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Pathways of dysphoria.

**Development and validation of a psychopathological-dynamic
model for understanding borderline personality disorder**

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Introduction

Borderline personality disorder is one of the most controversial disorders in the contemporary psychopathological scenario. Despite its prevalence both in clinical settings and in nonclinical ones, it falls far behind other major psychiatric disorders in awareness and research, remaining strongly stigmatized by mental health professionals themselves who want to avoid situations that are problematic by nature. Several consequences result from this “sidelining”. The most serious one is that still little is known (or, rather, still little is the general consensus) about BPD core psychopathology.

This thesis aims to fill this gap, proposing a new, psychopathological-dynamic model for understanding BPD that tries to describe the subjective experience of these patients, from basic lived experience to symptomatic disturbances level through here-and-now lived experience. In more detail, Chapter 1 will introduce borderline personality disorder from a general point of view. BPD will be described from different perspectives: first of all, epidemiological data related to the disorder will be presented; secondly, use, misuse, and overuse of the borderline diagnosis will be discussed; thirdly, the clinical core of BPD will be examined; fourthly, a multifactorial etiology will be highlighted.

Chapter 2 will present the new, psychopathological-dynamic model for understanding BPD from a theoretical point of view. Firstly, the model will be described as a whole; after that, each part of the model will be described in detail, from the psychopathological features at the basic lived experience (background dysphoria and negative interpersonal disposition) to the variety of symptomatic disturbances (divided into organizing and disorganizing pathways), through temporary affect depending on situational triggers at the here-and-now lived experience (situational dysphoria).

Chapter 3 will present the first empirical investigation of the new, psychopathological-dynamic model for understanding BPD in a sample of borderline patients (and a group of healthy controls). Findings will be presented according to two steps: I) development and analysis of the psychometric properties of the Situational Dysphoria Scale (SITDS); II) validation of the whole psychopathological-dynamic model using structural equation modeling analysis. Results will be finally discussed in order to highlight clinical and theoretical implications of the study as well as directions for future research.

Chapter 1

Borderline personality disorder up to here

1.1 A view from above

Borderline personality disorder (BPD) is one of the most enigmatic disorders in contemporary psychopathology. On one hand, it is one of the most frequently diagnosed conditions in the area of personality disorders. For example, the prevalence of BPD was estimated to be 10% in outpatient settings, 15%-20% in inpatient settings, and 0.5%-1.4% in the general population (Gunderson & Links, 2008; ten Have et al., 2016; Trull, Stepp, & Solan, 2007), with a gender ratio of 3 females to 1 male (Oldham, 2005; Oldham et al., 2001). This, however, is not supported by some recent findings showing an equal prevalence of BPD among males and females (Torgersen, 2005; Torgersen, Kringlen, & Kramer, 2001). In addition, 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% (Gunderson & Links, 2008).

On the other hand, BPD is far behind other major psychiatric disorders in terms of the awareness and research, due to its complexity, multiple presentations and serious difficulties experienced by mental health professionals in dealing with it. For example, although BPD is thought to occur globally, there has been little epidemiological research into the disorder outside the Western world (National Collaborating Centre for Mental Health, 2009). In this sense, Gunderson (2009) stated that “Borderline personality disorder is to psychiatry what psychiatry is to medicine” (p. 536), suggesting that BPD is strongly stigmatized even in the mental health context. Several authors have described various manifestations of BPD over the

last fifty years (Bradley, Conklin, & Westen, 2005; Lenzenweger, Clarkin, Yeomans, Kernberg, & Levy, 2008; Linehan, 1993; Zanarini, 1993). Among them, M. Schmideberg (1959) has proposed the most succinct portrait of BPD, describing it as being essentially **stable in its instability**. The text below addresses several aspects of this instability (Box 1.1).

Box 1.1. *Several aspects of instability in BPD*

- ❖ Conceptualization as a syndrome, category or structural organization
 - ❖ “Identity diffusion”
 - ❖ Rapidly changing and highly variable emotions
 - ❖ Oscillation of impulsivity between external and internal manifestations
 - ❖ Transient impairment of reality testing
-

Firstly, instability is reflected in the way in which BPD has been conceptualized. It is primarily an entity located between other clinical entities, generally between neurosis and psychosis. BPD has also been conceived of as a syndrome, nosographic category, and structural organization. Finally, numerous symptoms have been proposed to characterize BPD, with many possible combinations legitimizing the BPD diagnosis. This variety of clinical presentations allows borderline patients to move across very different levels of mental functioning over time.

Secondly, instability refers to identity in BPD. The borderline patient is unable to develop a stable and consistent image of himself/herself as a person and is dominated by an inner sense of emptiness, which results in basic uncertainties in all areas of life. Indeed, BPD was described as the “syndrome of identity diffusion” by Kernberg (1975, 1984). Accordingly, the borderline identity has also been defined as “liquid” (Acquarini, 2006), not in the sense that it tends to adapt to the shape of a container but in the sense of fluidity

continuously in search of a container (Stanghellini, 2008). The container, however, invariably turns out to be disappointing, opening the way to the series of relational short circuits.

Thirdly, instability affects emotions in BPD, as they are rapidly changing and highly variable. The borderline patient is a very sensitive “barometer” who reacts to minimal variations of environmental pressure and becomes overwhelmed by turbulent emotions, such as depression tinged with irritability (dysphoria), anger, excitement and anxiety, and accompanying phenomena, such as emptiness, boredom, and omnipotence. As these emotions appear, just as quickly they disappear, leaving behind the rubble of the continuity of the self and disastrous effects on the relationships.

Fourthly, instability pertains to impulsivity. The borderline impulsivity continuously oscillates between its external and internal manifestations. The former are reflected in risk-taking behaviors and stormy interpersonal relationships, whereas the latter are typically represented by acts of self-harm. The borderline patient is torn between exhibiting outward impulsivity and thereby exporting his/her interior drama and directing his/her impulsivity inward and wounding himself/herself as a means of regulating intolerable emotions.

Finally, instability affects the relationship with reality in BPD. In the borderline psychopathology – it is said – reality testing is preserved. This is true at a phenomenological-descriptive level. However, the DSM-5 diagnostic criteria for BPD refer to transient impairments of reality testing and reversible paranoid breaks. Literature and clinical observation have highlighted how these phenomena in borderline patients are not “real” psychotic experiences, being described as quasi-psychotic experiences, quasi-delusions, delusion-like beliefs, pseudo-hallucinations and quasi-hallucinations (Zanarini, Gunderson, Frankenburg, & Chauncey, 1990). In sum, it is as if the borderline patient is neither able to be depressed (because his depression is described as “atypical”) nor delusional and hallucinatory in a full sense. He is always on the edge, “in-between”, hung to his “stable instability”.

Due to this pervasive instability, the borderline patient can be seen as a real *migrant* in psychopathology (Rossi Monti & D'Agostino, 2009): as he/she cannot “fix” himself/herself to a certain point of his/her trajectory, he/she constantly moves from one domain of psychopathology to another. In the next sections we will see how this basic characteristic makes BPD very difficult to understand and manage in the clinical setting.

1.2 The borderline diagnosis: use, misuse and overuse

1.2.1 A problem of the construct

One of the main reasons behind inadequate use of the BPD diagnosis concerns the construct of “borderline” itself. What do we mean when we say “borderline”? The answer is not straightforward and points to at least eight meanings (Rossi Monti & D'Agostino, 2009) (Box 1.2).

Box 1.2. *Different meanings of “borderline”*

- ❖ Kernberg’s borderline personality organization
 - ❖ DSM-5 borderline personality disorder
 - ❖ High vulnerability to psychosis
 - ❖ “Soft” version of bipolar II disorder
 - ❖ Propensity to impulsive actions
 - ❖ Reference to early traumatic experiences
 - ❖ Clinicians’ “waste basket”
 - ❖ “Hopeless” cases
-

The first meaning of “borderline” refers to the “borderline personality organization”. This term, introduced by Otto Kernberg (1975, 1984), extends far beyond the DSM-5 BPD.

In fact, according to Kernberg, the DSM-5 criteria for BPD delineate a clinical entity that is based on superficial symptoms, without referring to the deep personality organization underlying those symptoms. Personality organization, instead, is far more important to Kernberg because it encompasses basic personality characteristics and levels of functioning, whereby symptoms are only one of its aspects. Kernberg postulated three personality organizations: neurotic, psychotic and borderline. He described the following characteristics of the borderline personality organization: a) identity disturbance (“the syndrome of identity diffusion”); b) primitive defense mechanisms (i.e., primitive idealization, projective identification and splitting); c) intact, but fragile reality testing. This personality organization is the background of several DSM-5 personality disorders, comprising narcissistic, histrionic, antisocial, schizoid, and paranoid personality disorders, in addition to BPD. Moreover, according to Kernberg, there are two “types” of borderline personality organization: I) “high-functioning”, which is similar to the neurotic organization; II) “low-functioning”, which is closer to the psychotic organization.

The second meaning of “borderline” has to do with a specific clinical syndrome. Clinical psychiatry has tried to describe this syndrome relying on behavioral symptoms and in accordance with the epistemological assumptions of the contemporary nosography. From this point of view, the DSM-5 posits that BPD comprises nine symptoms, with the diagnostic criteria for BPD met when at least five of these nine symptoms are present. The nine symptoms include all the typical characteristic of this personality disorder: pervasive instability in relationships, self-image, and affects, marked impulsivity, frantic efforts to avoid abandonment, instable and intense relationships, identity disturbances, impulsivity, recurrent suicidal behavior or self-injury, affective instability, chronic feelings of emptiness, inappropriate and intense anger, and transient stress-related paranoid ideation.

The third meaning of “borderline” is tied to the historical origin of the term, as being related to schizophrenia. In the 1940s, a series of atypical schizophrenic syndromes, sometimes referred to as “pseudoneurotic schizophrenia” (Hoch & Polatin, 1949), were described. This psychopathological constellation denoted a neurotic appearance and high vulnerability to psychosis, with the latter manifesting as acute, brief psychotic episodes, always occurring in response to the specific, environmental triggers. In this sense, the borderline psychopathology was seen as the result of a high vulnerability to schizophrenic psychosis, which could explode under the particular circumstances, thus breaking the neurotic shell. This historical root of the borderline concept keeps BPD tied to the schizophrenic spectrum, although the two are now considered unrelated.

The fourth meaning of “borderline” pertains to the affective spectrum (Akiskal, 1981). The typical affective instability of borderline patients (i.e., mood oscillations, high frequency of depressive experiences, a constantly “bad” mood, moments of excitement, and so on) has led many clinics to hypothesize a link between BPD and mood disorders or even to consider BPD as a “soft” version of bipolar II disorder. This idea stems from both the assumption that mood swings/affective instability always reflects bipolarity and that depressive experiences of borderline patients are similar to those of patients with major depressive disorder. Actually, the first ones are “atypical” depressive experiences that have little to do with major depressive disorder, being a characteristic aspect of this personality pathological pattern (Gunderson & Phillips, 1991; Paris, 2004; Stanley & Wilson, 2006).

