



Letter to the Editor

First-rank symptoms and self-disorders in schizophrenia



Dear Editor,

Kurt Schneider's concept of First-Rank Symptoms (FRS) has had an immense impact on the definition of schizophrenia (Schneider, 1959). FRS denote a group of psychopathological phenomena, comprising delusional perception and certain forms of auditory verbal hallucinations as well as a so-called group of "passivity phenomena" that includes thought insertion, thought block, thought withdrawal, and "made" volitions, impulses, motor acts, etc. Schneider famously argued that the presence of a single FRS, in the absence of organic pathology, is sufficient to render the schizophrenia diagnosis (Schneider, 1959)^{p134}. When the concept of FRS was introduced in DSM-III and later in ICD-10, it was given the same diagnostic weight as that initially proposed by Schneider. Since then, the diagnostic significance of FRS has been a topic of recurrent debate and many studies have questioned the diagnostic specificity of FRS for schizophrenia. Yet, two systematic reviews of empirical studies of FRS revealed serious methodological and conceptual issues in these studies (Nordgaard et al., 2008; Soares-Weiser et al., 2015). Today, FRS are often considered non-specific for schizophrenia and their diagnostic significance has accordingly been deemphasized in DSM-5. A similar change is expected in ICD-11.

However, it seems that Schneider's original concept of FRS was overly simplified, when it was introduced in the major diagnostic manuals. Here, FRS are predominately defined at the level of experiential content, thereby overlooking the fact that FRS, for him, entail a "radical qualitative change" of consciousness that fundamentally involves a disorder of the self (Schneider, 1959)^{p100, 134}. Schneider stressed the *transitivistic basis* of many FRS, emphasizing the underlying, experiential permeability of the boundary between the self and the surrounding world ("*Durchlässigkeit der Ich-Umwelt-Schranke*" (Schneider, 1971)^{p136}, which he also described as "loss of the very contours of the self", designating it 'ego-disturbance'. In contemporary psychopathology, this is called 'self-disorder' (Henriksen and Nordgaard, 2014; Henriksen and Parnas, 2014; Sass and Parnas, 2003). In short, the diagnostic significance of most FRS was, according to Schneider, rooted in a disturbance of the self. Yet, this crucial fact was disregarded, when the concept of FRS was introduced in the major diagnostic manuals.

1. Aim

The aim of this study is to empirically test Schneider's claim that FRS involve self-disorders.

2. Methods

At baseline, 98 first-admission patients were included irrespectively of their tentative diagnosis. We excluded patients with coarse brain

disorder and dominating alcohol-/substance-abuse. At follow-up five years later, a subsample of 47 patients initially diagnosed with schizophrenia spectrum disorders was reassessed. All patients were assessed with a comprehensive test battery for assessment of psychopathology (SCID, OPCRIT, SADS-L, perceptual disturbance items from the BSABS) (Gross et al., 1987), and a checklist of the First Rank Symptom continua based on Koehlers continuum (Koehler, 1979)). Self-disorders were measured by the EASE (Examination of Anomalous Self-Experiences) (Parnas et al., 2005). All patients were allocated a 'Best-Estimate Consensus Life-Time' diagnosis according to ICD-10 and DSM-IV by two senior psychiatrists and researchers, who jointly reviewed all available, diagnostically relevant information. All FRS at baseline or follow-up were dichotomized into present or absent.

All participants signed an informed consent and the study was approved by the relevant ethics committee.

2.1. Statistics

To test the association between FRS and self-disorders, we used a mixed effects logistic regression using the dichotomous FRS variable as the dependent variable and EASE score as the independent variable. This method of analysis was chosen to make use of both the baseline and follow-up data in a repeated measures analysis, using the mixed model framework with random intercepts to take into account the non-independence of the dual observations for the patients in the follow-up sample. In this analysis, the sample thus consisted of 98 baseline assessments and 47 follow-up assessments. Furthermore, we performed an additional analysis with the EASE score divided by five. This makes it possible to assess the association between a five-point difference in EASE scores and FRS, which we considered a clinically meaningful way of presenting the results.

