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Original Article

Psychopathology of psychotic experiences in borderline patients: an exploratory study

Alessandra D'Agostino, Chiara Gagliardi, Ariela F. Pagani, Mario Rossi Monti

Department of Humanities, University of Urbino Carlo Bo, Italy

SUMMARY

Objective

Psychotic symptoms are a prevalent and distressing phenomenon in patients diagnosed with borderline personality disorder (BPD) and represent a significant challenge to effective treatment. However, there is a lack of knowledge about the specific characteristics of these phenomena. The aim of this study was to examine the psychotic experiences of patients with borderline personality disorder (BPD) and compare them with those of patients with psychotic disorders, with particular attention to the role of dysphoria, which has been proposed to be at the core of BPD functioning from a psychopathological-dynamic perspective.

Methods

Two groups of adult psychiatric patients (aged 18-65 years), one with BPD and the other with schizophrenia, were administered a questionnaire assessing the presence and phenomenology of psychotic experiences (QPE), together with self-reports measuring other dimensions.

Results

The results showed that patients with BPD had a greater diversity of hallucinations in terms of sensory modalities, a higher prevalence but lower severity of paranoid delusions and, most importantly, an increased degree of situational dysphoria, especially triggered by recent interpersonal events.

Conclusions

This suggests that psychotic symptoms in borderline patients may begin to manifest a distinctive psychopathological profile that warrants further investigation and attention from the scientific community.

Key words: dysphoria, psychotic symptoms, subjective experiences, borderline personality disorder, psychopathology

Alessandra D'Agostino
E-mail: alessandra.dagostino@uniurb.it

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Introduction

Psychotic symptoms are typically associated with schizophrenia. However, since the first half of the twentieth century, they have also been recognized as transient symptoms of borderline personality disorder (BPD). Subsequently, they have been included in the Diagnostic and Statistical Manual of Mental Disorders (DSM) up to the most recent edition [1]. Existing literature and research [2-4] indicate that psychotic symptoms are prevalent in borderline patients, with frequencies ranging from 13 to 60%. Schultz and Hong [5] (2017) have highlighted the heterogeneous nature of these symptoms, which are also challenging to treat [6,7]. Furthermore, these symptoms have been identified as an indicator of disease severity and poor outcome [8].

In recent years, studies investigating psychotic symptoms in borderline personality disorder have focused on two main areas of symptomatology: perceptual disturbances, including auditory verbal hallucinations, and delusional ideation [6]. However, findings in this regard remain inconclusive, and there is still no consensus on the phenomenology and severity

of hallucinations and other psychotic phenomena associated with BPD [9-11]. This current lack of clarity also stems from a lack of historical clarity on the subject, as evidenced by the vague and unclear terminology often used in the clinical context to describe these phenomena in borderline patients. For example, the terms "micropsychotic episodes", "fictitious psychosis", "quasi-psychotic thinking", and "pseudo-hallucinations" have been used to describe these phenomena.

To date, several authors [12,13] have expressed concern that the use of these terms may be misleading, as it risks underestimating the psychotic symptoms of BPD and dismissing them as irrelevant or not real. In light of these considerations, it is advisable to refrain from using these terms and instead prioritize the advancement of research on psychotic experiences in BPD.

What we know about hallucinations in borderline patients

With regard to hallucinations, research [7,14] highlights that they are present in people with BPD with a frequency ranging from 26% to 54%, that they are not restricted to a single sensory modality: 21%-59% auditory, 30%-33% visual, 10%-30% olfactory and 13% tactile, and that they are often experienced as equal to or more severe than those experienced by patients with a schizophrenic spectrum disorder. They also tend to be present for long periods of time. The main differences found between the hallucinations experienced by borderline patients and those experienced by psychotic patients seem to be related mainly to the context in which they occur; in fact, in borderline patients, psychotic symptoms seem to be related to stressful life events, mostly of a situational/interpersonal type [15], and to memories of traumatic events that occurred in the past [16].

What we know about delusions in borderline patients

Regarding the delusional domain, studies [3,8,9] show higher levels of delusional ideation, with frequencies ranging from 10% to 100% and a predominance of paranoid content, along with lower levels of delusions compared to patients with schizophrenia spectrum disorders. However, it should be noted that delusions as a symptom of BPD have received less attention from the scientific community, so data is limited in this sense [6]. Research [17] highlights that the delusions present in BPD are not easily distinguished from those present in other clinical disorders. More research is therefore needed in this area.

What dysphoria has to do with this

Following the psychopathological-phenomenological tradition of the Vienna School [18,19], which considers dysphoria as a "third emotional domain" (in addition to depression and mania) characterised by an unpleasant state of tension, irritability, hostility and a tendency to act out, several authors have recently drawn attention to the importance of dysphoria in BPD, which seems to be particularly sensitive to interpersonal variables [20,21]. In this sense, dysphoria characterizes the psychopathological condition of borderline patients, as it can be seen as a framework conferring a unitary meaningfulness to heterogeneous manifestations of BPD pathological phenomena, thus functioning as a real "psychopathological organizer" [22,23,24].

