modified versions of the BPRS provide suggested behavioral descriptions for anchors in the definition of the range of severity for each BPRS item. These anchored scales vary somewhat in the specificity of item descriptors. Gabbard et al. (1987) published a version of the BPRS with suggested descriptions for the severity of very mild, moderate, and severe pathology on each of the BPRS items. Limited reliability data from a small sample of ratings (videotaped interviews) sug-

gested that teams of raters employing the anchored version of the scale scored the tapes with a higher level of interrater reliability (Gabbard et al., 1987). Tarell and Schulz (1988) provided an anchored version of the BPRS, as well as specific interview questions for use by nursing personnel. Bech, Larsen, and Andersen (1988) provided a modified and anchored version of the BPRS, which they claim to be tailored to the assessment of schizophrenic patients. However, the modifications of Bech et al. (1988) are rather extensive and include changing the scale from a 7- to a 5-point scale and eliminating several items. An anchored version of the BPRS with extensive detail for item descriptors has been offered by Woerner, Mannuzza, and Kane (1988). Table 16.1 offers examples from two items of this scale to illustrate an example of a version of the BPRS with anchors.

The Positive and Negative Syndrome Scale (PANNS; Kay et al., 1987) is a relatively new scale that contains an anchored version of the BPRS within a spectrum of additional items thought to measure positive and negative symptoms. Although the PANNS contain all the original BPRS items within the scale, no factor analytic data have been provided to demon-

TABLE 16.1
Examples of Anchored BPRS Items From the Brief Psychiatric Rating Scale – Anchored (BPRS-A)

Item Number	*Description*
10	Hostility. Animosity, contempt, belligerence, disdain for other people outside the interview situation. Rate solely on the basis of the verbal report of feelings and actions of the patients toward others in the past week. Do not infer hostility from neurotic defenses, anxiety, or somatic complaints. 1 = Not reported. 2 = Very mild: occasionally feels somewhat angry. 3 = Mild: often feels somewhat angry, or occasionally feels moderately angry. 4 = Moderate: occasionally feels very angry, or often feels moderately angry. 5 = Moderately severe: often feels very angry. 6 = Severe: has acted on his anger by becoming verbally or physically abusive on one or two occasions. 7 = Very severe: has acted on his anger on several occasions. 9 = Cannot be assessed adequately, because of severe formal thought disorder, uncooperativeness, or marked evasiveness/guardedness; or not assessed.
11	Suspiciousness. Belief (delusional or otherwise) that others have now, or have had in the past, malicious or discriminatory intent toward the patient. On the basis of verbal report, rate only those suspicions that currently are held whether they concern past or present circumstances. Rate on the basis of reported (i.e., subjective) information pertaining to the past week. 1 = Not reported. 2 = Very mild: rate instances of distrustfulness that may or may not be warranted by the situation. 3 = Mild: occasional instances of suspiciousness that definitely are not warranted by the situation. 4 = Moderate: more frequent suspiciousness, or transient ideas of reference. 5 = Moderately severe: pervasive suspiciousness, frequent ideas of reference, or an encapsulated delusion. 6 = Severe: definite delusion(s) of reference or persecution that is (are) not wholly pervasive (e.g., an encapsulated delusion). 7 = Very severe: as above, but more widespread, frequent, or intense. 9 = Cannot be assessed adequately, because of severe formal thought disorder, uncooperativeness, or marked evasiveness/guardedness or not assessed.

From Woerner, Mannuzza, and Kane (1988).

strate that this anchored and expanded scale yields information similar to the original BPRS (i.e., there are no separate factor analytic data for only the 18 BPRS items contained in the PANNS).

An additional recent scale that largely incorporates the BPRS is the Psychiatric Symptom Assessment Scale (PSAS; Bigelow & Berthot, 1989). This 22-item scale adds several items (e.g., motor hyperactivity) not contained within the BPRS. The scale contains suggested anchor points for each item. Initial factor analytic data have been provided for a sample that was too small ($N = 60$) for adequate interpretation of a 22-item instrument. However, these factor analytic data suggest that the PSAS differed somewhat from the factors typically associated with the BPRS. In sum, this instrument represents an expanded and somewhat altered BPRS and is too early in development to demonstrate clear-cut psychometric advantages over the BPRS.