The fifth meaning of “borderline” focuses on the propensity to impulsive action. Impulsivity is derived from the need to immediately give vent to distressing internal states that cannot be tolerated. In addition, impulsivity in BPD often has an aggressive valence, regardless of whether it is directed towards the others or the self. The hypothesis of the possible link between BPD and impulse spectrum disorders is derived from the idea that

impulsivity is the core of the borderline experience. This hypothetical realm of psychopathology comprises impulsive actions such as outbursts of anger, impulsive suicidal and parasuicidal acts), substance addiction and antisocial behaviors (Zanarini, 1993).

The sixth meaning of “borderline” refers to the possible affiliation of BPD with another spectrum: that of traumatic disorders. The hypothesized link between BPD and traumatic disorders pertains to the relationship of borderline psychopathology with traumatic experiences in early childhood, attachment disturbances, and dissociative defensive mechanisms used as a reaction to trauma (Herman, Perry, & Van der Kolk, 1989; Herman & Van der Kolk, 1987; Ogata et al., 1990; Stone, 1990; Zanarini, Gunderson, Marino, Schwartz, & Frankenburg, 1989). The most frequent traumatic experiences in patients with BPD are sexual abuse or violence (or witnessing such violence), abandonment conditions or protracted neglect (emotional and/or physical), chronic unpredictability of parents’ reactions, chaotic family setting and severe depressive episodes of the mother that make emotional tuning with the child inadequate. However, traumatic experiences do not necessarily precede the development of borderline psychopathology because of the lack of a direct relationship between traumatic experiences in childhood and BPD in adulthood (Fossati, Madeddu, & Maffei, 1999; Mearns, 2000; Rutter, 1994; Wallerstein, 1994; Westen, 1990).

The seventh meaning of “borderline” has to do with the practice, very much in vogue among some clinicians, of using BPD as a “waste basket” in which they can put anything that does not conform to the existing nosographic patterns. While the highest aspiration of the nosography is to have entities “neatly combed”, whereby every entity fits a particular nosographic category, no psychiatric classification has achieved this objective. And this is mainly due to the problem of intermediate cases. These are the psychopathological forms that do not belong neither to a nosographic category nor to another, but rather present elements of both the first and the second category (i.e., schizoaffective disorders, mixed states, and so

on); they function as real “nosographic disorganizers” preventing the crystallization of every classification of mental disorders (Rossi Monti, 1996) and suggesting the need to replace discontinuity with continuity in the nosographic context.

The eighth meaning of “borderline” refers to a need for labeling cases in which clinicians’ efforts are useless or even ruinous. For example, this happens when severely ill patients with personality disturbance need to be hospitalized or even when they refuse further psychotherapy; in such cases, the borderline diagnosis is used to justify therapeutic failure, implying that BPD patients inevitably have difficulties with interpersonal relationships. This difficulty does not regard the possibility to be in relationship with others but rather the fact that these patients tend to repeat consolidated relational patterns modeled on the idealization-devaluation-abandonment circuit. These circuits make the relationships fail and the people that are in strict relationships with borderline patients “burn out”. However, it must be remembered that the taking charge of these kinds of patients is a complex and difficult task that puts the clinician in contact with a series of emotions, which are very difficult to manage. In this sense, every failure must be considered as due to the therapeutic dyad, and not attributed just to the psychopathological characteristics of the patient.

1.2.2 A problem of the assessment

Among the eight meanings of “borderline” we described in the previous paragraph, the second meaning that refers to BPD as a specific, DSM-defined syndrome is arguably the most frequently encountered in clinical practice. This is due to two factors. First, the DSM espouses an atheoretical approach, which allows clinicians to use the diagnosis, regardless of their theoretical orientation and geographical setting. Second, the categorical approach of the DSM allows clinicians to make a diagnosis of BPD in a simple way, if the required number of criteria is present. However, these characteristics of the DSM approach also account for

some of the main problems with the diagnosis of BPD. The key issue here is that the DSM has been designed and developed to classify the disorders and not individuals. Consequently, the DSM necessarily adopts the perspective of *having-something-in-front* instead of *being-with-someone* (Rossi Monti & Foresti, 2005).

These two perspectives represent positions around which the whole psychiatry field oscillates (Cargnello, 1980). Accordingly, psychiatric assessment approaches the other as someone to have in front of or someone to be with and enter into a therapeutic relationship with. In the former case, the disorder is seen as something without a personal meaning, detached from the life history and internal events in the person, with discontinuity between the life before the disorder and life with the disorder. In the latter case, the disorder is seen as having a personal meaning, with life events related to the disorder and disorder being integrated into a life trajectory (Rossi Monti & Foresti, 2005).

While the DSM approach of *having-something-in-front* may be helpful to classify disorders for research purposes, it reveals its inadequacy when relational dysfunctions need to be assessed. This is especially the case with BPD, because of the need to *be-with* individuals who tend to develop destructive relationships with others. In fact, if the neurotic patient experiences the conflict in his/her internal world and the psychotic patient tries to modify reality via delusional fantasy, the borderline patient experiences – in reality and in relationships – those difficulties that he/she cannot tolerate within himself/herself. “The borderline personality pathology literally boils the relationship” (Rossi Monti & Foresti, 2005, p. 141).

In this sense, BPD is a disturbing disorder *par excellence*. And, it has a disturbing effect on the clinician. In fact, the turbulence and unpredictability of the action, typical of the borderline patient who has some difficulty in mentalizing suffering, make the clinician work primarily with these reality elements and experience himself/herself the disturbing effect of

the patient. But, if the borderline patient expresses his/her “borderlineity”, so to speak, through the relationship with the clinician, how can the latter understand the former in all his/her complexity through a DSM diagnosis that completely ignores the relational dimension and subsequently ignores the aspect of *being-with-someone*?

This is a significant issue. A possible solution is to use the metaphor of “*double-face overcoats*” (Rossi Monti & Foresti, 2005) when considering the DSM criteria. *Double-face overcoats* are regular coats from one side but, if turned, they become waterproof from the other side, and can be worn only one way or the other. Regardless of how *double-face overcoats* are worn, their owner is aware of their other side, i.e., their other, “hidden” identity that coexists with the external one. In other words, *double-face overcoats* continue being both a regular and a waterproof coat, although on the surface they are either one or the other.

Applying the metaphor of *double-face overcoats* to the DSM diagnosis of BPD, the descriptive-objective aspects (DSM-5 criteria) can be combined with the experienced-subjective elements (representing a perspective of *being-with-someone*). Therefore, every DSM-5 criterion can be seen both in the regular coat version (the patient’s symptoms) and in the waterproof coat version (the clinician’s experience of the patient’s symptoms) (Box 1.3). Wearing the patient’s regular coat, the nine DSM-5 criteria describe BPD via fears of abandonment, difficult interpersonal relationships, uncertainty about self-image and identity, impulsive behaviors, self-injurious behaviors, emotional instability, feelings of emptiness, difficulty controlling intense anger and transient suspiciousness or disconnectedness.

Box 1.3. *“Regular” and “waterproof coat” versions of DSM-5 BPD criteria*

“Regular coat” version of DSM-5 criteria <i>(The patient’s symptoms)</i>	“Waterproof coat” version of DSM-5 criteria <i>(The clinician’s experience of the patient’s symptoms)</i>
1. Fears of abandonment	1. Feeling pushed to comfort the patient every time there is a break in clinical work
2. Difficult interpersonal relationships	2. Feeling dragged into a roller coaster alternation between patient’s idealization and devaluation
3. Uncertainty about self-image or identity	3. Being unable to have a clear idea of the patient
4. Impulsive behaviors	4. Feeling helpless by patient’s tendency to respond with immediate, poorly planned actions
5. Self-injurious behaviors	5. Feeling puzzled as to how to respond to patient’s self-harm
6. Emotional instability	6. Being at the mercy of patient’s rapidly shifting feelings of despair, impotence, failure or rage
7. Feelings of emptiness	7. Feeling lost in patient’s emptiness
8. Difficulty controlling intense anger	8. Feeling angry due to a sense of being manipulated or used by the patient
9. Transient suspiciousness/disconnectedness	9. Having quasi-paranoid thoughts, such as “is he/she [the patient] registering what I’m saying?”

Wearing the clinician’s waterproof coat, the nine DSM-5 criteria for BPD correspond to the following phenomena from clinician’s perspective:

- Feeling pushed to comfort the patient every time there is a break in clinical work.
- Feeling dragged into a roller coaster alternation between patient’s idealization and devaluation.
- Being unable to have a clear idea of who the patient is.
- Feeling helpless by patient’s tendency to respond with immediate, poorly planned actions.

- Feeling puzzled as to how to respond to patient's self-harm.
- Being at the mercy of patient's rapidly shifting feelings of despair, impotence, failure, irritability or rage.
- Feeling lost in patient's emptiness and desolation.
- Often feeling angry due to a sense of being manipulated or used by the patient.
- Sometimes having quasi-paranoid thoughts, such as "is he/she [the patient] registering what I'm saying?" (Rossi Monti & Foresti, 2005).

1.2.3 A problem of the context

A problem strictly related to that of assessment has to do with the care context. In fact, the diagnosis of BPD may be overused or underused depending on the treatment setting where it is made. The former may occur when there is little time for a thorough assessment and clinicians are under pressure to make an early diagnosis, often to justify the cost to a service director or insurance company. According to Gunderson and Links (2008), "it is convenient – as well as usually correct – to identify anyone who has carried out repeated self-destructive acts or who is an inappropriately angry young woman as '301.83' (the DSM diagnostic code for BPD)" (p. 22). In contrast, the diagnosis of BPD may be underutilized in settings such as public hospitals, inpatient units and outpatient clinics, where the psychopathology outside of the personality disorders realm tends to be more emphasized.

There are other examples of an inappropriate use of the diagnosis of BPD. For example, some psychiatrists believe that psychiatric diagnoses should be based on neurobiology and that primary purpose of the diagnosis is to help with the choice of pharmacological treatment. Such psychiatrists are likely to underuse the borderline diagnosis because it is not based on neurobiology and because it is unable to provide a guide to pharmacological treatment. In contrast, some mental health professionals are quick to use the

borderline diagnosis as a pejorative label, when the patients are frustrating or annoying them. In some cases, the diagnosis of BPD reflects a therapeutic despair or nihilism. But, as Vaillant (1992) states, if we do not like a patient – a phenomenon that corresponds to hostile countertransference – that is not a sufficient reason to make a borderline diagnosis; rather, it is a reason to wonder about our reaction.

