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The Borderline Syndrome Index: A Validation Study using the Personality Assessment Schedule

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Background. This study examines the validity and screening properties of the Borderline Syndrome Index – BSI (developed in the USA) for categories of the Personality Assessment Schedule – PAS (developed in the UK).

Method. Patients were recruited by case control sampling. Chance corrected agreement between instruments and screening properties of the BSI were calculated.

Results. The BSI proved a moderately sensitive but non-specific screen. Questionnaire scores were highly correlated with symptom measures.

Conclusions. The results do not support the validity of the BSI or its use as a screening instrument. BSI scores may be distorted by current symptoms.

Increased interest in the USA has led to the development of a number of instruments to measure personality disorder. Many have focused on Borderline Personality Disorder (BPD) and of these, the Borderline Syndrome Index (BSI) has emerged as a self-report questionnaire with reasonable discriminant validity (Conte *et al*, 1980). It is a 52-item, forced choice measure based on phenomena described in the relevant literature. Its potential use as a screening instrument has been noted (Edell, 1984) but not tested to date and its relation to other personality disorder categories has not been examined. In the UK, most studies have used the Personality Assessment Schedule (PAS; Tyrer, 1988) to define cases of personality disorder. It is an empirically derived, semi-structured interview in which 24 personality traits are rated on 0–8 scales. Diagnoses are computed using combinations of trait scores, and fall into four broad groups; the Antisocial group (sociopathic, explosive and sensitive aggressive personality disorders); the Dependent group (passive dependent, histrionic and asthenic personality disorders); the Inhibited group (anankastic, anxious, hypochondriacal and dysthymic personality disorders); and the Withdrawn group (schizoid, paranoid and avoidant personality disorders). In addition, certain combinations of variables correspond to Axis II, DSM–III–R (American Psychiatric Association, 1987) categories (Tyrer, 1988). Thus the PAS generates personality disorder diagnoses using its own classificatory system and DSM–III–R equivalents. The two PAS categories most relevant to the borderline concept seem to be the antisocial group of personality disorders (from the PAS classification) and BPD (from the DSM–III–R equivalents). The former represents a narrow definition as the disorders in this group all include the traits of 'Irritability' and 'Aggression', two include 'Impulsiveness' and 'Irresponsibility', but none specifically assess the affective instability associated with the borderline concept. This affective component is covered by PAS BPD for which traits of 'Worthlessness' and 'Lability' are included in the computation.

Concordance between instruments is an important question in personality disorder research but whichever measure is used, there is general agreement that patients with personality disorder are liable to pose difficulties in treatment including cognitive analytic therapy (CAT). A sensitive, specific and valid screening instrument would be of particular clinical benefit in identifying these patients at the earliest possible stage of assessment. The aims of this study were to estimate the chance corrected agreements between the BSI and PAS categories in patients being assessed for CAT, and to assess the screening properties of the BSI in this population.

Method

The study was conducted in the CAT Department at Guy's Hospital, London, which serves the deprived inner city areas of Lewisham and north Southwark and provides focused, time limited therapy for patients referred by a range of professionals. The department uses a two stage assessment procedure. The first stage involves patients completing a set of questionnaires including the Beck Depression Inventory (BDI; Beck *et al*, 1961) and the Symptom

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Checklist 90 – Revised (SCL 90R; Derogatis, 1983). These are returned to the department coordinator who arranges an initial assessment interview as the second stage of the procedure.

The BSI was added to the set of questionnaires for the purposes of this study. The Coordinator recruited patients by (i) identifying all BSI 'cases' (cut off score of 25 or more; Conte *et al*, 1980) and a random 50% sample of BSI 'non-cases', and then (ii) offering the patients an initial CAT assessment augmented by PAS interview or the alternative of initial CAT assessment alone. Informed consent was obtained from all patients agreeing to the extended interview.

The patient version of the PAS was used as this is acceptable in populations where psychiatric morbidity is relatively minor or absent (Casey & Tyrer, 1990). Interrater reliability proved satisfactory (for the presence of any antisocial group personality disorder, kappa = 0.71; presence of BPD, kappa = 0.70). The three raters (KO-B, FL-P, MJM) were blind to patients' BSI scores and were not involved in their ongoing clinical care. Raters did however pass all information gathered at interview to the department coordinator who then allocated patients to therapists following discussion by the clinical team. In this way, the study was conducted in, but independently of, the clinical setting where the BSI might be used as a screen and it was conducted without disruption to the service or disadvantage to patients taking part.

Results

Fifty patients completed both BSI and PAS. The mean age of the total sample was 34 years (s.d. = 9 years), 32 (64%) were women and 40 (80%) had completed basic school leaving examinations. There was no association between BSI score and age (Spearman rank $r = -0.05$; $P = 0.73$) or gender (mean BSI score for females = 28.84, s.d. = 8.93; mean BSI score for males = 28.33, s.d. = 9.59; $t = 0.9$, $P = 0.85$). However, BSI scores were significantly associated with BDI scores (Spearman rank $r = 0.56$, $P = 0.00003$) and the Global Severity Index of the SCL90R (Spearman rank $r = 0.50$, $P = 0.0003$) which gives a summary measure of symptom severity (Derogatis, 1983).

