

Preliminary validation of the interpersonal dysphoria model of borderline personality disorder

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Abstract

Background: Borderline personality disorder (BPD) is one of the most puzzling psychiatric disorders. In order to improve its understanding and management, we have recently proposed an interpersonal dysphoria model that emphasizes the key role of the complex emotional state of dysphoria in BPD. The purpose of this study was to test the interpersonal dysphoria model using a structural equation modeling (SEM) analysis.

Sampling and methods: The sample consisted of 105 patients with BPD and 105 healthy controls. A total of five self-report instruments and three semi-structured interviews were administered to the participants. *Results:* The best-fitting structural model fit the data well in the BPD sample. Background dysphoria and negative interpersonal disposition were significant predictors of situational dysphoria, which in turn was a significant predictor of various symptoms of BPD. This model differs from the originally proposed one in terms of impaired empathy not being a component of negative interpersonal disposition and organizing and disorganizing BPD symptoms being replaced by interpersonal (abandonment fears, angry outbursts and stormy relations) and affective (affective shifts and emptiness) symptoms. *Conclusions:* Although some revision was needed, the findings provide support to the proposed model, which needs to be further tested in a larger sample of individuals with BPD.

Keywords: borderline personality disorder; interpersonal dysphoria model; background dysphoria; situational dysphoria; negative interpersonal disposition

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Introduction

Borderline personality disorder (BPD) is one of the most puzzling psychiatric disorders. It is also one of the most frequently diagnosed personality disorders, with its prevalence estimated to be 10% in outpatient settings, 15%-20% in inpatient settings, and 0.5%-1.4% in the general population [1-3]. At least 50% of chronically suicidal patients with four or more annual visits to a psychiatric emergency service are diagnosed with BPD; these patients account for more than 12% of all psychiatric emergency service visits, with a lifetime risk of suicide between 3% and 10% [1].

Despite this relatively high prevalence and clinical significance, BPD has been somewhat sidelined. The likely reasons for this include the complexity of BPD and its various manifestations, serious difficulties experienced by mental health professionals in interacting with its sufferers and the associated stigma. Nevertheless, several evidence-based treatments for BPD have been developed in recent years, including dialectical-behavioral therapy, mentalization-based treatment, schema-focused therapy, transference-focused psychotherapy and system training for emotional predictability and problem solving [4].

Consequently, the outcome of BPD has been improving. For example, a longitudinal study of BPD patients has demonstrated high remission rates (about 45% by 2 years and 85% by 10 years), with remission defined as no more than two DSM-5 diagnostic criteria for BPD being met for at least 12 months, along with a low tendency to relapse [5]. However, many BPD patients still demonstrate significant functional impairment, with only about 25% employed full-time and about 40% receiving disability payment after 10 years [5].

These data suggest that there is still room for improving understanding and

management of BPD. We have recently proposed interpersonal dysphoria model of BPD that emphasizes the key role of the person's subjective experience [6, 7].

Interpersonal dysphoria model of borderline personality disorder

Following the line of research opened thirty years ago by the Vienna school [8, 9], the interpersonal dysphoria model of BPD considers dysphoria as its key feature [10], i.e., its psychopathological core. Dysphoria is a term that is becoming increasingly popular in clinical parlance, but its meaning remains vague [11, 12]. In psychiatric and clinical psychology literature, dysphoria appears in the context of mood, anxiety and personality disorders and is used to describe a mixture of negative and unpleasant emotions, without any specific features [12]. It denotes a negative and complex emotional state characterized by irritability, discontent, interpersonal resentment and surrender [11, 13]. In the context of BPD, dysphoria is the framework for various manifestations of its psychopathology and thus functions as a “psychopathological organizer” [14].

The interpersonal dysphoria model of BPD makes a distinction between “background dysphoria” and “situational dysphoria”. Background dysphoria is a chronic emotional state (as described above) that dominates the basic lived experience of individuals with BPD. Situational dysphoria is experienced in certain stressful circumstances, especially those of an interpersonal nature; it results from an interaction between background dysphoria and negative interpersonal disposition (comprising hostile distrust, interpersonal sensitivity and impaired empathy). Situational dysphoria represents an acute emotional state that pervades the here-and-now lived experience of individuals with BPD and is characterized by a sense of pressure, an urge to act and a feeling as if one is about to explode (i.e., a quasi-explosion) (Figure 1).

Symptoms of BPD are interpreted as the surface manifestations of situational

dysphoria (Figure 1). Some symptoms reflect attempts to *organize* the borderline experience through impulsive behaviors dominated by anger or fear (e.g., angry outbursts, risky or self-harming behaviors and stormy relationships). These emotional states and the corresponding behaviors give “shape” to situational dysphoria, for example, by creating a skin lesion through self-cutting. Other symptoms are a consequence of *disorganizing* processes, especially with regards to one’s identity and inner coherence (e.g., identity disturbance, feelings of inner emptiness and quasi-psychotic experiences). These symptoms may result from a feeling that one is about to explode, whereby self disorganizes because situational dysphoria cannot be “contained” and transformed into a more tangible experience.

