Disordered Selfhood in Schizophrenia and the Examination of Anomalous Self-Experience: Accumulated Evidence and Experience

Julie Nordgaard^{a, b} Mads Gram Henriksen^{a, c, d} Lennart Jansson^{b, c}
Peter Handest^e Paul Møller^f Andreas Rosen Rasmussen^{a, c} Karl Erik Sandsten^c
Lars Siersbæk Nilsson^{c, d} Maja Zandersen^{c, d} Dan Zahavi^d Josef Parnas^d

^aMental Health Center Amager, Copenhagen, Denmark; ^bDepartment of Clinical Medicine, University of Copenhagen, Copenhagen, Denmark; ^cMental Health Center Glostrup, Broendby, Denmark; ^dDepartment of Communication, Center for Subjectivity Research, University of Copenhagen, Copenhagen, Denmark; ^ePsychiatry East, Region Zealand, Roskilde, Denmark; ^fDivision of Mental Health and Addiction, Department of Mental Health Research and Development, Vestre Viken Hospital Trust, Drammen, Norway

Keywords

Schizophrenia · Self-disorders · Examination of Anomalous Self-Experience · Experience · Evidence

Abstract

Disordered selfhood in schizophrenia was rediscovered at the turn of the millennium. In 2005, *Psychopathology* published the psychometric instrument, the Examination of Anomalous Self-Experience (EASE). In this article, we summarize the historical background of the creation of the EASE, explicate the notion of the disorder of basic or minimal self with the help of phenomenological philosophy, and provide a brief description of clinical manifestations targeted by the EASE. We also present our personal experience using and teaching the EASE and summarize the empirical evidence obtained so far. We conclude that the basic self-disorder represents a crucial phenotype of schizophrenia spectrum disorders and that this phenotype offers a potential avenue to empirical pathogenetic research and psychotherapeutic treatment.

© 2021 The Author(s)

Published by S. Karger AG, Basel

Introduction

The notion of disordered self in schizophrenia already appears in the foundational texts by Kraepelin [1] and Bleuler [2, 3]. However, it is only 2 decades ago that the notion of disordered selfhood in schizophrenia reappeared in mainstream psychiatry. In 2005, *Psychopathology* published a psychometric instrument, the Examination of Anomalous Self-Experience (EASE) [4], which exerted an important effect on psychiatric research, theory, and practice. In this anniversary study, we will describe the creation of EASE, the phenomenological framework of this particular research line, and the empirical and theoretical results that have been obtained over the past 15 years. On the basis of our own experience using the EASE as well as teaching and training colleagues in the EASE, we will also address some conceptual and epistemological issues in contemporary psychiatry.

The Creation of EASE

The EASE is a semi-structured psychometric instrument for the assessment of anomalous self-experience, also referred to as “self-disorders” or “basic self-disturbances.” The EASE was a product of longstanding psychopathological research in Copenhagen, which included adoption studies [5], prospective studies of children of mothers with schizophrenia (the Copenhagen high-risk study), [6] and molecular linkage study [7]. These studies emphasized fundamental autistic disturbances in the original sense described by Bleuler [3]. The grasp of schizophrenic autism was deepened by studying the works of Minkowski [8], Blankenburg [9], and Tatossian [10, 11]. In this phenomenological understanding, autism refers to a profound disruption of the very basic subject-world relationship. The natural question arose as to what it is like to be the subject of such a disturbance. Obviously, such a question could not be addressed from the descriptive perspective of contemporary psychiatry, which focuses on symptoms and signs tacitly framed by the operational medical model. We believed that only a turn to phenomenological philosophy could provide the necessary tools for such an investigation into selfhood and subjectivity in schizophrenia [12–14]. A phenomenological approach would enable a psychiatric clinician to examine faithfully the world of the patient in a meaningful way. Over a 4-year period, Drs. Josef Parnas, Lennart Jansson, and Peter Handest conducted approximately 200 in-depth psychopathological interviews with patients, exploring experiential aspects of schizophrenic autism [4, 15]. A central finding was that many of these patients, in various ways, reported a continuing lack of identity and feelings of self-transformation, and that these experiences appeared to be central to the patients’ suffering [11, 16]. These preliminary findings were confirmed in 2 in-depth independent studies, 1 Danish and 1 Norwegian study [17, 18], both demonstrating the same pattern of self-transformation. Furthermore, the efforts involved international collaboration and were very much inspired by the publication of the Bonn Scale for the Assessment of Basic Symptoms [19], which was translated into Danish in 1995. The subsequent publication of the EASE enabled a systematic, qualitative, and semi-quantitative assessment of self-disorders.

