Reliability of Measuring Anomalous Experience: The Bonn Scale for the Assessment of Basic Symptoms

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Key Words

Subjective experiences · Schizophrenia prodrome · Bonn Scale for the Assessment of Basic Symptoms, reliability

Abstract

Background: Studying subjective experience, apart from preformed self-rating questionnaires, has nearly vanished in psychiatry, partly due to reliability concerns. Recent research in early detection of schizophrenia has entailed an increasing interest in the subtle experiential anomalies that may assist in identifying the patients at risk of psychosis. Some of these anomalies are described in the Bonn Scale for the Assessment of Basic Symptoms (BSABS). We examined the reliability of this instrument. **Sampling and Method:** 18 hospitalised patients accepted to participate in a psychopathological interview assessing BSABS items, affective and psychotic symptoms. **Results:** Out of the total 79 BSABS items examined, we found an interrater reliability kappa >0.60 in 68 items (86%). **Conclusion:** Good reliability can be achieved using BSABS.

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Introduction

Studying patients' subjectivity has become limited in scope and methodology in the science of psychopathology because of unilateral concerns about reliability issues

[1]. However, certain alterations of subjective experience have been proposed to 'be listed along with signs such as Bleuler's associative loosening' [2]. The interest in the prodromal detection of schizophrenia has entailed increasing understanding of the importance of subtle, non-psychotic anomalies of experience as symptoms that may accurately identify individuals at risk of future psychosis [3]. By the same token, the lack of standard psychopathological resources to address such subjective experience is becoming strikingly visible [4, 5].

One important exception is the work of Gross et al. [6], who have described and defined a wide range of these symptoms in the Bonn Scale for the Assessment of Basic Symptoms (BSABS). They coined them as 'basic symptoms' on the assumption that these features were pre-psychotic antecedents of full-blown psychosis and hence proximate to the underlying hypothetical causal biological dysfunction [7]. The relevance of basic symptoms for the prediction of schizophrenic psychosis has been investigated by Klosterkötter et al. [8] and some basic symptoms have been included in the early detection and intervention research.

Here we present data on the interrater reliability of the Danish version of the BSABS as a lifetime examination.

Materials and Methods

Eighteen patients hospitalised in an open ward were included. Inclusion criteria were ability to participate in an approximately