In summary, the interpersonal dysphoria model of BPD considers that both dispositional factors (background dysphoria and negative interpersonal disposition) and situational factors (situational dysphoria) are important for the conceptualization of BPD. Also, the model posits that over time, individuals with BPD move in both directions, from the basic lived experience (background dysphoria) to symptomatic disturbances via the here-and-now lived experience (situational dysphoria) and vice versa, forming a “dysphoric cycle”.

Aims

The aim of this study was to test the fit of the interpersonal dysphoria model of BPD using structural equation modeling analysis. This approach made it possible to ascertain the clinical significance of all components postulated to constitute the core features of BPD and assess their relationships. Our main hypothesis was that background dysphoria was a significant predictor of situational dysphoria which, in turn, was a significant predictor of symptoms of BPD. We planned to conduct analyses in a large sample of BPD patients, as well as healthy controls, with the goal of testing in a preliminary way the specificity of the interpersonal dysphoria model for BPD.

Method

Participants and procedures

The sample consisted of 105 patients with BPD (mean age = 36.31 years; $SD = 7.02$) and 105 healthy controls, without any formal DSM-5 diagnosis (mean age = 33.11 years; $SD = 8.86$) [$F = 8.40$; $df = 1,208$; $p < 0.01$]. There were no other significant demographic differences between the group of BPD patients and healthy controls. The most common co-occurring conditions in patients with BPD were major depressive disorder ($n = 60$, 57.14%) and at least one of the anxiety disorders ($n = 53$, 50.47%).

Participants with BPD aged between 18 and 65 years were recruited from adult psychiatric outpatient services (75%) and residential inpatient communities (25%) in Italy. They had to meet the diagnostic criteria for BPD, as assessed by the Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II [15, 16]).

There were several exclusion criteria for BPD patients, as follows: a) lifetime diagnoses of schizophrenia, other psychotic disorders and bipolar affective disorder, as assessed by the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I) [17, 18]; b) current (previous 6 months) substance use disorder or eating disorder, as assessed by the SCID-I; c) intellectual disability (i.e., mental retardation) and neurocognitive disorders (i.e., cognitive impairment and dementias); d) insufficient knowledge of Italian language.

After the study was described to participants, a signed informed consent was obtained from them. The study was approved by the local ethics committees.

Measures

A total of five self-report instruments and three semi-structured interviews were administered to the participants. The five self-report instruments were the Nepean Dysphoria Scale (NDS-I), the Cynical Distrust Scale (CynDis), the Inventory of Interpersonal Problems-47 (IIP-47), the Empathy Quotient (EQ), and the Situational Dysphoria Scale (SITDS). The

semi-structured interviews were the SCID-I, SCID-II, and the Borderline Personality Disorder Severity Index-IV Edition (BPDSI-IV), which were administered by trained clinicians with moderate to strong inter-rater agreement ($k = 0.68-0.88$).

The instruments were administered in the specific sequence. First, the SCID-I and SCID-II were administered to check whether the diagnostic criteria for BPD have been met and ascertain whether any of the diagnostic exclusion criteria were present. After that, participants completed the five self-report questionnaires (NDS-I, CynDIS, IIP-47, EQ, and SITDS). Finally, the BPDSI-IV was administered. Except for SITDS, which was specifically developed to measure a new construct (situational dysphoria), other questionnaires already existed and we used them in their original forms. Moreover, we used summary scores of scales and subscales to test each variable of the model.

The **Nepean Dysphoria Scale-I** (NDS-I) [19] is the Italian validated version of the Nepean Dysphoria Scale (NDS) [13], developed to measure the severity of dysphoria. It consists of 24 items, which are rated for frequency on a five-point Likert scale. A total score is obtained by calculating the mean of the scores on all the items. The NDS also provides separate scores on four subscales of dysphoria, as follows: Irritability, Discontent, Surrender, and Interpersonal Resentment. The NDS has shown excellent psychometric properties [13], as did the NDS-I [19]. In the present study, internal consistency of the NDS-I was excellent, with Cronbach's $\alpha = 0.99$.

The **Cynical Distrust Scale** (CynDis) [20, 21] is a measure of interpersonal distrust, the cognitive component of hostility. It consists of eight items, which are rated for frequency on a four-point Likert scale. A total score is obtained by adding up item scores. CynDis has shown good psychometric properties [20], as did the Italian version [21]. In the present study, internal consistency of the CynDis was excellent, with Cronbach's $\alpha = 0.95$.

The **Inventory of Interpersonal Problems-47** (IIP-47); [22, 23] is a measure of 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 rated on a five-point scale. A total score is obtained by calculating the sum of the scores on all the items. The IIP-47 also provides separate scores on the five subscales, with the scores on Interpersonal Sensitivity subscale being particularly relevant for our study. The IIP-47 has shown very good psychometric properties [22], as did the Italian version [23]. In the present study, its internal consistency was excellent, with Cronbach's $\alpha = 0.98$.

