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Kraepelin-Oriented Research-Diagnosable Schizophrenia, Mania, and Depression in Schneider-Negative Schizophrenics

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Summary. The rigorous neo-Kraepelinean research criteria of the St. Louis/Iowa and Taylor groups were applied to case record data of 116 first admissions of Schneider-negative schizophrenics—that is, those without first-rank symptoms (FRSs)—hospitalized in a strongly Schneider-oriented German University Psychiatric Clinic from 1962 to 1971. This sample had a total of 45.7% (53 cases) of psychiatric illness diagnosable by research methods. Indeed, only 31% (36 cases) of Schneider-negative schizophrenics turned out to have research-positive Kraepelin-oriented schizophrenia; and of these, 21 fulfilled both sets of research criteria for schizophrenia. It is important that 14.6% (17 cases) of Schneider-negative schizophrenia consisted of research-diagnosable affective disorder, with mania making up 5.2% and depression 9.4% of this figure. The findings suggest that a sample of Schneider-oriented schizophrenia without FRSs as routinely diagnosed in Germany does not seem to represent a clear-cut homogeneous and 'uncontaminated' group of schizophrenics.

Key words: Research diagnostic criteria – Schizophrenia – Mania – Depression.

Zusammenfassung. In der Kurt-Schneider-orientierten Klinik in Homburg/Saar wurden die Daten von 116 schizophrenen Erstaufnahmen (1962—1971), die als Schneider-negativ galten, d. h. keine Symptome ersten Ranges zeigten, mittels den strengen Forschungskriterien der neo-kraepelinschen St. Louis/Iowa- and Taylor-Gruppen untersucht. Insgesamt enthielt die Stichprobe 45,7% (53 Fälle) von forschungsdiagnostizierbaren psychiatrischen Erkrankungen. Allerdings waren nur 31% (36 Fälle) der Schneider-negativen Schizophrenen forschungs-positiv für eine Kraepelin-orientierte Schizophrenie-Diagnose, und 21 dieser letztgenannten Patienten erfüllten sogar beide Forschungssätze für die Schizophrenie. Wichtig war die Tatsache, daß 14,6%

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(17 Fälle) der gesamten Stichprobe aus Forschungsdiagnosen für eine affektive Erkrankung bestand, wobei die Manie 5,2% und die Depression 9,4% davon ausmachten. Diese Ergebnisse scheinen darauf hinzudeuten, daß die Schneider-negative Schizophrenie, wie sie routinemäßig in Westdeutschland diagnostiziert wird, nicht eine eindeutige homogene Gruppe von Schizophrenen darstellt.

Schlüsselwörter: Diagnostische Forschungskriterien – Schizophrenie – Manie – Depression.

Background to the Present Study

The first step in the diagnostic process involves clearly defining and reliably identifying the range of relevant psychopathologic or behavioral abnormalities (Wing and Nixon, 1975), that is, what Kendell (1975a) called 'symptom detection.' However, the problem of reliable symptom detection represents only one side of the diagnostic coin. The other important issue concerns the precise relationship between symptoms or clinical features and diagnosis (Kendell, 1975a), in other words, the principles of classification that can place the abnormalities found into specifiable categories (Wing and Nixon, 1975). These two aspects of diagnosis constituted one of the primary concerns of two large-scale multinational research studies, the US-UK Diagnostic Project (Cooper et al., 1972) and the International Pilot Study of Schizophrenia (IPSS) (WHO, 1973). In both investigations, a structured clinical interview, the Present State Examination or PSE (Wing et al., 1974), was extensively used, ensuring that certain diagnostic information was always reliably obtained in generally the same manner for all cases. In particular, PSE psychopathologic findings related to Schneider's (1971) first-rank symptoms were considered central to the development of the PSE's CATEGO computer diagnostic system (Wing et al., 1974). Thus, the IPSS data have also been analyzed by Wing and Nixon (1975) in terms of the relationship between PSE ratings, including such 'discriminating' first-rank phenomena, and the CATEGO diagnosis of schizophrenia, mania, and other affective disorders; more recently, Wing et al. (1977) summarized some additional research developments using the CATEGO program computer approach to diagnosis. This, as well as other important computer-oriented diagnostic systems, has been lucidly reviewed by Kendell (1975a).

