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The Diagnostic Status of First-Rank Symptoms

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***Objective*: In the *International Statistical Classification of Diseases, Tenth Revision*(*ICD-10*) and *Diagnostic and Statistical Manual of Mental Disorder, Third and Fourth Edition*(*DSM-III-IV*), the presence of one of Schneider "first-rank symptoms" (FRS) is symptomatically sufficient for the schizophrenia diagnosis. Yet, it has been claimed that FRS may also be found in the nonschizophrenic conditions, and therefore, they are not specific or diagnostic for schizophrenia. This review was made to clarify the issue of diagnostic specificity. *Methods*: (1) A critical review of FRS studies published in English between 1970 and 2005. (2) A highlight of the 5 most frequently cited studies identified in the Web of Science. (3) Theoretical implications of the epistemological issues of FRS. *Results*: The reviewed studies do not allow for either a reconfirmation or a rejection of Schneider's claims about FRS. The sources of disagreement between the studies are (1) including or excluding acute patients with potential degradation of consciousness; (2) assessing or not the phenomenological context; (3) assessing patients in different stages of their illness evolution; and (4) differential emphasis on mood symptoms and history of psychiatric symptoms. *Conclusion*: Both *DSM-IV* and *ICD-10* emphasize FRS to a degree that is not supported by the empirical evidence. Until the status of FRS is clarified in depth, we suggest that the FRS, as these are currently defined, should be de-emphasized in the next revisions of our diagnostic systems. Future studies aiming at validation of FRS as diagnostic features need to apply a phenomenological perspective and include a homogenous group of patients across a wide spectrum of diagnoses.**

Key words: schizophrenia/diagnostic systems/Kurt Schneider/review

Introduction

Kurt Schneider, a German psychiatrist and a pupil of Karl Jaspers, pointed out certain symptoms as being characteristic of schizophrenia and therefore exhibiting a "first-rank" status in the hierarchy of potentially diagnostic symptoms. The "first-rank" symptoms (FRS) have played an extremely important role in the recent diagnostic systems: in the *International Statistical Classification of Diseases, tenth Revision* (*ICD-10*) as well as in *Diagnostic and Statistical Manual of Mental Disorder, Third and Fourth Edition*(*DSM-III-IV*), the presence of one FRS is *symptomatically* sufficient for the schizophrenia diagnosis. At the same time, critics regularly claim that FRS may also be encountered in the nonschizophrenic conditions, and therefore, they are not specific or diagnostic for schizophrenia.

The current descriptions and definitions in English of the FRS stem from two principal written sources: the most original is the English translation of Kurt Schneider's *Clinical Psychopathology* (*CP*),[1] which influenced the second source: the very influential Present State Examination, a questionnaire developed in the WHO International Pilot Studies on Schizophrenia[2] and itself serving as a template for numerous other scales and questionnaires. Thus, the CP appears to be the only source available for the Anglophone psychiatry in its operational edifice involving the FRS. The term "edifice" here refers to the creation of post-*DSM-II* and post-*ICD-8/9* diagnostic systems and criteria, used in most empirical FRS studies reviewed below.

The CP soon became popular among psychiatrists because it was brief, pragmatic, and seemed to reduce the complexities of differential diagnosis between schizophrenia and affective illness to a few rules of thumb. An even more brief version of CP, targeted at general practitioners, appeared in 1939.[3] CP may be considered to represent an "operational" modification of the perspective of Eugene Bleuler (and partly of Emil Kraepelin as well), who advocated the distinction between schizophrenia and affective illness by appraising the intersubjective adequacy of thinking, feeling, expression, and action.[4]

A fundamental problem inherent in the specificity assessments of the FRS as well as in many other issues in schizophrenia research is the lack of a solid laboratory test of the schizophrenia spectrum disorders. In other

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words, in assessing specificity, we need to compare various *conventions* of the diagnosis to each other. It is, however, well-known from the poly-diagnostic studies[5] that the number of schizophrenia patients in the same sample may vary by a factor 2–3, depending on the diagnostic criteria and the composition of the sample (eg, the proportion of chronic patients).

The purpose of this review, therefore, is 3-fold: (1) to critically review FRS studies published in English between 1970 and 2005, (2) to emphasize in detail the methodological aspects of the 5 most frequently cited studies as identified in the Web of Science, and (3) to reconsider epistemological issues concerning the FRS.

Methods

The original data reports for the present review were selected from a PubMed search in January 2006, including "FRS," "Schneiderian symptoms," "psychosis," and "schizophrenia" in the search phrase. Studies concerning the specificity of FRS and the relation between FRS and other variables were selected. Studies with exclusive focus on neurobiological structures were not included. Some studies assessed the diagnosis of schizophrenia by different diagnostic criteria. Here, the FRS were often included, yet without any attempt to single out their diagnostic impact.[6–9] Consequently, these reports were considered less relevant and were not included.

Results

The reports included are summarized in table 1 with major characteristics extracted from each study.

Specificity

Only one study shows that FRS are specific for schizophrenia in the absence of an organic syndrome (table 1, no. 28), while another study finds that FRS distinguish non-affective psychosis from affective disorders (table 1, no. 36). This contrasts with the 7 studies, which show that FRS occur frequently, but not exclusively, in schizophrenia. Thus, the FRS are also found in patients suffering from affective disorders (table 1, no. 4, 5, 7, 11, 18, 33, 35). The FRS are reported to occur in 22% to 29% of patients with affective disorders (table 1, no. 3, 33, 35).

Two studies find that although FRS are not *pathognomonic* for schizophrenia, they are nonetheless very strong indicators of schizophrenia (table 1, no. 28, 32).

The majority of the reports conclude that FRS are not specific to schizophrenia (table 1, no. 3–7, 11, 12, 14, 16, 20–24, 31, 33–35). Two reports suggest that FRS are also present in patients with personality disorders (table 1, no. 4, 6).

Prevalence

Generally, the prevalence of FRS in schizophrenia is reported to range between 25% and 88% (table 1, no. 1, 4, 6, 15, 17, 23-27, 29, 30, 32, 33). This range remains equally high in the reports from western and developing countries and in studies of different ethnic groups (table 1, no. 6, 15, 26, 30, 38).