The new model of interpersonal dysphoria in BPD [25] follows this trend, additionally distinguishing between different forms of dysphoria: a 'background' one, that is, a chronic, persistent emotional state that dominates the basic lived experience of borderline patients; and a 'situational' one, that is, an acute emotional state that permeates the here-and-now lived experience of BPD in response to certain stressful circumstances, especially those of an interpersonal nature. In this sense, psychotic experiences in BPD are the end result of disorganizing processes exacerbated by interpersonal stressors in the patient's daily life.

The aims of this study are: a) to investigate the characteristics of psychotic experiences in borderline versus schizophrenic patients, assessing possible differences between the two groups; b) to explore possible relationships between psychotic experiences in both groups and other clinical dimensions, in particular dysphoria in its situational/interpersonal here-and-now shades.

To the best of our knowledge, this is also the first study conducted in an Italian clinical context using the Questionnaire of Psychotic Experience (QPE) [26], aiming at a comprehensive and in-depth assessment of psychotic experiences of borderline patients from a qualitative and quantitative point of view.

Materials and methods

Participants and procedures

Participants were 12 adult psychiatric patients with psychotic symptoms, aged 18-65 years, recruited from residential, semi-residential, and outpatient mental health facilities in two Italian regions (Abruzzo and Tuscany) and divided into two groups: Group B, composed of patients with borderline personality disorder (N = 6; M_{age} = 30.83 years; *DS* = 6.54, 100% women), as assessed by the Structured Clinical Interview for DSM-5, Clinician version (SCID-5-CV) [27,28]; Group S, consisting of patients with schizophrenia, as assessed by the Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-5-PD) [29,30] (N = 6; M_{age} = 33.5 years; *DS* = 10.46, 83.3% men, 16.7% women).

The exclusion criteria were as follows: a) neurological or serious medical conditions (e.g. diabetes, cancer);

b) developmental delay; c) drug or alcohol use in the previous month; and d) poor knowledge of the Italian language. Participants were informed about the study by their psychiatrists.

Measures

A total of 5 instruments (1 semi-structured interview and 4 self-reports) were administered to participants.

Questionnaire for Psychotic Experiences (QPE) [26]. This is a 50-item semi-structured interview designed to assess the presence, severity, and phenomenological characteristics of hallucinations and delusions. The QPE consists of four subscales: 1) auditory hallucinations (A); 2) visual hallucinations (V); 3) hallucinations in other modalities (O); and 4) delusions (D). Hallucinations are measured according to a presence/absence criterion and on a 5-point Likert scale (alphabetical descriptors with 5 options depending on the item) according to frequency, duration, emotional valence, distress, and impact on functioning; then a number of qualitative criteria are assessed: repetition, complexity, location, time of occurrence, conviction, and collusion. Delusions are assessed on the basis of a presence/absence criterion according to content (paranoid, reference, guilt, control, religious, grandiose, somatic, Cotard's and Capgras' syndromes); for delusions it is also possible to assess whether they are true delusions or delusional ideation. The QPE assesses psychotic experiences in 2-time frames: (1) lifetime experiences (lifetime) and (2) experiences in the last 7 days (current). It also allows participants to describe their specific experience of hallucinations and delusions and their possible relationship to unpleasant past events. The questionnaire has the advantage of capturing the full spectrum of psychotic experiences in patients not only with schizophrenia but also with other clinical disorders [26]. The QPE has demonstrated good psychometric properties [26]. Further testing, approved by the authors of the original version, is underway in our research group to assess the psychometric properties of the Italian version in a larger sample. We should note that during our study, the authors of the QPE brought to our attention the existence of a second, longer version that delves deeper into the delusions section. However, we opted to use the original 50-item version because it was less time-consuming and less exhausting for the patients in our sample, who were already distressed due to the severity of their clinical disorder.

Situational Dysphoria Scale (SITDS) [31]. This is a self-administered questionnaire designed to measure situational dysphoria by measuring the sense of pressure, urge to act, and sense of quasi-explosion that the person has experienced in the past week in relation to specific here-and-now stressors. The SITDS consists of 24 items and is divided into three clusters (personal events, interpersonal events and environmental events) and rated on three subscales (internal pressure, urge to act and quasi-explosion). All SITDS items are rated on a 5-point Likert scale (1 = *not at all or minimally*; 5 = *very much*) to yield two main scores: a total score, by summing the total scores for each item; a subscale specific score, by summing the scores for each subscale of situational dysphoria. The SITDS has demonstrated excellent psychometric properties [31].

Childhood Trauma Questionnaire - Short Form Version (CTQ-SF) [32,33]. It is a brief, reliable and valid self-report measure of childhood traumatic experiences. The CTQ-SF consists of 28 items: 25 clinical items, rated on a 5-point Likert scale (1 = *never true*; 5 = *very often true*), exploring five types of childhood trauma: physical, sexual, and emotional abuse, and physical and emotional neglect; 3 minimisation/denial validity items, measuring possible underreporting of maltreatment. The CTQ-SF has shown good psychometric properties [32], as has the Italian version [33].