The proliferation of anchored versions of the BPRS raises the question of whether these scales offer great advantages over the standard BPRS. Unfortunately, given the relative paucity of psychometric data offered for these anchored scales, one is also left with the question of whether these scales actually represent the BPRS or are, in fact, different scales. Rhoades and Overall (1988) detailed the potential problems in adding anchor points to the BPRS. The anchored scales have not been subjected to extensive factor analytic studies with large sample sizes to assess whether they yield factors comparable to the standard BPRS. There is also a possibility that anchored scales could be less sensitive to drug effects than the original BPRS. Reliability always sets the upper limit to validity. However, it rarely is considered that procedures to increase reliability actually could reduce the validity and sensitivity of a scale. In some cases strict behavioral anchors may reduce the ability to score subtle, but observable changes in some items (e.g., suspiciousness). For example, during medication treatment, a clinician's overall impression of a patient's suspiciousness may be that it has improved greatly during treatment. Yet, if a patient continues to show a definite delusion (potentially fixed and long standing), behavioral anchors may continue to suggest that the patient should be rated as severe in terms of suspiciousness. In sum, Rhoades and Overall (1988) may have been correct in urging caution in the use of anchored scales. Literally hundreds of studies demonstrate that the original BPRS can be used as a sensitive measure of treatment effects. It would be useful to perform further work to determine whether anchored scales can replicate that factor structure and treatment sensitivity of the standard BPRS.

INTERPRETATIVE STRATEGY

The BPRS yields a variety of scores for clinical and research interpretation. The total score may be used as a global measure of psychopathology, but this measure yields little in terms of qualitative information. Accordingly, treatment studies using the BPRS often specify specific symptom inclusion criteria. For example, an antipsychotic medication trial may define inclusion criteria in terms of a combination of a baseline (pretreatment) symptoms that includes a minimum BPRS total score as well as minimum levels of severity for target symptoms of treatment (e.g., hallucinatory behavior, unusual thought content, conceptual disorganization). Outcome of treatment may be analyzed in several ways. Patients may serve as their own controls, in which changes from pretreatment baseline are compared with posttreatment values. Between-groups comparisons are also possible in studies employing several treatments and/or treatment levels.

The BPRS has been subject to extensive factor analytic studies. Overall, Hollister, and

TABLE 16.2
Normalized Varimax-Rotated Factors From VA Drug Screening Data (N = 725)

Description	*I*	*II*	*III*	*IV*
Somatic concern	-0.09	0.10	0.04	**0.69**
Anxiety	-0.01	-0.14	0.18	**0.72**
Emotional withdrawal	0.05	**0.88**	0.01	-0.03
Conceptual disorganization	**0.45**	**0.41**	0.06	-0.19
Guilt feelings	0.08	-0.10	-0.05	**0.44**
Tension	0.12	0.04	0.18	**0.38**
Mannerisms/posturing	0.27	**0.59**	0.15	0.04
Grandiosity	**0.39**	-0.06	0.18	-0.25
Depressive mood	-0.29	-0.02	-0.11	**0.78**
Hostility	0.01	-0.04	**0.87**	0.08
Suspiciousness	0.40	0.02	**0.76**	0.10
Hallucinatory behavior	**0.82**	0.11	-0.04	0.17
Motor retardation	-0.15	**0.46**	-0.21	0.34
Uncooperativeness	0.00	**0.49**	**0.40**	-0.04
Unusual thought content	**0.84**	0.06	0.18	-0.01
Blunted affect	0.02	**0.76**	-0.17	-0.15

Note. From "Major Psychiatric Disorders. A Four-Dimensional Model" by J. E. Overall, L. E. Hollister, and P. Pichot, 1967, *Archives of General Psychiatry, 16*, pp. 146-151. Copyright (1967) by American Medical Association. Reprinted by permission.

Pichot (1967) detailed multiple factor analytic analyses on separate samples that total into the thousands of patients. Table 16.2 displays 16-item BPRS data representative of the factor analytic work of Overall et al. (1967). The results of this and other studies (Coyne & Spohn, 1989; Dingemans et al., 1983; Hedlund & Vieweg, 1980) suggested several general factors that emerge when the scale is used in psychiatric samples. Clinical change often is measured in terms of scores on both the total BPRS score and each of the major BPRS factors. Overall and Klett (1972) proposed four general BPRS factors, and the items most consistently falling on these factors are as follows: (reproduced with permission from J. E. Overall & C. J. Klett, *Applied Multivariate Analysis*, McGraw-Hill, 1972, p. 12):

Thinking Disturbance	*Hostile/Suspiciousness*
Conceptual disorganization	Hostility
Hallucinatory behavior	Suspiciousness
Unusual thought content	Uncooperativeness
Withdrawal/Retardation	*Anxious Depression*
Emotional withdrawal	Anxiety
Motor retardation	Guilt feelings
Blunted affect	Depressed mood

Typical research and clinical studies form scores on these factors by taking an unweighted sum of the item scores on each factor. Naturally, other combinations of items may be formed as required in different applications of the BPRS. Also, as noted by Hedlund and Vieweg (1980), some additional items tend to fall onto the primary clusters noted earlier. Somatic Concern may cluster with the Anxious-Depression factor, and recent work (Newcomer et al., 1990) has shown that this four-item Anxious/Depression combination correlates strongly with the total score from the HAM-D. The Mannerisms/Posturing item at times may be combined into the Withdrawal/Retardation factor (Guelfi et al., 1989; Overall et al., 1967).

Karson and Bigelow (1986) offered a formula for combining BPRS items to measure paranoia in schizophrenia.