Self-Disorders

The basic idea that self-disorders are constitutively linked to schizophrenia is not novel. In fact, it was proposed by several classical psychopathologists, for exam-

ple, Kraepelin [1], Bleuler [3], Berze, Gruhle, Jaspers [20], Minkowski [21], and Schneider [22] under several headings and with varying levels of conceptual clarity and various epistemological perspectives. The contemporary concept of self-disorders refers to a disturbed structure of phenomenal consciousness, that is, to a disturbed sense of the experiential or minimal self [23]. Thus, the “self” that is proposed to be disturbed in schizophrenia is a very basic experiential sense of self, that is, more specifically, the very first-personal structure of experience. Let us briefly explain the guiding idea. Experiences are given to the subject of experience in a way in which they are not given to anybody else, namely, first-personally. This first-personal givenness, which persists through temporal change and across different modalities of consciousness (e.g., perception, imagination, and thinking), imbues the experience with an inchoate sense of singularity, individuation, or a basic sense of self-presence (also called “experiential self,” “minimal self,” or “ipseity” [24]). This intimate, fundamental sense of self-presence is given prior to self-reflection and knowledge. Usually, I do not need to reflect upon *who* it might be that experiences this or that, entertains these thoughts or emotions, or moves my body. Typically, such questions never arise, because the answer is already pre-reflectively given [25] – it is, so to say, woven into the fabric of the experience itself; the experience is given for-me.

Phenomenologically speaking, this basic experience of being a self is intrinsically bound together with an automatic, pre-reflective immersion in the world. The minimal self is a structural feature of phenomenal consciousness that is operative in all experiences, for example, experiences of oneself, others, and the world.

In schizophrenia, the self-disorder takes place at and concerns a much more basic level of selfhood than the more elaborated and developmentally sophisticated levels that are reflected in notions such as “narrative self,” “social identity,” or “personality.” While these complex levels of selfhood may also be affected in schizophrenia, it has been argued that in schizophrenia, such disturbances are sequential to the disorder of the experiential or minimal self [26]. Available evidence suggests that disturbances at the level of personality do not affect the level of minimal self [27]. It needs to be emphasized that the concept of self-disorders in schizophrenia refers to an instability of the *structure* of phenomenal consciousness and therefore leads to enduring or frequently recurring anomalous self-experiences that must be considered as trait phenomena.

Clinical Manifestations

It is typical for schizophrenia spectrum disorders that the unproblematic saturation of all experience with the sense of self-presence is failing or oscillating [28]. The patient may feel ephemeral, bordering on feelings of non-existence, with feelings of being profoundly different from other people in a way that is nearly ineffable. Recognizing oneself as oneself does often not happen automatically but requires an effort of self-ascription. There is a profound alteration in the stream of consciousness. Because of the failing self-saturation, the processes of thinking, imagining, remembering, and perceiving are felt with a diminished sense of “mineness” or “for-me-ness.” This unstable first-person perspective thus entails an increasing objectivation and spatialization of inner life. Thoughts may be experienced as thing-like objects, the coherence of thinking processes becomes loosened, and emotions may become disconnected from each other and the situational context. The patient may describe, for example, that she listens to her thoughts in order to know what she is thinking or that her thoughts appear as subtitles on a movie. Mental imagery is often described as inner pictures or movies [29]. The body, which in the normal condition is experienced as a subjective, lived body, absent from reflective processes, becomes increasingly objectified and often as if disconnected from one’s spiritual life, and in extreme cases, the patient may feel almost paralyzed. Motor processes may lose their automaticity and fluidity, which may ultimately lead to a feeling of being a robot or a marionette. Other people and the social world are often experienced as enigmatic, threatening, or atomistic (with fragments that the patient needs to link together). Frequently, the patients experience “living in the head,” absorbed by ruminations that either anticipate future events or scrutinize passed events. A special case of this hyper-reflectivity is the tendency to observe oneself during the interaction with others, leading to a sense of having 2 “quasi-consciousnesses” (involuntary self-witnessing). Social isolation is therefore often a consequence of experiences of being cut off from others, although defensive withdrawal may contribute to the full clinical picture.