The **Empathy Quotient** (EQ) [24, 25] is a measure of the cognitive and affective aspects of empathy. It was designed to assess low empathy as a feature of psychopathology and detect subtle individual differences in empathy in the general population. The EQ consists of 60 items and yields scores on three subscales: Cognitive Empathy, Emotional Reactivity, and Social Skills [26]. Responses are given on a four-point Likert scale. The EQ has shown acceptable psychometric properties [24], as did the Italian version [25]. In the present study, internal consistency of the EQ was excellent, with Cronbach's $\alpha = 0.95$.

The **Situational Dysphoria Scale** (SITDS) was specifically developed to measure situational dysphoria in this study [27]. It is composed of 58 items that list various events that can trigger emotional reactions (e.g., "was ignored by others", "argued with spouse, boyfriend, and so on", or "had a minor accident"). If the event happened during the previous week, the participant had to rate on a five-point Likert scale, from 1 ("not at all") to 5 ("very much"), whether the event made him/her: a) feel pressured (pressure dimension of situational dysphoria); b) have a strong urge to do something (urge to act dimension of situational dysphoria); c) feel as if he/she was about to explode (quasi-explosion dimension of situational dysphoria). Items were divided into five clusters: Interpersonal Events, Personal

Events, Cognitive Events, Environmental Events and Various Events. Three scores were derived from the SITDS: a) *total score*, by summing up scores on all the items and for all dimensions of situational dysphoria; b) *situational dysphoria dimension-specific scores*, by summing up scores on each dimension of situational dysphoria (pressure, urge to act and quasi-explosion); c) *event-specific scores*, by summing up scores on each cluster of event-related items (interpersonal, personal, cognitive, environmental and various events). In the present study, the SITDS showed an excellent internal consistency, with Cronbach's $\alpha = 0.91$ [27].

The **Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I)** [17] is the gold standard, semi-structured diagnostic instrument for clinical disorders. It consists of separate modules corresponding to categories of diagnoses. Most sections begin with a screening question; if the response to it is negative, it allows the interviewer to skip the remaining disorder-associated questions. For all diagnoses, symptoms are coded as present, subthreshold, or absent. The SCID-I showed fair to good psychometric properties [24] [17], as did the Italian version [18]. In the present study, its internal consistency was good to excellent, with Cronbach's α ranging between 0.75 and 0.91, depending on the diagnosis.

The **Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II)** [15] first entails administering a 119-item questionnaire, followed by an interview. A "yes" response to all questionnaire items are further explored in the interview to ascertain whether the criteria for each personality disorder are met. At the time of the study, the SCID-II was being revised and updated; however, given that the personality disorders in *DSM-5* were unchanged from those in *DSM-IV*, the current instrument was deemed suitable to assess them. The SCID-II showed good psychometric properties [15], as did the Italian version [16]. In the present study, internal consistency of the SCID-II was very good to excellent, with Cronbach's α ranging between 0.82 and 0.96, depending on the diagnosis.

The **Borderline Personality Disorder Severity Index-IV Edition** (BPDSI-IV) [28, 29] was the other semi-structured interview used in the study. The BPDSI-IV was developed to assess the frequency and severity of BPD manifestations during the last three months. It consists of 70 items, divided into nine subscales representing the nine DSM BPD criteria (Abandonment, Interpersonal Relationships, Identity, Impulsivity, Parasuicidal Behavior, Affective Instability, Emptiness, Outbursts of Anger, and Dissociation and Paranoid Ideation). For each item, the frequency of the last three months is rated on an eleven-point scale. Identity disturbance items form an exception and are rated on five-point Likert scales, multiplied by 2.5. Criteria scores for the nine DSM criteria are derived by calculating the mean of the scores on all the relevant items. The total score is the sum of the nine criteria scores. The BPDSI-IV showed excellent psychometric properties [28], as did the Italian version [29]. In the present study, its internal consistency was excellent, with Cronbach's $\alpha = 0.98$.

Data analyses

A power analysis was preliminarily conducted to determine the minimum sample size for validating the theoretical model. This was crucial for conducting structural equation modeling analysis (SEM) because of the potential negative effects of sample sizes that are either too small or too large. After conducting the preliminary analyses, SEM was performed to analyze the data. All statistical analyses were conducted using AMOS 23.0.

Results

Preliminary power analysis

The minimum sample size needed to attain a statistical power of .80 ranged from 56 to 153, using the RMSEA test of close fit with $\varepsilon_a < .05$, $\varepsilon_1 = .08$, $\alpha = .05$. Given that our

theoretical model was composed of five latent constructs, with an average of four indicator variables for each construct, a minimum N of 97 was needed for the study.

Checking for normality

Univariate normality. As one of the assumptions for using SEM is that data must follow a normal distribution, we first checked the distribution within both the sample of BPD patients and healthy controls. According to Kline (2011) [30], a variable is normally distributed if its skewness index (i.e., skewness statistic/standard error) is less than three and if its kurtosis index (i.e., kurtosis statistic/standard error) is less than 20. Background dysphoria and negative interpersonal disposition indicators had a skewness index above three. Because these variables were highly skewed they were transformed using a natural log function. The skewness index of the transformed variables fell below three; therefore, these transformed variables were used in the subsequent procedures.