The studies demonstrate very different prevalences for each specific FRS ranging from 0% to 66%. In some studies, delusional perception is the most frequent FRS, whereas the same symptom is the least frequent in other studies. A number of studies find no dominating FRS type. No characteristic pattern can be discerned across the studies (table 1, no. 1, 11, 17, 21, 23, 25, 27, 29, 30, 32). Assessment of the diagnostic weight of individual FRS is absent with the exception of Mellor and colleagues[28] who suggest that "*voices discussing*" should be given less diagnostic weight than other FRS (table 1, no. 19).

Outcome

The majority of the reports conclude that FRS do not affect outcome (table 1, no. 4, 5, 8, 10, 13, 14, 22, 39). One report concludes that FRS relate to outcome, however, in an ambiguous way; some FRS appear to be related to good outcome and some to poor outcome (table 1, no. 17). No study finds that outcome is related to the *number of FRS* observed in the individual patient (table 1, no. 13, 22). A single study (discussed below) shows that FRS and "poor prognostic signs"of Robin and Guze identify the same patients, and consequently, these patients have poorer outcome than the patients without FRS and with "good prognostic signs" (table 1, no. 2).

The relation between age and FRS has not been decisively established. One study reported that the patients with FRS were younger than those without (table 1, no. 37), another study found no relation between FRS and age (table 1, no. 5), and a third study found that the occurrence of FRS increased with the age of the patient at first hospitalization (table 1, no. 25).

The reports do not seem to support Schneider's claim that FRS confer a clear indication of schizophrenia when no organic syndrome is present. However, considerable problems of methods and design may be identified in the studies, inviting to a more cautious assessment of Schneider's claims.

Methodological Issues

The methodological problems identified in the studies are detailed below and tabulated in the last column of table 1 as outlined in the table footnote.

Lack of Definitions

Missing or unclear definitions of FRS is an obvious problem in 18 of the 39 reports (table 1, no. 2, 3, 5, 7–9, 11, 13, 18, 20, 22, 26–28, 34, 35, 38, 39). In 6 reports, no definition of schizophrenia is offered (table 1, no. 1, 2, 3, 5, 8,

9). These are mainly older reports, written before the introduction of operational diagnostic systems.

Insufficient Sampling, Interview, or Rating System

When examining whether FRS are predominantly features of schizophrenia, it is necessary to examine whether the symptoms are found in the nonschizophrenic patients. Consequently, this question cannot be addressed when patient samples are limited to patients with the schizophrenia diagnosis, as is the case in 14 reports (table 1, no. 1, 2, 5, 9, 11, 13, 17, 19, 20–22, 25, 29, 30).

The lack of a phenomenological approach in the rating interview appears in 29 reports (table 1, no. 3, 4, 6–8, 10, 12–17, 20, 21, 23, 24, 26–35, 37, 39, 40). This problem might have caused an insufficient eliciting and description of the psychopathological phenomena, resulting in doubtful FRS ratings. In 9 reports (table 1, no. 2, 5, 9, 11, 16, 17, 22, 25, 26), the symptom rating is made from case notes thus potentially conferring important sources of error, particularly when the original interview was carried out without a specific focus on the FRS.

It would seem methodologically adequate that FRS are rated by an experienced clinician, yet this is not the case in 3 of the reports (table 1, no. 16, 33, 38) and in another 6 reports (table 1, no. 2, 11–13, 24, 40) it is unclear who did the rating.

Lack of Comparison Within FRS

FRS may be divided into at least 2 clusters, 1 including the "transitivistic" symptoms (loss of ego boundaries) and 1 including auditory hallucinations,[1] but 17 reports lack differentiation between individual FRS (table 1, no. 3, 4, 8, 10, 11, 13–16, 18, 20, 31, 33, 35–38).

Lack of Reliability Measures

The most frequent methodological problem in the 40 reports is the absence of FRS corating and measures of reliability: 34 of the 40 reports do not address these issues (table 1, no. 1–5, 7–20, 23–29, 31, 33, 35–40). This may result in drifts in the interpretations of the symptoms and in the studies with more than 1 person rating; it is unclear if the symptoms are rated similarly. Furthermore, the lack of reliability measures on the level of individual FRS obscures the fact that certain symptoms are more difficult to rate than others.

Mixture of Illness Variables

A few reports fuse the assessment of several illness variables. In one study, as described above (table 1, no. 2), the FRS and poor prognostic signs jointly constitute a single category. In another study, a comparison between FRS and language abnormalities obscures the fact that all patients included had at least 1 FRS (table 1, no. 36). One study merges FRS and speech disorder (table 1, no. 40), while another study merges FRS and bizarre delusions (table 1, no. 33). In one study, ethnicity and migration are merged into one variable in the evaluation of FRS (table 1, no. 26).

Frequently Cited Studies

A number of the cited studies of FRS are more than 25 years old, yet their importance cannot be overemphasized. A citation index based on data from The Web of Science shows that the 5 studies below are still the most cited studies of FRS.

Mellor (1970)

Based on a sample of 166 schizophrenic patients, Mellor[10] concludes that a considerable proportion of the schizophrenic patients (ie, 119/166) has FRS. The study exemplifies a frequent problem in the FRS research: as long as the schizophrenia diagnosis depends on the FRS, it is logically impossible to assess the diagnostic specificity of FRS. Although it is claimed that one aim of the study was to map the frequency of FRS in schizophrenia,[10] the subsequent follow-up article briefly mentions[28](p184) that the original admission diagnosis was established if "(the patients) had FRS in the absence of organic psychosyndrome."

Taylor (1972)

Based on a sample of 78 patients admitted as schizophrenics, Taylor[11] concludes that FRS in combination with poor prognostic signs according to Robin and Guze (tabulated in Taylor[11]) identify schizophrenic patients, while the patients without FRS were suffering from other illnesses. The study has at least 2 shortcomings: first, the FRS were rated from case note material,[11] which is a nonoptimal source for evaluating the presence of FRS. Second, and more importantly, *only patients with the diagnosis of schizophrenia* were included, which invalidates the assessments of the FRS' specificity. Moreover, it seems that the discharge diagnosis of schizophrenia was based on the FRS (unfortunately, the precise way of establishing this diagnosis is not described).

Carpenter and Colleagues (1973)

Based on 2 patient samples, totaling 165 structured interviews, the report concludes that the FRS are not pathognomonic of schizophrenia, but their prevalence is higher in schizophrenia than in other diagnoses.[13] This study has 2 major drawbacks: (1) the findings of the FRS in neurotic and affective patients and the manner in which these sensational findings are dismissed or sustained, and (2) only eight FRS were included in the study.