The Examination of Anomalous Self-Experience

The construction of EASE was an attempt to capture all these different clinical manifestations of the basic self-disorder in the patients’ narratives and define them pro-

totypically with the help of examples. The EASE consists of 57 main items (sometimes divided into subtypes) that are arranged into 5 domains: (1) Cognition and Stream of Consciousness, (2) Self-Awareness and Presence, (3) Bodily Experiences, (4) Demarcation/Transitivism, and (5) Existential Reorientation. These particular domains and their sequence were not based on phenomenological considerations but were believed to reflect general clinical inclination in the interview situation. The EASE was published with a scoring system from 0 to 5, but most of the studies have used a 3-point scale with “0 = absent,” “1 = questionably present,” and “2 = present” with data analyses using dichotomous ratings with questionably present items recoded as absent. The interrater reliability of the EASE has been shown to be good to excellent [30–32], and internal consistency has been reported to be 0.85 [33] and 0.9 [34]. Factor analysis, using varimax rotation in principal component analysis, yielded a 1-factor solution, accounting for 60% of the total variance [34]. Interrater reliability presupposes clinical experience, psychopathological knowledge, and a training course in the EASE interview and scoring. The Copenhagen group offers biannual introductory and annual advanced courses in the use of EASE (www.easenet.dk).

Experience with Using and Teaching the EASE

From the outset, the interest in the EASE was noticeable among clinicians and researchers. Moreover, we quickly received positive feedback from the interviewed patients, who often expressed astonishment when the psychiatric assessment revolved around the *way* of experiencing themselves and the world, a domain typically omitted in previous psychiatric encounters. Very often, the patient had for many years lived in an ineffable and painful inner world without being able to articulate it to himself and certainly not to others. The very process of articulating such experiences during the EASE interview frequently evokes a deep sense of relief and liberation from an alienating feeling of profound solitude. Likewise, clinicians have been intrigued to discover a vocabulary that helps them to talk with their patients about such subtle experiential alterations.

With respect to teaching, one of the most frequent experiences has been the course participants’ reified approach to self-disorders. Although we explicitly consider and teach the single items of EASE as multiple overlapping and interdependent aspects, jointly indicating a disorder of the most basic structure of experience, the par-

ticipants often regard those items as independent symptoms. This mismatch between *symptoms* and *aspects* is of course of profound epistemological significance. The multiplicity and variety of clinical manifestations of self-disorders – and precisely this multiplicity – attest to a certain identifiable pattern, which is a disturbed structure of basic or minimal selfhood [35]. This structure of basic selfhood functions as an interconnecting link between the single phenomena, investing them with a psychopathological significance. In sum, we are dealing with a certain structure or Gestalt, which manifests itself through various aspects with reciprocal part-whole relations. Contemporary psychiatrists and psychologists are deeply entrenched in a reified operational “medical-model-view” of symptoms and signs. In this model, symptoms/signs are well-defined, objective, and mutually independent entities, easily accessible to a description from the third-person perspective and possessing a referential function (coughing → pulmonary problem; jaundice → liver disease). It is such a view of symptoms that motivates structured interviews with preformed questions, an approach that is totally inadequate and counterproductive in the domain of self-disorders. Other manifestations of such a reified view of self-disorders are the recent creation of self-rating questionnaires, for example, [36, 37], which may be useful for coarse assessment in large-scale epidemiological studies but are unfit for evaluation of the individual patient.