Multivariate normality. Multivariate normality was assessed via Mardia's coefficient. Mardia's coefficient was, $z = 11.25$. Kline (2011) [30] notes, however, that such a test often yields statistically significant results. Kline further points out that one can detect multivariate non-normality by assessing univariate normality. Since all the variables were distributed normally, the assumption of multivariate normality was met.

Testing the model

According to Anderson and Gerbing [31], a two-step procedure was followed to test the proposed model. The *measurement model* defines latent constructs (background dysphoria, negative interpersonal disposition, situational dysphoria, organizing and disorganizing pathways of symptoms) using indicator variables for each construct (4 subscales of background dysphoria, 3 components of negative interpersonal disposition, 3

dimensions of situational dysphoria, 5 organizing symptoms and 4 disorganizing symptoms), and it was first tested via a confirmatory factor analysis.

The measurement model did not fit the data well. The values of all the fit indices did not meet their acceptable thresholds; the CFI was .92, the SRMR was .09 and the RMSEA was .09. Except for empathy, all indicator variables loaded significantly onto their respective constructs. Because the model did not fit the data well, it was revised; only indicator variables with standardized factor loadings above .60 were retained. Based on these criteria, several variables were deleted: empathy, parasuicidal behaviors, other risky behaviors, identity disturbances, and quasi-psychotic experiences.

Once the model had an acceptable fit, its components were tested for convergent and discriminant validity. Thereafter, the *structural model* that examines relationships between latent constructs was tested. As suggested by Kline (2011) [30], the fit of both the measurement and structural models was assessed via the chi-square statistic, with the following fit indices: Comparative Fit Index (CFI) > .95; Root Mean Square Error of Approximation (RMSEA) < .06; Standardized Root Mean Square Residual (SRMR) < .08. Kline (2011) [30] has pointed out that the Normed Chi-square (chi square/df) should not be reported because it is not statistically sound and no acceptable thresholds have been agreed upon.

The revised model fit the data well as it met all but one of the criteria for good fit: the CFI value was above .95 and the SRMR was only .06. Further, the change in chi-square between the proposed and revised model was statistically significant, $\Delta\chi^2(75) = 144.64, p < .001$. In addition, all item indicators loaded significantly onto their respective constructs.

The convergent and discriminant validity of the constructs of this revised model were then assessed. Convergent validity is defined as the extent to which a specified set of indicators of a construct share a high proportion of variance in common with other indicators

of a construct, while discriminant validity refers to the extent to which indicators of a construct differ from indicators of other related or similar constructs.

The composite reliability and the average variance extracted were used to measure the convergent validity of the constructs. Constructs have convergent validity when the composite reliability exceeds the criterion of .70 and the average variance extracted (AVE) is above .50. The composite reliability values of all the constructs were above .70. Further, all the AVE values were above .50. Thus, all the constructs showed good convergent validity.

Discriminant validity was assessed by comparing the absolute value of the correlations between the constructs and the square root of the average variance extracted by a construct. When the correlations are lower than the square root of the average variance extracted by a construct, constructs are considered to have discriminant validity. Using this criterion, background dysphoria, negative interpersonal disposition and situational dysphoria were found to have good discriminant validity. However, the correlation between the constructs of organizing and disorganizing symptoms ($r = .84, p < .001$) was higher than the square roots of their AVE values, and these constructs therefore did not demonstrate discriminant validity.

The proposed structural model, depicted in Figure 2, did not fit the data very well but had a close-to-acceptable fit. The CFI was close-to-acceptable (.92) and the SRMR (.10) and RMSEA (.09) were in the medium range. The findings in Table 1 reveal, moreover, that all the path coefficients were significant and in the predicted direction.

The best-fitting structural model, illustrated in Figure 3, fit the data well. This model differs from the originally proposed one in terms of impaired empathy not being a component of negative interpersonal disposition and organizing and disorganizing BPD symptoms being replaced by interpersonal (abandonment fears, angry outbursts and stormy relations) and affective symptoms (affective shifts and emptiness). All but the RMSEA met the criterion for

acceptability (CFI = .95; SRMR = .08; RMSEA = .09). The findings in Table 2 show that all the path coefficients were significant and in the predicted direction.

The structural model in healthy controls did not fit the data well. None of the fit indices met their respective thresholds for acceptable model fit. All the path coefficients, however, were significant.

Discussion

The results of this study largely support the proposed interpersonal dysphoria model of BPD, while also suggesting that some revision of the model is needed. Specifically, the model had a close-to-acceptable fit in the BPD sample. In both the proposed and best-fitting structural models, background dysphoria and negative interpersonal disposition were significant predictors of situational dysphoria, which in turn was a significant predictor of the organizing and disorganizing pathways of symptoms. This is consistent with previous findings emphasizing the role of interpersonal sensitivity in the affective oscillations of BPD [32] and with our hypothesis about the key roles played by background dysphoria, negative interpersonal disposition and situational dysphoria in BPD. Moreover, background dysphoria, negative interpersonal disposition and situational dysphoria correlated moderately and demonstrated discriminant validity, thus confirming our hypothesis that they are related but different constructs.