In contrast to such computerized approaches to diagnosis, the US-UK Diagnostic Project (Cooper et al., 1972) dramatically illuminated this essential relationship between clinical features and diagnosis in noncomputerized, everyday practice, since diverging diagnostic criteria held by the participating hospital and project psychiatrists had been responsible for the discrepancy found between the diagnostic rates for functional psychotic mental illness in New York and those in London. Another example of the use of such noncomputer clinical methods to examine more closely this crucial connection between diagnostic criteria and diagnosis was by Strauss and Carpenter (1974), who, using IPSS data, analyzed a cohort according to DSM-II and Schneiderian first-rank schizophrenia as well as in terms of Langfeldt's concept of this illness.

In recent years, a more specific noncomputerized clinical method, apparently much more rigorous than the approach used in the studies just cited, has been developed to relate these symptoms more exactly to specific categories. Thus, Kendell (1975b) has forcefully argued that our diagnostic criteria "must be cast in such a way as to provide clear cut rules of application. In other words, instead of simply listing the typical features . . ., as our textbooks do at present, we must stipulate precisely what combinations are adequate to establish the diagnosis and which are not." The publication, then, by Feighner and his colleagues (1972) in St. Louis of just such a set of clearly defined inclusion and exclusion operational research criteria as an alternative to the description of the typical features of a psychiatric condition, marked, in Kendell's (1975b) opinion, an 'important milestone' in psychiatric research. Kendell's assessment is upheld by Spitzer et al. (1975) who have stated that the St. Louis group is "unique in having developed specific operational criteria for a large number of diagnostic categories." While one may disagree with their specific criteria—for example, their temporal stipulations for schizophrenia (Strauss and Carpenter, 1974), or even with some of their categories, such as their primary-secondary distinction in affective illness (Klerman, 1974)—one must recognize the need for some set of unambiguous clinical criteria of this type. Thus, the St. Louis researchers have provisionally suggested criteria for 15 conditions chosen because, in their view, these were the conditions for which the most evidence of validity in terms of clear clinical descriptions, consistency over time and, for some, increased familial incidence existed (Welner et al., 1974; Woodruff et al., 1974). Earlier, in a seminal article, Robins and Guze (1970), both of the St. Louis group, clearly showed what they meant by their validating process with respect to psychiatric diagnostic categories; later, Klerman (1974) similarly reviewed this kind of validation of nosological concepts in psychiatry. However, such a use of the concept of validity has not been without its critics; in particular, Kendell (1975a) prefers the 'more appropriate' term of 'useful concept.'

At any rate, it can hardly be denied that the St. Louis center has pioneered new ways to investigate the relationship between clinical features and diagnosis using noncomputer methods. In fact, the DSM-III soon to be published by the American Psychiatric Association has been strongly influenced by the newly developed RDC or Research Diagnostic Criteria (Spitzer et al., 1975), which represent an elaboration, expansion, and modification of the specific criteria used by the St. Louis group. More recently, Spitzer and co-workers (1977), who initially had enthusiastically developed a series of DIAGNO computer programs, a decision-tree approach similar to Wing's CATEGO program (Wing et al., 1974), commented on such systems: ". . . 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 RDC are easily used by clinicians immediately following a diagnostic evaluation." During the past few years, alternative sets of rigorous research diagnostic criteria of this type, such as the Taylor criteria (Abrams et al., 1974; Taylor et al., 1974; Taylor and Abrams, 1975), have appeared. Indeed, sets of criteria, of differing degrees of rigor, for various conceptual orientations of schizophrenia are now also available and these have been succinctly reviewed by Strauss and Gift (1977).