Inventory of Interpersonal Problems (IIP-47) [34,35]. This is a questionnaire designed to measure chronic interpersonal problems associated with personality disorders. It consists of 47 items with five subscales: interpersonal sensitivity, interpersonal ambivalence, aggression, need for social approval, and lack of sociability. Responses are scored on a 5-point Likert scale (0 = *not at all*; 4 = *extremely*). A total score is calculated by summing the scores on all items, and separate scores can also be given for the five subscales. The IIP-47 has very good psychometric properties [34], as does the Italian version [35].

Symptom Checklist 90-Revised Version (SCL-90-R) [36,37]. This is a widely used self-report measure of the presence and severity of symptoms of psychological distress. It consists of 90 items rated on a 5-point Likert scale (0 = *not at all*; 4 = *extremely*) that indicate perceived distress over the past seven days. There are nine subscales: Somatisation (SOM), Obsessive-Compulsivity (OBS), Interpersonal Sensitivity (INT), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR) and Psychoticism (PSI). The three global distress indices are Global Severity Index (GSI), Positive Symptom Total (PST), and Positive Symptomatic Distress Index (PSDI). The SCL-90-R has good psychometric properties [36], as does the Italian version [37].

Statistical analysis

Sociodemographic and psychotic experience characteristics were examined in the two groups. Analyses were performed using IBM SPSS-statistics software version 28.0.1.1. First, a series of non-parametric *t*-tests for independent samples were used to analyse the differences between Group B and Group S. Then, the possi-

ble relationships between psychotic experiences, childhood traumatisation and dysphoria, and interpersonal difficulties in the two groups were investigated using non-parametric correlations (Spearman's rho). Finally, a qualitative analysis of psychotic experiences in both groups was carried out.

Results

Characteristics of psychotic experiences in the two groups

Phenomenology of hallucinations

In Group B, 33.3% of participants had olfactory or tactile hallucinations, while 16.6% had auditory or visual hallucinations (see Tab. I for details). In Group S, 33.3% of participants had auditory hallucinations, while 16.6% had visual or tactile hallucinations. In addition, Group S had higher scores than Group B on all sub-dimensions (frequency, duration, valence, distress, and impact).

More specifically, with regard to auditory hallucinations, non-parametric independent samples *t*-tests comparing Group B and Group S were all not statistically significant (auditory hallucination frequency: $p = .699$; auditory hallucination duration: $p = .699$; auditory hallucination emotional valence: $p = .699$; auditory hallucination distress: $p = .699$; auditory hallucination impact on functioning: $p = .937$); i.e., no statistically significant differences were found between Group B and Group S with regard to the sub-dimensions of auditory hallucinations. At the descriptive level, Group B showed lower scores than Group S for frequency, duration, emotional valence, distress, and impact in relation to auditory hallucinations (see Tab. II for details).

Regarding visual hallucinations, non-parametric independent samples *t*-tests comparing Group B and Group S were all not statistically significant (visual hallucination frequency: $p = 1.000$; visual hallucination duration: $p = .699$; visual hallucination emotional valence: $p = 1.000$; visual hallucination distress: $p = 1.000$; visual hallucination impact on functioning: $p = .699$). At the descriptive level, Group B showed similar scores for frequency and emotional valence, lower scores for duration and impact, and higher scores for distress compared to Group S (see Tab. II for details).

Regarding the other types of hallucinations, non-parametric independent samples *t*-tests comparing Group B and Group S were all found not to be statistically significant (frequency of tactile hallucinations: $p = .818$; frequency of olfactory hallucinations: $p = .394$). At the descriptive level, Group B showed similar scores for tactile hallucination frequency compared to Group S, while Group B was the only group to show olfactory hal-

TABLE I. *QPE characteristics of hallucinations (type and severity) for the two groups.*

QPE Hallucinations Items	Group B	Group S
Type of Hallucination % (N)		
Auditory	16.6 (1)	33.3 (2)
Visual	16.6 (1)	16.6 (1)
Olfactive	33.3 (2)	0
Tactile	33.3 (2)	16.6 (1)
Severity Scores M (*DS*)		
Severity of Auditory Hallucinations	3.83 (9.390)	5.33 (8.641)
Severity of Visual Hallucinations	1.50 (3.674)	2.17 (5.307)
Total Severity of Hallucinations	6.00 (10.296)	7.83 (11.496)

Note. Group B = Patients with Borderline Personality Disorder; Group S = Patients with Schizophrenia.

TABLE II. *QPE characteristics of hallucinations for the two groups*

QPE Hallucinations Items	Group B M (*DS*)	Group S M (*DS*)
Auditory Hallucinations		
Frequency	0.67 (1.633)	1.33 (2.160)
Duration	0.83 (2.041)	1.17 (2.041)
Emotional Valence	0.83 (2.041)	1.67 (2.582)
Distress	0.83 (2.041)	1.17 (2.041)
Impact	0.67 (1.633)	0.83 (2.041)
Visual Hallucinations		
Frequency	0.17 (0.408)	0.17 (0.408)
Duration	0.00 (0.000)	0.67 (1.633)
Emotional Valence	0.83 (2.041)	0.83 (2.041)
Distress	0.67 (1.633)	0.33 (0.816)
Impact	0.00 (0.000)	0.33 (0.816)
Olfactive Hallucinations		
Frequency	0.33 (0.516)	0.00 (0.000)
Tactile Hallucinations		
Frequency	0.33 (0.516)	0.33 (0.816)

Note 1. Group B = Patients with Borderline Personality Disorder; Group S = Patients with Schizophrenia.