Additional literature on the factor structure of the BPRS in geriatric/geropsychiatric samples has been provided (Beller & Overall, 1984; Overall & Rhoades, 1988). This work suggested that the BPRS may have a somewhat different factor structure in a geropsychiatric population. Factor subtypes in this population were labeled Agitated Dementia, Retarded Dementia, Anxious Depression, Withdrawal Depression, and Paranoid Psychosis (Beller & Overall, 1984).

THE BRIEF PSYCHIATRIC RATING SCALE FOR CHILDREN

Children may demonstrate unique presentations of psychopathology. A version of the BPRS (Brief Psychiatric Rating Scale for Children, BPRS-C) has been developed for specific use with children (Overall & Pfefferbaum, 1982). The BPRS-C contains 21 items, some of which are found in the standard adult BPRS (e.g., Depressed Mood, Blunted Affect), whereas others are unique to the BPRS-C (e.g., Stereotypy, Feelings of Inferiority). Similar to the original BPRS used in adults, the BPRS-C is rated on a 7-point scale ranging from "not present" to "extremely severe." Items can be scored into seven composite scores, with three items entering into each score (Overall & Pfefferbaum, 1982). The titles of these factor scores are as follows: Behavior Problems, Depression, Thinking Disturbance, Psychomotor Excitation, Withdrawal Retardation, Anxiety, and Organicity. The BPRS-C has not received the extensive psychometric validation of the standard BPRS, and Overall and Pfefferbaum (1982) noted that the scale needs further use to assure the reliability and validity of the instrument. Stavrakaki, Vargo, Boodoosingh, and Roberts (1987) integrated the BPRS-C in a study of the relationship between anxiety and depression in children. Casat, Pleasants, Schroeder, and Parler (1989) included the BPRS-C in pediatric psychopharmacology protocols.

Use of the BPRS in Treatment Planning

Although the BPRS has not been the subject of extensive work on a priori treatment planning, the extensive psychometric and outcome literature on the scale provides valuable information for use of the scale in treatment planning. The BPRS can be integrated into routine clinical practice in both inpatient and outpatient settings relatively easily. The scale is useful across a fairly broad range of diagnoses and has a replicable factor structure in mixed diagnostic samples. The scale is relatively simple to score and can be administered on a repeated basis. Moreover, because the scale is not linked strongly to a theoretical treatment orientation, it can be used in a diverse range of treatment planning settings.

The BPRS is not without limitations. A certain degree of clinician training and time is required for this clinician-based measure to be used in a reliable manner. Obviously, budgetary and staff priorities will influence whether a particular clinical setting can make such investments.

RESEARCH APPLICATIONS AND FINDINGS RELEVANT TO TREATMENT PLANNING

Factor analytic studies with the BPRS provide some direction in terms of identifying symptom clusters for treatment planning. As noted in the overview section on interpretative strategy, there are four general symptom factors that can be identified in the BPRS. Overall (1974) also outlined techniques for patient classification using the BPRS. A major goal of this work was to identify patient profiles that may be responsive to different classes of medications without regard for traditional diagnostic classification. In other words, some work based in the BPRS has sought to determine common patient groupings. The general patient subtypes found have been labeled as follows: Florid Thinking Disorder, Withdrawn-Disorganized Thinking Disturbance, Paranoid Hostile-Suspiciousness, Anxious Depression, Hostile Depression, and Retarded Depression (Overall, 1974, pp. 69–70). Normative symptom severity data for each of these phenomenological patient classifications were provided by Overall (1974). The hope of this work is that certain types of patients will respond best to specific treatments. For example, Florid Thinking Disorder patients may respond better to antipsychotic medications, whereas anxious depressed patients may respond preferentially to sedating antidepressants. These general profiles for patient classification may be useful in treatment planning research, because it seems likely that such patients would show differential response to a broad array of treatments, ranging from medications to psychotherapy.

Lukoff, Liberman, and Nuechterlein (1986) provided useful suggestions for BPRS symptom monitoring in schizophrenia. A modified version of the BPRS was employed to monitor schizophrenic patients during outpatient rehabilitation. Such an ongoing evaluation of symptoms may aid in the identification of emergent symptoms that would be suggestive of a relapse into florid psychosis (Lukoff et al., 1986). Accordingly, ongoing symptom monitoring can be integrated into treatment planning, raising the possibility of detecting increasing symptoms before full relapse in severe disorders such as schizophrenia.

CLINICAL APPLICATIONS OF THE BPRS IN TREATMENT PLANNING

As a broad-scope clinician-based rating instrument, the BPRS can be quite helpful in identifying target symptoms for treatment planning. The fact that the scale is useful across a broad spectrum of diagnoses is a particular strength in this regard. For example, patients with schizophrenia may present with a broad range of symptoms that are not aspects of the core features of the disorder. The BPRS may identify such patients as having high levels of anxiety, depression, or guilt. The identification of these symptoms may have relevance to psychotherapy or medication treatment (e.g., augmentation of antipsychotic medications with antianxiety agents or lithium carbonate). Once again, the application of the BPRS at treatment initiation allows for the identification of a wide range of symptoms for treatment planning.

