Schizophrenia Research 179 (2017) 36–40

Contents lists available at ScienceDirect

Schizophrenia Research

journal homepage: www.elsevier.com/locate/schres

Temporal persistence of anomalous self-experience: A 5 years follow-up

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ARTICLE INFO

Article history:
Received 1 July 2016
Received in revised form 25 September 2016
Accepted 1 October 2016
Available online 5 October 2016

Keywords:
Self
Schizophrenia
Trait
Temporal persistance
Self-disorders

ABSTRACT

Background: The concept of self-disorders in schizophrenia has gained substantial interest and it has now been established empirically that self-disorders aggregate in schizophrenia-spectrum disorders but not in other mental disorders or in healthy controls. Yet, the issue of temporal persistence has not been addressed.
Aim: The aim of this study is to examine the temporal persistence of self-disorders.
Methods: 96 first admission patients were thoroughly assessed for psychopathology including SD at baseline and again 5 years later. We created a 25-item self-disorder scale which was used both at baseline and follow-up to assess self-disorders. The scale was a pre-cursor of the later published EASE-scale. Additionally, we examined the development of positive and negative syndromes and of the Global Assessment of Functioning (GAF).
Results: There was a high correlation between self-disorders at baseline and at follow-up, and the majority of the items in self-disorders scale showed equal proportions between baseline and follow-up.
Conclusion: Self-disturbances showed a high level of persistence at 5-year follow-up.

1. Introduction

Since the contemporary appearance of empirical reports of disorders of self-experience in early schizophrenia (Moller and Husby, 2000; Parnas et al., 1998), the issue of self-abnormalities in the schizophrenia spectrum has been vigorously researched (for a recent review, see Parnas and Henriksen, 2014). A prototype-based psychometric instrument (Examination of Anomalous Self-Experience [EASE]) for identification and quantification of self-disorders was developed over many years' clinical and research work and published in 2005 (Parnas et al., 2005a).

Self-disorders (SD) reflect an instability in the basic, normally tacit, pre-reflective sense of being a self-coinciding subject of experience and action (for detailed clinical descriptions, see: Parnas and Handest, 2003; Parnas and Sass, 2011; Sass and Parnas, 2003). In other words, the disorder affects the "core" or "minimal self" (Damasio, 2010; Gallagher and Zahavi, 2008). The individual complaints (symptoms) such as feeling empheral or experiencing constant self-observation, are considered to be aspects of the disturbed core self. The concept of SD was, in fact, only re-discovered in the studies mentioned above, because all classic texts on schizophrenia (e.g., Kraepelin, Bleuler, Jaspers, Schneider (Parnas and Henriksen, 2014)) contain references to an anomalous self-experience as a cardinal feature of schizophrenia.

SD aggregate selectively in schizophrenia spectrum disorders but not in bipolar illness, other non-schizophrenic mental disorders or among healthy people (Haug et al., 2012; Nelson et al., 2012; Nordgaard and Parnas, 2014; Parnas et al., 2014; Parnas et al., 2003; Parnas et al., 2011a). Clinically speaking, SD emerge during childhood and adolescence, and are identifiable in help-seeking youth populations (Koren et al., 2012; Nelson et al., 2012), in individuals at high risk for psychosis (Nelson et al., 2013), and they predict the schizophrenia spectrum cases (Nelson et al., 2012; Nordgaard and Parnas, 2014; Parnas et al., 2014; Parnas et al., 2003; Parnas et al., 2011a).

An important, still unaddressed question is the issue of temporal persistence of SD. The core psychopathological status of SD should be reflected in a certain temporal stability because we are not dealing here with fleeting abnormal mental *contents* but rather with a change of the *structure* of consciousness, where the individual's experiences are merely aspects of a structural instability of the minimal self. In order to assess potential temporal persistence of SD, we explored a sample of first-admitted, predominantly schizophrenia spectrum patients (Handest and Parnas, 2005), reassessed 5 years later (Parnas et al., 2011b). Thus, the main hypothesis of this study is that a comparable level of SD will be observed in the selected group of patients psychopathologically assessed 5 years apart.

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http://dx.doi.org/10.1016/j.schres.2016.10.001
0920-9964/

2. Methods

2.1. Sample

The sample at baseline comprised 151 consecutive first-admitted patients with age <40 years to the University Psychiatric Center Hvidovre in Copenhagen, Denmark, from September 1, 1998 to September 1, 2000 (Handest, 2003; Handest and Parnas, 2005). The department provides free-of-charge psychiatric service to approximately 150,000 residents of a specific catchment area of urban Copenhagen. Because of the focus on the schizophrenia spectrum disorders the exclusion criteria comprised diagnoses of melancholic depression, bipolar- or organic brain disorder, primary or clinically dominating substance abuse, involuntary admission or forensic patient status. Severely psychotic, aggressive patients were interviewed, if possible, after initial stabilization. The patients participated upon a written informed consent.

The follow-up examination took place 5 years later (during the years 2003–2006) (Vollmer-Larsen, 2009). During the follow-up period, the patients adhered to their individual treatments led by clinicians in charge. Thus, treatment modalities and their efficacy were not part of the study.

2.2. Interviews and assessments

Both the interviewer at baseline assessment (PH) and the interviewer at follow-up (AVL) were consultant psychiatrists with considerable clinical and research experience. The interviewer at follow-up was blind with respect to psychopathological information from the index interview.