A tendency over the last 20 years to consider BPD as part of the bipolar spectrum (Zimmermann & Morgan, 2013) may be a consequence of these biases in the assessment of BPD, that are strictly related to the care context where the assessment is made. Paris (2012) refers to this tendency as a “fad”, with bipolar disorders becoming more “popular” (i.e., more frequently diagnosed) than BPD largely because they are more likely to respond to pharmacological treatment. In other words, clinicians generally do not like diagnosing conditions that are perceived to be more difficult to treat, such as BPD.

Another reason for favoring bipolar disorders over BPD can be found in the work of Akiskal and his colleagues (Perugi, Fornaro & Akiskal, 2011) who suggested that cyclothymia (i.e., affective instability) might account for the majority of BPD symptoms. As a consequence, it was proposed that BPD should be eliminated and transformed into “bipolarity”. Although there is an overlap between the symptoms of BPD and bipolar disorders, especially bipolar II disorder, the co-occurrence of these disorders is seen in a minority of patients. According to Gunderson et al. (2006), over 90% of BPD patients do not have an additional diagnosis of bipolar II disorder. Such findings do not support the notion that BPD should be encompassed by the broad concept of bipolarity.

Furthermore, there is evidence suggesting important differences in terms of etiology and treatment response between BPD and bipolar disorders, including bipolar II disorder (Leichsenring, Kruse, New, & Leweke, 2011). According to Parker (2011), there are several features that differentiate BPD from bipolar II disorder: a negative family history for bipolar

II disorder; onset in childhood or adolescence; preponderance of women in clinical settings; different personality patterns; emotion dysregulation rather than episodes of mood alteration; low response threshold to stressors; absence of melancholia or hypomania; lack of response to mood stabilizers.

Other research suggests that a pattern of generalized impulsivity is the most important feature that distinguishes BPD from bipolar II disorder (Galione & Zimmerman, 2010; Wilson et al., 2007). Although suicidal behavior can be present in bipolar II disorder, self-injury seems to be characteristic only of BPD (Paris, 2012), and it has been characterized as the “behavioral specialty” of BPD by some authors (Gunderson & Links, 2008). Besides, according to Zanarini, Gunderson, and Frankenburg (1990), about half of BPD patients present with micro-psychotic experiences (i.e., hearing voices) that are transient and usually occur under stress; patients with bipolar II disorder are unlikely to report such experiences. Yet another criterion for distinguishing between BPD and bipolar II disorder is their interpersonal style. The relationships of borderline patients tend to be both needy and unstable and they start relationships rashly, often meet wrong people, become too attached to them and then quickly regret that. In contrast, bipolar patients’ poor judgment related to relationships is usually restricted to hypomanic episodes.

In summary, BPD can be seen as a specific disorder, with a specific hereditary predisposition and specific risk factors, which presents with specific clinical features and has specific outcomes; it does not go into remission after administration of medications for bipolar II disorder, but responds to therapeutic methods developed for personality disorders; it may have a better prognosis compared to that of bipolar II disorder. If the clinicians knew all this, they would be less likely to make the diagnosis of bipolar disorder instead of BPD (Paris, 2012).

1.3 The “dark triad”: BPD clinical core

In 2002, Paulhus and Williams, trying to clarify the literature on personality pathology, identified three predominant features: Machiavellianism (manipulative personality), narcissism, and psychopathy, calling them the “dark triad of personality”. We are using this designation to describe the BPD clinical core in an analogous way. Thus, we are postulating that the clinical core of BPD is characterized by three predominant features, considered here as the “dark triad” of BPD: affective dysregulation, relational dysregulation and behavioral dysregulation. These three “forms” of dysregulation overlap, that is, they are not separate from each other. This is largely based on the findings of the research into the structure of the BPD diagnostic criteria (Calvo et al., 2012; Clarkin, Hull, & Hart, 1993; Sanislow, Grilo, & Morey, 2002).

1.3.1 Affective dysregulation

Over the past decade, affective dysregulation (or emotion dysregulation) has become a very popular term in the psychiatric and clinical psychology literature and it has been described as a key component in a range of mental disorders. For this reason, it has also been called the “hallmark of psychopathology” (Beauchaine, Gatzke-Kopp, & Mead, 2007). However, many issues make this concept controversial. In our recent literature review (D’Agostino, Covanti, Rossi Monti, & Starcevic, 2016), we found a discrepancy between the widespread clinical use of affective dysregulation and inadequate conceptual status of this construct and reported the following five overlapping, not mutually exclusive dimensions of affective dysregulation: decreased emotional awareness, inadequate emotional reactivity, intense experience and expression of emotions, emotional rigidity and cognitive reappraisal difficulty. These dimensions characterize a number of psychiatric disorders in different proportions, with BPD seemingly more affected than other conditions.

A notion that affective dysregulation is a core feature of BPD is now shared by most authors. According to Linehan and other researchers (Carpenter & Trull, 2013; Linehan, 1993; Linehan, Bohus, & Linch, 2007), affective dysregulation in BPD is essentially comprised of three components: a) heightened sensitivity to emotional stimuli; b) intense reactions to emotional stimuli; c) slow, delayed return to an emotional baseline. Going deeper, this *sensitivity* leads to experiencing *negative affect* across contexts and situations, which leads in turn to having a *deficit in appropriate regulation strategies*, that contributes to a tendency to engage in *dysregulated behaviors* in order to manage and reduce negative affect; the result of this four-component process is a “recursive pattern of emotion dysregulation” (Carpenter & Trull, 2013).

Several researchers highlight that heightened sensitivity in BPD (also referred to as over-reactivity, although the two terms are not synonymous) is elicited by the negative stimuli (Gratz, Rosenthal, Tull, Lejuez, & Gunderson, 2010; Herpertz et al., 2000; Koenigsberg et al., 2010), especially those of an interpersonal and relational nature (Rossi Monti & D’Agostino, 2014). This is supported by studies that show that borderline patients are much quicker to recognize facial expressions of emotions, compared to clinical and non-clinical control groups (Lynch et al., 2006); moreover, borderline patients are especially quick to recognize facial expressions of negative emotions and likely to interpret neutral facial expressions as angry or discontent (Domes, Schulze, & Herpertz, 2009). Neuroimaging studies show abnormal amygdala functioning (i.e., over-activation) in borderline patients, upon their exposure to highly charged emotional stimuli (Herpertz et al., 2001).

Several authors think that the most important element in BPD is not negative affectivity such as depressive states and anxiety (Concklin, Bradley, & Westen, 2006) but affective instability or the constant oscillation between negative affective states (Rosenthal et al., 2008). This oscillation does not include all types of emotions, but predominantly fear and

anger. Goodman, Hazlett, New, Koenigsberg, and Siever (2009) have identified the oscillation between dysphoria and anger as the core of emotional instability in BPD, with this oscillation being particularly prominent in an interpersonal context. In fact, “it is the extreme sensitivity to context that generates [...] the dynamic that provides the unique psychological signature for borderline personality disorder familiar to most clinicians” (Goodman et al., 2009, p. 526).

1.3.2 Relational dysregulation

Relational dysregulation is the second important feature of BPD. This term indicates the typical relationship that borderline patients establish with others: emotionally turbulent, fiery because of the intensity of the emotions involved, very discontinuous, stormy, and constantly on the verge of rupture or interruption (Rossi Monti & D’Agostino, 2014). In particular, the impossibility of understanding the other is the essential core of the relational difficulties of the borderline patients. They have great difficulty – especially in situations of strong emotional arousal – to understand mental states of the others, the reasons behind their behavior and the possibility that a person who loves them, under some circumstances, can hurt them (Maffei, 2008). In this sense, the others, so loved, considered special and idealized by BPD patients, become suddenly the worst persecutors, thus being devalued even in situations that could ordinarily be considered “neutral”. In summary, in these individuals there is a lack of an ability to empathize (Linehan, 1993), or, from another perspective, a deficit in the reflective function (Fonagy & Target, 1996).

Borderline patients continue to function in a “psychic equivalence” mode (i.e., internal reality is assumed to be identical with external reality) and therefore show an inability to play with reality, that is, internal experience is either denied or felt to be real; they are often highly concrete in their understandings of human relationships, and their

concreteness adds a certain desperation to their attempts, via splitting, dissociation, and projective identification, to rid themselves of persecutory alien aspects of the self (Fonagy, Gyorgy, Jurist, & Target, 2004). Therefore, the deficit in the reflective function fosters rapid oscillations between opposite representations, thus opening the way to those continuous cycles of idealization-devaluation typical of the borderline patients.

This relational instability inevitably intensifies affective experiences, which sometimes appear unmanageable, out of control and impossible to be modulated. This extreme affective intensification is manifested through impulsive behaviors. For example, outbursts of anger or sudden manifestations of rage mainly directed towards the significant other represent an inability of the individual to modulate intense affective states associated with split-off, conflicting representations of others (Fonagy et al., 2004). Borderline patients thus seem to create traumatic relationships (Correale, 2007); that is, every relationship of BPD patients seems to reflect repetition compulsion or a self-fulfilling prophecy, as the usual outcome is a painful sense of being rejected or abandoned.

Usually, these relationships start as intense and passionate idealized love, which immediately traps the other so that there is no way out. After a while, however, the same relationships become the source of the severe fear of being abandoned and becoming lonely. Both these affective experiences (idealized love and fear of being abandoned) can be considered a consequence of the lack of object constancy, so that a unified and stable representation of the other cannot be evoked when the other is not physically present (Fonagy, 1991).

The lack of object constancy represents an inner emptiness. When events or situations even remotely suggest a possibility of separation or abandonment, borderline patients cannot evoke a comforting image of an object – the object has to be physically present for the fear of separation or abandonment to be alleviated. This is why such events or situations are dreaded

and poorly tolerated. BPD patients are caught in a vicious cycle of a frantic search for love, recognition, attention and care, which they never receive to their satisfaction, thus fueling their search and alienating people whom they desperately pursue for their emotional survival.

Paradoxically, this pursuit occurs without borderline patients' understanding of the person whom they pursue. Moreover, they harbor many doubts about that person's trustworthiness and intentions, including the uncertainty about the person's "true" feelings and the possibility of leaving or abandoning them. This uncertainty keeps patients in a state of perpetual restlessness and hypervigilance revolving around a detection of the earliest signs of rejection or abandonment. Therefore, BPD patients do not recognize the object as a subject, but experience him/her as a prosthesis or extension of their incomplete self (Stanghellini & Rossi Monti, 2009). If the other goes away, BPD patients lose their identity, which spills over as a liquid without a bowl.