As noted previously, the routine evaluation of major symptom clusters (e.g., Thinking Disturbance, Anxious Depression) as well as individual symptoms may be useful in treatment planning. Specific goals for symptom reduction may be set and the effects of interventions (e.g., chemotherapy, individual psychotherapy, behavioral interventions) can be monitored on an ongoing basis. Because the scale is particularly amenable to repeated administration, the BPRS could be useful in updating treatment plans. In this process, the status of previously identified symptoms can be monitored. Because the BPRS evaluates a

fairly broad range of areas, the emergence of new symptoms can be monitored and interventions can be developed as part of the ongoing treatment planning process.

Clinicians treating acutely ill patients who have significant chronic disorders such as schizophrenia often are faced with questions of whether a patient is optimally treated. In other words, in patients who display chronic symptoms even at an optimally treated baseline, one must question whether such an optimal remission of symptoms has been achieved prior to discharge. Determination of the degree of improvement may influence decisions about possible augmentative psychopharmacology. For example, Small et al. (1975) suggested that the addition of lithium carbonate to antipsychotic medications may produce further symptom remission in some schizophrenic patients. Ongoing collection of measures, such as the BPRS, provides a means of monitoring exacerbation and remission, as well as determining the effectiveness of new treatment interventions.

USE OF THE BPRS WITH OTHER EVALUATION DATA

The issues of the use of the BPRS with other data in treatment planning are much the same as in the issues outlined for using the scale in treatment outcome. The BPRS does not provide information about levels of adaptive functioning, personal coping, and self-care skills. Treatment planning in rehabilitation settings (e.g., day hospital programs) with generally stable, but chronically ill patients may have particular interests in identifying and monitoring such measures of adaptive functioning. Measures such as the Quality of Life Scale (Heinrichs, Hanon, & Carpenter, 1984) may be useful to determine general levels of adaptive skills (e.g., work history, social relations) in patients with severe disorders such as schizophrenia. The use of the BPRS in these situations may be to monitor remission and identify relapse (Lukoff et al., 1986).

As a clinician-based observational measure, the BPRS does not yield a variety of measures familiar to many psychologists. Other measures outlined in the chapters of the current volume (e.g., MMPI) provide a range of information regarding coping styles and psychopathology. The inclusion of such measures with the BPRS clearly can add information for treatment planning that cannot be derived from the BPRS alone. Specific recommendations for supplemental instrument selection is difficult, because the choice of self-report or projective testing data to supplement a clinician-based rating scale is dependent on the interests and theoretical orientation of the practicing clinician and needs of the patient. However, as a fairly reliable measure of symptom severity that is independent of orientation preference, the BPRS yields an assessment of the severity and general quality of symptoms that can be observed by a clinician. As noted by Horowitz, Marmar, Weiss, Kaltreider, and Wilner (1986), such a measure may be among the most strongly related to patient outcome in settings where nonbehavioral therapies (e.g., dynamic psychotherapy) are preferred.

PROVISION OF FEEDBACK REGARDING ASSESSMENT FINDINGS

A fair amount of flexibility may be used in providing feedback to clients about BPRS measures obtained in the course of treatment planning. Many of the BPRS symptom constructs (e.g., anxiety, depressed mood, guilt) are not so abstract that they cannot be understood by most clients. Accordingly, the BPRS may represent one form of data that can be discussed readily with clients at the initiation of treatment and monitored across the treatment

process. In addition, the BPRS total score or symptom cluster scores (e.g., Anxious Depression) are scored in a fairly straightforward manner and can be expressed to clients as measures, such as percentage improvement since treatment initiation.

LIMITATIONS/POTENTIAL PROBLEMS IN USE

The limitations of the BPRS fall into several categories. In sum, the major limitations include the following:

1. Although the BPRS contains items familiar to most mental health professionals, it requires familiarity with the 18 symptom constructs and adherence to item definitions if it is to be used in a reliable manner. Some degree of staff training and monitoring may be needed to assure reliability.

2. Although the scale was shown to be of some use in lesser degrees of psychopathology, it initially was developed for use in clinical drug studies with inpatient psychiatric samples. The scale may be of limited use in some outpatient psychotherapy settings where clients may show quite low levels of symptom severity.

3. The BPRS represents an outcome measure based solely on clinician-observed symptom severity. It is not capable of measuring intrapsychic constructs (e.g., ego strength, self-esteem) or adaptive functioning (e.g., interpersonal relations, vocational abilities). Questions such as this require the addition of other measures (Horowitz et al., 1986).

