Research Diagnostic Criteria

Rationale and Reliability

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• A crucial problem in psychiatry, affecting clinical work as well as research, is the generally low reliability of current psychiatric diagnostic procedures. This article describes the development and initial reliability studies of a set of specific diagnostic criteria for a selected group of functional psychiatric disorders, the Research Diagnostic Criteria (RDC). The RDC are being widely used to study a variety of research issues, particularly those related to genetics, psychobiology of selected mental disorders, and treatment outcome. The data presented here indicate high reliability for diagnostic judgments made using these criteria.

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A crucial problem in psychiatry, affecting both clinical work as well as the research study of methods to improve psychiatric treatment, is the generally low reliability of routine clinical psychiatric diagnostic procedures.[1] The sources of unreliability that lead to disagreement among clinicians on psychiatric diagnosis have been discussed by the authors in a previous article.[2] Studies have shown that the largest source of disagreement is criterion variance, that is, differences in the formal inclusion and exclusion criteria that clinicians use to summarize patient data into psychiatric diagnoses.[3]

Unfortunately, up to now, the standard glossaries, such as the first or second edition of the American Psychiatric Association's *Diagnostic and Statistical Manual*, have not contained explicit criteria for psychiatric diagnoses. Therefore, the clinician or research investigator has been forced to select the diagnostic category in the glossary that most closely resembled the characteristics of the patient being diagnosed. In practice, this has meant that, by and large, the diagnostician used his own concept of the disorder even though a publication referring to those diagnoses might state that the diagnoses were made "according to the DSM-II criteria."

The inadequacies of the standard glossaries have led research investigators to develop their own explicit criteria and classification schemes. This article describes the rationale and reliability of the Research Diagnostic Criteria (RDC), which were developed to enable research investigators to apply a consistent set of criteria for the description or selection of samples of subjects with functional psychiatric illnesses. Although the RDC were developed specifically as part of a collaborative project on the psychobiology of the depressive disorders sponsored by the Clinical Research Branch of the National Institute of Mental Health (NIMH), they are being widely used by investigators to study a variety of research questions, particularly those related to epidemiology, genetics, biological correlates, and treatment outcome.

HISTORY OF THE DEVELOPMENT OF THE RESEARCH DIAGNOSTIC CRITERIA

Initial work on the Research Diagnostic Criteria focused on the modification and elaboration of some of the diagnostic criteria developed at the Washington University School of Medicine in St Louis. The criteria associated with the St Louis group are often referred to as the "Feighner criteria" because Feighner was the senior author of an article summarizing their criteria for 15 conditions.[4] In

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their view, these were diagnostic conditions for which there was sufficient evidence of validity in terms of clear clinical descriptions, consistency over time, and, for some of the conditions, increased familial incidence. In developing the RDC, many additional diagnoses were included, such as schizo-affective disorders, and a number of other diagnoses of importance in the differential diagnosis of affective disorders and schizophrenia. There are 25 major diagnostic categories. Many of these are further subdivided into nonmutually exclusive subtypes. For example, major depressive disorder has 11 such subtypes.

During the development of the RDC, careful attention was given to the names applied to the disorders, and many of the diagnostic terms used are different from those used in the traditional nomenclature. This was done to help avoid confusion when the category is defined in the RDC in such a way that it has no exactly corresponding traditional category. For example, the DSM-II category of anxiety neurosis was subdivided into two categories: panic disorder and generalized anxiety disorder.

Successive revisions of the RDC have been made as experience has been gained in their use in a series of reliability studies that have been conducted as part of the NIMH-sponsored collaborative project. These revisions have incorporated suggestions from members and consultants to the American Psychiatric Association's Task Force on Nomenclature and Statistics since many of the categories and criteria in the RDC are being considered for inclusion in the DSM-III. In addition, comments and suggestions have been made by other research investigators who have been using the RDC in their own studies.

Specified Criteria

A major purpose of the RDC is to enable investigators to select relatively homogeneous groups of subjects who meet specified diagnostic criteria. For each disorder within the RDC, there are both inclusion and exclusion criteria. The specific criteria refer to either symptoms, signs, duration or course of illness, or levels of severity of impairment. For some of the diagnoses, certain symptoms or symptom patterns are of diagnostic significance only if they persist beyond a certain stated duration. Diagnostic terms are frequently defined in the criteria themselves to avoid ambiguity as to the essential clinical features. Those diagnostic terms requiring extensive definition, such as "formal thought disorder," are defined in a separate section.

In selecting the specific criteria for a given diagnostic category, an attempt was made to operationally define the category in a manner that would achieve maximal acceptance among clinicians and researchers who use that particular concept. In many cases the criteria are based on good research evidence indicating that the criteria chosen have considerable usefulness for such diagnostic purposes as predicting outcome, response to treatment, and familial association.[3-19] On the other hand, many of the criteria represent an attempt to operationalize concepts whose importance for diagnosis is based primarily on clinical experience rather than the results of formal research studies.

Often, criteria for a specific disorder were modified with the direct assistance of research investigators who have been involved in developing criteria for that diagnostic category. Similarly, the proposed criteria for other categories were discussed at length with clinicians and investigators who had a special interest in them.

Special attention was given to reliability. The criteria were continually revised until it appeared that further revisions would not increase reliability without a loss of validity. Occasionally, a clinical feature that is traditionally used in making a diagnosis was not included in the criteria because of the difficulty in obtaining reliable judgments of it and the adequacy of using more reliable alternative items. An example is blunted or inappropriate affect, which was not used as part of the criteria for schizophrenia because of the unreliability of clinical judgments of this feature and the difficulty of distinguishing it from the restriction in affect associated with either severe depression or phenothiazine treatment.