The results were extracted from interview data from 2 different subject samples with 103 patients with

Table 1. Studies of FRS Specificity for Schizophrenia

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
1. Mellor[10]	• Frequency of FRS in SCH • Distribution of FRS	No/no	• 166 SCH inpatients • 54 unspecified psychiatric patients	Yes	• Consultant • Interview	• 119 + FRS • FRS → admissions ↓ and length of illness ↓ • 28% SCH without FRS • No dominating FRS type	• Lack def. of SCH • Lack description of 54 patients • Method problem 4 and 6
2. Taylor[11]	• Frequency of FRS and "poor or good prognostic features" of Robin and Guze in "finally diagnosed" SCH	No/no	• 78 male SCH inpatients	Yes	• Unclear who is rating • Case records	• 22 of 34 had "poor prognostic features" and FRS • Conclude that FRS and "poor prognostic signs" identify the same patients	• Methodological error in collapsing FRS and "poor prognostic signs" • High prevalence of FRS • Only men • No def. of SCH • Method problem 2, 3, 4, 6, and 7
3. Taylor[12]	• To establish diagnostic validity for RDC criteria for manic-depressive illness	No/no	• 52 manic inpatients patients • Patients who received a RDC diagnosis of mania, according to the criteria: hyperactivity, rapid / pressured speech, and a euphoric, expansive or irritable mood	No	• Authors • Semi structured interview	• 8 + FRS • The presence of FRS did not predict poor outcome • FRS are not diagnostically decisive when manic symptoms are present	• The criteria of mania are symptoms not different from symptoms of exacerbation of psychosis • No concept of mania • No def. of SCH • Method problem 1, 3, 4, and 5
4. Carpenter[13]	• Are FRS pathognomonic for schizophrenia • The frequency and distribution of FRS in SCH • Relation between FRS and prior duration of illness • Prognostic significance of FRS	*DSM-II*/–	• 131 psychotic/SCH/ anxiety patients • 34 patients with manic-depressive disorder	Yes	• Psychiatrists • Interview journal material	• 51% FRS+ of SCH patients • 23% FRS+ of the affective patients • 9% FRS + of the neurotic patients • For SCH: no correlation between FRS and prior duration of illness or between FRS and outcome • FRS are not pathognomonic for schizophrenia	• 3 FRS missing • Neurotic patients with FRS? • The diagnoses seem untrustworthy • Patients were not rated with focus on FRS • Method problem 1, 4, and 5

Table 1. Continued

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
5. Abrams[14]	• Correlating FRS and severity of illness in SCH	No/no	• 71 SCH patients	No	• Case records • Severity of illness evaluated by CGI-S	• 24 FRS+ • No dominating FRS • No relation between FRS and severity of illness Sex and age was unrelated to the presence of FRS	• No def. of SCH • Method problem 2, 3, 4, and 6
6. Carpenter[15]	• Prevalence of FRS in SCH • Distribution of FRS • Are FRS pathognomonic for SCH?	*ICD-8*/–	• 1202 patients from 9 different countries	PSE def.	• Psychiatrist • PSE interview	• Prevalence of FRS was between 31% and 76%—taken together 57% • FRS seen in patients with other psychoses • 4% of the patients diagnosed with neurosis and personality disorders had FRS • FRS are not pathognomonic for SCH	• Only 7 FRS are included • FRS in nonpsychotic patients? • Big difference in the prevalence of FRS between the different countries • Method problem: 1
7. Wing[16]	• Finding "discriminating" symptoms for SCH, manic psychoses, or affective disorders	CATEGO/–	• 1202 mixed mostly SCH/psychotic patients (from IPSS)	No	• Psychiatrists • PSE	• 23 FRS+ patients were not SCH • 13 of these 23 FRS+ were manic psychoses	• Authors introduce lack of confidence in the diagnostic procedure and FRS rating • Method problem 1, 3, and 4
8. Hawk[17]	• To compare the diagnostic value of Langfeldt and Schneider diagnostic systems with *DSM-II*, as to predict outcome	*DSM-II*	• 131 psychotic patients initially • 80 patients at 5 y follow-up	No	• Authors • PSE	• 33 FRS+ SCH patients • No difference in outcome between FRS-positive and FRS-negative SCHs	• No specification of drop-out characteristics • No def. of SCH • Method problem 1, 3, 4, and 5
9. Koehler[18]	• To compare the distribution of FRS in Germany and US?	No/no	• 210 SCH patients randomly sampled among first admissions	Yes	• Case records and interviews by senior psychiatrist	• Single FRS frequency: 0% (made impulse) to 55% (delusional perception) • FRS more frequently described in German sample	• The German patients were interviewed with focus on FRS • No def. of SCH • Method problem 2, 3, 4, and 6

Table 1. Continued

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
10. Brockington[19]	• To compare 10 def. of SCH	Yes	• Sample 1: 161 psychotic, first-admission patients • Sample 2: 134 psychotic patients, mixed first and readmissions	Yes	• Psychiatrists • PSE • Case records	• 17 FRS+ SCH • 19 FRS- SCH • FRS without predictive value.	• Unclear by what def. "outcome" diagnosis is made • Method problem 1, 4, and 5
11. Koehler[20]	• To use the St Louis criteria and Taylor Group criteria for diagnosis in a FRS-positive SCH sample	St Louis criteria and Taylor Group criteria	• 83 SCH patients with FRS	No	• Rater is not described • Case records	• 66.3% received a research diagnosis of either SCH or affective disorder • FRS does not clearly enough identify an homogeneous, "uncontaminated" schizophrenic patient sample	• No description of rater • Method problem 2, 3, 4, 5, and 6
12. Silverstein[21]	• Prevalence of FRS in SCH • Are FRS more characteristic than a other psychotic symptoms?	Unclear *DSM-II* ?/–	• 126 younger inpatients	Yes	• Unclear who is rating • Structured interview, PSE, PSI	• FRS occurred significantly more frequently among SCH than non-SCH • FRS do not offer the best differentiation between patient group • No evidence that Schneider's diagnostic system is superior to other diagnostic approaches	• Unclear how initial diagnosis is made • Unclear who is rating the patients • Method problem: 1 and 4
13. Bland[22]	• To compare diagnostic criteria in order to predict outcome	St Louis criteria and the NHSI	• 43 first-admission SCH patients with FRS	No	• Rater is not described • Case records and interviews	• FRS or number of FRS not correlated to outcome	• No description of rater • Method problem 3, 4, 5, and 6
14. Kendell[23]	• To compare diagnostic criteria in order to predict outcome	6 operational def. of SCH/–	• 134 psychotic patients	Yes, PSE	• Psychiatrist • PSE • Historical data	• FRS do not discriminate between SCHs and other psychotic patients	• Method problem 1, 4, and 5
15. Chandrasena[24]	• Prevalence of FRS and their prognostic implication in patients in Sri Lanka	*ICD-8*/–	• All admissions over a 2-y period with a diagnose of psychosis	Mellor's	• British trained psychiatrists • Interview PSE like	• 169 had FRS • Only SCH had FRS • Prevalence of FRS was 25.4% • No difference in age, sex, and duration of episodes in those with or without FRS	• Tautology: only SCH had FRS, and the diagnosis of SCH was made according to *ICD-8* • Method problem: 1, 4, and 5