Note 2. Frequency: detects the frequency of hallucinations; Duration: detects the duration of the hallucination; Emotional Valence: indicates how much the hallucinatory content is on a positive, neutral/negative value; Distress: indicates the amount of discomfort or anxiety produced by the hallucination; Impact: indicates the impact on the participant's functioning produced by the hallucination.

lucinations (see Tab. II for details).
Regarding the severity of hallucinations, all independent samples nonparametric *t*-tests comparing Group B and Group S were not statistically significant (severity of auditory hallucinations: $p = .818$; severity of visual hallucinations: $p = .937$; total severity of hallucinations: $p = .699$). At the descriptive level, Group B showed lower severity scores than Group S for both auditory and visual hallucinations and for the total severity index (see Tab. I for details).
At the qualitative level, in Group B, participants with hallucinations always reported content related to personal unpleasant past events. For example, one patient reported hallucinations in multiple sensory modalities (visual, tactile, and olfactory), all related to the death of her grandmother and used to support the structuring of a delusion; another had structured a persistent auditory hallucination in which voices re-enacted acts of bullying to which she had been subjected in the past. Patients also reported repetition of hallucinatory content, medium to high complexity of content (short sentences or words and people), minimal interaction with hallucinations and no compliance with received commands. In addition, participants in Group B tended to be vague about the spatial localisation of visual hallucinations (no precise localisation was defined) and localised auditory hallucinations within the head; they also tended to be vague about the temporal occurrence, with hallucinations occurring equally during the day and at night, and to have a strong belief in the reality of the hallucination.
At the qualitative level, participants with hallucinations in group S reported less content related to unpleasant past events than in group B, and such events seemed less related to personal events; for example, one patient reported rumours of a natural disaster which the person claimed never to have experienced, but to have heard the news on television. Patients also reported less constant repetition of hallucinatory content, although content complexity remained at a medium-high level (short sentences or words and people), minimal interaction with hallucinations and no compliance with received commands. In addition, Group S participants tended to be accurate in spatial localisation of visual hallucinations ("straight ahead, in front") and in localisation of auditory hallucinations outside the head; they also tended to be accurate in temporal occurrence, with hallucinatory content occurring either during the day or at night, while they seemed less convinced of the reality of the hallucinations, with the majority reporting slight doubts.

Phenomenology of delusions

With regard to delusions, the non-parametric independent samples *t*-tests carried out comparing Group B and Group S were all statistically insignificant, both for the phenomenological characteristics (preoccupation: $p = 1.000$; belief: $p = 1.000$; distress: $p = 1.000$; impact: $p = .329$) and for the mean severity score ($p = .937$), i.e. no statistically significant differences were found between Group B and Group S with regard to these dimensions. At the descriptive level, Group B showed lower scores on Preoccupation and Impact and higher scores on Conviction compared to Group S, while both groups scored the same on Distress. In addition, Group B had a slightly lower mean severity score than Group S (see Tab. III for details).
Furthermore, in Group B 100% of the participants tended to have delusions, with 83.3% of the paranoid type and 16.6% of the religious type. In Group S, 83.3% of participants reported a currently present delusion, with a more heterogeneous content than in Group B; also, in Group S, 50% of participants reported more than one delusion present at the same time, whereas only one patient reported the presence of delusional ideation. At the descriptive level, Group B showed higher delusional ideation scores than Group S, with 66.6% of participants describing a

TABLE III. *QPE characteristics of delusions for the two groups*

QPE Delusions Items	Group B	Group S
Severity Score M (*DS*)		
Severity of delusions	7.00 (2.828)	7.83 (5.913)
Phenomenological characteristics M (*DS*)		
Preoccupation	1.50 (1.049)	1.83 (2.137)
Conviction	2.50 (1.049)	2.33 (2.066)
Distress	2.33 (1.366)	2.33 (1.966)
Impact	0.67 (0.816)	1.60 (1.517)
Delusions % (N)	100% (6)	83.3% (5)
Paranoid	83.3 (5)	66.6 (4)
Reference	0	50 (3)
Religious	16.6 (1)	33,3 (2)
Grandeur	0	16.6 (1)
Other	0	33.3 (2)
Delusional Ideation % (N)	**66.6 (4)**	**16.6 (1)**
Paranoid	16.6 (1)	16.6 (1)
Guilt	33.3 (2)	0
Reference	16.6 (1)	0
Grandeur	16.6 (1)	0
Control	16.6 (1)	0

Note 1. Group B = Patients with Borderline Personality Disorder; Group S = Patients with Schizophrenia.
Note 2. Preoccupation: indicates the level of concern associated with the delusions; Conviction: indicates the perceived reality of the delusions; Distress: indicates the amount of discomfort or anxiety produced by the delusions; Impact: indicates the impact on the participant's functioning produced by the delusions.

variety of content (paranoid, guilt, reference, grandiosity, and control) (see Tab. III for details).
At the qualitative level, as in the case of hallucinations, participants in group B reported delusional contents that were always related to personal unpleasant past events. For example, one borderline patient reported that his grandmother, who had died a few months earlier, had given him messages from God telling him that he had been chosen to help people; another reported the belief that people were sending her messages to imply that her boyfriend, with whom she had long since broken up, was cheating on her, and she suspected that everyone knew and made fun of her for it. Instead, participants in Group S reported delusional content that had a broader reference to the experience of the self-world. For example, one schizophrenic patient was convinced that people were threatening him and wanted to harm him, and often thought that strangers or people on television were talking badly about him and threatening him with secret messages; he was also convinced that the devil had taken possession of some people who were being manipulated by him to threaten him all the time.