Coverage

The RDC include criteria for a selected group of functional disorders (Table 1). Thus it is assumed that before the RDC can be properly used, subjects have been screened to exclude those in whom known organic factors may play a significant role in the development of the psychiatric disturbance. It is recognized that many known organic conditions can produce psychiatric disturbances that are difficult to distinguish from many of the conditions described in the RDC. The RDC do not contain criteria for distinguishing such organic mental disorders although the most common features that suggest the need for such a differential diagnosis are discussed in the instructions.

An important consequence of the use of specified criteria for a selected group of disorders is that some patients with obvious psychiatric disturbance will not meet the criteria for any of the specific categories included in the RDC. Therefore, there is a category called "other psychiatric disorder." A consequence of this approach is that the direction of error is toward avoiding false-positives and possibly increasing false-negatives; that is, patients may be incorrectly diagnosed as having "other psychiatric disorder" when the correct diagnosis is actually one of the specific categories. For most research studies it is preferable to avoid as many false-positives as is possible; false-negatives can be tolerated to a greater degree by merely increasing the size of the sample from which the patients are selected.

Source of Data

The major source of data for making the diagnostic judgments will usually be a direct examination of the subject. The examination can be based on a focused clinical interview or a structured interview guide and rating scales designed specifically for eliciting information relevant to these categories—the Schedule for Affective Disorders and Schizophrenia (SADS).[20] A lifetime version of the SADS is used when it is unlikely that the subject is in a current episode of illness and that lifetime prevalence of diagnoses

Table 1.—Research Diagnostic Criteria Diagnoses

- Schizophrenia
  - Acute—chronic
  - Paranoid
  - Disorganized
  - Catatonic
  - Mixed (undifferentiated)
  - Residual
- Schizo-affective disorder—manic
  - Acute—chronic
  - Mainly schizophrenic
  - Mainly affective
- Schizo-affective disorder—depressed
  - Acute—chronic
  - Mainly schizophrenic
  - Mainly affective
- Depressive syndrome superimposed on residual schizophrenia
- Manic disorder
- Hypomanic disorder
- Bipolar with mania (bipolar I)
- Bipolar with hypomania (bipolar II)
- Major depressive disorder
  - Primary
  - Secondary
  - Recurrent unipolar
  - Psychotic
  - Incapacitating
  - Endogenous
  - Agitated
  - Retarded
  - Situational
  - Simple
  - Predominant mood
- Minor depressive disorder with significant anxiety
- Intermittent depressive disorder*
- Panic disorder
- Generalized anxiety disorder with significant depression
- Cyclothymic personality*
- Labile personality*
- Briquet's disorder (somatization disorder)*
- Antisocial personality*
- Alcoholism
- Drug use disorder
- Obsessive compulsive disorder
- Phobic disorder
- Unspecified functional psychosis
- Other psychiatric disorder
- Schizotypal features*
- Currently not mentally ill
- Never mentally ill*

* These conditions are diagnosed on a longitudinal or lifetime basis. All other conditions are diagnosed on the basis of current or past episodes of psychopathology.

is required. The RDC can also be used with detailed case record material.[21] The rater is expected to use all available sources of information in rating the RDC criteria, although for special studies it may be useful to limit it to one source, such as the interview of the subject, without reliance on admission notes or information from the family.

Time Period

The focus of the RDC is on diagnosing episodes of illness. Therefore, for most of the diagnostic categories, a judgment is made both for the present episode as well as for a previous episode. For example, it is possible to indicate that the present episode involves manic disorder whereas in the past the patient had an episode of major depressive disorder. In addition, some of the diagnoses are made on the basis of a longitudinal or lifetime occurrence of specific features. For example, the diagnosis of "bipolar with mania" is based on having had an episode of manic disorder and at least one episode of a depressive disorder. Similarly, "antisocial personality" is based on clinical features that have been characteristic of the patient's functioning since early adolescence and does not refer to a specific episode of illness.

Thus, the criteria of the RDC allow a simultaneous description of subjects on the basis of episode diagnoses (past or present), as well as longitudinal diagnoses, without forcing closure as to which is the most appropriate for a given patient or a given purpose.

Multiple Diagnosis

The specific criteria give clear guidelines as to the appropriateness of multiple diagnoses for the same episode of illness or on a lifetime basis. For example, if two disorders are mutually exclusive for the same period of illness, this is so indicated. Some disorders that are mutually exclusive for the same episode of illness, eg, manic disorder and schizo-affective disorder, are not mutually exclusive for different episodes. This approach makes it possible to look at cases that are consistent over time, as well as those rare cases in which the clinical picture for two different episodes of illness suggests two different conditions.

Degree of Certainty of Diagnosis

Another provision within the RDC allows the investigator to decrease the probability of having false-positives. All diagnoses are judged as either not present, probable, or definite. An investigator thus has the option of examining his data by selecting his subjects according to different degrees of certainty. For some of the categories, there are specific criteria for probable vs definite, such as probable requiring only three items in an index and definite requiring four or more. The probable diagnosis can also be used when a subject appears to meet all of the criteria for definite but the rater is not absolutely certain about one or more of the criteria or has some other basis for being less than sure about the diagnosis. For example, there may be some very atypical feature or some reason to doubt the authenticity of a symptom that the patient reports.

RATIONALE FOR THE SPECIFIC DIAGNOSTIC CONCEPTS INCLUDED IN THE RDC

The choice of which diagnostic categories to include in the RDC, and how they should be operationally defined, was based on our judgment of the major problems of current diagnostic research. First of all, we selected categories that primarily are of interest to investigators in the broadly defined areas of affective disorders and schizophrenia. Second, we included other categories of major importance for the differential diagnosis of these conditions. Finally, we attempted to define the categories so as to maximize the possibility of testing various diagnostic

hypotheses. Thus, the affective disorders were subdivided into nonmutually exclusive subtypes that allow each subject to be evaluated for each subtype. This avoids forcing an exclusive choice between different subtyping systems and permits a comparison of the relative reliability and validity of each of the systems. For example, this permits classifying a patient with affective disorder according to both the primary-secondary distinction, as well as to the situational (reactive)-nonsituational distinction. Furthermore, when a diagnostic concept, such as psychotic depression, seemed to involve several different domains (reality testing, endogenous features, incapacitation), each of these different features was used to define separate subtypes.