Table 1. Continued

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
16. Preiser[25]	• Do schizophrenics with FRS have more observable pathologic behavior than non-FRS SCH? • Do schizophrenics with FRS have a poorer response to treatment?	Bleurian and/or ego function criteria/–	• 88 inpatients	Mellor's def.	• Nurses, recreation therapist, group therapist, and individual therapist did different kinds of rating scales • Assessment was reviewed by senior psychiatrist	• 52 SCH, 25 had FRS, 5 patients had FRS but not SCH • At admission SCH with FRS showed a higher degree of worry, sadness, fright, and tiredness • The presence of FRS did not indicate poorer response to treatment	• Many different people are rating • Senior psychiatrist do not interview the patients themselves • Method problem: 1, 2, 4, 5, and 8
17. Bland[26]	• FRS's value in predicting outcome in SCH after 14 y	RDC, Feighner, New Haven SCH index/–	• 43 first-admission SCH	Mellor's def.	• Case records	• 88% had FRS • FRS are related to long-term outcome, some FRS are related to good outcome some to poor outcome • Delusional perception being the most common FRS, voices arguing and thought withdrawal being the least common FRS	• Somatic passivity is left out • Method problem: 1, 2, 4, and 6
18. Abrams[27]	• Comparing groups of manic patients with increasing levels of schizophrenic symptoms	–/–	• 111 inpatients who satisfied the Feighner criteria for mania	?	• Authors and a psychiatric resident • Interview with a phenomenological approach	• 42 had no schizophrenic symptoms, the rest had one or more • Schizophrenic symptoms do not play an important role in patients who satisfy modern criteria for mania	• Most of the symptoms described as manic psychopathology are also symptoms in exacerbation of schizophrenia • Method problem: 1, 3, 4, and 5
19. Mellor[28]	• Diagnostic specificity of each FRS type measured at 8 y follow-up.	Yes	• 57 readmitted SCH patients	Yes	• Authors • Case records	• 88% originally FRS + SCH still SCH • When "voices discussing" is the only FRS, then a diagnosis of affective disorder will probably be made if the patient receives psychiatric treatment at a later date	• "Clinical conservatism"—the diagnosis is hardly re-evaluated every time a patient is readmitted • Unclear how the 57 patients were selected • Method problem 4 and 6

Table 1. Continued

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
20. Silverstein[29]	• Examine the relationship between FRS and other non-Schneiderian psychotic symptoms	*DSM-II*/–	• 107 SCH patients and 76 non-SCH	Schneider's def. + Wing's def. + Koehler's def	• Senior clinicians • Structured interview (PSI) and a semi-structured interview	• FRS do not appear to have the unique importance or diagnostic importance or diagnostic specificity they have been attributed	• Method problem: 1, 3, 4, 5, and 6
21. Lewine[30]	• The relationship between FRS and other commonly occurring psychiatric symptoms and within FRS themselves	CATEGO/–	• 100 SCH inpatients	PSE	• Authors • Modified PSE interview	• Thought broadcast being the most common FRS and thought withdrawal, thought commentary, and primary delusion being uncommon • FRS do not form an empirically homogeneous symptom group • No evidence that FRS covaried higher with one another than with other symptoms	• Unclear how the initial SCH diagnosis is made • Method problem: 1 and 6
22. Stephens[31]	• To compare diagnostic criteria in order to predict long-time outcome	9 diagnostic systems incl. FRS	• 283 first-admission SCH patients • Follow-up 5–16 y	No	• Authors • Case records	• FRS or number of FRS not correlated to outcome	• Retrospectively collected sample • Method problem 2, 3 and 6
23. Ndetei[32]	• Prevalence and frequency of FRS in Kenyan SCH patients	New Haven Index/–	• 82 first-admission patients, admitted no longer than 4 weeks	PSE def.	• First author is rating, unclear if he rates all the patients • Structured interview incl. PSE	• 73% SCH had FRS • 24% non-SCH had FRS (all psychotic) • The most common FRS is thought ecco	• NHSI is not more true than any other diagnostic system • Unclear who is rating, besides the first author • Patients admitted more than 4 wk are excluded • Method problem: 1 and 4