When interviewing a patient, one basically has to stick with the main recommendations found already in Jaspers’ “General Psychopathology” [20]. The issue is very simple: in order to obtain a faithful self-description of an anomalous self-experience, it is necessary to engage with the patient in an open conversation, which may allow for the articulation of the patient’s inner life and her experiences of others and the world. Human language has probably developed in order to cooperate in dealing with the shared reality, and our language is not particularly suited for the description of inner states. For this reason, the patient will often use metaphors or similes, which can only be understood in a joint effort between the interviewer and the patient. The interviewer needs to suspend his habitual preconceptions of symptoms and also suspend his “natural conceptions of space and time” and of what is objective and therefore real. In other words, the interviewer must be prepared to prevent himself from a premature categorization and classification of what is conveyed to him by the patient. Instead of asking specific questions, it can be more useful to probe deeper into the patient’s spontaneous descriptions. For instance, in a sit-

uation where the patient mentions his problematic years in school, this may turn to be a fruitful avenue to articulate serious problems in interpersonal relations that turn out to be correlated with an almost ineffable sense of lacking self-presence. This type of epistemic encounter requires that the interviewer is knowledgeable and experienced and is able to let the patient unfold his self-description in an uninterrupted way.

Empirical Results

The publication of EASE has had an impact on empirical and conceptual research, and several studies have been conducted worldwide. A systematic review [38] and a meta-analysis [39] of empirical findings from EASE and pre-EASE proxy studies have recently been published. In brief, the diagnostic comparisons consistently show that self-disorders selectively hyperaggregate in schizophrenia and schizotypal disorder but not in bipolar psychosis, other psychotic disorders, nonpsychotic disorders, and healthy controls. Given the current epidemic of the diagnoses of the autistic spectrum disorders, it is important to emphasize that the self-disorders strongly discriminate between the schizophrenia spectrum and the autistic spectrum disorders. Thus, the data are now robust and univocally point to self-disorders as crucial trait phenomena, perhaps defining the extension of the schizophrenia spectrum.

Self-disorders have a high degree of temporal stability with correlations between baseline and follow-up scores ranging from 0.48 to 0.65. Examination of first-episode psychosis and clinical high risk or ultra-high risk for psychosis groups shows that these groups have more self-disorders than healthy controls and patients with nonpsychotic disorders. Moreover, studies exploring the predictive diagnostic value of self-disorders over a period of 1.5–7.5 years find that self-disorders predict psychotic breakdown in ultra-high-risk individuals and that self-disorders in help-seeking nonpsychotic adolescents predict a schizophrenia spectrum disorder 7 years later.

Self-disorders have been found to correlate with (1) classical dimensions of schizophrenia psychopathology such as positive symptoms, first-rank symptoms, negative symptoms, disorganized symptoms, and formal thought disorder [40]; (2) impaired functioning; and (3) suicidality. The self-disorder concept has also stimulated empirical neuroscientific research. The group of Barnaby Nelson [41, 42] in Melbourne has demonstrated that self-disorders are associated with source monitoring deficits,

a phenomenologically inspired neurocognitive measure concerning the attribution of origin in phenomenal experience. Similarly, a number of studies have explored facial self-recognition with the enfacement illusion in relation to self-experience in schizophrenia patients [43, 44].

Apart from a correlation with source monitoring deficit and impaired verbal memory, respectively, no other correlations with neurocognitive deficits have been found. Finally, no correlation has been found between self-disorders and childhood trauma [45–47].

In addition to empirical research, the EASE has stimulated conceptual research in psychopathology. Important differential diagnostic issues concerning identity and personality features have been addressed, emphasizing that the structural level of basic identity linked to the notion of minimal self is disturbed in schizophrenia spectrum disorders but not in personality disorders [48, 49]. A separate line of research concerns disorders of imagination in schizophrenia spectrum disorders [29]. Here, the issue at stake is that the patients in the schizophrenia spectrum not only excessively engage in fantasy life but that the very structure of their imagination is crucially different from processes of normal imagination. Also, in this research, there appears to be a clear link between the manifestations of imagination disorders and the instability of basic self. A scale intended to explore disorders of imagination has also been published [50]. Other psychopathological domains inspired by self-disorder research comprise investigations into the nature of insight into illness in schizophrenia [51], the condition of double bookkeeping [52], and disorders of introspection [53]. Currently, a work is in progress concerning the phenomenology of auditory verbal hallucinations and their potential route in the instability of selfhood [54]. On a theoretical level, we have proposed that psychiatric classification should not only be based on a common sense symptomatic description of disorders, but should also crucially include considerations about the nature of the basic structures of subjectivity [55].