In the following sections we briefly discuss the rationale or basic concept involved in the specific RDC categories. For illustrative purposes, the specific criteria for major depressive disorder are presented in Table 2. The latest version of the full set of criteria is available from the authors.

Schizophrenia

Clinical and research definitions of schizophrenia have varied considerably as to their inclusiveness. The approach taken here avoids limiting the diagnosis to cases with a chronic course. Thus, unlike the original Feighner criteria for schizophrenia, we do not require a duration of six months. On the other hand, a minimum duration of at least two weeks from the onset of a noticeable change in the subject's usual condition is required in order to exclude brief reactive psychoses, which often are misdiagnosed as schizophrenia because of similar phenomenology. The criteria rely heavily, but not exclusively, on the presence of Schneiderian first-rank symptoms in order to exclude borderline and paranoid states. Nonpsychotic conditions that have been included in DSM-II as either latent or simple schizophrenia are also excluded.

Because the relationship of schizo-affective disorder to schizophrenia is so unclear, it seemed most useful for research purposes to define both categories separately, even though DSM-II and the forthcoming ninth edition of the International Classification of Diseases includes schizo-affective as a subtype of schizophrenia. Therefore, patients with a full manic or depressive syndrome during the active phase of the illness (delusions, hallucinations, marked formal thought disorder) are excluded from schizophrenia and would be diagnosed as schizo-affective disorder. Schizophrenia is further subdivided using specified criteria as to phenomenology of current episode (paranoid, disorganized, catatonic, mixed, and residual) and the course of the illness (acute, subacute, subchronic, chronic).

The approach to defining schizophrenia in the RDC is being followed by the proposed third edition of the *Diagnostic and Statistical Manual* of the American Psychiatric Association (DSM-III) with the exception that the acute and subacute forms by the RDC criteria will be called schizophreniform disorder in DSM-III.

Schizo-affective Disorder, Depressed and Manic Types

There is no consensus on how to diagnose this condition, or even whether or not it represents a variant of affective disorder, schizophrenia, or a separate condition. Some investigators restrict the class to patients whose illness has an acute onset with good premorbid features. Others use it for patients who at any time in their lives have shown evidence of both a mood disorder and of schizophrenia, even if there was no temporal overlap. We define this class symptomatically, requiring some temporal overlap of both the active signs of schizophrenia and the full depressive or manic syndrome. This class is further divided depending on whether the symptoms are depressed or manic and the course of the schizophrenia-like symptoms. The latter is done because of the evidence suggesting that the acute form of the disorder may be a form of atypical mood disorder, whereas the chronic form may be more related to schizophrenia. The provision of this class will

Table 2.—Criteria for Major Depressive Disorder

A. One or more distinct periods with dysphoric mood or pervasive loss of interest or pleasure. The disturbance is characterized by symptoms such as the following: depressed, sad, blue, hopeless, low, down in the dumps, "don't care any more," or irritable. The disturbance must be prominent and relatively persistent but not necessarily the most dominant symptom. It does not include momentary shifts from one dysphoric mood to another dysphoric mood, eg, anxiety to depression to anger, such as are seen in states of acute psychotic turmoil.

B. At lease five of the following symptoms are required to have appeared as part of the episode for definite and four for probable (for past episodes, because of memory difficulty, one less symptom is required).
1. Poor appetite or weight loss or increased appetite or weight gain (change of 0.5 kg a week over several weeks or 4.5 kg a year when dieting)
2. Sleep difficulty or sleeping too much
3. Loss of energy, fatigability, or tiredness
4. Psychomotor agitation or retardation (but not mere subjective feeling of restlessness or being slowed down)
5. Loss of interest or pleasure in usual activities, including social contact or sex (do not include if limited to a period when delusional or hallucinating) (The loss may or may not be pervasive.)
6. Feeling of self-reproach or excessive or inappropriate guilt (either may be delusional)
7. Complaints or evidence of diminished ability to think or concentrate, such as slowed thinking, or indecisiveness (do not include if associated with marked formal thought disorder)
8. Recurrent thoughts of death or suicide, or any suicidal behavior

C. Duration of dysphoric features at least one week, beginning with the first noticeable change in the subject's usual condition (definite if lasted more than two weeks, probable if one to two weeks).

D. Sought or was referred for help from someone during the dysphoric period, took medication, or had impairment in functioning with family, at home, at school, at work, or socially.

E. None of the following that suggest schizophrenia is present:
1. Delusions of being controlled (or influenced), or of thought broadcasting, insertion, or withdrawal (as defined in this manual)
2. Nonaffective hallucinations of any type (as defined in this manual) throughout the day for several days or intermittently throughout a one-week period
3. Auditory hallucinations in which either a voice keeps up a running commentary on the subject's behaviors or thoughts as they occur, or two or more voices converse with each other
4. At some time during the period of illness had more than one month when he exhibited no prominent depressive symptoms but had delusions or hallucinations (although typical depressive delusions such as delusions of guilt, sin, poverty, nihilism, or self-deprecation, or hallucinations with similar content are not included)
5. Preoccupation with a delusion or hallucination to the relative exclusion of other symptoms or concerns (other than typical depressive delusions of guilt, sin, poverty, nihilism, self-deprecation or hallucinations with similar content)
6. Definite instances of marked formal thought disorder (as defined in this manual), accompanied by either blunted or inappropriate affect, delusions or hallucinations of any type, or grossly disorganized behavior

F. Does not meet the criteria for schizophrenia, residual subtype.

result also in more homogeneous groupings within the other affective disorders.