Table 1. Continued

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
24. Radhakrishnan[33]	• Prevalence of FRS in a psychiatric hospital in Vellore	Feighner/*ICD-9*	• All admissions over 18 mo 266 patients, both psychotic and nonpsychotic • Follow up after 12 mo	IPPS def.	• Unclear who is rating • Interviewed according to IPPS	• 88 SCH, 35.2% had FRS • FRS were found in all psychotic groups and in patients with temporal lobe epilepsy • FRS has no relation to outcome • FRS are not pathognomonic for FRS	• Unclear who is rating • 12 mo is a very short time for follow-up in SCH • Method problem: 1 and 4
25. Maneros[34]	• Do FRS correlate to the following factors: age, sex, length of hospitalization, intellectual capacity, somatic disease	Schneider diagnostic criteria/–	• 1208 first-admission SCH	Schneider's def. modified	• Case records, which are very extensively documented • 190 item applied on each patient	• 47% had FRS • Occurrence of FRS increases with increasing age on first hospitalization • No difference in frequency of FRS between patients of low and normal intellectual capacity	• Method problem: 2, 4, and 6
26. Ndetei[35]	• Frequencies of FRS in SCH from various cultural backgrounds	CATEGO/ CATEGO	• Inpatients in London ? • 593 SCH patients		• Case records • SCL (Wing[16])	• Differences in FRS prevalence are found between different cultural groups, highest prevalence in White English-speaking patients, lowest in African patients	• It is well-known that both ethnicity and migration are important for the development of SCH • Method problem: 1, 2, 3, 4, and 7
27. Chandrasena[36]	• Prevalence of FRS cross culture	*ICD-9*/–	• All inpatients with functional psychosis • 419 Sri Lanka patients • 150 UK patients • 172 Canadian patients	PSE + Mellor's def.	• Author • Modified PSE interview	• FRS have a higher prevalence in SCH patients than in non-SCH patients = good discriminating value • Prevalence of FRS much higher in native UK and Canadian patients than in patients from Sri Lanka • Voices arguing is the most common FRS in all 3 countries	• The author distinguishes between what he believes to be subcultural belief and FRS • Samples are dissimilar in the different countries • Only one person is rating • 1, 3, 4, and 7

Table 1. Continued

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
28. Tandon[37]	• Frequency and diagnostic specificity of FRS	• RDC • 2 or more FRS	• 294 mixed, primarily affective, patients	No	• Case records • SADS interview	• 35 FRS+ in 58 RDC-verified SCH • 9 FRS+ in 190 RDC-verified major depressive disorder • 22 had 2 or more FRS • Predictive value of FRS for SCH was 90% • Specificity of FRS for SCH was 97% • Sensitivity of FRS for SCH was 60%	• If the sensitivity of FRS is 60%, then 40% did not have FRS—how did these patients receive SCH diagnosis? (The diagnosis of SCH was made depending on the presence of FRS) • Retrospectively collected sample • Delusional perception is left out • Method problem 1, 3, and 4
29. Gureje[38]	• Prevalence of FRS among Nigerian SCH, the relation of each FRS to each other	RDC/–	• 56 SCH inpatients	Combination of def. and PSE def. of Carpenter et al.[13]	• Author • Interview • GAS • Part of PSE	• Prevalence of FRS 73% • Made volition being the most common FRS, delusional perception being the least common FRS	• Two different sets of FRS def. is used: Mellor's for some of the FRS and other FRS • Method problem: 1, 4, and 6
30. Malik[39]	• Prevalence of FRS among Pakistani SCH	RDC/–	• 75 SCH inpatients	Mellor's def.	• Trained psychiatrists • High interrater reliability • PSE interview	• 2/3 of the patients had at least one FRS • Somatic passivity, thought broadcast, and thought insertion were the most common FRS, audible thoughts and made affect/ impulses were least common	• Patients were interviewed using PSE, but FRS were elicited on the basis of Mellor's def.? • Method problem: 1 and 6
31. O'Grady[40]	• Diagnostic specificity of FRS for SCH (narrow and wide def.)	RDC, Carpenter's flexible system, New Haven index/ –	• 99 inpatients	Yes	• Researcher • SADS and FRS questionnaire interview	• FRS+ had an RDC diagnosis of SCH • 5 had other psychosis • No subject with nonpsychotic disorder had FRS	• Unclear distinction between schizoaffective disorder and affective disorders • Method problem: 1, 4, and 5

Table 1. Continued

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
32. Salleh[41]	• Prevalence of FRS in Malay patents	*ICD-9*/–	• 221 first-contact patients—unclear if they are in- or outpatients • Functional psychosis	Mellor's def.	• Author or senior psychiatric house staff • Modified PSE • Interviewed within 48 h of admission	• Prevalence of FRS in SCH 26.7% • Specificity of FRS for SCH 87.8% • Positive predictive value for SCH 90.6% • FRS strong indicator for SCH • FRS do not occur often enough to have diagnostic potential in SCH	• Interviews carried out in the initial acute phase may be questioned—were the patients in a state of clear, unclouded consciousness • Author regards possession state as a cause of the illness rather than a symptom of the illness • Method problem: 1
33. Tanenberg-Karant[42]	• Frequency of FRS and bizarre delusions in SCH and affective disorder	*DSM-III-R*/ *DSM-III-R*	• 196 psychotic inpatients	Yes	• Health professional, trained for 3–6 mo • SCID interview	• FRS+ in 70% of SCH • FRS+ in 29% of bipolar patients • FRS+ in 18% of patients with major depressive disorder • Specificity of FRS for SCH was 72.5% • Sensitivity of FRS for SCH was 73.3%	• SCID does not include all 11 FRS • Risk of false-positive FRS • Method problem 1, 4, 5, 7, and 8
34. Peralta[43]	• Diagnostic specificity of FRS for SCH	*DSM-III* broad and narrow. Feighner (gold standard)/–	• 660 acute psychotic inpatients	Yes, Mellor (1979) and MAS	• Authors • All available information	• FRS are not useful in differentiating SCH from other psychotic disorders	• Feighner criteria are not more valid than other diagnostic systems • Method problem 1 and 3
35. Gonzales-Pinto[44]	• Frequency of FRS in bipolar patients	–/*DSM-IV*	• 103 *DSM-IV* bipolar, manic or mixed patients	Unclear	• Psychiatrists • SCID-I and SAPS • Case records • Relatives	• FRS+ in 22.3% of the patients; these were diagnosed manic • FRS should be considered symptoms of psychosis	• Risk of false positive • No def. of SCH • No bipolar depression is included • Method problem 1, 3, 4, and 5