Implications

The self-disorder research and especially the EASE studies have exerted a profound effect on rekindling psychopathological interest and especially the phenomenological approach in psychiatry among both clinicians and researchers. A quick search on PubMed on “self AND schizophrenia” provides approximately 7,000 results published since 2000. In comparison, approximately

1,600 publications are indexed on PubMed during the years 1980–2000. It seems to us that the explosion of interest in psychiatric phenomenology perhaps represents a useful correction to many years of the simplistic operationalist dogma as the dominant psychiatric epistemology [56].

We are, however, also facing a resistance to the psychopathological focus on self-disorders. In our view, such resistance is probably multi-determined. We can emphasize 3 issues: (1) some psychiatrists continue to entertain a theoretical and simplistic view on psychiatric phenomena as being quite analogous to medical symptoms and signs, and therefore they seem to consider any conceptual enrichment of psychiatry as a threat to psychiatry's medical allegiance. (2) The self-disorder perspective questions the view of schizophrenia spectrum as solely a “brain disease” devoid of any personal or existential meaning. (3) A phenomenological approach is today considered burdensome, resource demanding, and intellectually taxing. The contemporary psychiatric culture strives for ever-shorter and simpler doctor-patient interactions or even their elimination by the use of self-questionnaires.

On the basis of our own empirical research and experience with using and teaching the EASE, we believe that the rediscovery of self-disorders understood as an instability of fundamental structures of consciousness as a trait phenomenon in the schizophrenia spectrum disorders has a profound importance both clinically and for research. The EASE provides a useful tool in differential diagnostic assessment and may prove very useful in early clinical detection of schizophrenia spectrum patients as well as research studies of this group. The focus on self-disorder has also stimulated attempts of better understanding of the psychological nature of schizophrenia and its spectrum disorders.

With respect to pathogenetic research, we consider it to be perhaps more fruitful to explore neuroscientific correlates of trait phenomena rather than focusing on symptoms and signs of advanced illness. The pathogenetic research should also be concerned with developmental aspects of schizophrenia both in terms of biological ontogenesis but especially in terms of interactions with psychosocial environment.

With respect to treatment, there are no systematic studies on treatment of self-disorders, but our personal experience indicates a need for developing psychotherapeutic approaches that are based on the recognition of the self-disorders' crucial importance in the patient's life-world [57]. We have had some positive experiences with

psychoeducation groups discussing self-disorders. Here, the patients seemed to benefit from sharing their experiences as well as coping strategies.

With respect to psychopharmacology, some of the more near-psychotic self-disorders (e.g., thought pressure, primary self-reference, and transitivity) may respond to antipsychotic medication. Importantly, however, our theoretical work on insight and double bookkeeping indicates a necessity of adjusting antipsychotic treatment not only to the magnitude of positive symptoms but also to their re-personalizing role in the experience of illness [58]. Thus, the self-disorder research has inadvertently rekindled ontological, epistemological, and axiological issues concerning psychiatry. We wish to end with a word of caution. The upsurge of interest in phenomenology and the growth of theoretical publications in psychopathology also risk becoming repetitive and redundantly vacuous if such an effort is not followed by significant progress in theoretical understanding, implementation of better empirical research programs, and improved clinical practice.