Depressive Syndrome Superimposed on Residual Schizophrenia

This category was designed for use when a subject who has once met the criteria for schizophrenia from which he did not fully recover (and therefore met the criteria for residual schizophrenia) then has a superimposed depressive syndrome without any activation of the psychotic schizophrenic features (delusions, hallucinations, marked formal thought disorder). By having this category, such subjects are not included within the categories of major depressive disorder or schizo-affective disorder, depressed type, and thus ensure greater homogeneity of these latter two categories. Some investigators would term this category a subtype of "secondary affective disorder" while others might consider it a form of schizo-affective illness.

Manic Disorder

This is defined as an episode of illness characterized by predominantly elevated, expansive, or irritable mood, accompanied by the full manic syndrome and without any specific features that suggest schizophrenia. The inclusion criteria for this category are almost identical to the Feighner criteria. The exclusion criteria have been specified in greater detail to differentiate it from schizo-affective disorder, manic type. Some excited patients diagnosed clinically as having paranoid schizophrenia in the past will be diagnosed here rather than as having schizophrenia.

Hypomanic Disorder

This category is for describing nonpsychotic manic-like episodes that are not of sufficient intensity to meet the syndrome or impairment criteria for manic disorder. This category has been included to facilitate the identification of patients who may have an underlying bipolar affective disorder and may therefore respond differentially to somatic therapy as compared to patients who have only had depressive episodes.

Bipolar Depression With Mania (Bipolar I)

This category requires the subject to have met the criteria for manic disorder and a depressive disorder, which can either be major or minor depressive disorder, or intermittent depressive disorder. This category is equivalent to the more frequently used terminology of bipolar affective disorder. It is distinguished here from bipolar II as is to be described.

Bipolar Depression With Hypomania (Bipolar II)

This diagnosis is made for any patient who has ever met the criteria for both hypomanic disorder and a depressive disorder, but has never met the criteria for full manic disorder. This class is being included because there is some evidence suggesting that patients in this class have a closer relationship to bipolar I than to recurrent unipolar depressive disorder.[22]

The provision of the bipolar II class will result in a more homogeneous grouping for both the bipolar I and for the recurrent unipolar depressive disorder groups.

Major Depressive Disorder

There is no agreement within our field as to the generic name for an episode of serious depressive illness. We use the term "major depressive disorder" as it seems general enough to encompass the many further subdivisions that are the basis of much current research. This category includes some cases that would be categorized as neurotic depression, and virtually all that would be classified as involutional depression, psychotic depression, and manic depressive illness, depressed type.

The criteria for major depressive disorder are very similar to the Feighner criteria for depressive illness although several important changes have been made. Whereas the Feighner criteria required an acknowledged dysphoric mood, the criteria for major depressive disorder accept as an alternative the presence of a pervasive loss of interest or pleasure. This was done with the clinical recognition that many patients with an obvious depressive syndrome do not acknowledge feeling depressed. The Feighner criteria included "fearful" and "worried" as one of the acceptable dysphoric moods. These terms have not been included in the RDC to avoid the categorization of patients who are anxious only and are neither depressed nor suffering from a pervasive loss of interest or pleasure. The exclusion criteria are specified in much greater detail in the RDC than in the Feighner criteria to facilitate the differential diagnosis with schizo-affective disorder. Finally, the required duration of one month of illness in the Feighner criteria has been reduced in the RDC to two weeks for a definite diagnosis, and one week for a probable diagnosis. The provision in the RDC for noting the duration of the episode of illness allows an investigator to use the more stringent one-month criteria.

Subtypes of Major Depressive Disorder.—Patients who meet the criteria for probable or definite major depressive disorder are further subdivided into a number of nonmutually exclusive categories based on either features of the episode (eg, agitated, situational, endogenous phenomenology) or on the history and course (eg, primary, secondary, recurrent unipolar).

It should be noted that the class "neurotic depression," which is one of the most commonly used diagnoses in the standard nomenclature, is not used in the RDC. This term involves too many different meanings to be reliable and valid. Neurotic depression is variously used to mean nonincapacitating, nonpsychotic, nonendogenous, nonrecurring, nonsituational, nonbipolar, due to conflict, or some unspecified combination of all of these features. We believe that each of these features can be better studied separately than by combining them into a single class.

Primary-Secondary.—The definition of primary major depressive disorder is the same as that of the Feighner criteria, ie, a period of major depressive disorder that had not been preceded by any of the specific list of nonaffective disorders. In contrast, secondary major depressive disorder is defined as a period of major depressive disorder that was preceded by one of the specified disorders.

Simple Major Depressive Disorder.—This category is similar to that of primary major depressive disorder and was developed to overcome some of the apparent limitations in that concept. A patient with a history of phobia or alcoholism followed by many years of being psychiatrically well, who then develops a depressive episode is classified as having secondary depression according to the Feighner criteria. In the absence of any data suggesting that such depressions are different from depressions in individuals who have never been psychiatrically ill, it seems to us that a better distinction is made between those depressions occurring in individuals who have been well prior to the onset of the depression (arbitrarily designated as the past year), and those individuals in whom the depression is superimposed on an ongoing illness (arbitrarily designated as having occurred during the past year). Therefore, a simple major depressive disorder is defined as a depressive episode that develops in a person who has shown no significant signs of psychiatric disturbance in the year prior to the development of the current episode, with the exception of symptomatology associated with either major or minor depressive disorder, or manic or hypomanic disorder.

Recurrent Unipolar Depressive Disorder.—Some investigators use the term "unipolar" when the patient has had only one episode of depression, that may or may not result in hospitalization, whereas others require three or more episodes with hospitalization.[23] In the RDC it is defined as two or more episodes of major depressive

disorder without an episode of manic disorder, hypomanic disorder, or schizo-affective disorder, manic type.