The two hypothesized clusters of symptoms of BPD (i.e., the organizing and disorganizing symptoms) partially represented the variety of BPD manifestations but did not demonstrate discriminant validity. This suggests that the model needs some revision. In particular, (para)suicidal and other risky behaviors did not fit the organizing pathway of symptoms, whereas identity disturbances and quasi-psychotic experiences did not fit the disorganizing pathway of symptoms. It is possible that this finding reflects some recruitment bias because study participants with BPD came from treatment settings where they were

receiving psychopharmacological agents and/or psychotherapy that could keep at least some of the aforementioned, severe symptoms under control. Alternatively, these findings call for the reconceptualization of the organizing and disorganizing pathways that were originally postulated to lead to symptoms of BPD. Indeed, the best-fitting structural model suggests that the phenomenology of BPD might be better represented by the interpersonal and affective symptom clusters rather than the organizing and disorganizing symptoms.

Results suggest that impaired empathy is not a significant aspect of negative interpersonal disposition, which appeared to be best represented only by hostile distrust and interpersonal sensitivity. This could be due to the complexity of the construct of empathy, which remains difficult to define, as it comprises both cognitive and emotional components [24]. These two components cannot be easily separated, but may not be equally impaired in BPD [33]. This makes the measurement of the construct of empathy as a whole rather difficult. Furthermore, it has been suggested that empathy, especially its emotional component, may actually be enhanced among individuals with BPD [34, 35].

As predicted, the concept of situational dysphoria, introduced by the interpersonal dysphoria model of BPD, comprised internal pressure, urge to act, and quasi-explosion. The inclusion of these three components of situational dysphoria improved the model fit and made the path coefficient between negative interpersonal disposition and situational dysphoria significant. This is noteworthy because it supports the construct validity of the instrument developed to measure situational dysphoria (the Situational Dysphoria Scale, SITDS), previously examined through exploratory factor analysis and hierarchical cluster analysis [27]. Moreover, the construct of situational dysphoria supports a notion that proximal factors (i.e., emotional states triggered by ordinary events) may play a more important role than distal factors (i.e., genetic predisposition and early traumatic experiences)

in the occurrence of various acute, transient BPD symptoms [36]. In that sense, the heterogeneity of BPD manifestations may be directly linked to situational dysphoria.

Finally, the interpersonal dysphoria model of BPD did not fit healthy controls at all. This preliminarily suggests that the model may be specific for BPD, but its discriminant validity needs to be tested further.

The study has several limitations. As already noted, study participants with BPD were representative only of treatment-seeking individuals with BPD in Italy. However, BPD is a very heterogeneous condition and it would be extremely difficult to obtain an “ideal” sample that would be representative of all or most people with BPD. Secondly, our sample was relatively small, which could have had a negative effect on data analyses; however, samples of a similar size are not uncommon in studies of BPD [37]. Thirdly, we cannot be entirely certain that the SITDS assessed situational dysphoria as an acute emotional state pervading the here-and-now lived experience of BPD individuals because it is based on retrospective self-report. Finally, self-report measures used in the study may be influenced by response biases (e.g., those related to social desirability) and questionnaire items themselves may be a subject to misinterpretation. This limitation is inevitable in the clinical psychopathology research, mainly for practical reasons (i.e., the ease of administering self-report instruments versus the complexity of using clinician-administered interviews).

Conclusions and directions for future research

Despite the limitations, the findings of this study support the interpersonal dysphoria model of BPD, a new, psychopathological-dynamic approach to this multifaceted condition. The model emphasizes subjective experience of individuals with BPD, especially its interpersonal and affective aspects. This is in accordance with a view that the clinical core of BPD is a specific form of emotional instability that is strongly dependent on the context [38,

39, 40]. The main contributions of the interpersonal dysphoria model of BPD to our understanding of BPD lie in the clear conceptualization of dysphoria as the key emotional state in BPD and elucidation of the ways in which dysphoria interacts with the situational factors, leading to the typical clinical features of BPD.

The study also suggests the importance of an understanding and careful assessment of dysphoria, which still tends to be portrayed with vagueness in the psychiatric and clinical psychology literature [11, 12]. Distinguishing between different aspects of dysphoria and between the basic lived experience and the here-and-now lived experience may be crucial for understanding emotional and behavioral manifestations of BPD. The interpersonal dysphoria model of BPD highlights the importance of both dispositional (background dysphoria and negative interpersonal disposition) and situational (situational dysphoria) factors. Addressing these factors might help the efforts to develop a targeted treatment approach to BPD, as well as efforts to prevent relapses.