Both interviews were conducted in a semi-structured manner. At baseline, the patients were assessed with respect to life history, overall psychosocial functioning, family history of mental disorder and the evolution of psychopathology.

The psychopathological battery was identical at both occasions and comprised the OPCRIT Checklist (McGuffin et al., 1991); the Bonn Scale for the Assessment of Basic Symptoms/BSABS) (Gross et al., 1987), expanded with additional items targeting self-disorders; the Positive and Negative Syndrome Scale (PANSS) (Kay et al., 1987); and the DSM-III-R Severity of Psychosocial Stressors Scale: Adults (American Psychiatric Association, 1987); and the Global Assessment of Functioning, GAF (APA, 2000). Expressive signs were coded on the mental status evaluation scheme, developed and used in the Copenhagen High Risk- (Parnas et al., 1993) and Linkage-Studies (Matthysse et al., 2004). Both at the baseline interview and the follow-up interview, the patient was allocated an ICD-10 research criteria based diagnosis (see (Parnas et al., 2011b; Vollmer-Larsen, 2009) for diagnostic shifts).

An interrater reliability assessment between the two interviewing psychiatrists demonstrated excellent reliabilities. Specifically, in the section targeting self-disorders and perceptual disorders, out of 41 items, 16 had an excellent kappa (i.e., above 0.81), 20 a good kappa (i.e., between 0.61 and 0.80), four had a moderate kappa (i.e., between 0.41 and 0.60) and one (diplopia/oblique vision) a fair kappa.

2.3. Self-disorders

The SD were examined with a 25-item a priori (rational) scale, a precursor of the EASE scale (Parnas et al., 2005b). Thus, this scale may be considered as a certain stage of the ongoing development of the EASE-scale. The single items were selected from the interview-body e.g., The Bonn Scale (Gross et al., 1987) which contains several self-related questions and additional items constructed in the development of the EASE. It is important to realize that all the items reflect the patients' subjective experiences and not aspects of cognitive performance, insight or metacognition. The correspondence between this scale and the EASE-scale is shown in Table 1. Briefly, this scale (see Table 1) addresses a variety of anomalous experiences e.g., a sense of lacking immersion in the world; lack of spontaneous grasping of commonsensical meanings; puzzlement; and alienation and anomalies of pre-reflective self-awareness, i.e., of the tacit sense of existing as a self-same subject of experience and action. The self-disorders were scored dichotomously: 1 for definitely present and 0 for doubtful or not present.

2.4. Sample attrition

In the follow-up assessment we obtained face-to-face interviews in 99 patients (65% of the original 151) of those 96 patients were assessed with the full interview battery. There were no differences in age, gender, or education between the interviewed and non-interviewed groups. The groups did not differ with respect to the diagnosis at the initial assessment. In this report we present data on the 96 patients who were reassessed with the full interview.

2.5. Statistical analyses

65 individuals out of the 96 had complete ratings of SD-scale at baseline, 19 individuals had ratings for 24 items, 5 individuals had ratings for 18–23 items, and 7 individuals had ratings for 6–13 items.

At 5-years follow-up 85 individuals out of the 96 had complete ratings. 2 individuals had ratings for 24 items, 5 individuals had ratings for 15–21 items and, 4 individuals had rating for 2–13 items. The missing items were imputated with similar method as for PANSS explained in details in (Parnas et al., 2005b). The SD scale is the sum of the 25 items ranging from 0 to 15 at baseline and 0 to 19 at follow-up.

Applying a binary logistic regression with low and high score of SD as binary outcome and number of original non-missing items as explanatory variable we found that both at baseline and at follow-up the number of imputated items did not significantly affect the odds for a high SD score.

Internal consistency of the SD-scale was calculated by Cronbach's alpha and the interrater agreement with Cohen's kappa.

To determine if there were differences at single item level in the SD-scale between baseline and follow-up we used the McNemar test.

We compared baseline and follow-up scale scores with paired Wilcoxon signed rank test (because of lack of normally distributed residuals).

We analyzed the relation between x and y with various tests: when outcome y as continuous variable we used linear regression and Spearman rho with x as continuous explanatory variable. When x was parted in 3 equally sized groups we applied parametric ANOVA for comparison of means, and when normality assumption failed, we used non-parametric Kruskal-Wallis test for comparison of medians in 3 groups of x: low, medium, high score of x. The linear regression models were controlled with tests for linearity of the explanatory variable x and when x could not be assumed linear we applied piecewise linear regression using the NONLINEARE procedure in SAS.

The models we have tested are: x = PANSS positive at baseline, y = PANSS positive at follow-up; x = PANSS negative at baseline, y = PANSS negative at follow-up; x = GAF at baseline, y = GAF at follow-up; x = SD at baseline, y = SD at follow-up; x = PANSS positive at baseline, y = SD at follow-up; x = PANSS negative at baseline, y = SD at follow-up; x = GAF at baseline, y = SD at follow-up.

All analyses were done with SAS statistics version 9.4.

3. Results

The age, gender and diagnostic group for the sample at baseline and follow-up are shown in Table 2, which also shows the mean score of the three psychopathological scales (i.e. PANSS positive, PANSS negative and SD) and the mean GAF score. The mean score on all four scales were significantly different at baseline and at follow-up.

Table 3 shows the correlations between the psychopathology scales and the GAF. There is a strong correlation between the scale scores at