

Behavior Problems Inventory (BPI): Psychometric characteristics of an instrument for routine assessment of persons with psychoses and related disorders

Antonio J. Vázquez Morejón ^a, Raquel Vázquez-Morejón ^b, Gloria Bellido Zanin ^c

^a *Unidad Salud Mental Comunitaria Guadalquivir. Hospital Universitario Virgen del Rocío. Sevilla. Spain*

^b *Grupo de Investigación Comportamientos Sociales y Salud. Departamento de Psicología Social. Universidad de Sevilla. Spain*

^c *Institut Pere Mata. Reus, Tarragona. Spain*

Abstract

This study explores the psychometric characteristics of the Behavior Problems Inventory (BPI), an instrument for routine clinical assessment of behavior problems in outpatients with psychosis based on information provided by key family informants. Six hundred and twenty-one patients diagnosed with psychosis and bipolar affective disorder (ICD-10 F20-F31) attended at Community Mental Health Units were evaluated in routine reviews using the BPI and the Social Functioning Scale (SFS). Twenty-five subjects were simultaneously administered the Social Behavior Schedule (SBS) and 28 were again administered the BPI eight weeks later. The instrument shows adequate psychometric characteristics with high internal consistency and robust temporal reliability, as well as satisfactory concurrent and construct validity. Factor analysis identified three factors: Underactivity/Social Withdrawal, Active Problems and Lack of Impulse Control, with adequate saturation of the items on each of the factors. The BPI is easy to apply, reliable and valid, takes up little of valuable clinical time, allowing routine assessment in public service contexts for persons diagnosed with psychosis and bipolar affective disorder for whom key family informants are available.

Keywords: Outcome assessment, social functioning, severe mental disorder

Correspondence to:
Antonio J. Vázquez Morejón
Unidad de Salud Mental Comunitaria Guadalquivir
(Hospital Universitario Virgen del Rocío)
Marques de Paradas 40, 1ª planta
Sevilla 41001

e-mail address: ajvazquez@cop.es

1. Introduction

Psychosis takes a prominent place among mental pathologies for many different reasons, but especially because of their complex psychopathological and behavioral manifestations, as well as the severe personal, family and social consequences it can lead to (Jablensky et al., 1992; Kooyman et al., 2007; Laessle et al., 1987; Liberman et al., 1984).

The need for specific, properly validated instruments for this population has been stated by several different authors (Hall, 1979; Niv et al., 2007; Wallace, 1986; Weissman, 1981; Weissman and Bothwell, 1976).

One of the most relevant areas of assessment, along with the symptomatology, is related to social functioning (Carpenter and Strauss, 1991; Strauss and Carpenter, 1977). In turn, two approaches to it should be underlined: 1) performance in the various areas of social functioning, assessed based on roles or specific behaviors, and 2) evaluation of behavior problems (BP) which may interfere with integration and social functioning (Brewin et al., 1987).

The study of BP assumes an approach to the manifestations of psychosis from a behavioral perspective. That is, this perspective could be considered the behavioral side of the psychopathological manifestations with which they partially overlap (Wykes and Sturt, 1986).

Assessment of BP has been included in various instruments developed for assessment of patients with psychosis. One of these instruments is the Social Behavior Schedule (SBS; Wykes and Sturt, 1986). This scale, developed from the studies by Wing and Brown (1970), can identify and quantify BP in patients with severe mental illness. It is one of the most internationally recognized and widely used instruments for

the study of BP, with studies done in a diversity of clinical contexts with Anglo-Saxon (14-20) (Mann and Cree, 1976; Mann and Sproule, 1972; Ryan and Wing, 1979; Wing et al., 1970; Wykes, 1982, 1994; Wykes and Sturt, 1986) and Spanish (Vázquez Morejón and Jiménez García-Bóveda, 1989) populations, and has also been adapted to various languages (Lima et al., 2003; Vázquez Morejón and Jiménez García-Bóveda, 1994).

Like the SBS, other instruments also include assessment of BP: the Social Behavior Assessment Schedule (SBAS) (Platt et al., 1980), the REHAB (Hall and Baker, 1988) and the HoNOs Scale (Wing et al., 1998). However, because of their characteristics, the need for training, behavior observation time, long application time and/or notable use of clinical time, they are hardly feasible in routine clinical contexts.