Identity diffusion permeates every area of borderline patients' life, mainly manifesting itself in the inability to describe coherently one's self and the others in terms of personal characteristics, tastes, social orientations, and affective and professional choices. This inability is experienced by borderline patients as a lack of sense, a sort of "narrative discontinuity" (McAdams, 1996) that gives an account of their typical experiences of boredom and emptiness. In fact, the borderline patients' existence is always lacking something. It could be defined as an existence that has "the psychic background altered" and their subjective experience of themselves is a "patchy" experiential reality, made by just pieces of dismembered life (Correale, Alonzi, Carnevali, Di Giuseppe, & Giacchetti, 2001). As a consequence of this lack of inner integration, BPD patients collapse in a sense of alienation, as if their self is an "alien self" (Fonagy et al., 2004). Maybe this is why these patients are so "intolerant to aloneness" (Gunderson & Links, 2008) and why relationships or actions are the only solutions for survival.

1.3.3 Behavioral dysregulation

The third predominant feature of BPD is behavioral dysregulation or dyscontrol. This refers to impulsivity or the borderline patients' propensity to engage in impulsive behaviors. According to Fonagy and Luyten (2009), it is almost impossible to circumscribe the BPD impulsivity only to violent acts, because the characteristic of borderline psychopathology is shifting from one impulsive pattern to another. As DSM-5 (2013) points out, polysubstance abuse, disordered eating, excessive spending, unsafe sex and reckless driving by borderline patients should also be considered impulsive acts. Whatever form it takes, impulsivity is ego-syntonic, because it gives relief to the anguish of emptiness and inner tension, thus making the borderline prisoner of a real behavioral script that is self-perpetuating (Zanarini & Frankenburg, 2007).

Behaviors that reflect core impulsivity (i.e., self-injury and suicide attempts) do not last long, but they have a profound impact both on patients and others and are often perceived as the most alarming feature of BPD. In contrast, affective (i.e., anger and emptiness) and relational (i.e., intolerance of aloneness and counter-dependency issues) aspects of dysregulation persist, seem to be the most stable over time (Zanarini et al., 2007), but are not as striking as acts of self-harm and suicide attempts. Epidemiological data show that 70%-75% of borderline patients enact various self-harming behaviors (Clarkin, Widiger, Frances, Hurt, & Gilmore, 1983; Kerr, Muehlenkamp, & Turner, 2010; Zisook, Goff, Sledge, & Schuchter, 1994), while 5%-10% of them die by suicide (Black, Blum, Pfohl, & Hale, 2004).

Non-suicidal self-injury (NSSI; the act of deliberately procuring bodily injury without intent to die) is the most common reason BPD patients come to clinical attention (Gunderson & Links, 2008). The most frequent form of NSSI is cutting (80%), but bruising (24%), burning (20%), head banging (15%) and self-biting (7%) are also relatively common (Gunderson & Ridolfi, 2001). Most BPD patients (90%) report a history of self-harm; about

72% have a lifetime history of using multiple methods of self-harm (usually cutting, self-punching, punching the walls, and head-banging); the frequency of self-harm decreases as patients get older, so that during the ninth and tenth years post index admission, less than 18% of borderline patients report engaging in self-harm and less than 13% report two or more episodes (Zanarini et al., 2008).

Why do BPD patients need to enact these behaviors? Studies suggest that NSSI helps regulate affect (up to 96% of BPD patients who self-injure report relief from unpleasant emotions after self-injury) and that it is also associated with a decrease in dissociative symptoms (Crowell, Derbidge, & Beauchaine, 2014; Klonsky & Muehlenkamp, 2007; Shearer, 1994; Zanarini et al., 2008). Following this line of research and in an attempt to better understand the lived experience of these patients, we have proposed six “meaning-organizers” for understanding self-injury in BPD (Rossi Monti & D’Agostino, 2009), as follows:

- 1) *To concretize.* NSSI functions as a means to transform emotional pain into a physical one, to control intolerable feelings through the body. It might be an attempt to give shape to an invisible, wandering, and boundless mental pain by localizing it in the body, or to fill a distressing inner emptiness with a bodily sensation. At the moment of cutting, time stops and everything is concretely focused on physical pain (lower than the emotional pain) and bleeding.
- 2) *To punish-to eradicate-to purify.* NSSI functions as a way to punish/eradicate a sort of inner ‘evil’ in order to detoxify/purify oneself. It is a way to punish a bad self, to assail one’s thoughts, feelings, and memories, or even to unconsciously repeat an emotional sequence connected to a history of childhood abuse: repetition here replaces bad memories. This way, cutting the skin creates an open window through

which the inner tension can be released, and all the bad and alien parts can wriggle out from the interior of the body (Pestalozzi, 2003).

- 3) *To regulate dysphoria.* NSSI functions as a tool to modulate the dysphoric mood typical of the borderline existence. It becomes a way to get at least temporary relief from distressing tension, to transform chaos into peace, and to control the mixture of negative emotions made by tension, irritability, discontent, and confusion, which is the chronic, painful background to the borderline experience. Besides, self-injury can also be helpful in interrupting the depersonalization/derealization cycle, searching for lively and stimulating experiences in physical pain to feel not empty or dead but rather alive.
- 4) *To communicate without words.* NSSI functions as a language to convey something inexpressible through words, but also as a means to control others' behavior and emotions by eliciting caregiving responses from them. However, this is not a form of *manipulation*. In fact, this latter term refers to a mode of thought and behavior requiring complex and sophisticated mental functions, which is gravely compromised in BPD (Stanghellini, 2014). Rather, in borderline psychopathology there is mostly an inability to freely treat the other as an autonomous and independent object and the necessity to treat him/her as a "subjective object" (Winnicott, 1969).
- 5) *Building a memory of oneself.* NSSI functions as a tool to secure a memory of oneself. The skin is a surface on which to carve and mark circumstances, events, and emotions that correspond to significant turning points. A patient calls his self-inflicted wounds "my notches". In this sense, self-cutting becomes a way to make sure that certain events have left a concrete and visible trace – a trace that can be immediately located on one's skin.

6) *Turning active*: NSSI functions as a means to turning life experienced as passive, alien or imposed into a life experienced as active and with a sense of ownership. This way, an intrinsically traumatic sense of helplessness is turned into a more reassuringly self-inflicted trauma. Besides, self-cutting can be also an attempt to *shed skin* instead of changing oneself. It can take on the characteristics of a ritual through which one's need to feel in control of one's body is acted out (Lemma, 2005). In this sense, the wounds become brands to exhibit as truly distinguishing features.

Thus, in general, self-injury causes a temporary relief from negative emotional states and experiences (i.e., anxiety, depersonalization or desperation), but it also contributes to the salvation, healing and protection of one's own structure (Favazza, 1996). Far from being a deconstructive passage to the act, it can be seen as a self-constructive "act of passage", a paradoxical remedy to cope with an unbearable distress, a mean for crossing and conjure the flood of suffering (Le Breton, 2003, 2007).

1.4 Back to basics: a multifactorial etiology

1.4.1 Genetic and temperamental factors

In 1997, Zanarini and Frankenburg hypothesized a **multifactorial etiology** of BPD, comprising three elements: genetic and temperamental vulnerability, traumatic childhood, and a triggering event or a series of events, such as sexual abuse or other traumatic experiences. In this section, we will focus on genetic and temperamental factors. Gunderson (2011) reported that BPD was significantly heritable, with 42% to 68% of the variance associated with genetic factors. However, other researchers showed that heritability is restricted only to some components of BPD, such as impulsivity (Distel et al., 2010).

Similarly, some studies propose that temperament is the only factor that is inherited, considered as predictive of the development of borderline symptoms, and that, combined

with specific environmental factors, it can facilitate the expression of psychopathology (Stepp, Keenan, Hipwell, & Krueger, 2014). According to Zanarini and Frankenburg (1997, 2007), BPD may be characterized by a vulnerable or “hyperbolic” temperament. This concept is similar to that of negative affectivity. However, hyperbolic temperament is different from negative affectivity in two ways: first, hyperbolic temperament refers to a tendency to experience inner pain (i.e., profound negative affects) *in response to perceived interpersonal disappointment or frustration*, while negative affectivity implies a heightened tendency to experience negative emotions in general, whether or not they are triggered by certain events; secondly, hyperbolic temperament is associated with perceived maltreatment during development, while negative affectivity is an endogenous, heritable disposition that is stable across situations (Yalch, Hopwood, & Zanarini, 2015).

From a neurobiological perspective, some studies highlight that BPD, and especially the behavioral impulsivity, is associated with indices of diminished central serotonergic function, independent of suicidal behavior, depression or alcohol use disorder (Soloff, Kelly, Strotmeyer, Malone, & Mann, 2003). Other research in BPD patients has demonstrated an enhanced activation of the left amygdala and right insula during the initial viewing of aversive stimuli, along with an attenuated activation of the left orbitofrontal cortex and increased activation of the bilateral insula during attempts to decrease the initial emotional reaction (Schulze, Domes, & Kruger, 2011). It has also been reported that BPD is characterized by modest volume reductions of the hippocampus and the amygdala bilaterally, which cannot be due to comorbid psychopathology (Ruocco, Amirthavasagam, & Zakzanis, 2012).

Other cerebral structures that have been implicated in BPD include dorsolateral prefrontal cortex grey matter volume (inversely associated with impulsivity; Sala, Caverzasi, & Lazzaretti, 2011) and fronto-limbic circuit (related to affective instability and interpersonal

disturbances; Minzenberg, Fan, & New, 2008). With regards to interpersonal functioning, it has been associated with alterations in the social reward and empathy network, with increasing evidence of the role played by the oxytocinergic system (Herpertz & Bertsch, 2015). Finally, a study conducted through Bayesian network model reveals that most of the biological findings in BPD described above are statistically interconnected and interdependent, thus indicating the biological consistency of this diagnosis (De la Fuente, Bengoetxea, & Navarro, 2011).

1.4.2 Cognitive and neurocognitive factors

Before going forward, we want to dedicate a paragraph to cognitive and neurocognitive factors, which are equally important in the development of BPD, linking genetic and temperamental factors with the environmental and situational ones. According to a recent review by Mac and Lam (2013) summarizing neurocognitive research, BPD is associated with: a) executive dysfunction; b) “cold” (i.e., non-emotionally valenced) cognition distortions; c) social cognition deficits. We will now describe each of these features in detail.

With regards to executive dysfunction, BPD seems to be related to problems with executive control, working memory and long-term memory consolidation, which are in turn linked to affective dysregulation and impulsivity (Ruocco, 2005). Suicidal behavior seems to be related to cognitive rigidity and aberrant decision-making processes (LeGris & van Reekum, 2006). Studies show that response inhibition deficits are present in first-degree relatives of BPD patients and may be heritable between siblings, thus suggesting that these aspects of executive dysfunction might serve as an endophenotype for BPD (Ruocco, Laporte, Russell, Guttman, & Paris, 2012).