3. Results

30 of the patients had FRS and all of them had a diagnosis of schizophrenia. In the non-FRS group, patients were diagnosed with schizophrenia, non-affective psychosis, schizotypal disorder, affective disorders, anxiety, OCD or personality disorders. See Table 1 for sample description. There were no differences in age, gender, and marital status between the groups. The mean EASE score was higher ($p < 0.001$) in the FRS-group compared with the non-FRS-group. Using a generalized linear mixed model regression, we found an odds ratio of 1.56 (95% CI: 1.10–2.21) for having FRS for each 5-point increase in self-disorders. We did not find FRS in the absence of self-disorders.

4. Discussion

This is the first empirical study to examine the association between EASE-measured self-disorders and FRS. We found an association between FRS and self-disorders and that increasing levels of self-disorders were associated with higher probability of reporting FRS.

Table 1
Sample description at baseline.

	FRS lifetime	No FRS	P-value
N	30	68	
Age (mean)	27	28	.592 _a
Gender N male/female	9/21	24/44	.650 _b
Married N (%)	13 (43.0%)	35 (51.0%)	.515 _b
Social isolation N (%)	17 (56.0%)	21 (30.0%)	.002 _b
Educational level			.898 _b
Primary school or less	14 (46.7%)	26 (38.2%)	
High school	10 (33.3%)	27 (39.7%)	
College	2 (6.7%)	5 (7.4%)	
Started university	2 (6.7%)	7 (10.3%)	
Finished university	2 (6.7%)	3 (4.4%)	
EASE total score	20.7 (sd = 9.5)	13.2 (sd = 7.8)	<.001 _c

sd = standard deviation.

a: ANOVA.

b: Fisher's exact test.

c: Mann-Whitney *U* test.

Overall, this indicates that self-disorders contribute to form the psychopathological background upon which FRS may emerge. This seems to corroborate Schneider's intuition that many FRS involve self-disorders and it thus supports his original concept of FRS. Crucially, the presence of self-disorders does not necessarily lead to formation of FRS, since self-disorders repeatedly have been found to aggregate similarly in schizophrenia and schizotypal disorder (Nordgaard and Parnas, 2014; Raballo and Parnas, 2012). Therefore, we also expect that the association between self-disorders and FRS would have been stronger if the sample had included less patients with schizotypal disorder.

Instead of abandoning the concept of FRS altogether and throwing the baby out with the bathwater, we propose that FRS may still hold diagnostic specificity for schizophrenia in cases, where FRS articulate themselves on a background of a "radical qualitative change" of consciousness, epitomized by permeability of ego-boundaries and other self-disorders. By contrast, FRS that unfolds without such a pervasively altered experiential framework may not be different from other psychotic phenomena in terms of their diagnostic significance.

Declaration of Competing Interest

All authors declare no conflicts of interest.

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Julie Nordgaard*

Mental Health Center Amager, Gammel Kongevej 33, 1610 Copenhagen V,
DenmarkInstitute of Clinical Medicine, University of Copenhagen, Blegdamsvej 9,
2200 Copenhagen N, DenmarkCorresponding author at: Mental Health Center Amager, Gammel
Kongevej 33, 1610 Copenhagen V, Denmark.
E-mail address: Julie_nordgaard@daldnet.dk.

Mads Gram Henriksen

Mental Health Center Amager, Gammel Kongevej 33, 1610 Copenhagen V,
DenmarkMental Health Center Glostrup, Broendbyoestervej 160, 2605 Broendby,
DenmarkCenter for Subjectivity Research, University of Copenhagen, Karen Blixens
Plads 8, 2300 Copenhagen S, Denmark

Jonas Berge

Division of Psychiatry, Dept. of Clinical Sciences Lund, Faculty of Medicine,
Lund University, Lund, Sweden

Lars Siersbæk Nilsson

Mental Health Center North Zealand, Dyrehavevej 48, 3400 Hilleroed,
Denmark

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