Psychotic, Incapacitating, and Endogenous Major Depressive Disorder.—Although psychotic depressive reaction is one of the most commonly used classes of depressive disorder in the standard nomenclature, there is no agreement as to how this class is to be defined. Three concepts are usually involved: "psychotic" as defined by impaired reality testing, "psychotic" in the sense of severe impairment in functioning, and "psychotic" as synonymous with endogenous symptoms. We have separated these three concepts into three nonmutually exclusive nosologic classes: (1) The term "psychotic" is reserved for the nosologic class with evidence of delusions, hallucinations, or stupor. (2) The term "endogenous" is reserved for a separate class of patients who manifest the constellation of vegetative symptoms regardless of the presence or absence of precipitating events. (Since the historical meaning of the term "endogenous" refers to etiology rather than to phenomenology, a more accurate term is "endogenomorphic" as suggested by Klein.[24] Future editions of the RDC will use the latter term.) (3) The judgment of "severe impairment in functioning" defines another class called "incapacitating major depressive disorder."

Situational Major Depressive Disorder.—This class is for patients who develop a major depressive disorder after an event or in a situation that seems likely to have contributed to the appearance of the episode at the time. In making this judgment, the rater considers the amount of stress inherent in the event or situation, the cumulative effect of such stresses, and the closeness of the events to the onset or exacerbation of the depressive episode. We propose the term "situational" rather than the term "reactive," since "reactive" is often used to refer to depression occurring in response to stress but also often implies the absence of endogenous symptoms.

Agitated and Retarded Major Depressive Disorders.—These classes are used to classify patients with major depressive disorder who show a disturbance in psychomotor functioning for several days during an episode of illness. In some instances, a patient may meet the criteria for both subtypes during a single episode.

Predominant Mood.—To facilitate research in the differential treatment response of depressed patients to somatic therapy, the predominant mood of the current episode of major depressive disorder is characterized as mainly depressed, mainly depressed interspersed with periods of euphoric mood, mainly anxious, anxious and depressed without either predominating, mainly hostile, mainly apathetic or loss of interest or pleasure, and other.

Depressive Disorders Not Meeting the Full Criteria for Major Depressive Disorder

There is even more controversy as to the best way of classifying subjects who are bothered from time to time more than most people by depressive mood and associated symptoms but who do not meet the full criteria for major depressive disorder. The RDC set categorizes such patients in four different ways.

Minor Depressive Disorder.—This category is for nonpsychotic episodes of illness in which the most prominent disturbance is a relatively sustained mood of depression without the full depressive syndrome, although some associated features must be present. It may be chronic or episodic.

Intermittent Depressive Disorder.—This class is for individuals who for at least the past two years have been bothered by depressed mood much of the time, with periods of normal mood lasting from a few hours to a few days. The term "intermittent" is used to distinguish this type of disorder from the episodic depressive disorders. In this distinction, the term "episode" means a period of illness with a relatively clear onset, and usually offset, in which there is a sustained disturbance preceded and followed by normal mood lasting at least two months. In an intermittent illness, there is usually no clear onset, and there are brief periods when the disturbance is not present. This category roughly corresponds to the concept of depressive character or personality and also overlaps with the traditional category of neurotic depression. This category will be subsumed within the DSM-III category of chronic depressive disorder, which will also include chronic forms of the RDC category of minor depressive disorder.

Cyclothymic Personality.—This is for individuals who since their early 20s have had recurrent periods of depression lasting at least a few days alternating with similar periods of clearly better than normal mood, with or without normal interval periods. The periods do not meet the criteria for major depressive or manic disorder and must be too numerous to count.

Labile Personality.—This category is for individuals who, throughout most of their adult lives, characteristically have had a pattern of affective lability, ie, abrupt shifts from normal mood to one or more dysphoric affective states. Future work is needed to determine whether this category can be validly distinguished from intermittent depressive disorder or certain personality disorders to which the term borderline has been applied.

Panic Disorder.—This category is for nonpsychotic episodes of illness in which the most prominent disturbance is recurrent panic attacks. It is similar to the Feighner category of anxiety neurosis, but has slightly different criteria for the number of attacks and duration of illness. This category is not used when the panic attacks are part of a major depressive episode or schizophrenia.

Generalized Anxiety Disorder.—This category is for nonpsychotic episodes of illness in which the most prominent disturbance is generalized anxiety with some associated symptoms without panic attacks of sufficient frequency to meet the criteria for panic disorder or the full depressive syndrome that characterizes major depressive disorder.

Briquet's Disorder (Somatization Disorder).—This category is for subjects with a chronic or recurrent polysymptomatic disorder that begins early in life, and is characterized by multiple somatic complaints not explainable by known medical illness.

Antisocial Personality.—This category is for subjects with a chronic or recurrent disorder characterized by antisocial behavior in many areas, beginning before the age of 15 and typically from earliest school years or before and persisting into adulthood. As an adult there is invariably a markedly impaired capacity to sustain lasting, close, warm, and responsible relationships with family, friends, or sexual partners, and a failure to sustain good job performance over a period of several years.

Alcoholism.—This category is for subjects who have at least three specific manifestations of alcoholism in an illness of at least one month's duration.

Drug Use Disorder.—This category in the RDC is limited to those subjects who are addicted to, dependent on, or abuse drugs other than alcohol, tobacco, and ordinary caffeine-containing beverages.

Obsessive-Compulsive Disorder.—This category is for subjects with obsessions or compulsions; the operational criteria distinguish the disorder from obsessive brooding or rumination or compulsive activities that are inherently or potentially pleasurable.

Phobic Disorder.—This category is for subjects with persistent and recurring irrational fears of a specific object, activity, or situation that they tend to avoid; the fears are usually recognized as unreasonable. It is subdivided into agoraphobia, social phobias, simple phobias, and mixed phobias.