In terms of “cold” cognition distortions, BPD patients tend to make risky choices and are unable to improve their performance, thus not learning from negative feedback; these features are associated with BPD symptom severity and impulsivity (Schuermann, Kathmann, Stiglmayr, Renneberg, & Endrass, 2011). Moreover, dichotomous thinking seems to be a characteristic of BPD, along with other cognitive biases similar to a schizophrenic thinking style, such as attribution to only one cause, jumping to conclusion and paranoid cognitive style (i.e., mistrust); these features are associated with BPD symptoms severity (Moritz et al., 2011).

With regards to social cognition, BPD patients seem to exhibit an impairment in both cognitive and emotional components of empathy, which could contribute to interpersonal problems (Dziobek et al., 2011). We will describe this aspect of BPD in more detail in the next chapter. It should be mentioned, however, that BPD patients seem to have difficulties with “mentalization”, that is, the process by which we make sense of each other and ourselves, implicitly and explicitly, in terms of subjective states and mental processes (Fonagy, 1989; Bateman & Fonagy, 2004). However, opinions are conflicting in this regard: while some authors report reduced mentalization (i.e., a tendency to under-attribute others’ intentions) (Bateman & Fonagy, 2010), others report enhanced mentalization (i.e., a tendency to over-attribute others’ intentions) (Sharp & Vanwoerden, 2015).

Regardless of these apparently different views, enhanced mentalization often has the same outcome as reduced mentalization, with both resulting in a distorted perception of other people’s mental states (Chiesa & Fonagy, 2014). In addition, BPD patients also show a poorer social perspective coordination, being more likely to feel socially excluded even when that is not the case and to experience negative emotions towards others (Jennings, Hulbert, Jackson, & Chanen, 2012; Staebler et al., 2011). Finally, BPD patients seem to have an attentional bias for fearful faces and difficulty shifting attention away from threatening

stimuli (Mak & Lam, 2013), and they also tend to show fewer positive facial expressions and more mixed emotional expressions in response to social exclusion (Staebler et al., 2011).

1.4.3 Environmental and situational factors

Another etiological factor that may contribute to the development of BPD is the childhood sexual abuse, reported in a large proportion (about 60%) of BPD patients (Gabbard, Beck, & Holmes, 2005; Sharp & Tackett, 2014; Widow, Czaja, & Paris, 2009; Zanarini, 1997). Several studies, in fact, show a relationship between sexual abuse in childhood and BPD (Bornovalova et al., 2013) in terms of development of internalizing symptoms, such as anxiety and depression (Eaton et al., 2011), affective dysregulation, and substance abuse (Scott, Stepp, & Pilkonis, 2014). A number of studies suggest the role of other traumatic events as potential etiological factors in BPD, such as emotive abuse (Carr & Francis, 2009), and early neglect (Carlson, Egeland, & Sroufe, 2009).

Between 30% and 90% of patients with BPD report early traumatic experiences in childhood, compared to 17%-45% of the control group (Ball & Links, 2009; Bornovalova, Gratz, Delany-Brumsey, Paulson, & Lejuez, 2006). In particular, research shows a consistent relationship between childhood trauma and symptom severity of BPD in adulthood (Briere, Kaltman, & Green, 2008). Of all traumatic events in childhood, sexual abuse was reported to be the most significant predictor of BPD (Infurna et al., 2016; Sansone, Songer, & Miller, 2005). Zanarini et al. (1997) propose to consider it more broadly as marker of the severity of family environment dysfunction, as well as a traumatic event or a series of events in itself (p. 1105).

Regarding family environment dysfunction, several studies focused their attention on the relationship between (insecure) attachment style and development of borderline personality disorder, underlying that the latter is strongly influenced by a disorganized state

of mind and inherently associated to the relational atmosphere in which the patient lives (Gunderson & Links, 2008; Lyons-Ruth & Melnick, 2004). According to some authors (Farina & Liotti, 2011; Liotti, 2004), the relational situation that leads to the disorganization of attachment can be characterized by a so traumatic nature that it can even have a predominant role on dissociation. Trauma, dissociation, and the disorganization of attachment can also impact on the reflective function, thus making it weaker.

Taken together, these studies strongly suggest that borderline psychopathology is related to several types of abuse in childhood, along with disturbances in the family environment of BPD patients (Zanarini et al., 2004). Moreover, the experience of early trauma and pathological family environment seems to account for several features of BPD, such as dissociative manifestations and affect dysregulation, as well as difficulty in mentalization, problems in communicating emotions, behavioral dyscontrol, and, finally, inability to tolerate stress (Linehan, 1993).

However, it is important to specify in this context that borderline personality disorder is more than a simple sum of all these etiological factors (Paris, 2007). For example, a recent study by Miskewicz et al. (2015) has demonstrated that the nine DSM-5 criteria for BPD are related to specific situational triggers. These triggers included rejection, abandonment, disappointment (in others), isolation, interpersonal offenses, betrayals, boring situations and identity threats (i.e., events or others' behaviors that threaten vulnerable self-image of BPD patients). Although all these triggers uniquely predicted BPD symptoms, interpersonal offenses, disappointment (in others) and identity threats were the strongest predictions (Miskewicz et al., 2015).

This evidence is relevant especially from a clinical point of view. It means that, although the psychological process of reacting to triggers with symptoms is a process common to those all along the BPD severity spectrum, different individuals respond to the

triggers in different ways. In fact, each borderline patient has a unique pathway to the development of BPD, that can be seen as “a painful variation on an unfortunate but familiar theme” (Zanarini & Frankenburg, 1997). In this sense, the borderline psychopathology can be visualized as a “condominium”. Using Kernberg’ theory of personality organization, mental functioning of the condominium tenants on upper floors (i.e., patients with low BPD severity) has neurotic characteristics, while mental functioning of the tenants on lower floors (i.e., patients with high BPD severity) is akin to psychotic functioning (Rossi Monti & D’Agostino, 2009). Understanding these individual differences within BPD can help to develop tailored and effective treatments.

Chapter 2

A new model for understanding BPD

2.1 What it is like to be borderline: the model at a glance

As shown in the previous chapter, borderline personality disorder is a very complex disorder that has multiple etiological factors and manifests itself in many ways, thus undermining the modern diagnostic system and leading clinicians to grapple with it. In this sense, psychopathology can be helpful. How? Its contribution goes beyond the description of the symptoms or the structural functioning of the disorder (i.e., Kernberg's borderline personality organization), emphasizing instead the singular experience of the borderline patient in terms of subjective consciousness (Rossi Monti & D'Agostino, 2014). And therein lies the crux of the matter.

As Nagel (1974) states, “consciousness is what makes the mind-body problem really intractable [...] It occurs at many levels of animal life, though we cannot be sure of its presence in the simpler organisms, and it is very difficult to say in general what provides evidence of it [...] But fundamentally an organism has conscious mental states if and only if there is something that it is like to *be* that organism – something it is like *for* the organism. We may call this the subjective character of the experience” (pp. 435-436). So, as Nagel argues that the right way to explore mental phenomena should not be to ask what it would feel like *for us* to be a bat, but, rather, what it feels like *for a bat* to be a bat, we could also ask what it feels like for a borderline to be a borderline to understand better his/her functioning **from within**.

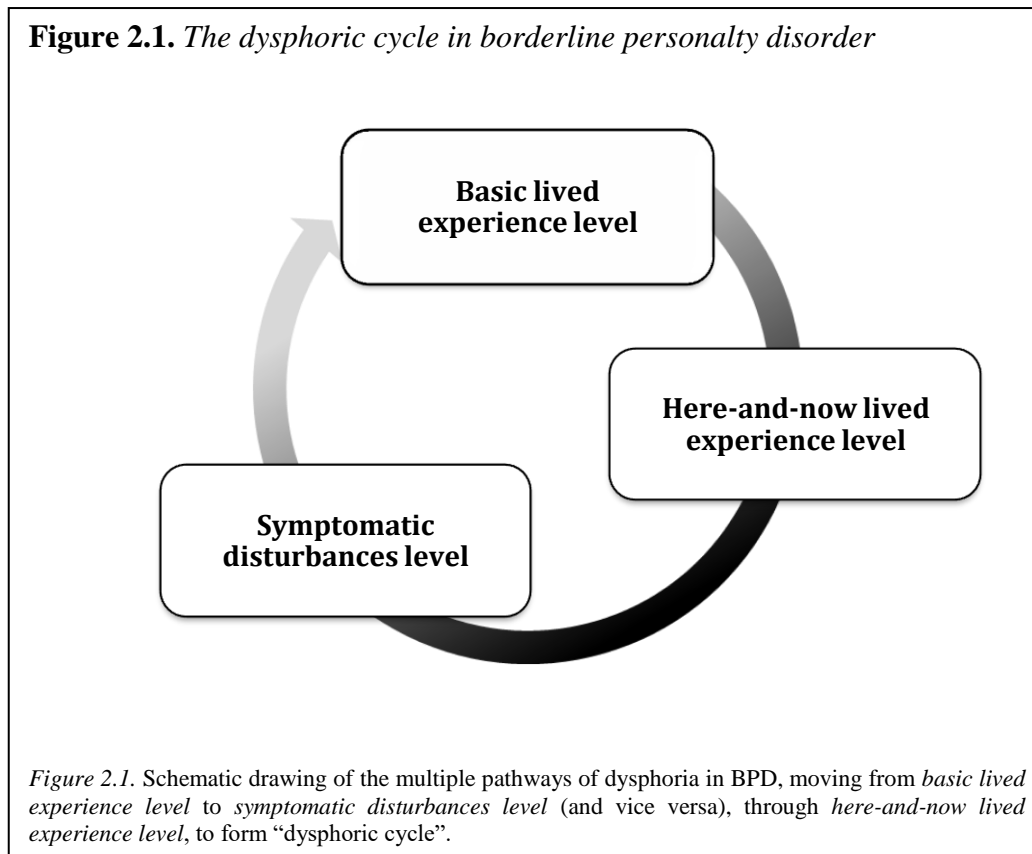
These are the roots for the idea of the development of a new psychopathological dynamic model for understanding borderline personality disorder. Following the line of

research opened almost thirty years ago by the so-called Vienna school (Berner, Musalek, & Walter, 1987; Gabriel, 1987), the model focuses on dysphoria that is the core of the BPD affective instability. Dysphoria is a term that is becoming increasingly popular in clinical parlance, but its meaning is still surrounded by a halo of vagueness (Starcevic, 2007; Starcevic, Rossi Monti, D'Agostino, & Berle, 2013. In psychiatric and clinical psychology literature, it 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 (Cella, Cooper, Dymond, & Reed, 2008; Starcevic et al., 2013; Voruganti & Awad, 2004).