Table 1. Reliability of the BSABS

Dynamic deficiencies: A					
A.2	increased need for sleep	0.83***	C.2.3.3	changes in form	0.65***
A.6.1	diminished sense of pleasure	0.79***	C.2.3.4	changes in colour	0.64***
A.6.2	changes in experience of own emotions	0.73***	C.2.3.5	changes in others' face or body	0.80***
A.6.4	diminished need for contact	0.79***	C.2.3.6	mirror-related phenomena	0.90***
A.7.1	diminished ability for contact	0.45**	C.2.3.7	movements of objects experienced as related to own movements	1.00***
A.7.2	changes in ability for self-expression	1.00***	C.2.3.8	diplopia, oblique vision	0.21***
A.8.1	decreased threshold for changes	1.00***	C.2.3.9	disturbances in estimation of distances or size	0.43***
A.8.2	decreased threshold	0.73***	C.2.3.10	disintegration in perception of linearity of contours	0.61***
A.8.3	decreased threshold for stress	0.45***	C.2.3.12	abnormally long-lasting retinal after-image	0.75***
A.8.4	loss of ability for shared attention	0.67***	<i>Anomalies of perceptual experience – auditory, olfactory, gustatory or tactile</i>		
Dynamic deficiencies: B			C.2.4.1	sensitivity to sound	0.72***
B.2	increased emotional reactivity in response to routine daily events	1.00***	C.2.4.2	acoasma	0.62***
B.2.2	increased emotional reactivity in response to behaviour of others concerning the patient	0.29**	C.2.5.1	changes in auditory intensity or quality	0.82***
B.2.3	increased emotional reactivity in response to 'the suffering of other persons'	1.00***	C.2.5.2	abnormal acoustic irritation	0.44*
B.3.2	obsessive phenomena	0.92***	C.2.6.1	olfactory changes	0.89***
B.3.3	phobia	1.00***	C.2.6.2	gustatory changes	1.00***
B.3.4	psychic depersonalisation	0.73***	C.2.6.3	tactile changes	0.88***
Anomalies of cognitive, perceptual and motor experience: C			C.2.7	disturbance in grasping the significance of observed objects	0.78***
<i>Anomalies of cognitive experience</i>			C.2.8	heightened perception	1.00***
C.1.2.1	perseveration of thoughts	0.83***	<i>Anomalies of motor experience</i>		
C.1.2.2	perseveration of thoughts – fantasy	0.86***	C.2.9	captivation of attention by visual details	1.00***
C.1.3	thought pressure	0.74***	C.2.10	disturbance of awareness of continuity of own actions	1.00***
C.1.4	thought blockages	0.60***	C.2.11.1	derealisation	0.76***
C.1.5	disturbed concentration	0.80***	C.3.1	automatism	0.75***
C.1.6.1	disturbance of receptive language – visual	0.89***	C.3.2	motor blocking	0.78***
C.1.6.2	disturbance of receptive language – acoustic	0.68***	C.3.3	disautomatisation of movement/loss of automatic skills	0.80***
C.1.7	disturbance of expressive language function	0.71***	Coenaesthesias		
C.1.8	disturbance of ultra-short-term memory	0.89***	D.1	unusual bodily sensations of numbness and stiffness	0.54***
C.1.9	disturbance of short-term memory	0.83***	D.1	somatic depersonalisation	0.71***
C.1.10	special disturbances in long-term memory	0.87***	D.3	experience of motor paresis	0.70***
C.1.11	memory disturbances – not classified	1.00***	D.3	unusual sensations of bodily pain	0.90***
C.1.12	slow and difficult thinking	0.74***	D.4	migrating sensations	0.66***
C.1.13	disturbance of thought initiative or thought intentionality	0.69***	D.5	electric sensations	0.73***
C.1.15	changes in discrimination between ideas and perception	1.00***	D.6	thermal sensations	0.91***
C.1.16	disturbance in understanding of symbols	94%	D.7	sensations of movement	0.44**
C.1.17	unstable ideas of reference	1.00***	D.8	sensations of abnormal heaviness, lightness or emptiness, of falling or sinking, levitation or elevation	0.89***
<i>Anomalies of perceptual experience – visual</i>			D.9	sensation of extension, diminution, shrinking, enlargement or constriction	0.80***
C.2.1.1	unclear sight – phasic	0.73***	D.10	kinesthetic sensations	0.89***
C.2.1.2	momentary blindness	0.87***	D.11	vestibular sensations	0.87***
C.2.1.3	partial vision	0.87***	D.12	dysaesthesias provoked by sensory or tactile stimulations	0.57***
C.2.2.1	sensitivity to light	0.74***	D.14	dysaesthetic crisis	0.61***
C.2.2.2	photopsia	0.79***			
C.2.3.1	nearsight	0.64***			
C.2.3.2	changes in size	0.65***			

Figures indicate kappa values. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

3-hour psychopathological interview, no primary abuse diagnosis, no mental retardation nor organic aetiology of the psychiatric illness. Both raters (A.V.L., P.H.) were specialists in psychiatry with special interest in psychopathology. One of the raters had been formally trained for the use of the BSABS under the supervision of one of the developers of the scale (Klosterkötter). Prior to the interviews, 12 training sessions were completed. Items were individually documented during the interview and raters alternated between being interviewer and observer.