Unspecified Functional Psychosis

This category includes subjects who have had an episode of psychosis that is not categorized elsewhere in the RDC and that might otherwise be labeled by clinicians as paranoid state, hyster-

ical psychosis, brief reactive psychosis, etc. Cases in this category would be labeled as undiagnosed psychiatric disorder according to the Feighner criteria.

Other Psychiatric Disorder

This is a residual category for conditions that cannot be classified in any other RDC category and that do not appear to be part of a prodromal period of residual symptoms of one of the previous RDC categories.

Schizotypal Features

This category is used only to qualify another diagnosis (including other psychiatric disorder) and should never be noted as the only category. The criteria for schizotypal features were developed using cases diagnosed as being within the "schizophrenia spectrum" by Kety, Wender, and Rosenthal. These criteria permit the identification of subjects whose functioning is characterized by features frequently cited in the literature as seen in biological relatives of schizophrenics. Cross-validation studies on a large sample of cases designated as borderline schizophrenia by a large sample of psychiatrists indicated high specificity and sensitivity for the criteria.[25] In DSM-III, this category will be termed "schizotypal personality disorder."

Currently Not Mentally Ill

This is for individuals who at the time of evaluation do not have sufficient symptoms or other signs of disturbance to warrant being given any of the other RDC diagnoses, including other psychiatric disorder, as a present illness.

Never Mentally Ill

This category is for those fortunate individuals who have never had sufficient symptoms or other signs of disturbance that met the criteria for any of the RDC categories, including other psychiatric disorder.

RELIABILITY

The reliability of the RDC categories with psychiatric inpatients has been tested in three studies. The first two involved joint interviews whereby one rater conducted the interview and the other merely observed. Both made independent ratings. The third study involved a more rarely used procedure, whereby two independent raters interviewed the patient at different times (test-retest). The kappa coefficients of reliability for these three studies are shown in Table 3.

Table 3.—Kappa Coefficients of Agreement* for Major Diagnostic Categories Using the Research Diagnostic Criteria

	Joint Interviews		
	Study A (N = 68)	Study B (N = 150)	Test–Retest (N = 60)
Present episode only			
Schizophrenia	0.80	...†	0.65
Schizo-affective disorder, manic type	...	...	0.79
Schizo-affective disorder, depressed type	0.86	0.85	0.73
Manic disorder	0.82	0.98	0.82
Major depressive disorder	0.88	0.90	0.90
Minor depressive disorder	...	0.81	...
Alcoholism	0.86	0.97	1.00
Drug abuse	0.76	0.95	0.92
Lifetime diagnosis			
Schizophrenia	0.75	0.91	0.73
Schizo-affective disorder, manic type	...	...	...
Schizo-affective disorder, depressed type	0.94	0.87	0.70
Manic disorder	0.89	0.93	0.77
Hypomanic disorder	0.85	...	0.56
Major depressive disorder	0.97	0.91	0.71
Minor depressive disorder	...	0.68	...
Alcoholism	0.88	0.98	0.95
Drug abuse	0.89	1.00	0.73
Obsessive compulsive disorder	...	1.00	...
Briquet's disorder	0.79	0.95	...
Labile personality	...	...	0.70
Bipolar I	0.93	0.95	0.40
Bipolar II	0.79	0.85	...
Recurrent unipolar	0.81	0.83	0.80
Intermittent depressive disorder	...	0.85	0.57

* Rating of probable or definite was counted as present.
† Less than 5% frequency by either rater.

Study A used an early draft of the RDC and involved 68 newly admitted inpatients at the New York State Psychiatric Institute selected on a catch-as-catch-can basis, depending on the availability of two raters. On only a few occasions was it necessary to exclude a patient who was so uncooperative that a meaningful diagnostic evaluation was not possible. The raters were pairs of research assistants who had considerable on-the-job training in the use of the RDC and many years of experience in interviewing psychiatric patients. The evaluation was made without a formal structured interview although the interviewer could consult a list of key diagnostic items necessary for making all of the RDC diagnoses.

Study B used the first edition of the RDC and involved pairs of raters at four facilities participating in a Pilot Study of the Psychobiology of the Depressive Disorders sponsored by the Clinical Research Branch of NIMH; the New York State Psychiatric Institute; Renard and Barnes Hospitals, Washington University School of Medicine; Iowa Psychiatric Hospital, University of Iowa Medical School, and Massachusetts General Hospital, Harvard Medical School. The subjects were newly admitted inpatients who met screening criteria for a depressive or manic syndrome. The SADS was used to interview the patients and an RDC diagnosis was made afterwards.

The test-retest reliability study was conducted at the same four facilities as study B, using the second edition of the RDC and involving a different group of newly admitted inpatients. These patients were selected on a catch-as-catch-can basis with the restriction that the patient had to agree to be reinterviewed within a day or two. As a result, some of the most disturbed or paranoid patients were not included. The SADS was used as the interview procedure.

The results of these three studies indicate that the reliability of the RDC categories is very high, even under the test-retest conditions where a much lower reliability is expected. With only a few exceptions, the reliabilities reported here are higher than have been reported in other research studies.[1,26] In those few instances where the

Table 4.—Kappa Coefficients of Agreement* on Subtypes of Major Depressive Disorder

	Joint Interviews		
	Study A (N = 68)	Study B (N = 150)	Test–Retest (N = 60)
Present illness only			
Primary	0.78	0.80	0.86
Secondary	0.65	0.79	0.95
Psychotic	0.59	0.87	0.70
Incapacitating	0.55	0.62	0.66
Endogenous	0.48	0.80	0.58
Agitated	0.74	0.69	0.59
Retarded	0.54	0.74	. . .
Situational	0.63	0.72	0.78
Simple	. . .†	0.75	0.77
Lifetime diagnosis			
Bipolar with mania	0.93	0.95	. . .‡
Bipolar with hypomania	0.79	0.85	. . .‡
Recurrent unipolar	0.81	0.83	0.80

* Ratings of probable or definite were counted as present.
† Not in the RDC at the time.
‡ Less than 5%.