Use of the BPRS for Treatment Outcome Assessment

The BPRS has been employed as an outcome measure in a diverse range of treatment studies. As previously noted, the scale has several unique advantages in clinical and research settings. Use of the BPRS is not linked uniquely to any single patient diagnostic group. The scale provides for a rapid assessment of a fairly broad spectrum of clinical constructs that commonly are recognized by mental health professionals. As a clinician-based psychopathology rating scale, the BPRS obviously does not measure constructs (e.g., self-esteem, ego-strength) that may be of interest in some clinical settings.

The BPRS has mixed advantages and disadvantages in terms of monetary costs. Clinicians can complete the scale in a matter of several minutes and generally can obtain sufficient information during routine clinical interviews (e.g., clinic intake evaluations) that may be part of standard clinical care. As noted in the discussion of reliability, the scale requires some degree of sophistication, training, and adherence to item definitions. The time and effort required to attend to training and reliability may be a resource allocation issue in some settings.

EVALUATION AGAINST CRITERIA FOR OUTCOME MEASURES

Attempts have been made (Ciarlo, Brown, Edwards, Kiresak, & Newman, 1986) to define ideal criteria for client outcome measures. These goals for the development and use of outcome measures offer a means of evaluating the relative strengths and weaknesses of the BPRS.

Ciarlo et al. (1986) noted that an ideal outcome measure is useful in a wide range of settings and client samples. In this regard, the BPRS is fairly well suited. Although the scale originally was developed for use in symptomatic inpatients, the scale also can be used in outpatient populations (Pull & Overall, 1977). Unlike numerous clinician-based rating scales that are developed to measure a specific construct (e.g., negative symptoms) within a single disorder (e.g., schizophrenia), the BPRS is capable of assessing common symptom constructs that cut across diagnostic categories.

Further definitions of ideal outcome measures suggest that a measure should have a simple methodology with uniform application (Ciarlo et al., 1986). The BPRS has a general level of simplicity as an 18-item clinician-based scale for obtaining global severity ratings on a variety of constructs. Although these constructs are familiar to a broad variety of mental health professionals, the use of the scale requires a certain degree of sophistication and training.

Ciarlo et al. (1986) specified that a scale should have "clear and objective referents (meanings) that are consistent across clients, to ensure interpretability of individual and group scores and score changes" (p. 52). This criteria has been the subject of much recent attention with the BPRS, because the exact definition of item severity (e.g., "not present" to "extremely severe" on the 7-point scale) is not built into the scale. In other words, clinicians within settings may use their own personal definitions of what constitutes the levels of severity of the BPRS items. Anchored versions of the scale have attempted to address this problem, but these new scales generally lack psychometric data (e.g., factor structure demonstrated to be similar to the BPRS, data on sensitivity to treatment effects). Rhoades and Overall (1988) addressed the problem of defining levels of severity. The rating of "moderate" is suggested to be "the average or modal level of severity in patients who have the symptom in question" (Rhoades & Overall, 1988, p. 104). Rhoades and Overall (1988) continued by noting "other rating steps represent points between these three anchors—'Very Mild' is closer to 'Not Present" than to 'Moderate,' whereas 'Mild' is closer to 'Moderate' than to 'Not Present' " (p. 104). A similar partition is suggested for ratings between "moderate" and "extremely severe.".

Further recommendations by Ciarlo et al. (1986) suggested that measures should reflect "the perspectives of all relevant participants in the treatment process" (p. 52). In this regard, the BPRS is somewhat unique in that the scale is designed as a clinician-based instrument. However, use of the BPRS can include information collected from a wide range of participants (e.g., allied specialists in a treatment team) in the treatment process. Information obtained from these sources can be brought up in the BPRS interview process with a given patient.

Outcome measures should have demonstrated reliability, validity, sensitivity, and freedom from bias (Ciarlo et al., 1986). Because the BPRS can be used in a reliable manner with trained clinicians, ongoing monitoring of reliability can be performed. The validity and sensitivity of the scale has been demonstrated in hundreds of treatment studies. A major emphasis of these studies has been directed at determining efficacy for psychiatric treatment medications. The scale also has been used as a psychotherapy outcome measure. The scale is not free from bias, because clinician-based instruments may be influenced by the expectations and hopes of the rater. In research applications, this problem can be addressed partially by designing studies with raters who are blinded to the treatment condition of the patient. This is an obvious and easy element of clinical drug studies (i.e., FDA guidelines require double-blind design), but may be more complicated in psychotherapy outcome studies. Such studies may need to employ raters who are blind to the therapy treatment condition.

Among the final ideal criteria for outcome measures are utility considerations (Ciarlo et

al, 1986). This is among the areas in which the BPRS excels. The scale yields symptom constructs that are familiar to a range of clinicians who may have varying degrees of research and clinical sophistication. The BPRS is easy to score and can be summarized into approximately five scores reflecting overall symptom severity and specific symptom clusters. The scale can yield information that does not require sophisticated statistical analysis. Summary scores can be graphed easily with symptom severity scaled in the vertical (Y) axis and repeated ratings obtained across treatment (time) scored on the horizontal (X) axis. In addition, the scale can be useful in clinical service functions in that it can be easily integrated into a standard intake interview employed in most treatment settings.