Purpose of the Present Paper

The present study concerns the St. Louis research criteria (Feighner et al., 1972) and the criteria of the Taylor group (Abrams et al., 1974; Taylor et al., 1974; Taylor and Abrams, 1975) for schizophrenia and affective illness. The work of the St. Louis center has been specially selected for this initial comparative investigation since their efforts represent the most cohesive, long-term onslaught of noncomputerized clinical research into the relationship between clinical features and diagnostic categories for a very wide spectrum of functional mental illness. Using their approach, the St. Louis and the closely allied Iowa centers have arrived at sufficiently validated criteria that, in their view, isolate a type of schizophrenia "which is as 'pure' and uncontaminated with atypical forms of the illness as any reported in the literature ..." (Morrison et al., 1972). Indeed, the Feighner criteria are designed strictly so as to select only poor-prognosis schizophrenia, i.e., so-called process, chronic, nuclear, and 'hard-core' schizophrenia (Tsuang and Winokur, 1974). This is not surprising since these criteria have been couched in such a form that the fulfillment of certain affective criteria precludes a diagnosis of schizophrenia. Thus, the St. Louis center stresses chronicity in schizophrenia and cultivates a rather wide concept of affective disorder; both biases are also shared by the Taylor group, justifying the view that such researchers are, indeed, truly neo-Kraepelinean in orientation. While the clinical criteria of these research groups approximate closely to Kraepelin's (1913) basic clinical views, their position is new in that they have systematically operationalized their Kraepelinean tendencies (Strauss and Gift, 1977).

When compared with German Schneiderians, with Swiss Bleulerians, with English psychiatry, and with most of the rest of American psychiatry, these Kraepelin-oriented American researchers probably subscribe to the widest present-day views on affective illness and, conversely, to extremely narrow views on schizophrenia (Koehler and Jacoby, 1978). Berner (1977) has also contended that one of the main reasons why Schneider-oriented schizophrenia in Germany remains such a wide clinical concept is the stress placed on first-rank symptoms (FRSs). Like Kraepelin (1913), Leonhard (1964, 1968), and the St. Louis/Iowa and Taylor groups before him, Berner does not automatically give FRSs such a strong schizophrenic weighting, especially in the presence of clear-cut affective features and in the absence of 'blocking' (Sperrung) and 'driveling' (Faseln). In the present study, then, schizophrenics with first-rank symptoms are not considered since FRSs may possibly tend, according to Berner, to 'contaminate' a Schneider-oriented sample, whereby some 'false-positive' schizophrenics actually suffering from affective disorder would probably be included. Indeed, in a recent investigation, some evidence suggested that Schneider-oriented schizophrenics with FRSs did not represent a clear homogeneous and 'uncontaminated' sample but rather contained about 14.4% of research-diagnosable affective illness (Koehler and Seminario, 1978). Thus, the main purpose of the present study is to determine the extent of Kraepelin-biased research-diagnosable schizophrenic and, in particular, affective disorder existing in cases of schizophrenia lacking first-rank symptoms as routinely diagnosed in Germany, in the hope of throwing some additional light on diagnostic practice in Europe and the USA.

Method

The present study was carried out in the strongly Schneider-oriented University Psychiatric Clinic in Homburg/Saar, West Germany. H.-H. Meyer, who had earlier been closely associated with Schneider in Heidelberg, was the head of the Homburg center for the period under consideration (1962—1971). At Homburg, Meyer formally introduced orthodox Schneiderian diagnostic criteria, in particular Schneider's (1971) system of ranked symptoms for diagnosing schizophrenia. Indeed, it has recently been demonstrated that the actual percentages for first and total admissions of various categories of functional psychotic mental illness in Heidelberg under Schneider and in Homburg/Saar under Meyer were rather similar, so that it can probably be justly assumed that the diagnostic rates in Homburg were very Schneider-typical (Koehler and Steigerwald, 1977). The period from 1962 to 1971 used in the present investigation was chosen primarily for the following reasons: (1) during this time Meyer was assisted by a senior psychiatrist (leitender Oberarzt), who had come with him from Heidelberg, to ensure that diagnoses were being made in a Schneider-typical fashion; (2) during this time no particular research or personal clinical idiosyncracies of a kind that might tend to distort the routine rates of Schneider-typical functional mental illness were evident. After 1972, these conditions no longer prevailed so strictly. Apart from the availability of the comparative diagnostic information between Heidelberg and Homburg and the seemingly favorable conditions for diagnostic consistency in Homburg/Saar for the years in question, another important reason for the use of case records in the present study was that this seemed appropriate since practically all earlier and most of the more recent German Schneider-oriented research (e.g., Pauleikhoff, 1957; Huber et al., 1975) had also been done in this manner.