Table 5.—Reliability of Research Diagnostic Criteria Based on Use of the Lifetime Version of the Schedule for Affective Disorders and Schizophrenia With Relatives (N = 49)

Diagnosis	No. of Subjects Given Diagnosis by Interviewer	Kappa
Manic disorder	3	0.79
Bipolar with mania	2	0.66
Hypomanic disorder	1	0.66
Major depressive disorder	7	0.85
Primary	6	0.76
Secondary	1	1.00
Recurrent	5	1.00
Psychotic	1	1.00
Incapacitating	2	0.79
Minor depressive disorder	6	0.90
Generalized anxiety disorder	3	0.85
Cyclothymic personality	2	1.00
Briquet's disorder	1	1.00
Phobic disorder	3	1.00
Other psychiatric disorder	4	0.46
Borderline features	1	1.00
Currently not mentally ill	40	0.62
Never mentally ill	28	0.87

Table 6.—Agreement Between Blind* and Cohort† Raters on RDC Diagnoses (N = 29)

Lifetime Diagnoses	Kappa
Schizo-affective disorder, depressed type	0.84
Manic disorder	0.85
Bipolar with mania	0.83
Major depressive disorder	0.76
Intermittent depressive disorder	0.63
Panic disorder	1.00
Generalized anxiety disorder	0.78
Cyclothymic personality	0.63
Alcoholism	1.00
Phobic disorder	1.00
Other psychiatric disorder	0.63
Borderline features	0.65

* The blind rater was limited to the information obtained during an interview with the change version and the lifetime version of the SADS.
† The cohort rater used all sources of information, including the RDC diagnoses made at the time of the index episode.

Table 7.—Jo

Subcategories	N	Primary	Secondary	Psychotic
Primary	59	. . .	0	29
Secondary	31	0	. . .	19
Psychotic	23	74	26	. . .
Incapacitating	42	79	21	40
Endogenous	52	73	27	29
Agitated	17	59	41	41
Retarded	23	91	9	48
Situational	45	67	33	20
Simple	57	84	16	30
Bipolar with mania (bipolar I)	7	57	43	43
Bipolar with hypomania (bipolar II)	6	100	0	17
Recurrent major depressive	45	73	27	18
Cyclothymic Personality	4	75	25	25
Depressive personality	22	73	27	41

coefficients of reliability are low for major diagnostic categories, they are accounted for by disagreements on a small number of cases for diagnoses infrequently given by either rater.

These test-retest kappa coefficients are higher than those recently reported from a study using the St Louis Feighner criteria for the five major diagnostic categories included in both studies.[26] In the St Louis study, three psychiatrists participated, with each patient being independently interviewed with a structured interview by two of the three. After the interview, each psychiatrist made his diagnosis and then reviewed the interview and the diagnosis with a more senior psychiatrist. Final diagnoses were assigned on the basis of consensus between the interviewer and the reviewer. A total of 101 newly admitted inpatients were evaluated. They obtained the following kappa values: depression, 0.55; mania, 0.82; schizophrenia, 0.58; alcoholism, 0.74; drug dependence, 0.84. When they removed all of the cases on which at least one of the pair of diagnoses was "undiagnosed psychiatric condition" (leaving a total of 71 cases), the kappa values were improved: depression, 0.70; mania, 0.93; schizophrenia, 0.66; alcoholism, 0.73; drug dependence, 0.85). Even so, the kappa values obtained in the study using the RDC (with the "undiagnosed" patients left in) are generally as good as, if not better than, those obtained in the St Louis study of the Feighner criteria: depression, 0.90; mania, 0.82; schizophrenia, 0.65; alcoholism, 1.00; drug abuse, 0.92.

Table 4 shows the reliability of the subtypes of major depressive disorder. They are somewhat lower than for the major categories given in Table 3 but, for the most part, are quite satisfactory for research use, and much higher than generally reported. On the basis of these studies, some minor revisions have been made in the criteria for schizo-affective disorders, schizophrenia, and the agitated, incapacitating, endogenous, and retarded subtypes of major depressive disorder. It is hoped that these changes

sification of Diagnoses for Patients With a Current Diagnosis of Major Depressive Disorder (N = 90)*

Frequency of Diagnosis, %										
Incapacitating	Endogenous	Agitated	Retarded	Situational	Simple	Bipolar I	Bipolar II	Recurrent Major Depressive	Cyclothymic Personality	Depressive Personality
56	64	17	36	51	81	7	10	56	5	27
29	45	23	6	48	29	10	0	39	3	19
74	65	30	48	39	74	13	4	35	4	39
...	69	26	38	40	74	12	10	48	5	29
56	...	19	35	37	67	8	12	52	8	29
65	59	...	12	53	53	12	0	65	0	24
70	78	9	...	43	78	4	9	48	13	26
38	42	20	22	...	60	2	2	64	0	18
54	61	16	32	47	...	7	7	56	5	25
71	57	29	14	14	57	...	0	14†	0	14
67	100	0	33	17	67	0	...	17†	17	83
44	60	24	24	64	71	2†	2†	...	4	24
50	100	0	75	0	75	0	25	50	...	50
55	68	18	27	36	64	5	23	50	9	...

* This table, which shows joint frequencies (ie, the percentage of subjects for whom a second diagnosis was given when the first was given), should be read across, not down (eg, 29% of major depressive disorder called primary were also called psychotic and 79% of those called incapacitating were called primary).

† Several raters failed to note that recurrent major depressive disorder referred to unipolar alone. One case was called recurrent and bipolar with mania; one, recurrent and bipolar with hypomania.

will result in greater reliability for these categories.

The reliability of the RDC categories was also tested on a group of first-degree relatives of the patients in study B at the facilities in New York and Iowa. The interviews were conducted by one of a pair of raters using the lifetime version of the SADS (SADS-L). Table 5 lists the kappa coefficients of reliability, which are amazingly high, particularly when one considers that 82% of the subjects were not currently ill so that most of the diagnoses are of past episodes of illness.