These instruments, which are preferable in research, are unfeasible in public clinical contexts with high volumes of patients and very limited clinical time. It is this last respect that is considered essential for implementing routine measures of results (Slade, 2002).

It is therefore of great interest to have alternative instruments with acceptable psychometric characteristics which can still flexibly evaluate BP in daily clinical practice while taking up a minimum of the professional's time. Thus they could be included as measures of results in the routine assessment of patients and services (Slade et al., 1999), something which is becoming more and more urgent every day in current healthcare contexts (Roe et al, 2015; Roe et al, 2016).

It has also been suggested that different sources of information provide differentiated and complementary perspectives, which are more or less appropriate depending on the area under evaluation. Daily coexistence in the family provides day-

to-day observation of the patient which makes them a particularly significant source of information, since it enables identification of behavior rarely observed by other sources of assessment.

The relationship of BP with such relevant variables as autonomy levels (Vázquez Morejón and Jiménez García-Bóveda, 1994; Wykes et al., 1982), family burden (Bellido-Zanin et al., 2017b; Othman and Saleh, 2008) and family coping capacity (Vázquez Morejón et al., 2013), as well as its predictive power for use of resources (Bellido-Zanin et al., 2017a), make its study particularly relevant to this field of assessment.

This study analyzed the psychometric characteristics of the Behavior Problems Inventory (BPI), an instrument which assesses BP in persons with psychosis in community contexts based on direct information from their own family and with a minimum use of time. It is intended to increase the repertoire of resources available in Spanish for assessing persons with psychosis in daily clinical practice.

2. Methods

2.1. Participants

Six hundred and twenty-one outpatients diagnosed with psychosis and related disorders (ICD-10 F20-F31) (WHO, 1992) at the Community Mental Health Units (University Hospital Virgen del Rocío, Seville, Spain) participated. Of these, 404 (65.1%) were men and 217 (34.9%) were women. The mean age was 41.02 years (SD=12.4, range=17-75 years). Their marital status was: 430 (69.3%) single, 128 (20.6%) married, 35 (5.6%) separated, 19 (3.1%) widowed and 9 (1.4%) unknown.

Diagnoses were distributed as follows: 400 persons with schizophrenia (64.4%), 94 with bipolar affective disorder (15.1%), 25 with schizoaffective disorder (4%), and the remaining 102 (16.4%) showed other psychotic disorders. The mean number of admissions was 1.78 (SD=2.89, range=0-35). Information from the participants was extracted from the clinical records.

The key informants were 291 mothers (46,9%), 97 fathers (15,6%), 66 wives/husbands (10,6%), 79 brothers/sisters (12,7%), 36 other relatives (5,8%) and 59 others (8,4%). Most of them were women (72,2%).

2.2. Instruments

Behavior Problems Inventory (BPI)

This 14-item scale lists the most relevant behavior problems found in individuals with psychosis. During the instrument's development, the choice of items was based on review of the three most recognized instruments for BP research: the SBS (Wykes and Sturt, 1986), the REHAB (Baker and Hall, 1988) and the BP area of the SBAS (Platt et al., 1980), in addition to the authors' own experience (Vázquez Morejón & Jiménez García-Bóveda, 1989, 1994; Jiménez García-Bóveda et al., 1994; Vázquez Morejón and Jiménez García-Bóveda, 1995; Vázquez Morejón et al, 2013). Two clinical psychologists (Jiménez García-Bóveda and the first author) with extensive experience in the treatment of psychosis participated in the selection of the items. From the pool of items identified, a selection was made independently by each of the clinical psychologist considering three basic criteria: 1) relevance, because of the frequency observed by authors in previous studies, affecting at least 5% of people with psychosis 2) severity of the behavior determined by the item in terms of its possible interference

with adaptation and social functioning of persons with psychosis, 3) the feasibility of its evaluation by a key informant, taking into account the difficulty of informants to provide information in relation to specific areas (sexual behaviors, ability to concentrate, etc.).