The utility of the interpersonal dysphoria model of BPD needs to be tested further. The model may need to be revised to fit any discrepant data derived from future research. Such research should be conducted in a larger number and greater variety of individuals with BPD who are recruited from the community as well as clinical settings to ensure better representativeness and greater generalizability of the findings. Finally, the model should also be tested in other forms of psychopathology to test its specificity for BPD.

References

1. Gunderson JG, Links PS: Borderline personality disorder: a clinical guide. Arlington, American Psychiatric Publishing, 2008.
2. Ten Have M, Verheul L, Kaasenbrood AD, van Dorsselaer S, Tuithof M, Kleinjan M, de Graaf R: Prevalence rate of borderline personality disorder symptoms: a study based on the Netherlands Mental Health Survey and Incidence Study-2. *BMC Psychiatry* 2016;16:249.
3. Trull TJ, Stepp SD, Solhan M: Borderline personality disorder; In Andrasik F (ed.): *Comprehensive book of personality and psychopathology, Volume two: Adult Psychopathology*. Hoboken, John Wiley & Sons., 2007, pp 299-315.
4. Choi-Kain LW, Finch EF, Masland SR, Jenkins JA, Unruh BT: What works in the treatment of borderline personality disorder. *Curr Behav Neurosci Rep* 2017;4:21-30.
5. Gunderson JG, Stout RL, McGlashan TH, Shea MT, Morey LC, Grilo CM, Zanarini, MC, Yen S, Markowitz JC, Sanislow C, Ansell E, Pinto A, Skodol AE: Ten-year course of borderline personality disorder: Psychopathology and Function from the Collaborative Longitudinal Personality Study. *Archives of General Psychiatry* 2011;68:827-837.
6. D'Agostino A, Rossi Monti M, Starcevic V: Models of borderline personality disorder: recent advances and new perspectives. *Curr Opin Psychiatry* 2018;31:57-62.
7. Rossi Monti M, D'Agostino A: Dysphoria as a psychopathological organizer in borderline patients. In Stanghellini G, Raballo A, Broome M, Fernandez A, Fusar Poli P, Rosfort R (eds.): *The Oxford Handbook of Phenomenological Psychopathology*. Oxford, Oxford University Press, 2018. DOI: 10.1093/oxfordhb/9780198803157.013.78.
8. Berner P, Musalek M, Walter H: Psychopathological concepts of dysphoria. *Psychopathology* 1987;20:93-100.
9. Gabriel E: Dysphoric mood in paranoid psychoses. *Psychopathology* 1987;20:101-6.

10. Pazzagli A, Rossi Monti M: Dysphoria and aloneness in the borderline personality disorder. *Psychopathology* 2000;33:220-26.
11. Starcevic V: Dysphoric about dysphoria: towards a greater conceptual clarity of the term. *Australasian Psychiatry* 2007;15:9-13.
12. Starcevic V, Rossi Monti M, D'Agostino A, Berle D: Will DSM-5 make us feel dysphoric? Conceptualization(s) of dysphoria in the most recent classification of mental disorders. *Australian & New Zealand Journal of Psychiatry* 2013;47:954-60.
13. Berle D, Starcevic V: Preliminary validation of the Nepean Dysphoria Scale. *Australas Psychiatry* 2012;20:322-6.
14. Rossi Monti M, Stanghellini G: Psychopathology: an edgeless razor? *Comprehensive Psychiatry* 1996;37:196-204.
15. First MB, Spitzer RL, Williams JBW, Gibbon M: Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II) user's guide and interview. Washington, American Psychiatric Press, 1997.
16. Mazzi F, Morosini P, De Girolamo G, Guaraldi GP: SCID-II structured clinical interview for DSM-IV Axis II disorders. Firenze, Giunti OS, 2003.
17. First MB, Spitzer RL, Williams JBW, Gibbon M: Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I). Washington, American Psychiatric Press, 1996.
18. Mazzi F, Morosini P, De Girolamo G, Lussetti M, Guaraldi GP: SCID-I structured clinical interview for DSM-IV Axis I disorders. Firenze, Giunti OS, 2000.
19. D'Agostino A, Manganelli E, Aportone A, Rossi Monti M, Starcevic V: Development, cross-cultural adaptation process and preliminary validation of the Italian version of the Nepean Dysphoria Scale. *Journal of Psychopathology* 2016;22:149-156.
20. Julkunen J, Salonen R, Kaplan GA, Chesney MA, Salonen JT: Hostility and the progression of carotid atherosclerosis. *Psychosomatic Medicine* 1994;56:519-525.