However, according to Pazzagli and Rossi Monti (2000), dysphoria characterizes the psychopathological condition of borderline patients. In this sense, dysphoria can be seen as a framework conferring a unitary meaningfulness to heterogeneous manifestations of BPD pathological phenomena, thus functioning as a real “psychopathological organizer” (Rossi Monti & Stanghellini, 1996). In other words, we argue that dysphoria is a process structuring the BPD experience in multiple, psychopathological pathways moving from basic lived experience (dispositional level) to symptomatic disturbances (and vice versa), through here-and-now lived experience (situational level), thus forming a real **dysphoric cycle** (Figure 2.1).

More specifically, a first pathway can be traced back to **background dysphoria**, a chronic, persistent trait dominating the basic lived experience of BPD, together with **negative interpersonal disposition**, constituted in turn by three sub-dimensions: a) **hostile distrust**, b) **interpersonal sensitivity**, and c) **impaired empathy** (See Figure 2.3). In particular context-dependent circumstances, background dysphoria and negative interpersonal disposition jointly affect a second pathway that ends up in a specific condition: **situational dysphoria**, an acute, intermittent state pervading the here-and-now lived experience of BPD. Taken

together, background dysphoria, negative interpersonal disposition, and situational dysphoria constitute, so to speak, the BPD “**interpersonal-affective specialty**”.



The variety of symptomatic disturbances can be seen as the surface of this interpersonal-affective specialty or the final outcome of the whole dysphoric cycle. In fact, situational dysphoria plays a key role in BPD. Loaded with background dysphoria and negative interpersonal disposition, and solicited by contingent stressful events, it needs an escape route. This is found by following two pathways: one **disorganizing** and another **organizing**, each ending up in several acute, recurrent phenomena (i.e., the nine DSM-5 symptoms). See Figure 2.2 for an overview of the model in its main components and Figure 2.3 for a more detailed picture of the model.

Figure 2.2. *The new psychopathological-dynamic model for understanding BPD in its main components*

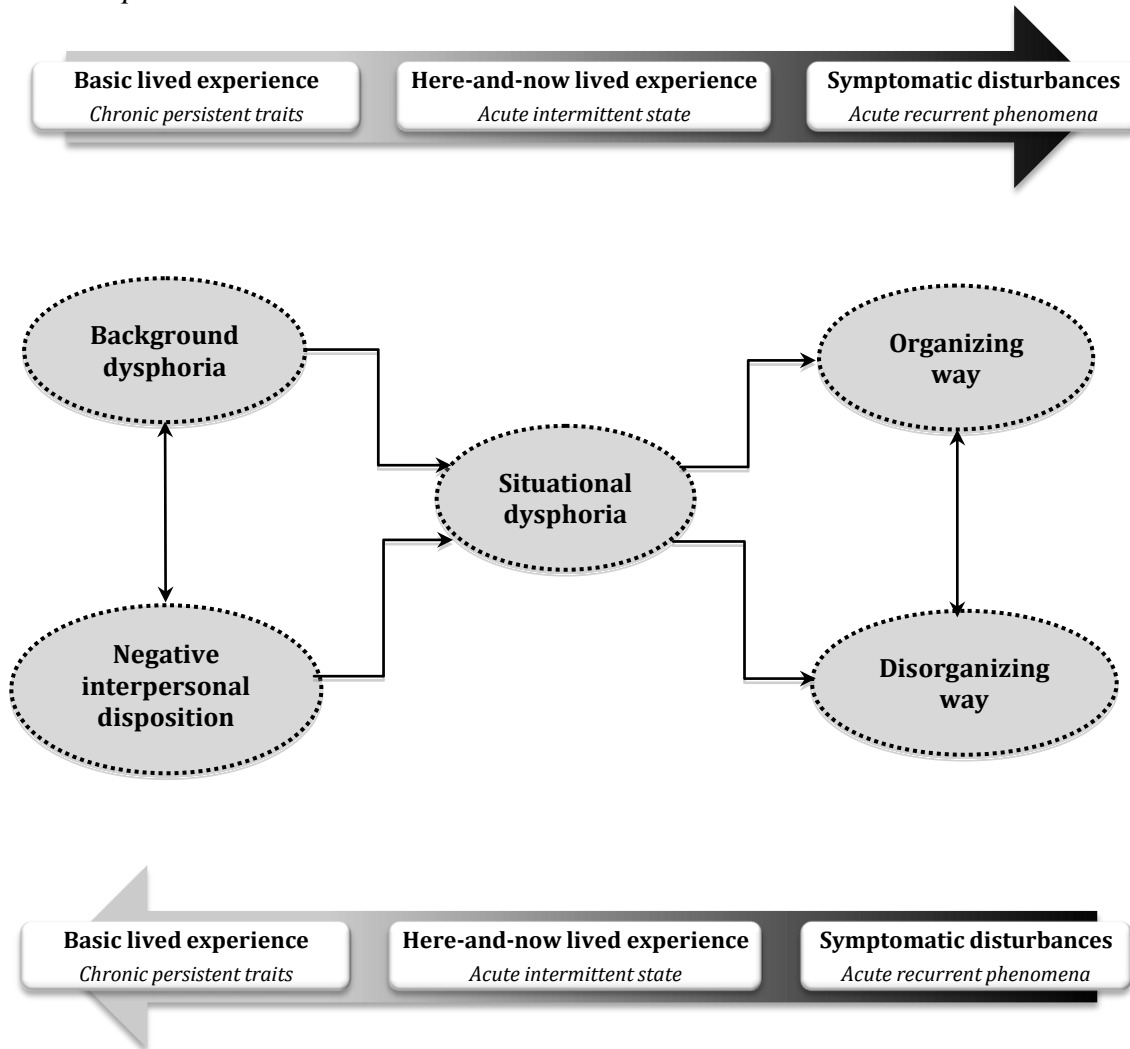


Figure 2.2. Schematic drawing of the new psychopathological-dynamic model for understanding BPD in its main components. *At the basic lived experience level:* background dysphoria and negative interpersonal disposition; *at the here-and-now lived experience level:* situational dysphoria; *at the symptomatic disturbances level:* organizing and disorganizing pathways of symptoms.

Before describing each pathway in greater detail, it would be helpful to summarize the whole dysphoric cycle in BPD with a metaphor. We can assume that the BPD patient is like a person whose family has a company manufacturing guns (*traumatic etiology* that we do not take into direct account in the model but that we hypothesize as being at its roots). We thus assume that he/she has a gun available at home (*background dysphoria*) together with the bullets for that gun (*negative interpersonal disposition*). In a specific moment of his/her life something happens in the environment that makes him/her feel he/she is not in control, thus becoming convinced that it is time to use the gun and load the trigger (*situational dysphoria*). Then he/she shoots (*symptoms*). Some gunshots hit some targets (*organizing pathway of symptoms*), while others do not have the strength to go beyond him/herself and arrive at his/her foot at maximum, making him/her lose balance (*disorganizing pathway of symptoms*). In both cases the person has lowered the internal pressure, thus coming back to the baseline state, that of having a gun and bullets available for the next shoot.

2.2 Basic lived experience level

2.2.1 Background dysphoria

At the basic lived experience level, two main features characterize the borderline patient: background dysphoria and negative interpersonal disposition. As mentioned above, dysphoria is a complex construct that is both unclear and popular at the same time. Although initially used to characterize a personality-based mood disorder (“hysteroid dysphoria”) described by Leibowitz and Klein (1979), it has been used in the English-language psychiatric literature as a synonym for mild depression and for evaluating aggressive and suicidal behaviors in depressed patients. But in the German-language phenomenological psychiatric literature, dysphoria has a more specific meaning and is conceptualized as a “third emotional field” (in addition to mania and depression); it is defined as an unpleasant state,

characterized by tension, irritability, hostility, and proneness to aggressive acting-out (Berner, Musalek, & Walter, 1987).

Our definition of background dysphoria is rooted in this latter perspective. It is an unpleasant, uncomfortable, negative, and oppressive condition characterized by four predominant sub-dimensions: irritability, discontent, interpersonal resentment, and surrender (Starcevic, 2007). Further, it contains all the features of mood: it is enduring, devoid of an intentional object, unmotivated, rigid, difficult to articulate, encompassing the whole horizon of the subject and affecting his relationship with the world, others, and himself (Rossi Monti, 2012; Rossi Monti & D'Agostino, 2014). In other words, "it is the long-lasting and profound emotional tonality ... in which the borderline person is enmeshed" (Stanghellini & Rosfort, 2013a, p. 266). In this sense, it represents the persistent, tormenting experience of BPD.

A patient describes this daily condition this way: "It's like getting up in the morning and banging your toe against the bed!" (Rossi Monti & D'Agostino, 2014, p. 455). This is similar to what happens when someone twists a nail upon hammering it into the wall. From then on, everything falls apart. It is impossible to straighten the nail and any attempt to fix the situation only leads to more trouble. The twisted nail becomes an obstacle to completing the entire plan of hanging a picture on the wall that consequently has too many (small) holes. Yet the experience of dysphoria as a *general* mood is also more complex than this.

Continuing with the metaphor used by the patient, background dysphoria can be seen as not being just a problem of a banged toe or a twisted nail (i.e., a problem where a triggering event focuses all the attention on itself); rather "it is as if the toe, once and for all, had banged against the bed in some kind of primeval and forgotten condition, but the emotional experience related to this event had settled deep in the subject and conditioned its emotional barometer irreversibly" (*Ibid.*). In dysphoria the name of the object is lost and only the background emotion remains. Detached from its possible "object hooks", this emotion

fills the air like a gas, contaminating the entire emotional life of the patient and overflowing into its relationship with the others.

Zanarini and Frankenburg (2007) describe a condition similar to background dysphoria when talking about “intense and chronic inner pain” as the essential nature of borderline patients. This pain is different from the pain of others due to its multifaceted nature and its overall amplitude (Zanarini et al., 1998). Firstly, such authors hypothesized that this intense inner pain characteristic of BPD patients resulted from severe traumatic events (i.e., childhood abuse and neglect) (Zanarini & Frankenburg, 1997). Secondly, they stated that it comes from a temperamental vulnerability of borderline patients that makes them sensitive to much more subtle interpersonal experiences. “Statements such as ‘I am in the worst pain since the history of the world began’ are not uncommon and suggest how isolated and alienated many borderline patients feel” (Zanarini, 2008, p. 507).