The final items were selected by consensus of the two clinical psychologist. Some areas of interest included in the instruments mentioned above, were discarded for not being precise enough for an independent assessment without classification and delimitation by a professional in an interview with the key informant, such as the interview in the SBS (for example SBS Item 8 “Panic attacks or phobias” or 20 “concentration”).

The items on the BPI are simply written, descriptive, and specify observable behaviors insofar as possible.

Moreover, two more items were included: the first enquire about the capacity of the key informant to overcome the problems (scored from 0=Unable to 4=Very well) and the last about the frequency with which they feel overwhelmed by those BP (scored from 0=Never to 4=Often).

The scale is preferably filled out by a key informant, usually the family member with the most contact with the patient. All the answers refer to the behavior shown by the patient during the last three months and must be scored on a Likert-type scale of 0=Never to 3=Often.

A total score is found based on the sum of the scores on each of the 14 items. Another two alternative scores may also be found: 1) a moderate BP score (MBP), the number of items with a score equal to or greater than 2, and 2) Severe BP score (SBP), the number of items with a score of three.

Social Functioning Scale (SFS). The Social Functioning Scale (Birchwood et al., 1990), is a 78-items questionnaire designed specifically to evaluate those areas of social functioning which are crucial for persons with schizophrenia to remain in the community.

The assessment method used is based on the reported presence or frequency of enumerated basic social skills and/or behaviors, avoiding insofar as possible, evaluative judgments of the informants. The subjects answer each question by selecting one of four possible responses. The scale spans seven areas: 1) Social Integration/ Isolation, with scores ranging from 0 to 15, 2) Interpersonal Behavior, with scores ranging from 0 to 9, 3) Prosocial Activities, with scores ranging from 0-66, 4) Leisure, with scores ranging from 0 to 45, 5) Autonomy-Execution, with scores ranging from 0 to 39, 6) Autonomy-Competence with scores ranging from 13 to 39 and 7) Employment/Occupation, with scores ranging from 0 to 10.

It provides a total social functioning score and seven scores related to each of the areas. The highest scores always show a higher level of social functioning. There are two versions of the scale, depending on the source of information: the patient him/herself (self-report) or a key informant (reported).

The scale's psychometric characteristics have been explored both in the English (Birchwood et al., 1990), and Spanish versions (Vázquez Morejón and Jiménez García-Bóveda, 2000), with results supporting its validity and reliability.

Social Behaviour Schedule (SBS). This inventory (Wykes and Sturt, 1986) has 21 items covering as many behavior areas, identified by the researchers as the most relevant for

describing the difficulties shown by chronic mental patients and which often tend to interfere with their daily functioning and/or alter their socio-family life.

These items assess the patient's ability to relate to others, the adequacy of his/her social comportment and adaptation to the demands of their surroundings. The 21 areas are evaluated on a Likert-type scale which in most cases goes from 0 (no problems or acceptable) to 4 (severe problems) based on established criteria and the information acquired in a semi-structured interview with a key informant.

The SBS enables a profile to be drawn of the patient's behavior, and also two total scores: 1) Moderate Score (MS): equal to the number of items with a score of two or more, 2) Severe Score (SS): equal to the number items with a score of three or over. The Spanish adaptation used here has adequate psychometric characteristics (Vázquez Morejón and García-Bóveda, 1994).

2.3. Procedure

This study is part of a wider project on social functioning of persons with psychosis in the Virgen del Rocío Healthcare Area in Seville which began in the period 2002-2005 and was developed until the end of 2007¹.

First, the professionals collaborating with the Community Mental Health Units, clinical psychologist and psychiatrists who habitually treat the patients, were given the assessment scales and a document with the procedure to be followed for collecting the information from the family members of patients with psychosis. Then the collaborating professionals, the usual clinicians, requested the consent of the patients included in the psychosis census during their usual scheduled reviews at the center. Patients were given

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the scales requiring them to be filled out at home “by the person in the family with whom the patient had the most contact and knew their situation the best”, explaining the purpose of the assessment and the voluntary character of the participation.

2.4. Statistical analysis

With a view to exploring its temporal reliability, a group of 28 family members were again given the scale eight weeks later.

When the scale had been filled in and collected, it was digitalized and analyzed using SPSS, v.22 statistical software. The temporal analysis was performed using the Pearson’s coefficient. Factor analysis was done by principal components with Varimax rotation, resulting in factors with eigenvalues over 1.