Situational dysphoria, childhood traumatic experiences and chronic interpersonal problems in the two groups

Regarding situational dysphoria, all independent samples nonparametric *t*-tests comparing Group B and Group S were not statistically significant (Total Score: $p = .180$; Internal Pressure: $p = .310$; Urge to Act: $p = .180$; Quasi-Explosion: $p = .065$), i.e. no statistically significant differences were found between Group B and Group S on these dimensions. At the descriptive level, Group B showed significantly higher scores on both the total and subscale-specific scores (see Tab. IV for details).
Regarding the type of event considered (personal, interpersonal or environmental), nonparametric independent samples *t*-tests comparing Group B and Group S were not statistically significant for personal ($p = .589$) and environmental events ($p = .485$), although at the descriptive level Group B showed higher scores compared to Group S. Instead, a non-parametric independent samples *t*-test comparing Group B and Group S was found to be statistically significant with respect to interpersonal events ($p = .026$), with Group B showing more interpersonal events triggering situational dysphoria (see Tab. IV for details).
With regard to childhood traumatic experiences, nonparametric independent samples *t*-tests comparing Group B and Group S were all not statistically significant (emotional abuse: $p = .132$; physical abuse: $p = .394$; sexual abuse: $p = .699$, emotional neglect: $p = .394$; physical neglect: $p = .699$), i.e., no statistically significant differences were found between Group B and Group S with regard to these dimensions. At the descriptive level, Group B showed higher scores than Group S on all subscales related to different types of childhood trauma. In particular, Group B showed the highest scores for emotional neglect and emotional abuse, while Group S showed the highest scores for emotional neglect (see Tab. V for details).
With regard to interpersonal problems, non-parametric independent samples *t*-tests comparing Group B and Group S were all not statistically significant (minimisation/denial: $p = .699$; interpersonal sensitivity: $p = .$

TABLE IV. *SITDS scores for the two groups.*

SITDS Test and Subscales	Group B M (DS)	Group S M (DS)
Total Score	62.17 (58.022)	15.67 (12.910)
Internal Pressure	20.67 (21.059)	6.67 (5.922)
Urge to Act	18.67 (16.046)	5.17 (4.834)
Quasi-Explosion	19.50 (22.332)	3.83 (2.483)
Personal Events	12.50 (14.446)	6.00 (6.603)
Interpersonal Events	23.50 (17.840)	1.166 (2.857)
Environmental Events	26.17 (35.600)	8.50 (12.324)

Note 1. Group B = Patients with Borderline Personality Disorder; Group S = Patients with Schizophrenia.
Note 2. Internal Pressure: the state of pressure in relation to specific events or contexts; Urge to Act: the state of urgency to act in relation to specific events or contexts; Quasi-Explosion: the feeling of being on the verge of exploding in relation to specific events or contexts.

TABLE V. *CTQ and IIP-47 scores for the two groups*

Tests and Subscales	Group B M (*DS*)	Group S M (*DS*)
CTQ		
Emotional Abuse	12.67 (5.820)	7.67 (3.327)
Physical Abuse	7.50 (3.886)	5.33 (0.516)
Sexual Abuse	8.00 (6.870)	5.33 (0.816)
Emotional Neglect	14.17 (4.665)	11.83 (2.483)
Physical Neglect	8.50 (2.881)	7.33 (1.633)
IIP-47		
Minimization/Denial	0.00 (0.000)	0.17 (0.408)
Interpersonal Sensitivity	2.37 (0.622)	1.37 (0.915)
Interpersonal Ambivalence	1.63 (0.983)	1.33 (0.739)
Aggression	1.38 (1.513)	0.78 (0.816)
Need for Social Approval	2.03 (0.665)	1.16 (0.719)
Lack of Sociability	1.78 (1.328)	1.31 (0.976)

Note. Group B = Patients with Borderline Personality Disorder; Group S = Patients with Schizophrenia.

180; interpersonal ambivalence: $p = .485$, aggression: $p = .589$; need for social approval: $p = .065$; lack of sociability: $p = .589$), i.e., no statistically significant differences were found between Group B and Group S with regard to these dimensions. At the descriptive level, Group B showed higher scores than Group S on almost all subscales, with the exception of the Minimisation/Denial subscale, which was slightly higher in Group S (see Tab. V for details).