In rating the presence or absence of first-rank symptoms (Koehler et al., 1977): (1) use was primarily made of Mellor's (1970) formal listing of 11 operational definitions of such phenomena; (2) the wide concept of experiences of influence on feelings, thoughts, impulses, and volitional acts as defined by the Taylor group (Taylor, 1972; Taylor and Heiser, 1973) was applied when necessary; (3) the sudden delusional notion or idea provoked by or linked to a perception (Fish, 1962; Koehler, 1977) was deliberately rated as equivalent to a delusional perception; and (4) in contrast to some of Schneider's pupils (e.g., Huber, 1974), imperative phonemes were not counted as FRSs. The threshold point in rating the presence of a FRS within the present retrospective context was reached when two researchers after discussing the case had both given a positive rating on the basis of these guidelines. In keeping with the distinction between Schneider-positive (those schizophrenics with FRSs) and Schneider-negative (those without FRSs) made by Taylor (1972), the presence of even one first-rank symptom was enough to designate a case of Schneider-oriented schizophrenia as Schneider-positive. Wing and Nixon (1975) had recently criticized some NIMH research on first-rank symptoms (Carpenter et al., 1973; Carpenter and Strauss, 1974; Strauss and Carpenter, 1974), especially the failure to utilize a threshold point so that even a single PSE (Wing et al., 1974) rating of 1 on any of the FRS items was regarded as necessarily indicative of a diagnosis of schizophrenia. In contrast, since the patients in our sample had already been routinely diagnosed as Schneider-typical schizophrenics, our finding of presence or absence of a first-rank symptom had no bearing on the diagnosis.

The present investigation was based on a randomized sample of Schneider-oriented schizophrenics where the FRS-rating procedure failed to disclose the presence of any such phenomena. The 116 first-admission Schneider-negative schizophrenics thus selected represented 11% of a total of 1050 Schneider-typical patients who were given the discharge diagnosis of schizophrenia; these 1050 schizophrenics had included only patients between the ages of 16—60 years and excluded patients admitted for forensic reasons or for an expert opinion, as well as those with a questionable discharge diagnosis of schizophrenia. Each of the 116 case records of schizophrenics without FRSs was then scrutinized in the light of various sets of rigorous Kraepelin-biased research criteria for schizophrenia, mania, and depressive illness developed by the St. Louis/Iowa and Taylor groups. These criteria also have the advantage of being objective, thus reducing clinical judgement to a minimum (Morrison et al., 1972). For the research diagnosis of schizophrenia, either the 'modified' Taylor criteria (Taylor and Abrams, 1975) or the St. Louis criteria (Feighner et al., 1972), or both sets of criteria were acceptable. In

determining the presence of research-diagnosable affective illness, the Feighner criteria or the Taylor criteria (Abrams et al.,1974; Taylor et al.,1974) for mania and depression, or both sets of criteria were applicable. These criteria are given as follows:

Feighner Criteria for Schizophrenia (A through C Required)

A. Both of the following are necessary: (1) a chronic illness with at least six months of symptoms prior to the index evaluation without return to the premorbid level of psychosocial adjustment; (2) absence of a period of depressive or manic symptoms sufficient to qualify for a diagnosis of primary affective disorder (see below).
B. At least one of the following: (1) delusions or hallucinations without significant perplexity or disorientation associated with them; (2) verbal production that makes communication difficult because of a lack of logical or understandable organization.
C. At least two of the following: (1) single; (2) poor premorbid social adjustment or work history; (3) family history of schizophrenia; (4) absence of alcoholism or drug abuse within one year of onset of psychosis; (5) onset of illness prior to age 40.