Table 1. Continued

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
36. Cecche rini-Nelli[45]	The relationship between FRS and language abnormalities Compare the predictive diagnostic validity of language disturbances and FRS	*ICD-10*/*ICD-10*	30 psychotic patients with FRS	Yes, Mellor and Sims	AuthorsPSE + more detailed questions focusing on FRS and CLANG	FRS could separate nonaffective psychosis from affective disordersCLANG is superior to FRS as to differentiating *ICD-10* SCH from other categories including non-SCH psychosis with nuclear symptoms.	Lack of comparison group with maniaStudy not blinded*The whole sample has FRS so how can the FRS dimension differentiate between nonaffective and affective psychosis?* "*Non-SCH psychosis with nuclear symptoms"*? Method problem 1, 4, 5, and 7
37. Gonzales-Pinto[46]	The relationship between age and FRS3 diagnostic groups were considered for the interaction between FRS and diagnosis: "SCH," "bipolar disorder," and "other psychotic disorders"	*DSM-IV*/*DSM-IV*	112 first-episode psychotic inpatients	Yes	Authors Interview	FRS+ in 65.2%FRS+ younger than those without	3 diagnostic groups are considered for the interaction between FRS and diagnosis: This is nonsense as Schneider dictated that the diagnosis should be SCH if FRS were present. Method problem 4 and 5
38. Arnold[47]	Frequency of FRS rating in African American patients compared with Euro-American patients	*DSM-IV*/*DSM-IV*	1193 psychotic patients	No	Psychologists or social workers with extensive training Interview SAPS	FRS more frequent in African American men No increased rate of SCH in African American men	When the transcripts are "cleansed for ethnic information," psychopathological information can get lost or changed Method problem 1, 3, 4, 5, and 8
39. Conus[48]	FRS in mania as predictor of poor outcome	–/*DSM-III-R*	79 bipolar patients, first psychotic episode	No	Highly trained psychologist InterviewRPMIP, QLS, SANS, BDI, and BPRS	FRS+ in 63%FRS+ subjects had more negative symptoms than FRS−FRS in the first manic episode identifies subjects with poor short-term outcome	*First manic episode with FRS is nonsense in the ICD-10 hierarchy and the FRS+ subgroup of patients could be SCH!*No def. of SCHMethod problem: 1, 3, and 4

Table 1. Continued

Reference	Aim	SCH Def.	Sample	FRS Def.	Rating	Results	Comments
40. Verdoux[49]	The relationship between FRS, handedness, and speech disorder in psychosis	*DSM-IV*/ *DSM-IV*	33 psychotic inpatients	SAPS	Unclear who is rating Interview SAPS, SANS, TLC, and CDS	22 FRS+ FRS↑ → dexterity ↓ FRS↑ → speech disorder ↓	Diagnoses unclear Small sample Unclear who is rating Method problem 1, 4, and 7

Note: BDI, Beck Depression Inventory; BPRS, Brief Psychiatric Rating Scale; CDS, Calgory Depression Scale; CGI-S, Clinical Global Impressions Scale-severity; CLANG, Clinical Langauge Disorder Rating Scale; def., definition; *DSM, Diagnostic and Statistical Manual of Mental Disorder*; FRS, first-rank symptoms; GAS, Global Assessment Scale; ICD, *International Statistical Classification of Diseases*; incl., included; MAS, Manual for the Assessment of Schizophrenia; NHSI, New Haven Schizophrenia Index; PSE, Present State Examination; PSI, Psychotic Symptoms Inventory; QLS, Quality of Life Scale; RDC, Research Diagnostic Criteria; RPMIP, Royal Park Multidiagnostic Instrument for Psychosis; SADS, Schedule for Affective Disorders and Schizophrenia; SANS, Scale for the Assessment of Negative Symptoms; SCH, Schizophrenia; SCL, Syndrome Check List; SCID, Structured Clinical Interview for DSM-III-R; TLC, scale for assessment of thought, language and communication disorders. Method problems: 1, lack of phenomenological approach in rating interview; 2, symptom rating made from case records; 3, missing or unclear definition of FRS; 4, absence of FRS corating and measures of reliability; 5, few differentiations between individual FRS; 6, major patient samples limited to clinically diagnosed schizophrenic patients; 7, intermixing assessment of other illness variables also hypothetically described to accompany schizophrenia add to the confusion; 8, not rated by psychiatrist/psychologist.

schizophrenia, 39 patients with affective disorders, and 23 patients having neuroses or personality disorders.[13] Two of the patients who exhibited the FRS were diagnosed with a neurosis or a personality disorder. Even by the *DSM-II* criteria, this should not be possible because psychotic symptoms rule out a diagnosis of a neurotic disorder. Nine affective patients had FRS, of which 8 were depressed patients having a cyclic illness pattern of unipolar or bipolar episodes. The case stories of these patients are *selectively reviewed*, and the authors conclude that their diagnoses were valid because "diagnosis of past illness episodes were always affective disorders."[13](p851). This seems to be an undue reliance on the reliability of past diagnoses, ignoring the frequent fact that schizophrenia has an onset marked by depressive symptoms.[50,51] Furthermore, due to the unexpected finding of FRS in 8 manic cases, another selective review was performed on written statements of these cases. The authors concluded that the scoring in these cases were doubtful. The selectivity of the scrutiny and the presence of FRS in neurotic patients highlight the issue of whether the FRS ratings were valid in the first place. The authors avoid the principal discussion of where to draw the line between affective psychosis and schizophrenia.

With respect to the range of the FRS examined, it is worth noting that the ratings of *delusional perception* and *voices commenting* and *voices discussing* were not undertaken, while *somatic passivity* was scored, but the criterion of external source of the influence was left out. This problem seems particularly relevant because the latter FRS was more prevalent in the nonschizophrenic sample (2 patients with depression had only this FRS). While the reliability of the FRS is quoted to be generally good,[13] reliability depends on the FRS in question. Even the item *voices discussing*, which could be considered phenomenologically easy to score, has reliabilities ranging from 37% to 95% in the cross-nation International Pilot Study of Schizophrenia (IPSS).[52] Precisely this item was not scored in the larger sample of the study.

Taylor and Abrams (1973)

FRS were assessed as part of an exploration of symptoms, which might validate the diagnosis of manic-depressive illness.[14] The authors conclude that FRS are not diagnostically decisive when manic symptoms are present. This study has a serious diagnostic problem: The diagnosis of mania is based exclusively on scorings of affect and psychomotor speed, and it is dependent on the treatment choice by a clinician and the treatment response. The sample consisted of 52 acutely admitted patients diagnosed with mania because they exhibited "hyperactivity, rapid/pressured speech, and euphoric expansive or irritable mood."[12](p520) Patients with a history of or with symptoms of schizophrenia were included in this group if they fulfilled the mania criteria.