Construct validity was explored based on the correlations (Pearson’s r) of the BPI with the Social Functioning Schedule (SFS) by giving the two scales at the same time to 419 subjects.

Validity was analyzed for known groups by comparing two groups of patients differentiated by their BP: patients with few hospital admissions (from 0-2 admissions) vs. patients with several admissions (over 2). The t -test for independent samples was used for comparison of means, including 384 patients for whom this information was available.

Concurrent validity with the SBS was explored using the correlation (Pearson’s r) with the scores on the BPI in 25 participants selected at random.

3. Results

3.1. Descriptive data

Table 1 shows the mean score and standard deviation for each of the items and the total subscale scores.

The three items with the highest scores were number 1 (“Nervousness”), 3 (“Irritability”) and 4 (“Avoiding others”), while the three with the lowest scores were 10 (“Attempted self-harm or suicide”), 8 (“Hitting other people”) and 7 (“Breaking or hitting things”).

All the behavior problems seem relevant, with presence varying from 11.3% of patients on Item 10 (“Attempted self-harm or suicide”) to 79.1% on Item 1 (“Nervousness”).

3.2. Reliability

3.2.1. Internal consistency

The Cronbach’s alpha was 0.85, showing excellent consistency of the 14 BP items included in the instrument. Good internal consistency was observed in two of the dimensions, Hipoactivity/Withdrawal BP (0.76) and Active BP (0.80), while internal consistency for Lack of impulse control BP (0.56) was questionable.

3.2.2. Temporal reliability

Reliability for the two-month interval found with 28 subjects showed very satisfactory correlations for TBP ($r=0.82$, $p<0.001$), MBP ($r=0.74$, $p<0.001$) and SBP ($r=0.71$, $p<0.001$).

Substantial correlations were also observed in the scale's three dimensions: Hipoactivity/Withdrawal BP ($r=0.71, p<0.001$), Active BP ($r=0.78, p<0.001$) and Lack of impulse control BP ($r=0.59, p<0.001$).

3.3. Factorial Structure

First, the Kaiser-Meyer-Olkin Measure of Sample Adequacy ($KMO=0.87$) and the Bartlett's Test of Sphericity ($X^2=2565.54; p<0.001$) were calculated, confirming that the values were appropriate for factor analysis.

The analysis of principal components with Varimax rotation identified three factors with eigenvalues over one. By the content of the items with the highest saturation on each of the factors (Table 2), they could be called: 1) Underactivity /Social Withdrawal Problems: including 4 "Withdrawal", 11 "No will to live, sad", 12 "Not keeping clean", 14 "Lying around/not doing anything" and also 1 "Nervousness", 2) Active Problems: including Items 2 "Saying strange things", 3 "Irritability", 5 "Laughing or talking to oneself", 6 "Insulting others", 9 "Doing odd, strange things" and 3) Lack of Impulse Control: which includes Items 7 "Breaking or hitting things", 8 "Hitting people", 10 "Attempting self-harm or suicide" and 13 "Taking alcohol/drugs". The items in each factor are very similar in their content. So while most items included in Factor 1 refer to what is considered behavioral manifestation of negative symptoms, the items included in Factor 2 refer to behavioral manifestations of productive symptoms, and those in the third factor refer to behaviors related to lack of impulse control.

3.4. Validity

3.4.1. Concurrent validity

The scores on the BPI correlate very substantially with those found on the Social Behaviour Schedule (SBS), reaching 0.88 between total scores for both instruments. Although with less intensity and significance, correlations are also observed between scores on the two instruments for severe behavior problems (Table 3).

3.4.2. Construct validity

The scores on the BPI show substantial significant correlations with the Social Functioning Schedule (SFS), both on the global score and on the various subscales (Table 4).

3.4.3. Validity of known groups

The comparison of two groups presumably with different BP, patients with several admissions (more than 2) versus patients with few admissions (0-2), confirmed the significance of the differences in total BP, as well as in MBP (Table 5).

3.5. Application time

A random sample of 10 family members was timed until completion, and a mean application time of one minute and 48 seconds was observed, varying from 1 min 45 s to 2 min 10 s.