2.2.2 Negative interpersonal disposition

Background dysphoria does not exist *in a vacuum*. Rather, it is relational in nature, just as the original “hysteroid dysphoria” was an affective state strongly dependent on relational variables (Leibowitz & Kelin, 1979). This means that the pathway of background dysphoria intersects with another factor characterizing BPD functioning: negative interpersonal disposition. This is a sort of vulnerability to interpersonal dysfunction that we hypothesize is constituted by three sub-dimensions, which are among the core features of BPD interpersonal dysfunction (Lazarus, Cheavens, Festa, & Rosenthal, 2014): hostile distrust, interpersonal sensitivity, and impaired empathy. Since these sub-dimensions are recognized in the literature as separate constructs that correspond to different characteristics of BPD, a separate section will be dedicated to each of them.

Hostile distrust

Hostile distrust can be defined as the cognitive component of hostility consisting of negative beliefs of others perceived to be threatening antagonists (Barefoot, 1992). Dysfunctional beliefs represent a relevant part of the phenomenology of BPD (Bhar, Brown and Beck, 2008). “These beliefs are said to influence how such individuals typically view themselves, others and the world, and thus have an effect on the patient’s interpersonal functioning, negative affect, self-harm, and suicidal behaviors” (Bhar et al., 2008, p. 166). In this sense, hostile distrust is just one of a wide number of beliefs that are characteristic of the borderline mind and that could be summarized in these three basic schemata: “The world is (and others) dangerous and malevolent”, “I am powerless and vulnerable”, and “I am inherently bad and unacceptable” (Arntz, Dietzel, & Dreesen, 1999; Barnow et al., 2009; Bhar et al., 2008).

According to Beck, Freeman, Davis and Associates (2004), this combination of dysfunctional beliefs in BPD contributes to high levels of vigilance and instability in mood and interpersonal functioning. In particular, the authors hypothesize that patients feeling helpless without the constant support of others but also being distrustful of others are prone to alternating between clinging to other people because of fears of abandonment/intolerance of aloneness and pushing them away because of distrust, thus being in a “no win” situation where neither the desire for safety nor support is fulfilled. However, among all the dysfunctional beliefs, interpersonal distrust seems to be the only one significantly associated with both hopelessness and suicide ideation (Bhar et al., 2008), thus confirming previous studies showing an association between paranoid ideation, depressive symptoms, and suicide attempts (Candido & Romney, 2002; Evren & Evren, 2004; Ozkan & Antindag, 2005).

Moreover, in a study comparing depressed non-borderline patients with depressed borderline patients, it has been found that, although both groups tend to distort their

interpersonal perceptions, only depressed borderline patients tend to behave in a more hostile manner due to their distrustful thoughts and to view themselves as more hostile and labile than depressed non-borderline patients (Stern, Herron, Primavera, & Kakuma, 1997). Further, depressed borderline patients rate their behaviors and that of both parents more negatively than do depressed non-borderline ones but when assessing current relationships with relatives at their worst, they rate themselves, but not their relatives, as significantly more hostile than do depressed non-borderline patients. This finding is consistent with psychodynamic theory's premise that borderline individuals internalize hostile familial relationships and that this, in turn, results in increased self-attack (Benjamin & Wonderlich, 1994) or in a perception of the self as more attacking and rejecting towards others (Stern et al., 1997).

According to Fonagy and Allison (2014), the dysfunctional belief of hostile distrust, typical of BPD, has its roots in early negative experiences. As the authors say, developmental adversity, particularly attachment trauma, may trigger a profound destruction of trust, thus generating "epistemic hypervigilance" or "epistemic mistrust", defined as a lack of trust in both attachment figures and strangers as source of information. "Once epistemic trust has been lost, its absence creates an apparent rigidity [...] In terms of the theory of natural pedagogy, the person has a (temporarily) reduced capacity to learn from 'teachers'. From a therapist's standpoint, he or she has become 'hard to reach' and potentially interpersonally inaccessible" (p. 375).

Interpersonal sensitivity

Interpersonal sensitivity is the second sub-dimension constituting negative interpersonal disposition. It can be defined as relational reactivity, or hypersensitivity to an interpersonal stressor, combining abandonment fears, rejection sensitivity, and intolerance of aloneness (Gunderson & Lyons-Ruth, 2008). As evidenced by research, BPD patients have

stronger emotional reactions in the context of social interactions compared to others (Lazarus et al., 2014). In particular, Tragesser, Lippman, Trull, and Barrett (2008) found that undergraduates with high BPD features reported that they would be more likely to feel both angry and sad in reaction to imagined teasing than those with low BPD features, regardless of the source (i.e., friend or stranger) or the content (i.e., sensitive or non-sensitive topic).

However, Chapman, Walters, and Dixon-Gordon (2014), in a laboratory paradigm involving negative social and academic feedback, found that the content of the social feedback did influence emotional reactions of individuals with high BPD features. These participants showed a significant increase in negative emotions within a social feedback condition but not within an academic feedback condition while the controls showed the opposite pattern (i.e., significant increase in negative emotions to the academic stressor but not to the social stressor). Similarly, Staebler et al. (2011) and Renneberg et al. (2012), using a virtual ball toss to game (“Cyberball” by Williams & Jervis, 2006) to simulate social inclusion or exclusion, found that BPD patients felt more readily excluded and reported greater self-focused negative emotions (i.e., sadness, loneliness) than controls both before and after playing Cyberball, but an increase in other-focused negative emotions (i.e., resentment, anger) compared to controls that did not after exclusion.

Further, some studies highlight several neurobiological correlates of stronger emotional responses to interpersonal stimuli. For example, Walter et al. (2008) found that BPD participants had a delayed recovery of cortisol response following a conflict discussion compared to controls. Similarly, Simeon, Knutelska, Smith, Baker, and Hollander (2007) found that the BPD high dissociation group had a more robust peak response to a public speaking social stressor than BPD low dissociation and control groups. In addition, Ruocco et al. (2010), using a task that simulates social inclusion and exclusion via a card game played

with confederates, found that BPD participants showed greater activation in the left medial prefrontal cortex (mPF) than controls when excluded from the card games.

Taken together, these studies seem to confirm the presence of a psychobiological disposition for interpersonal reactivity in individuals with BPD. Following this perspective, Gunderson and Lyons-Ruth (2008) hypothesized a complex gene-environment-developmental model to explain BPD characterized by an “interpersonal hypersensitivity phenotype” which seems to demonstrate a heritability of 0.48 (Jang, Livesley, Vernon, & Jackson, 1996). According to the authors, a genetic predisposition to interpersonal hypersensitivity combined with other negative relational experiences during a child’s early development stages, solicits controlling-caregiving or controlling-punitive interpersonal strategies, which in turn represent the breeding ground for the development of borderline psychopathology. In this sense, BPD develops within an interpersonal context and emerges within an affective environment.

Impaired empathy

Impaired empathy is the third sub-dimension constituting negative interpersonal disposition in BPD. It can be defined as impairment in empathic capacity or the lack of ability to comprehend another person’s state of mind (Davis, 1983). Empathy includes both an emotional and cognitive component (Davis, 1983; Duan & Hill, 1997; Feshbach, 1987). While the emotional one is related to experiencing another person’s feelings, the cognitive one is associated with the ability to recognize another’s feelings without vicariously experiencing them (Batson, 1987; Mehrabian & Epstein, 1972). Despite all these studies, however, empathy (and its impairment) remains a difficult concept to define (Baron-Cohen & Wheelwright, 2004). Researchers in this area have traditionally defined empathy in one of two ways: affective or cognitive.

The affective approach defines empathy in terms of an observer's emotional response to the affective state of another. The definition of empathy varies depending on how broad or narrow the empathic response is. According to Baron-Cohen and Wheelwright (2004), four types of empathy can be described: 1) The observer's feeling must match that of the person observed (i.e., you see someone else's fear and you feel fright) (Eisenberg & Miller, 1987); 2) The observer's feeling is appropriate to that of the person observed even though it does not need to be exactly the same (i.e., you see someone else's sadness and you feel pity) (Stotland, 1969); 3) The observer's feeling is any emotional response to the feeling of the observed person (i.e., you see another's pain and you feel pleasure) (this is called "contrast empathy" by Stotland, Sherman, & Shaver, 1971); 4) The observer's feeling is of concern or compassion to the distress of the observed person (Batson, 1991).

On the other hand, the cognitive approach defines empathy in terms of understanding the other's feelings (Kohler, 1929). In the past researchers focused primarily on the cognitive processes of empathy such as role-taking, switching attention to take another's perspective (Mead, 1934), "decentering" (i.e., responding non-egocentrically, Piaget, 1932), and later, "social acuity" (Chapin, 1942; Dymond, 1950; Kerr & Speroff, 1954). More recently, researchers have begun to emphasize a "theory of mind" (Astington, Harris, & Olson, 1988) or "mindreading" (Baron-Cohen, 1995; Whiten, 1991). This involves cognitive processes, such as comprehension and inferential process (i.e., attributing mental states to the other person and inferring the content of his/her mental state) and also the ability to predict another's behavior or mental state (Baron-Cohen & Wheelwright, 2004).

There is some evidence that indicates that empathy is impaired in psychopathological populations such as those with BPD. Some studies report impairment in both cognitive and emotional empathy in BPD (Dziobek et al., 2011) or in cognitive but not emotional empathy (Harari, Shamay-Tsoory, Ravid, & Levkowitz, 2009). On the other hand, there are studies

that contradict impaired empathy and instead demonstrate increased performance in emotional empathy, thus suggesting that borderlines are especially empathic (“borderline empathy”), and can easily resonate or enter relationship with strangers (Frank & Hoffman, 1986; Gunderson, Zanarini, Kolb, & Austin, 1981; Ladisich & Feil, 1988).

Nevertheless, it should be taken into account that BPD patients are not able to sustain harmonious long-term relationships (Guttman & Laporte, 2000) and that the cognitive and emotional components of empathy cannot be easily separated (Baron-Cohen & Wheelwright, 2004). So, although the contradictory findings may be related to the different methodologies used in the studies (Lazarus et al., 2014), the imbalance between the emotional and cognitive components of empathy in BPD can be explained in terms of deficits in higher-order cognitive processes. These higher-order cognitive processes fail to modulate the lower-level automatic emotional contagion (Harari et al., 2010), thus elevating emotional empathy and highlighting an impairment in the empathic capacities anyway. Therefore, as Guttman and Laporte (2000) suggest, “it is probably more accurate to use the term ‘borderline sensitivity’ rather than ‘borderline empathy’ to describe their way of relating, so as not to confuse it with a multidimensional capacity that includes both the cognitive and emotional components of empathy” (p. 354).