Clinical dimensions in the two groups

Regarding the presence and severity of clinical symptoms, non-parametric independent samples *t*-tests comparing Group B and Group S revealed no statistical significance in the following scales: Somatisation: $p = .699$; Obsession-Compulsion: $p = .310$; Interpersonal Sensitivity: $p = .589$, Depression: $p = .240$; Anxiety: $p = .093$; Hostility: $p = .093$; Phobia: $p = .394$; Paranoia: $p = .394$; Psychoticism: $p = .240$, Global Severity Index: $p = .310$), i.e., no statistically significant differences were found between Group B and Group S with regard to these dimensions. The only non-parametric independent samples *t*-test that was statistically significant was that for sleep disturbance ($p = .004$), meaning that Group B reported higher levels of sleep problems compared to Group S (see Tab. VI for details). At the descriptive level, Group B showed higher scores on all clinical scales compared to Group S, except for the somatisation scale, which was higher in Group S. Similarly, Group B showed higher scores on the global severity index compared to Group S, indicating a higher level of psychological distress.

TABLE VI. *SCL-90-R clinical dimensions scores for the two groups*

SCL-90-R Subscales	Group B M (*DS*)	Group S M (*DS*)
SCL_SOM	1.04 (0.616)	1.12 (1.348)
SCL_O-C	1.58 (0.906)	1.08 (1.228)
SCL_INT	1.55 (1.108)	1.22 (1.346)
SCL_DEP	1.78 (0.774)	1.14 (1.273)
SCL_ANX	1.66 (0.640)	0.83 (0.854)
SCL_HOS	1.05 (0.827)	0.27 (0.403)
SCL_PHOB	1.07 (1.009)	0.95 (1.063)
SCL_PAR	1.32 (0.940)	1.13 (1.371)
SCL_PSY	1.20 (0.829)	0.86 (1.172)
SCL_SLEEP	1.94 (1.083)	0.33 (0.516)
SCL_GSI	1.42 (0.629)	0.97 (1.023)

Note 1. Group B = Patients with Borderline Personality Disorder; Group S = Patients with Schizophrenia.

Note 2.. SCL_SOM: it reflects discomfort related to perceived dysfunction in one's body; SCL_O-C: it includes symptoms characteristic of the clinical obsessive-compulsive syndrome; SCL_INT: it detects feelings of inadequacy and inferiority, particularly toward other people; SCL_DEP: it reflects a representative spectrum of clinical manifestations characteristic of the depressive syndrome; SCL_ANX: it includes general signs of anxiety; SCL_HOS: it reflects thoughts, feelings, and behaviors characteristic of a negative affective state of anger; SCL_PHOB: it detects a persistent fearful reaction to a specific person, place, object, or situation; SCL_PAR: it describes characteristic manifestations of paranoid thinking; SCL_PSY: it detects the presence of experiences characteristic of schizophrenia; SCL_SLEEP: it detects the presence of insomnia, disturbed sleep, and early awakening.; SCL_GSI: it is a global indicator of the intensity or depth of mental distress.

Association between psychotic experiences and other dimensions in the two groups

In order to examine the association between QPE psychotic experiences and IIP-47 interpersonal and CTQ trauma themes in Group B and Group S, a non-parametric Spearman's correlation (Spearman's r_s) was performed. In Group B, the hallucination severity score appeared to be significantly positively correlated with sexual abuse ($r_s = .920$; $p = .009$) and need for social approval ($r_s = .823$; $p = .044$). In Group S, hallucination severity appeared to be significantly positively correlated with emotional abuse ($r_s = .826$; $p = .043$), physical neglect ($r_s = .823$; $p = .044$), interpersonal sensitivity ($r_s = .845$; $p = .034$), need for social approval ($r_s = .845$; $p = .034$) and lack of sociability ($r_s = .845$; $p = .034$). There were also significant positive correlations in Group S between visual hallucination severity score and sexual abuse ($r_s = 1.000$; $p = .000$), and between delusion severity score and need for social approval ($r_s = .829$; $p = .0342$) and lack of sociability ($r_s = .829$; $p = .042$). No other statistically significant non-parametric Spearman's correlation was found.

The association between QPE psychotic experiences and SITDS situational dysphoria in both groups (Group B and Group S) was then examined using a non-parametric Spearman's correlation (Spearman's r_s). In Group B, hallucination severity appeared to be significantly positively correlated with internal pressure ($r_s = .845$; $p = .034$) and environmental events ($r_s = .857$; $p = .029$). In addition, the severity of delusions appeared to be significantly positively correlated with quasi-explosion ($r_s = .899$; $p = .015$), personal events ($r_s = .928$; $p = .008$) and interpersonal events ($r_s = .812$; $p = .050$). In Group S, only a significant and positive correlation was found between the severity of auditory hallucinations and personal events ($r_s = .857$; $p = .029$). No other statistically significant non-parametric Spearman's correlation was found.