4. Discussion

In general terms, the results show adequate psychometric characteristics of the Behavior Problems Inventory. Internal consistency was observed to be very satisfactory, finding a Cronbach's alpha within the 0.70-0.90 range recommended by Nunnally (1978). Furthermore, temporal reliability showed a very substantial correlation, particularly for the total score (TBP) after the two-month interval ($r=0.82$). Except for the Lack of Impulse Control subscale, all the scores were above 0.70, referred to by Cronbach (1970) as the best for one-month intervals. The Lack of Impulse Control subscale showed the lowest correlation. This lower correlation could be determined by the nature of these behaviors themselves (hitting other people, breaking things, self-harm, etc.): on the one hand they are more occasional behaviors, less frequent or stable, and on the other, they are behaviors which often are the reason for urgent intervention (adjusting treatment, more intensive support, etc.) directed at palliating their appearance. It would therefore be reasonable to expect less stability in these behaviors. Baker and Hall (1988), in their study of the REHAB, pointed out in the section on Deviate Behavior, this difficulty for evaluating the reliability of more sporadic behavior problems.

The intense correlations of the BPI with the SBS provide robust support for the validity of the scale, particularly considering the total scores (TBP) and those for moderate behavior problems (MBP). The lower correlation on SBP could be explained by lower presence of severe problems in a community population, more so in a small number of cases such as the one used in this study. The high correlation between SBP and moderate SBS could show a different range of severity measured by the two

instruments. Sturt and Wykes (1987) suggested that the SBS covers a more severe range of disability than other instruments.

Moreover, it should be mentioned that the factorial structure seems to reproduce, in principle, two large groups of psychotic symptoms, positive and negative (Andreasen and Olsen, 1982). This seems reasonable considering that behavior problems are like the behavior side of the psychopathology itself. However, another factor was found, Lack of Impulse Control, which has its own identity and should be evaluated independently, since it may have specific relationships with other variables. This may be observed in Table 5, where this factor has a stronger relationship with hospital readmissions.

Several studies have emphasized the importance of evaluating the different dimensions of clinical symptoms, because their value for prognosis and relationship with other variables differs for each (Arndt et al., 1995; Dollfuss et al., 1996; Kirkpatrick et al., 1993; Lima et al., 2003).

The three factors identified, Active, Underactivity /Social Withdrawal and Lack of Impulse Control, showed notable coincidence with the three dimensions identified by other authors (Andreasen et al., 1995; Arndt et al., 1995; Liddle and Barnes, 1990): Psychotic, Negative and Disorganized. However, it differs from what was observed by Harvey et al. (1996), who used the SBS to identify four behavior syndromes in patients with schizophrenia; Social Withdrawal, Thought Disturbances, Antisocial Behavior and Depression. One possible explanation for this difference could be different composition of the samples. Thus, while the study by Harvey et al. (1996) includes strictly patients with schizophrenia, this study's sample is somewhat more diversified, as it includes patients with psychosis and bipolar disorder (ICD-10 F20-F31). Moreover, the

composition of the BPI cannot be discarded as an explanation, as only those aspects that could be reported by family members or caregivers without the need for major clarifications are included, while some areas which would require an interview for their evaluation are excluded. Keeping in mind, then, that the behaviors included in the BPI are not exhaustive, but include only those which due to their frequency and adequacy for observation by family were pertinent, other factors, apart from the three observed, may have been present (Harvey et al., 1996; Curson et al., 1999). In any case, it would be necessary to verify this factor structure by Confirmatory Factor Analysis (CFA).

It is worth mentioning that the Lack of Impulse Control factor includes behaviors that have been considered especially problematic socially, and form barriers for social inclusion and recovery (Meaden and Hacker, 2011).

Concerning construct validity, the data found show moderately significant correlations between the BPI and the SFS, which means they validate the instrument. Although while the two areas are theoretically related, they are clearly different, so full coincidence cannot be expected.

Furthermore, the BPI score was found to be significantly different in two presumably different groups, patients with few admissions vs. those with several admissions, which also supports validity of the instrument.