Agreements between the BSI and PAS BPD (Kappa – $k = 0.12$) and any antisocial group personality disorder ($k = 0.16$) were low for a cut off BSI score of 25. A cut-off point of 33 yielded slightly better agreement with PAS BPD ($k = 0.24$). The best agreement achieved was between the BSI and the presence of any dependent group personality disorder ($k = 0.45$) at this higher cut off point. The questionnaire tended to differentiate the latter group of personality disorders from the other

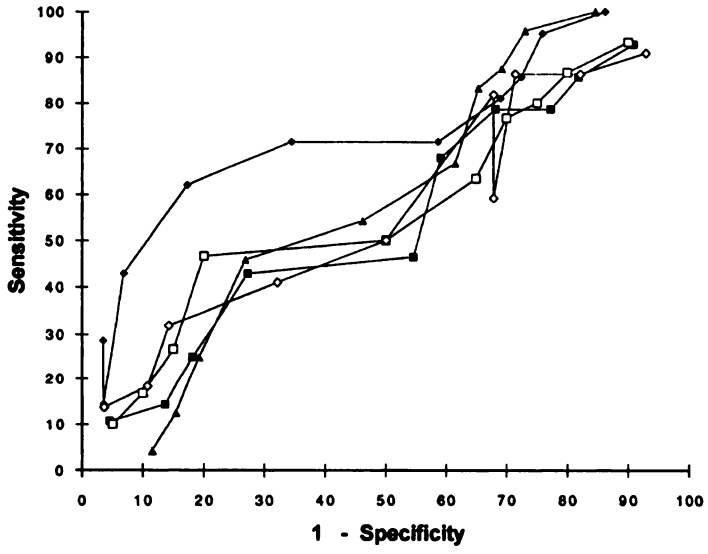


Fig. 1 ROC Curves. ■, Antisocial group; □, Borderline personality disorder; ◆, Dependent group; ◇, Inhibited group; ▲, Withdrawn group.

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categories (Fig. 1) but it failed to distinguish any category to a degree that would support its use as a screening instrument.

Discussion

The BSI and BPD

To date there has been no validation study of the BSI which has assessed chance corrected agreement directly. Therefore it is difficult to compare the results of this study with earlier reports of BSI validity. But it is possible to calculate kappa values from the results reported in two such studies. Table 2 of the study by Conte *et al* (1980) shows that some 50% of 35 clinically identified cases of BPD had BSI scores of 25 or more, while virtually 100% of 50 'normals' scored under 25. This yields an approximate kappa value of 0.53. In the study of an heterogenous clinical sample of 60 patients by Lewis & Harder (1991), Table 3 shows a comparison of three categories based on BSI score ('Not BPD', 'Probable/Possible BPD' and 'BPD') with a clinical diagnosis of BPD. If the calculation is restricted to the 'Not BPD' and 'BPD' categories only, then $k = 0.47$. If the 'Probable/Possible' cases are apportioned equally to the 'Not BPD' and 'BPD' categories, $k = 0.35$. If they are all assigned to the 'BPD' category, $k = 0.37$, and if all are included with the 'Not BPD' category, $k = 0.33$. The latter three values indicate 'fair' agreement and from a clinical perspective they do not differ significantly from the values obtained in this study. 'Moderate' agreement seems to be achieved by taking extremes (either in the samples used for comparison or in the classification of patients by BSI score) and this would be difficult to replicate in routine clinical practice.

Potential limitations of the BSI

The PAS has not been formally compared with a semi-structured interview for BPD and so the possibility of misclassification of cases with the PAS must be entertained. However, more plausible explanations for the slight agreement, reasonable sensitivity but low specificity of the BSI in this study, stem from its relationships with the two symptom measures (BDI and SCL 90R). Associations between the BSI and measures of depression have been reported previously (D'Angelo, 1991). It has been suggested that the BSI measures a general difficulty in coping characterised by low self-esteem (Edell, 1984) and associated with a range of conditions (Remington & Book, 1993), rather than specific personality disorder characteristics. These results may also represent examples of the way in which current symptoms can distort self-report measures of personality disorder. That the BSI distinguished the dependent group of personality disorders in this study may suggest that the traits it does identify are not those which are central to the borderline concept.

Implications for research into personality disorder

Further research is needed to demonstrate concordance between self-report and interview based measures derived from different theoretical tenets but aiming to measure similar phenomena. Until reasonable agreement can be achieved, it will be difficult to compare studies with conflicting results and still more difficult to delineate the category of borderline personality disorder. We recommend the use of instruments which cover a range of personality disorders in such research, as the specificity of instruments to measure a single disorder cannot be assumed. The potential distortion of other self-report measures of personality disorder by current symptoms merits further investigation.

Clinical implications

- The BSI may be useful as a means of gathering information relevant to the clinical assessment of patients for CAT
- However, the BSI is not a useful screen for patients with personality disorder in this population
- If self-report measures are to be used to screen patients, their validity should be confirmed first in the given clinical setting

Limitations of the study

- The results of the study refer specifically to the population of patients being assessed for CAT in a particular department
- Only one self-report measure of BPD was examined and so no conclusions can be drawn regarding other questionnaires
- Only one interview measure of personality disorder was used and so the relationship of the BSI to other such instruments could not be examined

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