Ciarlo et al. (1986) also noted that an outcome measure should be compatible with a wide range of theories of psychopathology. When properly used, the BPRS represents a relatively atheoretical instrument. The scale makes no assumptions about the underlying dimensions (e.g., intrapsychic processes, neurobiology) that produce symptom change during treatment. The sensitivity of the scale to patient change has been demonstrated in applications ranging from brief dynamic psychotherapy to antipsychotic drug studies. There may be certain advantages in the atheoretical nature of the BPRS in that it can be employed in diverse treatment settings to provide a global and uniform description of patient symptoms and change from treatment.

RESEARCH APPLICATIONS AND FINDINGS USING THE BPRS

As previously noted, by far the greatest research application of the BPRS has been as an outcome measure in clinical psychopharmacology research. In this use, it has been the pivotal outcome measure used in the development of a broad array of psychiatric medications. The scale has found particular use in the evaluation of the efficacy of antipsychotic medications (Chouinard, Annable, & Campbell, 1989).

Early work with the BPRS used the instrument for descriptive purposes and sought relationships between patient characteristics and BPRS symptom clusters. For example, some studies (Overall, 1971; Overall, Henry, & Ford, 1971) have examined issues such as the relationship between marital status and outcome as measured by the BPRS. Relatively simple treatment outcome research (e.g., Heinemann, Yudin, & Perlmutter, 1975; Konick, Friedman, Paolino, & Graham, 1972) has examined the general effects of hospitalization or day treatment programs on BPRS scores in mixed diagnostic samples. Questions about the long-term outcome of specific disorders, such as schizophrenia, have included BPRS measures (Pokorny & Faibish, 1968).

A group of studies have employed the BPRS to characterize unique outcome questions or predict patient characteristics important for treatment. Hoffman, Wehler, and Noehl (1978) used the BPRS to compare schizophrenic patients with and without a history of bilateral prefrontal lobotomy. Pokorny and Kaplan (1976) used an expanded BPRS to determine the characteristics of patients who committed suicide following hospital discharge. Green, Nuechterlein, Ventura, and Mintz (1990) tracked schizophrenic patients with the BPRS to determine the temporal relationship between psychotic and depressive symptoms. Various studies (Dixon, Haas, Weiden, Sweeney, & Frances, 1991; Hoffmann & Wefring, 1972; Westermeyer & Neider, 1988) have included the BPRS in descriptive studies of patients with alcohol or substance abuse histories. Horowitz et al. (1981) used eight BPRS items to assess reactions to the death of a parent. Several studies (Yesavage, 1984; Yesavage et al., 1983) have used the BPRS to identify the characteristics of schizophrenic inpatients who exhibit

assaultive behavior. The BPRS has been used extensively (Faustman, Moses, & Csernansky, 1988; Glynn et al., 1990; Newcomer et al., 1991). as a symptom measure for correlative research in schizophrenia and other disorders. The goal of such studies is to seek relationships between disorder symptoms and biological/psychological variables, thereby elucidating symptom-biology relationships that aid in understanding disorders such as schizophrenia.

The BPRS has been included as an outcome measure in psychotherapy treatment studies. Horowitz et al. (1986) evaluated numerous outcome measures following brief dynamic psychotherapy. Interestingly, BPRS and other measures of symptom change appeared to show more robust changes from treatment than measures of adaptive functioning. Claghorn, Johnstone, Cook, and Itschner (1974) included BPRS measures in assessing outcome of group psychotherapy in schizophrenic patients. Yenson et al. (1976) noted the BPRS to be a sensitive outcome measure to change produced by psychotherapy combined with the administration of methylenedioxyamphetamine. Several studies (Martin, Moore, & Sterne, 1977; Martin, Moore, Sterne, & McNairy, 1977) have employed the BPRS as a measure in work examining the relationship between therapist expectancies and patient outcome.

CLINICAL APPLICATIONS

The BPRS has a range of applications in clinical practice, although the most common use of the scale is in the assessment of medication treatments. Outpatients treated in community mental health settings frequently may receive medications in addition to psychotherapy. In addition, psychopharmacological treatment is extremely common in inpatient settings. All psychotherapeutic medications possess side effects and risks that can range from being relatively benign (e.g., sedation) to quite serious (e.g., tardive dyskinesia, cardiac complications, intentional overdose). The risks versus benefits of these interventions should be weighed on a patient-by-patient basis. The inclusion of the BPRS in monitoring psychopharmacological interventions represents a means of providing information on the degree of benefit that medications may provide. In settings such as an inpatient psychiatry unit, the weekly recording of BPRS data can be included in a patient's chart, thus providing detailed information for future clinicians who may be involved in the treatment of a patient. Similar to the work of Horowitz et al. (1986), the scale can be used to complement measures of adaptive functioning in evaluating change during psychotherapy. The scale allows for repeated data collection and can be completed on a weekly basis if desired. The scale nearly always can be completed based on the type of information obtained in a routine intake interview in most clinical settings.