Some limitations related to the nature of the instrument itself should be mentioned. Application of the BPI is only possible when there is a family member or caregiver, which limits its use for a percentage of patients who live alone or do not have this type of informant. It must also be recalled that evaluation of BP is only one of the perspectives of assessment, complementary to others in different areas (symptomatology, social functioning, recovery, etc.) and sources of information

(professional, self-report, observation) as mentioned by other authors (Scheider et al., 2017; Turner et al., 1983).

In the case of BP, given their lower frequency of occurrence in the outpatient community population, it would be of interest to confirm the concurrent reliability in a wider sample.

Future studies should explore the relationship of each of the dimensions of the BPI with other constructs important for persons with psychotic disorders, such as quality of life and recovery and their relationship with family burden.

It would also be of interest to explore the predictive power of each of the dimensions related to clinical evolution, and their association with other constructs (quality of life, recovery, etc.), since as observed in other studies (Liemburg et al., 2013), some symptomatic domains have different relationships with other constructs.

Gender differences found in previous studies on BP (Jiménez García-Bóveda et al., 2000) confer interest to exploring the divergence in each of the dimensions as well as their possible implications.

In general, it may be said that the results confirm adequate psychometric characteristics of the PBI and support the interest in using it, since it is an instrument which is easy to apply, with a minimum use of clinical time and very little burden for the informants. All this makes it particularly useful in clinical contexts, allowing behavior problems of persons with psychotic disorders, a priority-care population in public healthcare services, to be identified and quantified.

The characteristics of this instrument, adjusted in general terms to the feasibility criteria posed by Slade et al. (1999) for use as a routine measure of results, makes it especially feasible for daily use in mental health services.

The study of BP can contribute to: 1) identification of persons with the most difficulties for and high probability of suffering from interference with their social functioning and in adapting to the community, and 2) delimitation of individual profiles, which facilitates specification of priority behavior areas for intervention, 3) evaluation of results of interventions directed at these behavior areas.

5. Conclusions

The BPI is an easy to apply, reliable and valid instrument, which takes up little clinical time, allowing routine evaluation in public healthcare contexts for persons diagnosed with psychosis and bipolar affective disorder in any patient with a key informant in their family context.

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Table 1

Mean, standard deviation, range y percentage of presence of each of the items on the Behavior Problems Inventory

Item	N	Mean	SD	Range	% presence
1. Nervousness	616	1.61	1.05	0-3	79,1
2. Talking about odd, strange things	616	0.94	1.03	0-3	52,4
3. Irritability	620	1.46	1.01	0-3	78,1
4. Avoiding others, isolation	621	1.39	1.14	0-3	68,3
5. Laughing or talking to oneself	620	0.86	1.06	0-3	45,8
6. Insulting others	620	0.58	0.92	0-3	33,4
7. Breaking or hitting things	620	0.37	0.80	0-3	21
8. Hitting people	618	0.18	0.57	0-3	11
9. Doing odd, strange things	620	0.52	0.85	0-3	31,6
10. Attempting self-harm or suicide	620	0.17	0.53	0-3	11,1
11. No will to live, sad, crying	621	0.83	1.05	0-3	44,1
12. Not keeping clean	618	0.60	0.90	0-3	35,6
13. Taking alcohol or drugs	618	0.38	0.85	0-3	19,7
14. Lying around, not do anything all day long	621	1.37	1.20	0-3	65,5
15. ¿Do you feel able to cope with the disorder and the problems it causes?	599	2,64	1,06	0-4	
16. ¿How often do you feel yourself overwhelmed by these problems?	570	1,82	1,09	0-4	
Total Behavior Problems Score-TBP-	604	11.28	7.65	0-33	
Moderate Behavior Problems -MBP-	604	3.90	3.07	0-12	
Severe Behavior Problems -SBP-	604	1.40	2.01	0-11	
Underactivity/Social Withdrawal	610	5,79	3,80	0-15	
Lack of impulse control	616	1,11	1,81	0-11	
Active problems	615	4,37	3,60	0-15	