The validity of using retrospective diagnoses was examined in a study involving evaluation of a subset of the patients in study B made from 1½ to 2 years after the initial evaluation (N = 29). The diagnosis of past episodes based solely on a blind follow-up interview of the patient with the SADS-L agreed very well with that of a cohort rater who had reviewed the patients' records, including previous research evaluations with the SADS and RDC prior to the follow-up interview of the subject. The kappa coefficients of reliability are shown in Table 6.

Relationship Among Alternative Classifications of Depressive Disorders

One of the main purposes of the RDC approach to psychiatric diagnosis is to facilitate the comparison of alternative classification systems for depressive disorders. Table 7 gives the joint classification of diagnoses for 90 patients with a current diagnosis of major depressive disorder (study B). The table should be read across so that the frequency with which subjects given a diagnosis on the left indicates how often they were also given a diagnosis listed on the right. Some of the cell sizes are quite small; therefore, this table is presented primarily for illustrative purposes.

Frequently, there is an assumption that the more commonly used methods for classifying depressed patients are equivalent and that the results of studies using these different systems can be easily compared. For example, it is often assumed that episodes of primary depressive disorder would almost always meet the criteria for endogenous depressive disorder and rarely meet the criteria for situational (reactive) depressive disorder. However, only 64% of patients with a diagnosis of primary depressive disorder also met the criteria for endogenous phenomenology, while 51% of them met the criteria for situational depressive disorder. Similarly, it is often assumed that situational (reactive) depressive episodes would rarely meet the criteria for endogenous depressive disorder whereas they actually met those criteria 42% of the time.

CONCLUSIONS

The use of operational criteria for psychiatric diagnosis is an idea whose time has come! This is evidenced by the proliferation, within recent years, of operational criteria for a large number of psychiatric conditions that previously had never been rigorously defined. It is amazing that this approach was not widely used before the 1960s since the problems of the unreliability of standard clinical diagnostic practice have been known for decades.

The need for operational criteria for diagnosis is not limited to psychiatry. At a recent conference on psychiatric diagnosis, Dr Alvan Feinstein, an authority on medical nosology, made the following remarks while discussing the inclusion of operational criteria in DSM-III:

> The production of operational identifications has been a pioneering, unique advance in nosology.... In the field of diagnostic nosology, the establishment of operational criteria represents a breakthrough that is as obvious, necessary, fundamental, and important as the corresponding breakthrough in obstetrics and surgery when Semmelweiss, Oliver Wendell Holmes, and, later on, Lord Lister, demanded that obstetricians and surgeons wash their hands before operating on the human body.... The absence of such criteria is what has made the rest of the ICD [International

Classification of Diseases] such a shambles because of the inconsistent variations with which the nomenclature is applied.[27]

An alternative approach to solving the problem of unreliability of diagnostic practice is to limit the clinician to collecting and recording raw diagnostic data and then having a computer apply an algorithm to yield one or more diagnoses. Two of the authors of this article (R. L. S. and J. E.) were initially enthusiastic about this approach and developed a series of computer programs for this purpose, euphoniously labeled DIAGNO,[28] DIAGNO II,[29] and DIAGNO III.[30] A similar approach has been taken by Wing et al[31] in the development of the CATEGO program. Despite some evidence for the validity of these approaches, they have many limitations that have been discussed elsewhere.[30] Furthermore, their impact on clinical practice has been nil because the computer algorithms are not easily translatable into clinically useful rules, and their use requires computerization. In contrast, the Feighner criteria and the RDC are easily used by clinicians immediately following a diagnostic evaluation.

The use of specified criteria does not, of course, eliminate clinical judgment. The proper use of such criteria actually requires a considerable amount of clinical experience and knowledge of psychopathology. The criteria involve clinical concepts rather than a mere listing of complaints or observations of atomistic behaviors.

Many other research investigators have also developed their own criteria for one or more diagnostic categories. Therefore, for many of the conditions of interest to investigators, such as schizophrenia or affective disorder, there are a number of different sets of criteria from which to choose. The choice should depend on an assessment of the relative reliabilities of the criteria sets, as well as the underlying diagnostic concept being described. Often, as with the RDC, new validity evidence will not be available for the criteria. In such cases, it is reasonable to assume that whatever validity has been established for the category when it was not precisely defined, ie, its correlates, will still be associated with the diagnostic category, and probably will increase because of improved reliability. This assumption does not negate the need for new studies demonstrating the validity of the diagnostic categories since it is theoretically possible to improve reliability and lose validity. A large number of studies using the RDC are under way and evidence regarding the validity of the RDC categories should be forthcoming very soon.

Suggestions were made by other members of the Collaborative Project on the Psychobiology of the Depressive Disorders as well as our own and their research staffs. The data reported in this article were collected as part of the NIMH Clinical Research Branch Collaborative Program on the Psychobiology of Depression. The senior research personnel who participated in these studies were as follows:

National Institute of Mental Health, Washington, DC: Martin Katz, PhD, and Robert M. A. Hirschfeld, MD; Harvard Medical School, Boston: Gerald L. Klerman, MD, James Barrett, MD, and Martin Keller, MD; University of Iowa Medical School, Iowa City: George Winokur, MD, Nancy Andreasen, MD, and Trish Wasek, PhD; Washington University Medical School, St Louis: Eli Robins, MD, Amos Welner, MD, and Jack Croughan, MD; Columbia University College of Physicians and Surgeons, New York: Robert Spitzer, MD, Jean Endicott, PhD, Miriam Gibbon, MSW, and Janet Forman, MSW.

In addition, the following individuals made major contributions to the development of criteria for specific categories: Drs Lee Robins, Donald Goodwin, Samuel Guze, Donald Klein, and John Wing.

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