References

- Kraepelin E. *Dementia Praecox und Paraphrenie*. Leipzig: Barth; 1919.
- De Kock L. "I think" (the thought of others). The German tradition of apperceptionism and the intellectual history of schizophrenia. *Hist Psychiatry*. 2020;31(4):387–404.
- Bleuler E. *Dementia praecox or the group of schizophrenias*. New York: International Universities Press; 1950.
- Parnas J, Möller P, Kircher T, Thalbitzer J, Jansson L, Handest P, et al. EASE: examination of anomalous self-experience. *Psychopathology*. 2005 Sep–Oct;38(5):236–58.
- Kety S, Risenenthal D, Wender P, Schulsinger F, Jacobsen B. Mental illness in the biological and adoptive families of adopted individuals who have become schizophrenic: a preliminary report based upon psychiatric interviews. In: Fieve R, Risenenthal D, Brill H, editors. *Genetic research in psychiatry*. Baltimore, MD: John Hopkins University Press; 1975. p. 147–65.
- Parnas J, Cannon TD, Jacobsen B, Schulsinger H, Schulsinger F, Mednick SA. Lifetime DSM-III-R diagnostic outcomes in the offspring of schizophrenic mothers. Results from the Copenhagen High-Risk Study. *Arch Gen Psychiatry*. 1993 Sep;50(9):707–14.
- Matthysse S, Holzman PS, Gusella JF, Levy DL, Harte CB, Jørgensen A, et al. Linkage of eye movement dysfunction to chromosome 6p in schizophrenia: additional evidence. *Am J Med Genet B Neuropsychiatr Genet*. 2004 Jul 1;128B(1):30–6.
- Minkowski E. *La schizophrénie: psychopathologie des schizoïdes et des schizophrènes*. Paris: Payot; 1927.
- Blankenburg W. *Der Verlust der natürlichen Selbstverständlichkeit: Ein Beitrag zur Psychopathologie symptomarmer Schizophrenien*. Stuttgart: Enke; 1971.
- Tatossian A. *La phénoménologie des psychoses*. Paris: Masson; 1978.
- Parnas J, Bovet P. Autism in schizophrenia revisited. *Compr Psychiatry*. 1991 Jan–Feb; 32(1):7–21.
- Zahavi D, Parnas J. Phenomenal consciousness and self-awareness: a phenomenological critique of representational theory. *J Conscious Studies*. 1998;5(5):253–70.
- Zahavi D. *Self-awareness and alterity: a phenomenological investigation (Studies in Phenomenology and Existential Philosophy)*. Evanston: North Western; 1999.
- Parnas J, Zahavi D. The role of phenomenology in psychiatric diagnosis and classification. In: Maj M, Geaebel W, López-Ibor JJ, Sartorius N, editors. *Diagnosis and classification*. New York: John Wiley & Sons Ltd; 2002.
- Nordgaard J, Henriksen MG. Phenomenological psychopathology and quantitative research. In: Stanghellini G, Broome M, Fernandez A, Fusar-Poli P, Raballo A, Rosfort R, editors. *Oxford handbook of phenomenological psychopathology*. Oxford: Oxford University Press; 2019. p. 941–51.
- Parnas J, Handest P, Jansson L, Saebye D. Anomalous subjective experience among first-admitted schizophrenia spectrum patients: empirical investigation. *Psychopathology*. 2005 Sep–Oct;38(5):259–67.
- Parnas J, Jansson L, Sass L, Handest P. Self-experience in the prodromal phases of schizophrenia. *Neurol Psychiatry Brain Res*. 1998; 97–106.
- Møller P, Husby R. The initial prodrome in schizophrenia: searching for naturalistic core dimensions of experience and behavior. *Schizophr Bull*. 2000;26(1):217–32.
- Gross G, Huber G, Klosterkötter J, Linz M. *Bonner Skala Für die Beurteilung von Basis-symptomen* Springer Verlag; 1987.
- Jaspers K. *General psychopathology*. London: The John Hopkins University Press; 1963.
- Minkowski E. *Lived time: phenomenological and psychopathological studies*. Northwestern University Press; 1970.
- Schneider K. *Clinical psychopathology*. New York: Grune & Stratton; 1959.
- Zahavi D. *Self and other: exploring subjectivity, empathy, and shame*. Oxford: Oxford University Press; 2014.
- Parnas J, Henriksen MG. Mysticism and schizophrenia: a phenomenological exploration of the structure of consciousness in the schizophrenia spectrum disorders. *Conscious Cogn*. 2016 Jul;43:75–88.
- Henriksen MG, Nordgaard J. Schizophrenia as a disorder of the self. *J Psychopathol*. 2014; 20:435–41.