Modified Taylor Criteria for Schizophrenia (A through G Required)

A. Duration of episode greater than six months.
B. Clear consciousness.
C. Presence of either delusions, hallucinations, formal thought disorder (verbigeration, non sequiturs, word approximations, neologisms, blocking, and derailment).
D. Absence of a broad affect.
E. Absence of signs and symptoms sufficient to make a diagnosis of affective disease (see below).
F. Absence of alcoholism or drug abuse within one year of the index admission.
G. No medical illness known to produce psychiatric symptoms.

Feighner Criteria for Primary Depressive Disorder (A through C Required)

A. Dysphoric mood characterized by symptoms such as the following: depressed, sad, blue, despondent, hopeless, irritable, fearful, worried, or discouraged.
B. At least four of the following: (1) poor appetite or weight loss; (2) sleep difficulty including insomnia or hypersomnia; (3) loss of energy, e.g., fatigability, tiredness; (4) agitation or retardation; (5) loss of interest in usual activities or decrease in sexual drive; (6) feelings of self-reproach or guilt (either may be delusional); (7) complaints of or actually diminished ability to think or concentrate, such as slow thinking or mixed-up thoughts; (8) recurrent thought of death or suicide, including thoughts of wishing to be dead.
C. At least a one-month course before admission to hospital, without preexisting psychiatric illness or a medical illness known to produce psychiatric symptoms.

Taylor Criteria for Endogenous Depression (A through D plus at Least Two of E through G Required)

A. Psychomotor retardation or agitation.
B. Restricted affective range with decreased intensity but no blunting.
C. Depressed mood or loss of interest in daily activities.
D. No medical illness known to produce psychiatric symptoms.
E. Delusional ideas of guilt, sin, poverty, or ill health, or unrealistic feelings of hopelessness and worthlessness.
F. Perseveration of themes or pseudohallucinations.
G. Anorexia and weight loss or diurnal mood variation with early morning awakening.

Feighner Criteria for Primary Affective Manic Disorder (A through C Required)

A. Euphoria or irritability.
B. At least two of the following: (1) hyperactivity, including motor, social, and sexual activity; (2) push of speech (pressure to keep talking); (3) flight of ideas (racing thoughts); (4) grandiosity (may be delusional); (5) decreased sleep; (6) distractability.
C. At least a two-week course before admission to hospital, without preexisting psychiatric illness or a medical illness known to produce psychiatric symptoms.

Taylor Criteria for Mania (A through D Required)

A. Hyperactivity.
B. Rapid/pressured speech.
C. An euphoric, expansive, or irritable mood.
D. No medical illness known to produce psychiatric symptoms.

Results

Of the 116 Schneider-oriented schizophrenics without first-rank symptoms, 62 were male and 54 were female; the mean age on index admission was 31 years. Positive research diagnoses for schizophrenia, mania, or depression were demonstrated in 45.7% (53 cases) of the sample. Indeed, Table 1 shows that Schneider-negative schizophrenia contained 31% (36 cases) of research-diagnosable Kraepelin-oriented schizophrenia: 21 patients shared both the St. Louis and Taylor criteria for schizophrenia, whereas 13 fulfilled the St. Louis criteria alone and two satisfied only the Taylor criteria. The research diagnostic agreement for schizophrenia between the two sets of criteria was better than could be expected by chance as indicated by a kappa value of 0.52 (Helzer et al., 1977).

Table 1 also clearly shows that 14.6% (17 cases) of the Schneider-negative sample actually consisted of patients with research-positive affective disorder; mania contributed 5.2% to this figure and depression 9.4%. Five cases shared both sets of criteria for depression and six fulfilled only St. Louis criteria for depressive disorder; moreover, two patients were research-positive for both Taylor- and St. Louis-oriented mania, whereas three were only Taylor-positive for mania and one only for St. Louis mania. These findings suggest that the

Table 1. Research-diagnosable schizophrenia, mania, and depression in Schneider-negative schizophrenia ($N = 116$)

Research criteria	Taylor schizophrenia	Taylor depression	Taylor mania	No Taylor criteria	Total
St. Louis schizophrenia	21	0	0	13	34
St. Louis depression	0	5	0	6	11
St. Louis mania	0	0	2	1	3
No St. Louis criteria	2	0	3	63	68
Total	23	5	5	83	116

routine diagnosis of Schneider-negative schizophrenia in Germany does not identify an homogeneous, 'uncontaminated' sample of schizophrenics.