Similar to the use of the scale in research settings, clinical use of the BPRS allows for the examination of a range of different scores. The total score provides a general level of psychopathology index. Use of the specific clusters (e.g., Thinking Disturbance, Anxious Depression) of items is also useful in tracking change during clinical practice. As noted previously, the total score and factor scores lend themselves to easy graphical presentation and analysis (see case studies for examples). A variety of statistical procedures can be used to analyze BPRS outcome measures. In the case of within-subjects designs, a simple pretreatment/posttreatment comparison can be made for BPRS measures with statistics such as pair-wise *t* tests or Wilcoxon Matched-Pairs tests. A disadvantage of such pretreatment/posttreatment comparisons is that they fail to include rich information collected at intervening time points. Some suggestions for alternative forms of analysis, such as slopes analysis, have been made recently (Kraemer & Thiemann, 1989).

A final point about considerations of statistical versus clinical significance should be

raised. Treatment interventions such as medications or psychotherapy may produce statistically significant results by producing small, but consistent improvements in clinical symptoms. However, considerations of clinical significance should be weighed in determining the utility of a treatment. Issues such as side effects of medications and monetary costs of psychotherapy may need to be factored into the final decision about the usefulness of a treatment. Considerations of whether treatments produce significant changes in the quality of life of a patient also may be important.

USE WITH OTHER EVALUATION DATA

Research and clinical applications often include additional outcome measures to supplement the BPRS. The selection of these additional scales is dependent on the specific questions being addressed in the outcome analysis.

The BPRS provides a global severity index across a range of symptoms, but the scale provides little specific qualitative information about symptoms. For example, although the BPRS yields a global rating of hallucinatory behavior, it does not allow for a description of the specifics of the hallucinations, such as multiple versus single voices talking to the patient, presence of command hallucinations, and mood-congruent versus noncongruent hallucinations. The addition of items from a scale such as the Schedule for Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978) can provide such qualitative information when used with the BPRS.

The BPRS does not provide for general measures of interpersonal relations, vocational functioning, social support, or initiative. Such measures may be of particular interest in characterizing outcome of both psychological and medication treatments. A review of all the available outcome measures is beyond the scope of the present discussion. In clinical and research applications in which social and vocational functioning is of interest, one may want to consider the addition of the Quality of Life Scale (Heinrichs et al., 1984). Meltzer, Burnett, Bastani, and Ramirez (1990) showed that this instrument was sensitive to improvements obtained with clozapine treatment in patients who were treatment-resistant to typical antipsychotic medications.

As mentioned previously, there has been a growing interest in the assessment of negative symptoms in schizophrenia. This has led to the practice of adding one or more negative symptom rating scales to the BPRS. Some data (Thiemann et al., 1987) suggest that the most commonly used negative symptom rating scale (Scale for the Assessment of Negative Symptoms) is redundant with the BPRS withdrawal-retardation factor in yielding an overall negative symptom measure. Accordingly, consideration should be given to data collection goals (measurement of global negative symptoms vs. specific items) when adding negative symptom measures to the BPRS, because redundant measures can create problems in terms of both efficiency and data interpretation (Thiemann et al., 1987).

PROVISION OF FEEDBACK REGARDING ASSESSMENT FINDINGS

Perhaps the most meaningful feedback that can be provided to clients is in the realm of specific BPRS items or clusters of items. Treatment typically targets a specific set of items (e.g., anxiety and depression) and feedback regarding outcome can be provided for these selected items. A useful form of feedback to patients on changes in overall symptoms or

specific symptom clusters can be provided in terms of a percentage reduction of symptoms from treatment initiation. If BPRS data are collected regularly across time (e.g., recorded weekly), the effects of specific interventions (e.g., initiation or dose changes in treatment medications) may be reviewed with patients. In sum, the BPRS can provide for a repeated measure of global psychopathology that can be used readily in a single-subject analysis of treatment outcome.

LIMITATIONS/POTENTIAL PROBLEMS IN USE

The limitations and problems in the use of the BPRS in treatment outcome are essentially the same at those outlined for treatment planning. In sum, these pertain to: (a) need for training and scale familiarity to assure reliability, (b) limitations for use in patients with little overt symptoms, and (c) data restriction to clinician-observed ratings of psychopathology.

Case Studies

The following two case studies illustrate the use of the BPRS to track symptom changes during inpatient medication treatment. Both cases were inpatients treated at the Stanford/VA Mental Health Clinical Research Center. Both patients were free of antipsychotic medications when the initial BPRS rating was conducted. These patients were treated subsequently with haloperidol (20 mg/day), a widely used antipsychotic medication. Ratings were conducted on a weekly basis, and in nearly all cases two raters were employed. These raters conducted a single joint interview with the patient and independently completed the BPRS. Ratings for the two raters were averaged in all cases.