Finally, the association between QPE psychotic experiences and the clinical dimensions of the SCL-90-R was examined in both Group B and Group S. A non-parametric Spearman's correlation (Spearman's r_s) was performed. In Group B the severity of hallucinations ap-

peared to be significantly positively correlated with psychoticism (r_s = . 845; p = . 034) and the global severity index (r_s = . 845; p = . 034). The severity of delusions also appeared to be significantly positively correlated with interpersonal sensitivity (r_s = . 882; p = . 020). In Group S, the severity of hallucinations was significantly positively correlated with obsessiveness (r_s = . 845; p = . 034), interpersonal sensitivity (r_s = . 845; p = . 034), depression (r_s = . 845; p = . 034), anxiety (r_s = . 857; p = . 029), hostility (r_s = . 898; p = . 015), phobia (r_s = . 845; p = . 034), psychoticism (r_s = . 857; p = . 029), global severity index (r_s = . 845; p = . 034). In addition, in group S, the total severity of hallucinations score was significantly positively correlated with depression (r_s = . 880; p = . 021), phobia (r_s = . 880; p = . 021) and global severity index (r_s = . 880; p = . 021), whereas delusional severity score was significantly positively correlated with depression (r_s = . 829; p = . 042), phobia (r_s = . 943; p = . 005), psychoticism (r_s = . 812; p = . 050), and global severity index (r_s = . 943; p = . 005). No other statistically significant non-parametric Spearman's correlation was found.

Discussion

According to our results, there seem to be no statistically significant differences between borderline and schizophrenic patients with regard to psychotic symptoms. Although the very small sample size may strongly influence this, it must be said that it is in line with previous studies that highlight the difficulty of clearly distinguishing the phenomenology of psychotic experiences in the two clinical groups [3,7,8]. However, looking at the data from a qualitative point of view, a specific psychopathological profile of borderline patients with psychotic symptoms can be highlighted.

First of all, regarding the characteristics of psychotic experiences, and specifically hallucinations, BPD patients seem to have a more heterogeneous spectrum of hallucinations in terms of sensory modality, albeit less frequently than schizophrenia patients, with a greater presence, albeit less severe, of hallucinations related to other sensory modalities, such as olfactory and tactile, compared to auditory, which instead seem to be much more frequent and associated with high severity in schizophrenia patients. This is in line with previous studies showing more multisensoriality in hallucinatory experiences in borderline patients than in schizophrenic patients [7,10,14] and with the need to pay more attention to non-auditory hallucinations in BPD, which are often understudied [6].

Second, in terms of the content and timing of hallucinations, BPD patients seem to be more precise in always relating them to unpleasant past events, but more vague in locating or determining the temporal occurrence of hallucinations, in contrast to schizophrenic patients, who instead seem to dissociate more hallucinations from the personal past, but provide more location and time details for them, highlighting a greater engagement with reality and a different temporal orientation of BPD hallucinatory experiences. This finding, which is in line with the literature highlighting the role of stressful events in BPD psychotic experiences [25,31], also seems to be supported by another finding, according to which borderline patients with auditory hallucinations seem to be aware that voices come from inside the head, whereas schizophrenics locate voices from outside the head. However, the latter is in contrast to previous studies [16,38], which found no differences in the location of voices between borderline and schizophrenic patients. This could be explained by the fact that the present study is the first to use the QPE in BPD patients in Italy, allowing a much deeper exploration of subjective experiences and thus highlighting elements that are otherwise difficult to detect.

Thirdly, with regard to delusions, borderline patients seem to be characterised by a prevalence of paranoid delusions, compared to schizophrenic patients, who describe more heterogeneous delusional experiences in terms of content. The former also show a greater presence of delusional ideation than the latter. All these findings are in line with previous research highlighting the paranoid features of delusional experiences in BPD [3,7-9]. Furthermore, as in the case of hallucinations, borderline patients appear to have delusional experiences of lesser severity than schizophrenic patients, who instead show particularly high levels of preoccupation and impact on functioning. This is also in line with the findings of the only previous study [7] to examine delusional experiences using QPE in both borderline and schizophrenic patients.

Fourth, in terms of delusional content, borderline patients show delusional themes that seem to adhere more closely to the narrative of personal traumatic past events, compared with schizophrenic patients, who instead seem to show delusional themes that open up to a more existential meaning that can only be understood in its composite totality as an attempt to organise and maintain contact with the outside world in the face of the fragility or threat of disintegration coming from the inside world. These data seem to be in line with a contemporary psychopathological perspective that differentiates the root of borderline and schizophrenic symptoms, locating it in a disturbed interpersonal-affective experience exacerbated by a situational crisis in the former and in a more severe self-disorder or ipseity disturbance in the latter.

Fifth, in terms of dysphoria, childhood trauma and interpersonal problems, borderline patients seem to be

characterised by a higher degree of situational dysphoria, which in turn seems to be particularly triggered by interpersonal events, in line with our previous research [25]. They also show a greater presence of emotional neglect and abuse in their past, compared to schizophrenic patients who instead describe a prevalence of emotional neglect in their past. This is a relevant finding, as although there is strong evidence for the relationship between childhood trauma and psychotic symptoms in adults with various clinical disorders, similar evidence is lacking for patients with BPD. Moreover, borderline patients show more interpersonal problems than schizophrenics, with a particular emphasis on interpersonal sensitivity and the need for social approval, which is absolutely consistent with the literature highlighting the particular role of interpersonal reactivity in the development or exacerbation of borderline symptoms, especially affective oscillations.