As for the 54.3% (63 cases) of the sample that received no research diagnosis of schizophrenia or affective disorder, it can conveniently be called research-negative because it did not fulfill the above-mentioned Feighner and Taylor criteria, or the remaining St. Louis criteria (Feighner et al., 1972) for other forms of psychiatric illness. In other words, this remaining group fell into the Feighner provisional category of 'Undiagnosed Psychiatric Illness.' The problem of such excluded patients has been reviewed by Kendell (1975a) and the St. Louis center has researched the methodological considerations associated with such a category (e.g., Hudgens, 1971; Welner et al., 1974).

Comment

In their critique of the St. Louis research criteria for schizophrenia, Taylor and Abrams (1975) noted that of 89 hospitalized patients given a routine admission diagnosis of schizophrenia in the New York area, 18% (16 cases) satisfied either their own criteria, the St. Louis criteria, or both sets of research criteria. Indeed, only five of these research-diagnosable schizophrenics demonstrated shared research criteria, findings no better than would be expected by chance. In the present study, of the 31% (36 cases) with research-positive schizophrenia, 21 patients shared both St. Louis and Taylor research criteria for this illness, a finding better than can be expected by chance. Moreover, when the findings from another study are considered (Koehler and Seminario, 1978), about 40% of a German sample of schizophrenia containing both Schneider-positive and Schneider-negative cases was research diagnosable for Kraepelin-oriented schizophrenia.

Earlier, the Taylor group (Abrams et al., 1974; Taylor et al., 1974) had reported on the percentage of research-diagnosable affective illness present in the 89-patient sample later used as the basis of their critique of the St. Louis criteria for schizophrenia (Taylor and Abrams, 1975). Thus, of this schizophrenic sample routinely diagnosed in New York, 38% (34 cases) turned out to be research diagnosable for affective disorder; indeed, all these patients with research-positive affective illness actually had research-diagnosable mania. Their findings on research-oriented affective illness were based on Taylor-biased criteria; unfortunately, there was no additional analysis of their sample in terms of the St. Louis affective criteria as in the present investigation.

In our study, then, the total yield of 14.6% (17 cases) of research-diagnosable affective disorder was much lower than the 38% found in the Taylor-group studies (Abrams et al., 1974; Taylor et al., 1974) just mentioned. However, in contrast, we also found research-diagnosable depression in 9.4% of the Schneider-negative sample, whereas, interestingly enough, the 5.2% of cases in our study fulfilling our research criteria for mania was exceptionally small when compared with the high 38% of the Taylor investigations. Thus, these findings on affective illness were more or less of the same magnitude as demonstrated in our recent study dealing with so-called 'first-rank' schizophrenia (Koehler and Seminario, 1978).

Conceivably, one of the major reasons for the greater yield of Kraepelin-oriented research-diagnosable schizophrenia in the present study could be that the present-day Schneiderian concept of schizophrenia in Germany (Weitbrecht, 1968; Schneider, 1971; Huber, 1974), although relatively wide when compared with strict Kraepelinean views (Kraepelin, 1913), is still probably not nearly as wide as the clinical concept routinely used in the New York area (Cooper et al., 1972; Koehler and Jacoby, 1978). Thus, it could be expected that our sample of Schneider-negative schizophrenia would tend to demonstrate more research-positive schizophrenia and less research-diagnosable affective disorder, whereas in the Taylor-group studies (Abrams et al., 1974; Taylor et al., 1974; Taylor and Abrams, 1975) the trend of these findings would be reserved.

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