The BSABS is a semi-structured interview consisting of 92 principal items described in a prototypical manner, supplemented by differential-diagnostic guidelines, examples of questions and suggestions of probes. Symptoms are divided into stage 1 and 2 basic symptoms. The stage 2 basic symptoms are found to be more specific to schizophrenia spectrum disorders than to other psychiatric disorders [6]. For the study, we selected 59 basic symptoms (78 items because of specific subcategories) including all stage 2 basic symptoms covering disturbances of thinking, perception, motor experiences and coenaesthesias (abnormal bodily experiences). Each item is usually scored as absent, doubtfully present or definitely present; due to a clinical setting with restricted time, we chose to include a scoring of unknown/not sufficiently investigated. A full BSABS interview takes up to 180 min [6, 9]. Lifetime was chosen as the time span of symptoms, but it may be varied according to the study purpose. The BSABS was embedded in a more comprehensive clinical interview covering sociodemographic information, life history, psychotic, 'neurotic' and affective symptoms – essentially based on the skeleton of the OPCRIT and the SADS-L [10, 11] and completed by the PANSS scorings and scorings of expressive features, thus forming a composite, coined for daily use as the Hvidovre Checklist, and employed as a standard in our studies. The interviews are always performed in a semi-structured way, i.e. in a systematic but context-adequate way, conducive to maximally detailed self-descriptions rather than to binary yes/no answers.

The reliability was assessed by calculating Cohen's kappa values, which measure agreement between raters corrected for chance agreement and taking frequency into account. In the absence of variation in the ratings, e.g. in rating an important, but a rare symptom, kappa values can sometimes not be calculated and per cent agreement has to be used [12, 13].

The patients were 11 males (age 20–45 years, mean 30.4, median 29) and 7 females (age 22–34 years, mean 29.6, median 32) diagnosed with schizophrenia (8 patients), schizotypal disorder (3 patients), personality disorder (4 patients) and affective disorder (3 patients). Duration of illness was 1–209 months (mean 39.8, median 26). The level of education was as follows: 5 patients 9 years of school, 1 patient 10 years of school, 6 patients 12 years of school, 4 patients studied at a university and 1 had graduated with a university degree. Five patients received antipsychotic drugs, 3 antidepressants and 3 a combination of both.

Results

The reliability of the entire interview was quite good, as measured by the interclass correlation coefficients (ICCs) for the PANSS positive, negative and total symp-

tom scales (ICC for PANSS positive symptoms 0.99, ICC for PANSS negative symptoms 0.95 and ICC for PANSS total symptoms 0.97).

Reliability of the BSABS is itemised in table 1. Out of 79 items, we found a fair kappa value (0.21–0.40) in 2 (a form of increased emotional reactivity and a rare visual perception disturbance). A discrepancy in these particular ratings was caused by the fact that one rater considered the symptom as doubtfully present while the corater considered it as absent. In the totality of 78×18 ratings, there were only 12 clear-cut disagreements, with one rater scoring an item as absent and the other as definitely present.

A moderate kappa value (0.41–0.60) was found in 8 items, a good kappa value (0.61–0.80) in 34 items, and a very good value (0.81–1.00) in 34 items. For 1 item, kappa could not be calculated and was expressed as 94% agreement [13].

Discussion

The current focus on the prodromal detection of schizophrenia has highlighted the need for a useful approach to describing alterations of subjective experience. The BSABS has been, until recently, the only such instrument – if we disregard the self-rating approaches. In this investigation, the reliability of BSABS items was investigated, when the BSABS is integrated into a more comprehensive diagnostic assessment. We found high interrater kappa values for nearly all items. The study did not address the issues of test-retest reliability.

The observed level of inter-rater reliability demonstrates that it is possible to incorporate an assessment of anomalous subjective experience into a more general clinical-diagnostic interview performed within a restricted time frame by trained psychiatrists. From these findings, it follows that reliability concerns *should not prevent* scientific investigation of altered subjectivity or consciousness. Our results are partly relevant to the recently published interview scheme – the EASE (Examination of Anomalous Self-Experience) – targeting anomalies of self-experience [14] because there are important EASE-BSABS overlaps; the EASE may be considered as a phenomenological extension of the BSABS in the domain of self-experience.

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