Statement of Ethics

The study is a review and only reports research already published. It does not include new data from humans or animals.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

Funding Sources

The authors have not received any funding.

Author Contributions

J.N., M.G.H., M.Z., and J.P. wrote the first drafts of the manuscript. P.H., L.J., L.S.N., A.R.R., K.E.S., P.M., and D.Z. critically revised the manuscript. All authors have contributed to the final version of the manuscript.

- 26 Parnas J, Henriksen MG. Selfhood and its disorders. In: Stanghellini G, Raballo A, Broome M, Fernandez A, Fusar-Poli P, Rosfort R, editors. *The oxford handbook of phenomenological psychopathology*. Oxford: Oxford University Press; 2019. p. 465–74.
- 27 Zandersen M, Parnas J. Exploring schizophrenia spectrum psychopathology in borderline personality disorder. *Eur Arch Psychiatry Clin Neurosci*. 2020 Dec;270(8):969–78.
- 28 Henriksen MG, Parnas J, Zahavi D. Thought insertion and disturbed for-me-ness (minimal selfhood) in schizophrenia. *Conscious Cogn*. 2019;74:102770.
- 29 Rasmussen AR, Parnas J. Anomalies of imagination and disordered self in schizophrenia spectrum disorders. *Psychopathology*. 2015; 48(5):317–23.
- 30 Moller P, Haug E, Raballo A, Parnas J, Melle I. Examination of anomalous self-experience in first-episode psychosis: interrater reliability. *Psychopathology*. 2011;44(6):386–90.
- 31 Nordgaard J, Parnas P. A semi structured, phenomenologically-oriented psychiatric interview: descriptive congruence in assessing anomalous subjective experience and mental status. *Clin Neuropsychiatry*. 2012;9(3):123–8.
- 32 Nordgaard J, Nilsson LS, Sæbye D, Parnas J. Self-disorders in schizophrenia-spectrum disorders: a 5-year follow-up study. *Eur Arch Psychiatry Clin Neurosci*. 2018 Oct;268(7): 713–8.
- 33 Haug E, Lien L, Raballo A, Bratlien U, Oie M, Andreassen OA, et al. Selective aggregation of self-disorders in first-treatment DSM-IV schizophrenia spectrum disorders. *J Nerv Ment Dis*. 2012 Jul;200(7):632–6.
- 34 Nordgaard J, Parnas J. Self-disorders and the schizophrenia spectrum: a study of 100 first hospital admissions. *Schizophr Bull*. 2014 Nov;40(6):1300–7.
- 35 Parnas J, Urfer-Parnas A. The ontology and epistemology of symptoms: the case of auditory verbal hallucinations in schizophrenia. In: Kendler K, Parnas J, editors. *Hamshire*. Great Britain: Oxford University Press; 2017.
- 36 Heering HD, Goedhart S, Bruggeman R, Cahn W, de Haan L, Kahn RS, et al. Disturbed experience of self: psychometric analysis of the self-experience lifetime frequency scale (SELF). *Psychopathology*. 2016;49(2):69–76.
- 37 Cicero DC, Neis AM, Klaunig MJ, Trask CL. The inventory of psychotic-like anomalous self-experiences (IPASE): development and validation. *Psychol Assess*. 2017 Jan;29(1): 13–25.
- 38 Henriksen MG, Raballo A, Nordgaard J. Self-disorders and psychopathology: a systematic review. *Lancet Psychiatry*. Forthcoming.
- 39 Raballo A, Poletti M, Preti A, Parnas J. The self in the spectrum: a meta-analysis of the evidence linking basic self-disorders and schizophrenia. *Schizophr Bull*. 2021 Jan 22.
- 40 Nordgaard J, Gravesen-Jensen M, Buch-Pedersen M, Parnas J. Formal thought disorder and self-disorder: an empirical study. *Front Psychiatry*. <http://dx.doi.org/10.3389/fpsy.2021.640921>.