Table 2

BPI factorial structure. Saturation of items on each factor

Item	Component		
	1	2	3
1. Nervousness	0.67	0.34	-0.13
2. Talking about odd, strange things	0.47	0.65	-0.14
3. Irritability	0.36	0.54	0.32
4. Avoiding others, isolation	0.63	0.38	-0.04
5. Laughing or talking to oneself	0.12	0.77	0.12
6. Insulting others	0.03	-0.59	0.53
7. Breaking or hitting things	0.14	0.49	0.61
8. Hitting people	0.10	-0.34	0.70
9. Doing odd, strange things	0.30	0.68	0.12
10. Attempting self-harm or suicide	0.25	0.06	0.47
11. No will to live, sad, crying	0.67	0.12	0.27
12. Not keeping clean	0.66	0.08	0.18
13. Taking alcohol or drugs	0.17	0.12	0.57
14. Lying around, not do anything all day long	0.68	0.11	0.19

BPI: Behavior Problem Inventory; 1: Underactivity/Social Withdrawal; 2: Active problems; 3: Lack of impulse control;

Table 3

Correlation between BPI and SBS

N=25

BPI	SBS Total		SBS moderate		SBS Severe	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
TBP	0.88	<0.001	0.75	<0.01	0.38	0.05
MBP	0.76	<0.001	0.60	<0.001	0.24	0.25
SBP	0.80	<0.001	0.74	<0.001	0.43	<0.01

BPI: Behavior Problems Inventory; SBS: Social Behaviour Schedule; TBP: Total behavior problems score; MBP: Moderate behavior problems; SBP: Severe behavior problems

Table 4
 Correlation between BPI and SFS
 N= 419

SFS	BPI					
	TBP		MBP		SBP	
	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>	<i>r</i>	<i>p</i>
Isolation	-0.23	<0.001	-0.23	<0.001	-0.20	<0.001
Communication	-0.44	<0.001	-0.42	<0.001	-0.40	<0.001
Independence, execution	-0.45	<0.001	-0.43	<0.001	-0.38	<0.001
Leisure	-0.36	<0.001	-0.36	<0.001	-0.29	<0.001
Prosocial	-0.36	<0.001	-0.35	<0.001	-0.30	<0.001
Independence, competence	-0.44	<0.001	-0.41	<0.001	-0.38	<0.001
Employment	-0.36	<0.001	-0.36	<0.001	-0.24	<0.001
TOTAL	-0.52	<0.001	-0.50	<0.001	-0.43	<0.001

BPI: Behavior Problems Inventory; SFS: Social Functioning Scale; TBP: Total behavior problems score; MBP: Moderate behavior problems; SBP: Severe behavior problems

Table 5

Difference in BPI between patients with few admissions vs. patients with more than two admissions

BPI	0-2 admissions <i>N</i> =282		> 2 admissions <i>N</i> =102		t-test	
	Mean	<i>SD</i>	Mean	<i>SD</i>	<i>t</i>	<i>p</i>
TBPI	10.69	7.69	12.45	7.26	2.01	<0.05
Underactivity/Social Withdrawal	6.61	4.53	7.17	4.13	1.12	0.20
Lack of Impulse control	1.43	2.33	2.10	2.62	2.44	<0.01
Active	2.65	2.31	3.01	2.19	1.41	0.29
MBP	3.70	3.05	4.39	3.02	1.96	<0.05
SBP	1.37	2.05	1.42	1.89	0.21	0.25

BPI: Behavior Problems Inventory; TBPI: Total behavior problems score; MBP: Moderate behavior problems; SBP: Severe behavior problems

Appendix 1

Ítems

1. Nerviosismo
 2. Hablar de cosas extrañas, raras
 3. Irritarse
 4. Evitar a los demás, aislarse
 5. Reír o hablar a solas
 6. Insultar a otras personas
 7. Romper o golpear cosas (enfadado/a)
 8. Pegar a otras personas
 9. Hacer cosas raras, extrañas
 10. Intentar dañarse o quitarse la vida
 11. Estar sin ganas de vivir, triste, llorando
 12. Abandonar su aseo
 13. Consumir alcohol o drogas
 14. Estar tumbado/a, sin hacer nada durante todo el día
-
15. ¿Se siente usted capaz de sobrellevar el trastorno/enfermedad y los problemas que ocasiona?
 16. ¿Con qué frecuencia se ve usted desbordado/a por estos problemas del trastorno/enfermedad