21. Emiliani E, Casu G, Gremigni P: Validazione italiana della Cynical Distrust Scale per misurare la sfiducia cinica. *Psicologia della Salute* 2011;2:69-83.
22. Pilkonis PA, Kim Y, Proietti JM, Barkham M: Scales for personality disorders developed from the inventory of interpersonal problems. *Journal of Personality Disorders* 1996;10:355-369.
23. Ubbiali A, Chiorri C, Donati D: The Italian version of the Inventory of Interpersonal Problems personality disorders scales (IIP-47): psychometric properties and clinical usefulness as a screening measure. *Journal of Personality Disorders* 2011;25:528-41.
24. Baron-Cohen S, Wheelwright S: The Empathy Quotient: an investigation of adults with Asperger Syndrome or high functioning Autism, and normal sex differences. *Journal of Autism and Developmental Disorders* 2004;34:163-75.
25. Preti A, Vellante M, Baron-Cohen S, Zucca G, Petretto DR, Masala C: The Empathy Quotient: A cross-cultural comparison of the Italian version. *Cognitive Neuropsychiatry* 2011;16:50-70.
26. Lawrence EJ, Shaw P, Baker D, Baron-Cohen S, David AS: Measuring empathy: reliability and validity of the Empathy Quotient. *Psychological Medicine* 2004;34:911-9.
27. D'Agostino A, Aportone A, Rossi Monti M, Starcevic V: Assessing situational dysphoria in borderline patients: development and preliminary validation of the Situational Dysphoria Scale (SITDS). *Clinical Neuropsychiatry* 2017;14:415-423.
28. Arntz A, Van den Horn M, Cornelis J, Verheul R, Van den Bosch W, De Bie A: Reliability and validity of the Borderline Personality Disorder Severity Index. *Journal of Personality Disorders* 2003;17:45-59.
29. Madeddu F, Prunas A, Riboldi S: La valutazione della gravità nel disturbo borderline di personalità: la versione italiana del Borderline Personality Disorder Severity Index (BPDSI). *Medicina Psicosomatica* 2005;50:25-32.

30. Kline RB: Principles and practice of structural equation modeling, 3rd edition. New York, The Guilford Press, 2011.
31. Anderson JC, Gerbing DW: Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin* 1988;103:411-423.
32. Goodman M, Hazlett EA, New AS, Koenigsberg HW, Siever L: Quieting the affective storm of borderline personality disorder. *Am J Psychiatry* 2009;166:522-28.
33. Harari H, Shamay-Tsoory SG, Ravid M, Levkovitz Y: Double dissociation between cognitive and affective empathy in borderline personality disorder. *Psychiatry Research* 2010;175:277-79.
34. Frank H, Hoffman N: Borderline empathy: an empirical investigation. *Comprehensive Psychiatry* 1986;27:387-95.
35. Ladisich W, Feil WB: Empathy in psychiatric patients. *British Journal of Medical Psychology* 1988;61:155-62.
36. Miskewicz K, Fleenon W, Arnold EM, Law MK, Mneimne M, Furr RM: A contingency oriented approach to understanding borderline personality disorder: Situational triggers and symptoms. *Journal of Personality Disorders* 2015;29:486-502.
37. Verheul R, Van Den Bosch LMC, Koeter MWJ, De Ridder MAJ, Stinjen T, Van Den Brink W: Dialectical behavior therapy for women with borderline personality disorder: 12 month, randomised clinical trial in The Netherlands. *British Journal of Psychiatry* 2003;182:135-40.
38. Gratz KL, Rosenthal MZ, Tull MT, Lejuez CW, Gunderson JG: An experimental investigation of emotional reactivity and delayed emotional recovery in borderline personality disorder: the role of shame. *Comprehensive Psychiatry* 2010;51:275–85.
39. Gunderson JG, Lyons-Ruth K: BPD's interpersonal hypersensitivity phenotype: a gene-environment-developmental model. *Journal of Personality Disorders* 2008;22:22-41.

40. Zanarini MC, Frankenburg FR: The essential nature of borderline psychopathology.

Journal of Personality Disorders 2007;21:518–35.