- 41 Nelson B, Lavoie S, Gaweda L, Li E, Sass LA, Koren D, et al. Testing a neurophenomenological model of basic self disturbance in early psychosis. *World Psychiatry*. 2019 Feb;18(1):104–5.
- 42 Nelson B, Lavoie S, Gawęda Ł, Li E, Sass LA, Koren D, et al. The neurophenomenology of early psychosis: an integrative empirical study. *Conscious Cogn*. 2020 Jan;77:102845.
- 43 Ferroni F, Ardizzi M, Sestito M, Lucarini V, Daniel BD, Paraboschi F, et al. Shared multisensory experience affects Others' boundary: the enfacement illusion in schizophrenia. *Schizophr Res*. 2019 Apr;206:225–35.
- 44 Sandsten KE, Nordgaard J, Kjaer TW, Gallese V, Ardizzi M, Ferroni F, et al. Altered self-recognition in patients with schizophrenia. *Schizophr Res*. 2020 Apr;218:116–23.
- 45 Haug E, Oie M, Andreassen OA, Bratlien U, Nelson B, Aas M, et al. Anomalous self-experience and childhood trauma in first-episode schizophrenia. *Compr Psychiatry*. 2015 Jan; 56:35–41.
- 46 Haug E, Oie M, Andreassen OA, Bratlien U, Nelson B, Melle I, et al. High levels of anomalous self-experience are associated with longer duration of untreated psychosis. *Early Interv Psychiatry*. 2017 Apr;11(2):133–8.
- 47 Rasmussen AR, Reich D, Lavoie S, Li E, Hartmann JA, McHugh M, et al. The relation of basic self-disturbance to self-harm, eating disorder symptomatology and other clinical features: exploration in an early psychosis sample. *Early Interv Psychiatry*. 2020 Jun;14(3): 275–82.
- 48 Zandersen M, Henriksen MG, Parnas J. A recurrent question: what is borderline? *J Pers Disord*. 2019 Jun;33(3):341–69.
- 49 Zandersen M, Parnas J. Identity disturbance, feelings of emptiness, and the boundaries of the schizophrenia spectrum. *Schizophr Bull*. 2019 Jan 1;45(1):106–13.
- 50 Rasmussen AR, Stephensen H, Parnas J. EAFI: examination of anomalous fantasy and imagination. *Psychopathology*. 2018;51(3): 216–26.
- 51 Henriksen MG, Parnas J. Self-disorders and schizophrenia: a phenomenological reappraisal of poor insight and noncompliance. *Schizophr Bull*. 2014 May;40(3):542–7.
- 52 Parnas J, Urfer-Parnas A, Stephensen H. Double bookkeeping and schizophrenia spectrum: divided unified phenomenal consciousness. *Euro Arch Psychiatry Clinical Neurosci*. 2020 Sep 8.
- 53 Stephensen H, Parnas J. What can self-disorders in schizophrenia tell us about the nature of subjectivity? A psychopathological investigation. *Phenomenol Cogn Sci*. 2018;17(1):1–14.
- 54 Yttri JE, Urfer-Parnas A, Parnas J. Auditory verbal hallucinations in schizophrenia: mode of onset and disclosure. *J Nerv Ment Dis*. 2020 Sep;208(9):689–93.
- 55 Parnas J, Zandersen M. Phenomenology of a disordered self in schizophrenia: example of an integrative level for psychiatric research. In: Kendler K, Parnas J, editors. *Levels of analysis in psychopathology: cross-disciplinary perspectives*. Cambridge: Cambridge University Press; 2020. p. 207–27.
- 56 Parnas J, Bovet P. Psychiatry made easy: operation(al)ism and some of its consequences. In: Kendler K, Parnas J, editors. *Philosophical issues in psychiatry III: the nature and sources of historical changes*. Oxford: Oxford University Press; 2015. p. 190–212.
- 57 Skodlar B, Henriksen MG. Toward a phenomenological psychotherapy for schizophrenia. *Psychopathology*. 2019;52(2):117–25.
- 58 Parnas J, Handest P. Phenomenology of anomalous self-experience in early schizophrenia. *Compr Psychiatry*. 2003 Mar–Apr; 44(2):121–34.