None of the patients received a diagnosis of mania by the admitting physician. In fact, nearly all patients ($N = 48$) were diagnosed with schizophrenia. Of the total sample, 11.5% reported FRS in a semistructured interview. Yet, in the very first place, if the FRS are *undoubtedly* present, should the patient be diagnosed with mania due to simultaneous disturbances of affect and psychomotor speed? This important issue, ie, making distinction between schizophrenia and affective illness, is dealt with below. The second point concerns the use of treatment response as a diagnostic indicator. At the time of discharge, 90% of the sample had responded to the treatment. The details of this treatment and the length of time of hospitalization do not appear from the study. Treatment response is of course not a part of the formal descriptive definition of bipolar disorder or schizophrenia (although it may be useful in other contexts).

Brockington and Colleagues (1978)

The report[19] is a large-scale comparison of 10 systems of diagnostic criteria for schizophrenia, with one definition based solely on the presence of FRS. It is concluded, that FRS are weak in all areas of prediction (outcome, final diagnosis, and social function). The primary objection to this study is that the main indicator of a "true" schizophrenia was a criterion of poor clinical and social outcome. The different competing diagnostic criteria were compared by the number of schizophrenia cases they generated, interrater reliability, and by the level of concordance with the other criteria or with outcome. Final lifetime diagnosis was obtained by the review of both the original interviews and the follow-up data. Forty-five patients (out of a total of 262) were given a lifetime diagnosis of schizophrenia (leaving out residual schizophrenia). Thirty-eight patients exhibited FRS at admission and 28 of these obtained a final lifetime diagnosis of schizophrenia, while 10 patients did not. The lifetime diagnoses of these patients are not given. The consensus criteria are not specified, but the clinical and social outcome is strongly emphasized. Yet, unfavorable outcome can only be characteristic, not diagnostic, of schizophrenia.

Discussion and Comments

Examining Schneiderian FRS is associated with several problems at the practical level as well as at a more overarching epistemological level.

A fundamental issue in the reviewed studies is the question of validity of psychiatric diagnosis in general and of schizophrenia in particular. There is a lack of explicit realization that the diagnosis of schizophrenia is based on a certain convention and not on its purported essential nature. Thus, one study examines a group of psychotic patients who are dichotomized by Feighner diagnostic criteria into schizophrenia and nonschizophrenia and then compared with respect to the prevalence of FRS, which are found in both groups. The authors consider the Feighner criteria as the "golden standard" for diagnosing schizophrenia[43] but fail to realize that Feighner criteria, useful as they may be in many contexts, are not descriptive of the essence of schizophrenia. In fact, the "nonschizophrenia" group contains individuals, which might have been diagnosed with schizophrenia by other, equally rational diagnostic systems. Others examine the relation between the presence of FRS and outcome. Bland and Orn[26] attempt to substantiate a joint hypothesis that true schizophrenia has poor outcome and FRS predict poor outcome, and therefore, the patients with FRS must have a poor outcome. Again, the problem is that the diagnosis of schizophrenia is a *convention* and not all schizophrenics have poor outcome.

Unclear definitions of the FRS is another widespread problem in the studies; neither Schneider nor Present State Examination (PSE) offer very precise definitions of FRS. Consequently, different explications of FRS are possible, and if the precise definitions are not articulated, it is difficult to compare the conclusions of the studies.

It could be assumed that the diagnostic development of the 1990's would yield a more homogeneous picture of the FRS. But a comparison of the reports dichotomized into those published prior to 1994 and those published later does not yield a more uniform pattern of results.

The distinction between schizophrenia and mood disorders causes great difficulties. The *ICD-10* and *DSM-IV* both require that affective symptoms are excluded before the diagnosis of schizophrenia can be made. Yet Schneider proposed that the presence of FRS in the absence of an organic cause was sufficient for the diagnosis of schizophrenia. Some of the studies examine bipolar patients and find that these patients have FRS, hence the interpretation that the FRS are not specific for schizophrenia.[12,48] In *DSM-IV*, schizophrenia is defined by the presence of characteristic signs and symptoms, impaired social and occupational functioning, persistence of symptoms for more than 6 months and exclusion of schizoaffective and mood disorder. The latter criterion is further specified: No major depressive, manic, or mixed episodes have occurred concurrently with the active-phase symptoms, or if so, the duration of these have been relatively brief compared with the active or residual periods. Yet, as schizophrenia is frequently accompanied with excitation or withdrawal symptoms and affective disturbances, this exclusion criterion makes the differentiation between these 2 major psychotic illnesses quite fragile conceptually as well as pragmatically. In a sense, the specification of the characteristic symptoms, including FRS, becomes less important than the affirmation of mood symptoms.

This confusion is also found in the *ICD-10*. Here, the diagnoses are ordered hierarchically and schizophrenia *precedes* affective disorder in the classification. The

FRS are specified in the operational criteria as being of special importance for the diagnosis of schizophrenia. Yet it is stated that "the diagnosis of schizophrenia *should not be made* in the presence of extensive, depressive, or manic symptoms unless it is clear that schizophrenic symptoms antedated the affective disturbance." This undermines the hierarchical structure of the system and, even more importantly (as was the case with the *DSM-IV*), it deprives the clinician of the support, implicitly intended, from the symptoms of specific importance like the FRS. However, in 40% of the patients, 3 of the 10 most frequent subjective symptoms antedating schizophrenia are affective: restlessness, depression, and anxiety, and many qualify for a full depressive syndrome.[51,53] Should these patients be diagnosed as depressed the rest of their lives?

It is also essential to clarify how we conceive the FRS, what is their phenomenological nature, and what method is adequate to assess their presence and diagnostic importance. This specific issue is part of a more general theoretical problem concerning the nature of psychiatric symptoms and signs.[55] It exceeds the scope of this review; here, we will only indicate certain epistemological problems associated with the FRS.