Figure 1. The interpersonal dysphoria model of borderline personality disorder

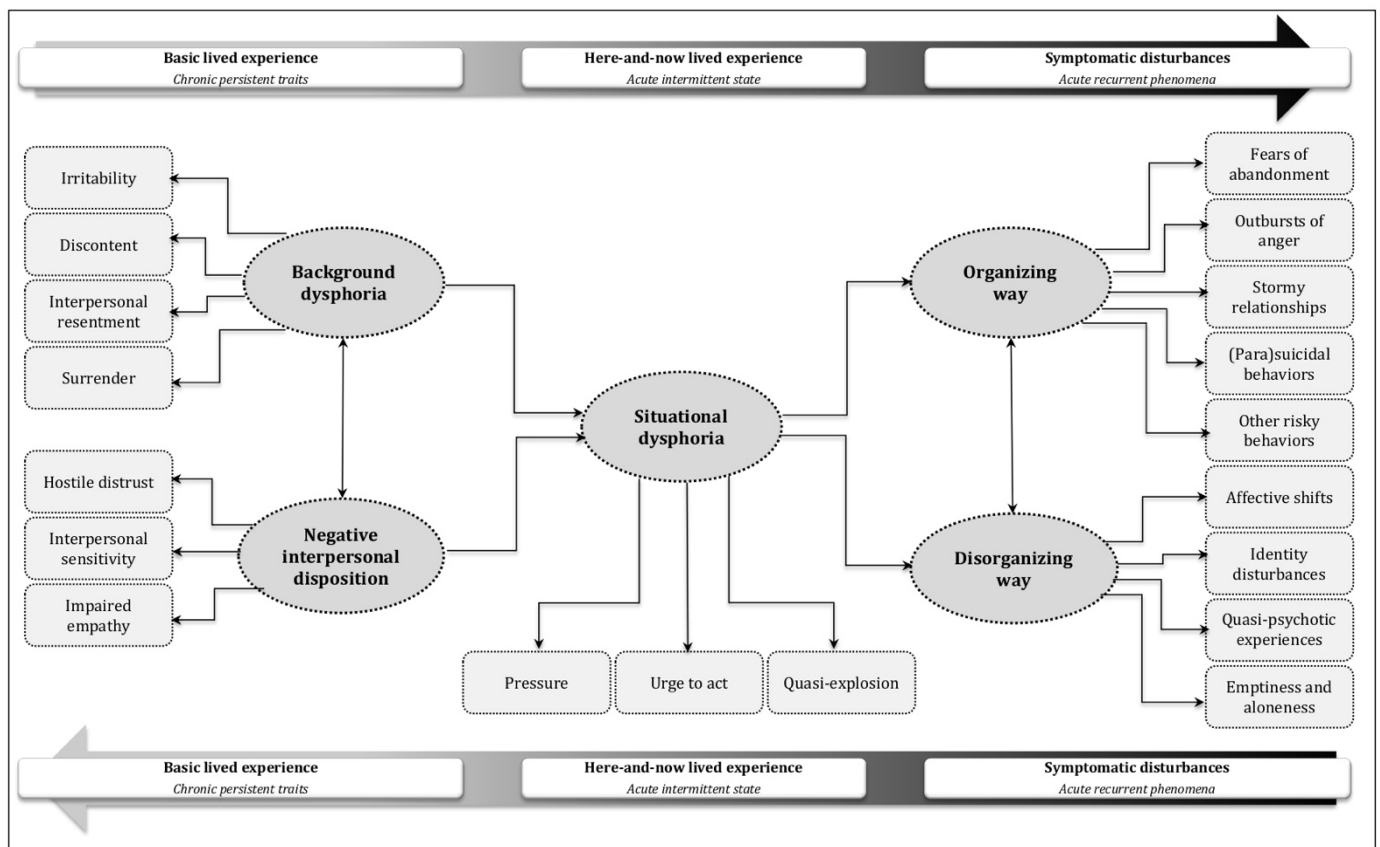


Figure 2. Standardized coefficients for the proposed structural model

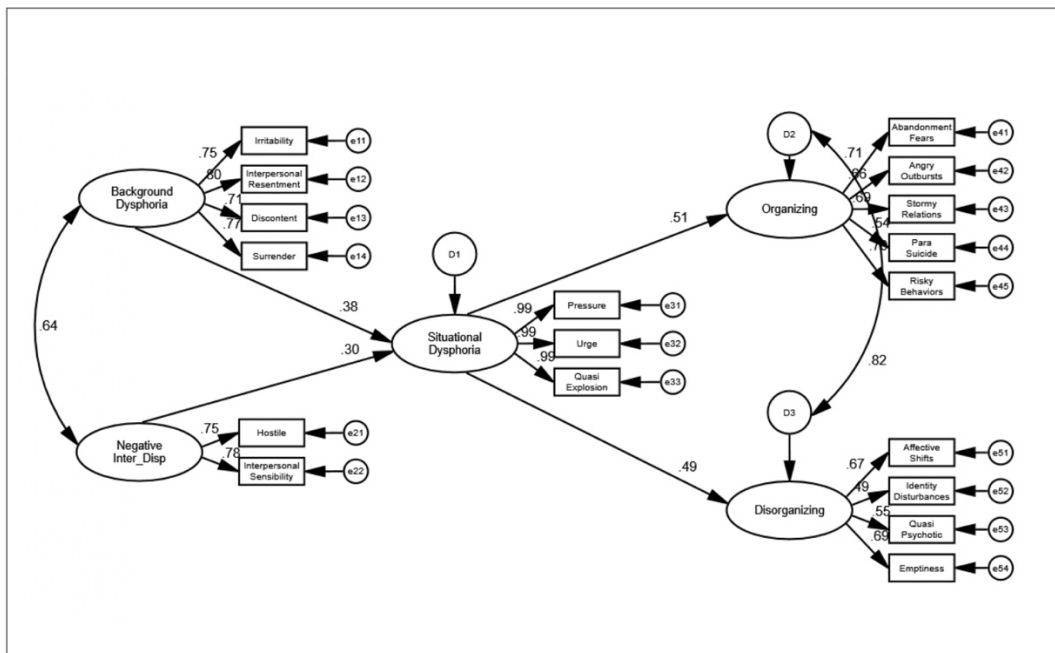


Figure 3. Standardized coefficients for the best-fitting structural model