Case No. 1 was a 24-year-old male who met Research Diagnostic Criteria (RDC) (Spitzer, Endicott, & Robins, 1978) for subacute schizophrenia. Figure 16.2 displays the weekly rating of overall BPRS scores. Figure 16.3 illustrates the symptom levels for the four major BPRS clusters described in the interpretive strategy section of this chapter. This patient demonstrated approximately a 12-point reduction in overall BPRS score, an amount that represents an approximate 25% reduction in general symptom severity. Figure 16.3 allows for the determination of what symptom clusters showed the most consistent change. These data illustrate that the most consistent and significant improvement across the course of treatment took place in the Thinking/Disturbance cluster (hallucinatory behavior, conceptual disorganization, and unusual thought content). The total score for this cluster changed from

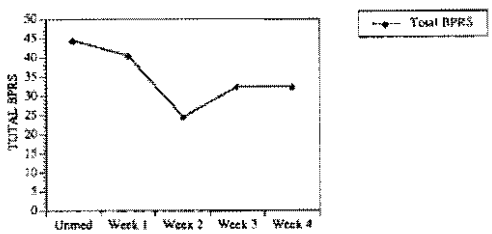

FIG. 16.2. Case No. 1. Total BPRS score at medication-free baseline and at weekly follow-up during haloperidol treatment.

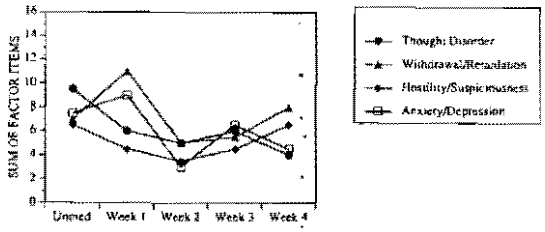

FIG. 16.3. Sum of factor scores for Case No. 1 at unmedicated baseline and at weekly follow-up during haloperidol treatment.

9.5 at baseline to 4 at the end of 4 weeks of treatment. Changes in other symptom clusters were less consistent.

Case No. 2 was a 40-year-old male who met RDC criteria for chronic schizophrenia. As noted in Fig. 16.4, this patient showed a 15-point (approximately 35%) reduction from pretreatment baseline to the 4th week of treatment. An examination of Fig. 16.5 shows that this patient displayed improvements across a range of symptom clusters. An improvement across the Withdrawal/Retardation (blunted affect, emotional withdrawal, psychomotor retardation), Hostility/Suspiciousness (suspiciousness, hostility, uncooperativeness), and Thinking/Disturbance (hallucinatory behavior, conceptual disorganization, and unusual thought content) clusters was noted across 4 weeks of treatment.

These two cases illustrate unique response patterns to the same medication treatment in schizophrenia. Case No. 1 showed a treatment response that was most clearly evident in a reduction of the thinking disturbance cluster of items. Case No. 2 demonstrated that some patients may show improvements across a broad array of positive and negative symptoms commonly observed in schizophrenia.

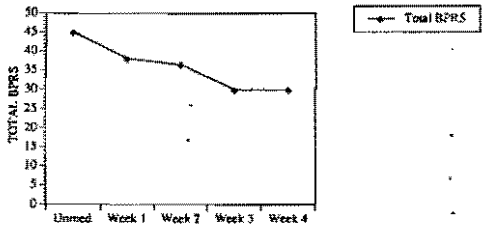

FIG. 16.4. Case No. 2. Total BPRS score at medication-free baseline and at weekly follow-up during haloperidol treatment.

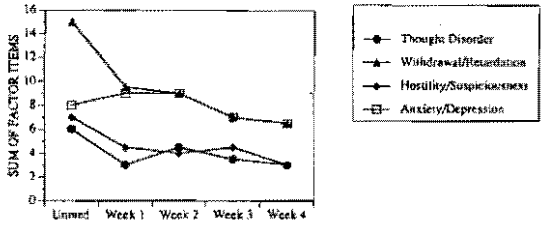

FIG. 16.5. Sum of factor scores for Case No. 2 at unmedicated baseline and at weekly follow-up during haloperidol treatment.

Summary and Conclusions

The BPRS represents a broad-scope psychiatric rating scale that has been the subject of extensive psychometric study. This scale probably represents the model clinician-based rating scale that is applicable to patients with a wide range of diagnoses. Although the BPRS may be useful in any setting where patients display minimal levels of psychiatric symptoms (e.g., depression, thought disorder, delusions, anxiety), the scale probably is geared best for inpatient populations with a fairly high degree of symptoms. The scale has a replicable factor structure and has been shown repeatedly to be sensitive to psychiatric treatments ranging from psychotherapy to medication treatment. The instrument is not without limitations. An adequate level of familiarity with the BPRS item constructs is required, and training for interrater reliability can assure reliable and appropriate use of the scale.

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