First, it is necessary to emphasize that the descriptions of FRS provided by the CP are casual, vague, and do not live up to the rigorousness of "operational criteria" or "protocol statements" (ie precursors of what we today call operational definitions). This laconic form remained unchanged in the PSE.[2] As an example, see the descriptions (table 2) of *thoughts being spoken aloud* and *thought broadcasting* as presented in CP and PSE. One reason for the sketchiness of the CP descriptions was that Schneider was *not teaching* psychiatrists about the symptoms (these phenomena were already described in ample detail in the French [De Clerambault, Janet] and German literature); rather, he seeked to emphasize their diagnostic value. The debate concerning diagnostic efficacy of FRS in the German-speaking psychiatry began shortly after the publication of CP. Some critics noted that the FRS were only diagnostic of schizophrenia on the condition of a simultaneous "phenomenological leverage,"[56]

Table 2. Two definitions of FRS

Thought block, deprivation, insertion and diffusion (broadcasting), Schneider[1(p100,101)]	Thoughts being spoken aloud, Schneider[1(p96,97)]
"Interruption of thought is illustrated by a schizophrenic woman, who said: 'When I want to hang on to my thoughts, they break off' A schizophrenic man stated that his thoughts were 'taken from me years ago by a parish council' On the same level as thought withdrawal, we find other kinds of influences at work on the thoughts. Thoughts are ascribed to other people who intrude their thoughts upon the patient. Equally important are the thoughts that are no longer private but shared by others, the whole town or the whole world." "The diffusion of thoughts is illustrated by a schizophrenic shopkeeper who said: 'People see what I am thinking; you could not prove it, but I just know it is so (…)' 'If I think of anything, at once those opposite me know it and it is embarrassing'."	Certain modes of hearing voices are of a special importance in schizophrenia: hearing one own thoughts aloud (…). [Thus] a schizophrenic woman said: 'I hear my own thoughts. I can hear them when everything was quiet'. A schizophrenic man said: 'When I try to think, my head gets full of noise; it's like if my brain were in an uproar with my thoughts'.
The Present State Examination, Cooper et al[54(p208)]	**The Present State Examination, Cooper et al[54(p208)]**
"Thoughts are stopping unexpectedly so that there are none left Are thoughts put into your head which you know are not your own?" (if the thoughts are considered as nonalien, but eg, as 'subconscious', the score should be only 1). "Thoughts taken out of the head as though some external person or force were removing them." *No definition* of thought broadcast as thought diffusion; instead included a delusion of "thoughts being read."	Designated as "thought broadcast": "Hears one's thoughts "spoken" but not broadcast. Subject must really hear them aloud in his head. In more severe cases, the thoughts are transferred or broadcast so others can share them" (see Schneider's "diffusion" in the opposite column). "Thought echo is rated when thoughts are repeated or echoed or commented by other thoughts" (no hallucinations).

Note: "Psychopathological concepts are evolved from observation and must always be measured and tested against observed facts. It is reasonable to expect that they should account in essentials for the clinical data which are their point of departure, and which give them their purpose and meaning (…). No one, however, will expect theoretical classifications to settle every individual case unerringly (…). The psychiatrist who for this reason thinks theoretical efforts are useless is abandoning all hope of a scientific psychopathology." Schneider.[1(p38–39)]

ie, on the condition of eliciting these symptoms in a *psychopathological context* (''lifting the symptoms to a phenomenological completeness''). Explained very briefly: the critics did not consider the FRS as *symptoms*—ie, *they could not be considered or defined in isolation from each other*, as singly self-sufficient, atomic thing-like indicators of underlying brain pathology or diagnosis (in the way that a smoke may indicate a fire). Rather, they were considered as *phenomena*, ie, as meaningfully interrelated *facets* of a more comprehensive and characteristic Gestalt-change in the patient's experience (field of consciousness) and existence.[57] Thus, in order to assess, eg, a presence of thought insertion and its diagnostic significance, one has to obtain a comprehensive picture of the patient's subjective world, a requirement that goes beyond the apparent validity provided by a ''yes-no answer'' (or any other single, underdetermined proposition) uttered by a patient in response to a question.[58] There is a need for a phenomenological adequate psychiatric interview,[58,59] eg, following the lines described by Jaspers,[60] because only such an approach may grasp affinities between disparate FRS and apprehend their organizing Gestalt, *which is constitutive of their diagnostic significance*. Unfortunately, the only in-depth contemporary psychopathological study of the FRS is not (yet) available in an English translation.[61]

The ''phenomenological leverage'' was mentioned by Schneider himself, albeit in a rather lateral and cryptic manner: ''[the FRS] signify *a radical qualitative change* in the thought processes as described by Gruhle'' [Schneider[1(p100)]; italics added]. Although this prudent and important remark of Schneider's was not lost in translation, it passed unnoticed, failing to stimulate relevant curiosity and reflection. What Gruhle (and several others) had described was a transformation of the *form* of consciousness with *a diminished sense of self-presence*. Gruhle used the expression of ''Schizophrene Grundstimmung'', ie, a trait-like ''frame of mind,'' whose core feature is *de-ipseisation* (ipseity = direct or immediate, prereflective self-awareness of experience; from Latin: ipse = self, itself), with insufficient sense of ''mineness'' of experience and increasing distance or split between the sense of self and the sense of experience.[62] Recent empirical studies with a phenomenological orientation support these original observations [Moller and Husby,[63] Parnas[64], Parnas et al[65]].

In summary, Schneider, his contemporaries, and more recent phenomenological contributions[57,61,66] did not consider the FRS as atomic symptoms but as 2 groups of phenomena: passivity experiences and hallucinations, with certain phenomenological overlaps (as described by Loftus et al[67]).

A call for a ''phenomenological leverage'' points to several problematic aspects of their diagnostic role, of which, we will mention only one. Thus, the FRS are diagnostically useful *only* in a patient *without* clouding or other degradation of consciousness (eg, with a perplexity due to severe emotional turmoil, strong fear or anxiety, extreme mood, or psychomotor swings) simply because the trait-like, formal alterations of experience and consciousness can only be meaningfully assessed in a patient whose consciousness is in a state of ''composure'' (Schneider[1]).

Upon this background, it is easier to see the various sources of disagreement between the studies: (1) including or excluding acute patients with potential degradation of consciousness, (2) assessing or not the phenomenological context, (3) assessing patients in different stages of their illness evolution, and (4) differential emphasis on mood symptoms and history of psychiatric symptoms.

Conclusion

The reviewed studies do not allow for either a reconfirmation or a rejection of Schneider's claims about FRS. Both *DSM-IV* and *ICD-10* emphasize FRS to a degree that is not supported by the empirical evidence. The simplistic way in which the FRS are conceived in the operational diagnostic systems and in many of the commonly used rating scales tends to add to the confusion. When assessing FRS, the phenomenological approach is essential for the understanding of the altered consciousness of the patient. Until the status of FRS is clarified in depth, we suggest that the FRS, as these are currently defined, should be de-emphasized in the next revisions of our diagnostic systems. In future studies, it is necessary to include a homogenous group of patients across a wide spectrum of diagnoses and perform extensive phenomenological interviews.

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