Sixth, in terms of clinical dimensions, borderline patients show much more diverse and diffuse psychological distress, with a particular relevance to sleep disturbance, due to the presence of high comorbidity with a variety of clinical disorders (i.e., depression, anxiety, obsessive-compulsive symptoms, paranoia, psychoticism, and hostility), compared to schizophrenic patients, who instead seem to have distress more specifically related to the symptoms of their primary disorder, with lower comorbidities, except for somatisation. These findings are consistent with previous research linking the presence of persistent psychotic symptoms in BPD to the co-occurrence of other psychiatric disorders, such as mood disorders, PTSD and substance use disorders [6,7].

Finally, regarding the relationship between psychotic experiences and other dimensions, correlational analyses show that in BPD patients, the severity of psychotic experiences appears to be strongly related to situational dysphoria, particularly internal pressure/quasi-explosion and environmental/interpersonal events, and partially to childhood trauma. Instead, in schizophrenic patients, psychotic experiences and their severity appear to be less related to the subdimensions of situational dysphoria and strongly related to childhood trauma, such as emotional abuse and physical neglect. This is a relevant finding, in line with our previous research highlighting the relevant role of situational dysphoria and current interpersonal problems in the development or exacerbation of borderline symptoms [25].

These results, although probably influenced by the small sample size, are very interesting because they contribute to confirming the hypothesis of an interpersonal dysphoria model for understanding the subjective experience of borderline patients. According to this, psychotic experiences in BPD are the result of a mixture of dispositional and situational shades of dysphoria, made explosive by interpersonal stressors that occur in the patient's daily life and that grip on the relational traumatic history. Directing research in this direction may help to qualitatively distinguish the psychotic experience of borderline patients from that of schizophrenic patients, thus confirming the appropriateness of the term "borderline" to identify a specific group of patients with specific psychopathological characteristics, given the historical conceptualization of the disorder as existing adjacent to schizophrenia on the spectrum of psychopathology.

In fact, as the data commented on above suggest, in the case of borderline patients, the psychotic experience seems to have a different temporal orientation, closely linked to the traumatic origins, less pregnant, less attached to the experience in its actuality, and viewed with a greater distance that allows it to be related to the past. This is consistent with some authors' hypothesis [39,40] of a temporal fragmentation of the self in BPD, highlighting the difficulty for people with BPD to produce a coherent personal narrative, and is interpreted as a correlation of anomalies in autobiographical memories, and consequently identities, which are equally compromised by the experience of discontinuity in temporal structure. In the case of schizophrenic patients, on the other hand, the present counts in its here and now, signalling the poignancy and actuality of the experience, which itself becomes "real". In other words, the borderline psychotic experience fluctuates in the orbit of the self, which observes it as a phenomenon related to past events, whereas the schizophrenic experience remains closely tied to the self, which is severely disturbed in terms of pre-reflective consciousness and thus its implicit, tacit relationship with the world.

Conclusions

This study has several clinical implications that are consistent with the only previous study using the QPE in BPD [7]. First, psychotic symptoms in BPD are beginning to show a specific profile at the psychopathological level that deserves more attention from clinicians and researchers, who should pay close attention to them, given the level of distress and suffering involved, and not be quick to dismiss them as "quasi" or "pseudo" disturbing experiences. Second, treatment programmes for BPD should seriously consider the role of these patients' disturbed and oscillating relational-affective experience and their particular sensitivity to interpersonal stressors in the development of highly invalidating symptoms such as psychotic ones. Thirdly, clinicians should be more alert to the presence and quality of psychotic symptomatology in borderline patients, which is often overlooked, ignored, or misdiagnosed as an affective or psychotic disorder. Finally, this study adds to

the body of knowledge in a research and clinical area that definitely needs to be expanded and much more thoroughly discussed in the scientific community.

Limits

This study has some limitations, mainly related to the sample. The first is the small size of the sample: problems in recruiting were due both to the severity of the clinical disorders targeted by our research and to the ongoing COVID-19 pandemic, which made it particularly difficult to access the facilities where the patients were. The sample also appears to be gender imbalanced, with schizophrenic patients being almost 90% male and borderline patients being 100% female. It is essential that future studies increase the sample size and rebalance the gender issues to give more substance to the results obtained. The second limitation is related to the fact that all patients were under pharmacological treatment, which may have influenced the nature and severity of psychotic experiences in both groups. The third limitation is due to the fact that some kinds of psychotic experiences are not captured by assessment instruments (e.g., paleologic or prelogical thinking, which may pervade the lives of borderline patients and are not limited to discrete episodes). Further studies should try to control these variables as much as possible.

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Conflict of interest statement

The authors do not have any conflicts of interest to declare.

Authors' contributions

AD conceived the study, designed the work and drafted the manuscript. CG collected and analysed the data and helped write the manuscript. AFP supervised the data analysis and helped revise the manuscript. MRM supervised the entire work. All authors contributed to the article and approved the version submitted.

Ethical consideration

The study was approved by the Human Research Ethics Committee of the University of Urbino Carlo Bo (Extract from Minutes No. 50 of 28/10/2021). All participants signed an informed consent form and participated voluntarily after the study was explained to them.

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