2.3 Here-and-now lived experience level

2.3.1 Situational dysphoria

In specific circumstances, background dysphoria and negative interpersonal disposition, both dominating the basic lived experience of the borderline patient, can lead into another form of dysphoria saturating a BPD person’s here-and-now lived experience: situational dysphoria. This is a contingent state that consists of three sub-dimensions: pressure, urge (to act), and quasi-explosion, which is very dependent on situational triggers

(personal, interpersonal, and environmental). It is a kind of impatience and intolerance that leads to a drive to violent action (not necessarily in the sense of physical violence, but rather a great intensity of the emotions involved). It is like feeling “on the edge”, together with a tendency to anxiety, apprehension, and intensification of reactivity and vigilance in a state of **dysphoric alertness**. It represents the cyclic and temporary experience of BPD.

From this perspective, the events triggering situational dysphoria can be seen as proximal mechanisms that, unlike distal mechanisms (i.e., genetic, cognitive, and environmental risk factors), largely drive the acute, short-term occurrence of BPD symptoms (Miskewicz et al., 2015). “Rather than increasing risk for the development of BPD symptoms in a lifetime, proximal mechanisms increase risk for the occurrence of BPD symptoms at a given moment. Proximal mechanisms may also have symptom-specific effects, such that different symptoms occur in response to different triggers” (p. 487). Focusing on proximal mechanisms thus allows for the variability in symptom expressions of BPD in daily life.

Moreover, the presence of events triggering situational dysphoria makes the borderline psychopathology an almost entirely “**personal matter**”. In fact, as demonstrated by Wright, Hopwood, and Simms (2015) in their study testing individuals with personality disorders (40% BPD), 40-50% of the variance in interpersonal behavior and affect of PDs was due to daily fluctuations that were modestly related to dispositional problems but strongly related to daily stress. Following this line of research, some authors define borderline proximal mechanisms as “trigger-symptom contingencies” (Furr, Fleenon, Anderson, & Arnold, in preparation), suggesting that “a person’s individual variability in daily BPD symptom occurrences [...] can be accounted for by the particular triggers encountered in everyday life” (Miskewicz et al., 2015, p. 487). But what kind of situational triggers are we talking about?

According to recent but limited literature, **interpersonal events** seem to be the most relevant triggers underlying momentary BPD symptoms (Brodsky, Groves, Oquendo, Mann, & Stanley, 2006; Goodman et al., 2009; Rossi Monti & D'Agostino, 2014). Particularly, rejection and abandonment are the most cited events associated with interpersonal symptoms in BPD (Berenson, Downey, Rafaeli, Coifman, & Paquin, 2011; Coifman, Berenson, Rafaeli, & Downey, 2012; Sadikaj, Moskowitz, Russell, Zuroff, & Paris, 2013; Zeigler-Hill & Abraham, 2006). However, due to the very fine interpersonal sensitivity of the borderline patients, we hypothesize that minor interpersonal events (i.e., micro-conflicts in romantic relationships) are enough to make ancient rejecting and abandoning ghosts present again and turn situational dysphoria on, thus paving the way to symptomatic phenomena.

Alongside interpersonal events, there are other situations that literature reveals as being also involved in triggering BPD symptoms, even if to a reduced extent. Environmental and personal or cognitive events such as boring situations and identity threats are have been documented to be associated with BPD impulsivity, identity symptoms, and sense of emptiness (Linehan, 1993; Bender & Skodol, 2007). We think that minor environmental (i.e., to have had a minor accident) and personal or cognitive events (i.e., to have worried for a intervened problem) are enough to activate situational dysphoria and lead to symptom expression. But they are never as strong as interpersonal triggers.

2.4 Symptomatic disturbances level

2.4.1 Organizing way

The organizing pathway of situational dysphoria ends up in a behavior possessing a specific content or an emotional condition with a dominant affect: fear or anger. This affect/behavior can take different forms (sub-dimensions in the model): fears of abandonment, outbursts of anger, stormy relationships, non-suicidal self-injury and suicidal

behaviors, and other risky behaviors (i.e., polysubstances abuse, eating disorders, excessive spending, unsafe sex, and reckless driving). Here we will mainly focus on anger and non-suicidal self-injury as we consider them the most representative BPD psychopathological phenomena from the organizing point of view.

In its Latin and Greek roots (*angor*, *ancho*), **anger** refers to strangling, meaning an emotion normally conceived as involving a personal offense or somehow having been wronged by another person (Stanghellini & Rosfort, 2013b). In this sense, anger has several functions: a) to cancel a source of irritation or pain; b) to remove an obstacle to gratification; c) to restore a sense of autonomy in the face of very frustrating situations (Kernberg, 1992; 1994). In the first two cases, anger identifies an object as ‘source’ of pain or ‘obstacle’ to gratification. In the third case, instead, anger has an effect on the self.

In light of this premise and in order to better describe the role of anger in BPD, it is important to introduce a phenomenological distinction between affect and mood. While affect typically involves an explicit intentional object that directs and informs the affect itself, mood is normally not directed or informed by any particular object but refers to an ambiguous and highly frustrating emotional vacuum (Rosfort & Stanghellini, 2009). Anger and dysphoria can be inserted into this dialectic. If anger can be considered as affect, dysphoria can be described as a mood. What does this mean? We will explain it now, focusing on the four main areas of object, hope, self, and authenticity (Rossi Monti & D’Agostino, 2014).

First of all, anger is the means through which the borderline patient reacts to every minimal breaking in empathy: anger emerges when the patient feels that the other will not assume the function he desperately needs. In fact, anger makes the object clearly visible, strongly characterized and standing out very distinctively. It allows the BPD patient to switch from the state of vagueness typical of dysphoric mood (where the object is blurred, nebulous, and ambiguous) to a condition in which the object is crisp and clear. In this sense, anger has a

“centripetal” role, coagulating the emotional dispersion by identifying each time an object/interlocutor (Rossi Monti & D’Agostino, 2014).

Secondly, the expression of anger implies the existence of hope. This means that anger makes the patient believe that the object, the environment, or reality itself will react to the violence of the stimulus, thus assuming the role it had never played or had lost. Anger, in fact, is different from resignation; it is a desperate vital reaction that presupposes the possibility of a response by an interlocutor. At the same time, anger defends from the pain of separation and loss: a mind kept busy by angry fantasies somehow is still clinging to what it has lost (Rossi Monti & D’Agostino, 2014).

Thirdly, anger gives consistency to the self. As anger mounts, the object becomes the real reason for pain, thus allowing the person to assume a clear and consistent accusatory role towards it. This gives him the possibility of perceiving his own self as cohesive and powerful. In other words, anger unravels the fog organizing an undefined and therefore intolerable psychic pain: in this state, the patient believes he sees things clearly and knows why he is suffering.

Lastly, anger tests the authenticity of the object. Borderline anger brings the object out of the shadow, opens it like a can opener, and forcibly extracts its true nature (Rossi Monti & D’Agostino, 2014). This is a sort of load test helpful for evaluating how the object reacts to pressure and stress. The objective is to verify the soundness of the other, but also to discover its true features, as if only by seeing people bleeding in a traumatic situation the borderline patient could see how they really are.

Alongside anger, the first pathway of situational dysphoria can also organize itself into a concrete self-oriented behavior, ending up in **non-suicidal self-injury** (NSSI) (i.e. cutting or burning), already defined as the “behavioral specialty” of the patient with BPD (Gunderson & Links, 2008). As we previously delineated through the description of our six

“meaning-organizers” for understanding self-injury in BPD (Rossi Monti & D’Agostino, 2009), NSSI has undoubtedly the “advantage” of positioning negative emotions in a behavioral circuit that leads to a state of lowered tension. It is a momentary oasis of peace, a sort of discharge to the ground. In other words, cutting the flesh represents an attempt to modulate or staunch a negative and oppressive mood condition, precipitating it in a place that is objectifiable, delimited, and so also ‘curable’. In summary, it is as if the body could be a sort of blowhole from which to let compressed and overwhelming emotions spill out.

2.4.2 Disorganizing way

The disorganizing pathway of situational dysphoria ends up in a state of disorganization and confusion with respect to personal identity. Tension, irritability, and urge cannot break down the dysphoric mood in order to orient it towards a specific object. In this sense, dysphoria shows all its “centrifugal” drive, dispersing the various aspects of the self instead of aggregating them in some form of recognizable identity. As a result, the vagueness of the self contributes to the vagueness of the other, and vice versa, thus affecting also the therapeutic relationship. Such state of disorganization can take different forms (sub-dimensions in the model): affective shifts, identity disturbances, quasi-psychotic experiences (i.e., dissociation and paranoid ideation), and emptiness and aloneness. Here we will mainly focus on identity disturbances and emptiness as we consider them the most representative BPD psychopathological phenomena from the disorganizing point of view.

Identity disturbances correspond to the basic condition of “**identity diffusion**” theorized by Kernberg (1975, 1984) and described throughout Chapter 1. However, on a more intimate level of the self (Meares, Gerull, Stevenson, & Korner, 2011), identity diffusion manifests itself in a series of painful experiences of emptiness, insubstantiality, and inauthenticity – the lived side of identity diffusion (Rossi Monti, 2016). A patient calls

emptiness the “syndrome of the empty mirror” (Ruggiero, 2012); when he tries to imagine a mental image of himself, he sees just a black hole that makes the reality of his physical existence questionable. However, this emptiness is not a synonym of loss or lack of something. In the experience of lack the person suffers from the disappearance of the object but in the experience of emptiness the person suffers from a painful incoherence or a subjective sense of lack of coherence (Wilkinson-Ryan & Westen, 2000).

Emptiness has many ways of manifesting itself. Firstly, emptiness can manifest itself through the feeling of being inhabited by something dead, which leads the person to live with a sense of hopeless desolation. This emptiness is different from the previous one because the person identifies aspects of himself as dead or lifeless (i.e. the experience of the “alien self” described by Fonagy et al., 2004), and those make him close to finding an intentional object with which to converse. Secondly, emptiness can manifest itself as a result of a worn-out relationship, when exhausting proximity blurs each other’s boundaries. In this sense, the experience of emptiness makes thought disappear and the feeling of self dissolve (Lolli, 2012).

Finally, emptiness can manifest itself in a more dramatic way when it characterizes not only the patient’s inner world, but even his outside world. In this case, the risk of suicide is particularly high, because of the disconnection of dysphoric irritability from the world. More frequently, however, the disorganizing dysphoria-emptiness pathway can lead to impulsive actions. When the experience of emptiness is equivalent to the experience of painful incoherence, impulsive actions give greater cohesion and coherence to the self, restoring a sense of vitality (a “desperate vitality”, as described by Stanghellini & Rosfort, 2013b) and regaining hope. Instead, when the experience of emptiness corresponds to the experience of excessive proximity, impulsive actions strongly re-establish the borders of the self.

Figure 2.3. *The new psychopathological-dynamic model for understanding BPD in all its components*

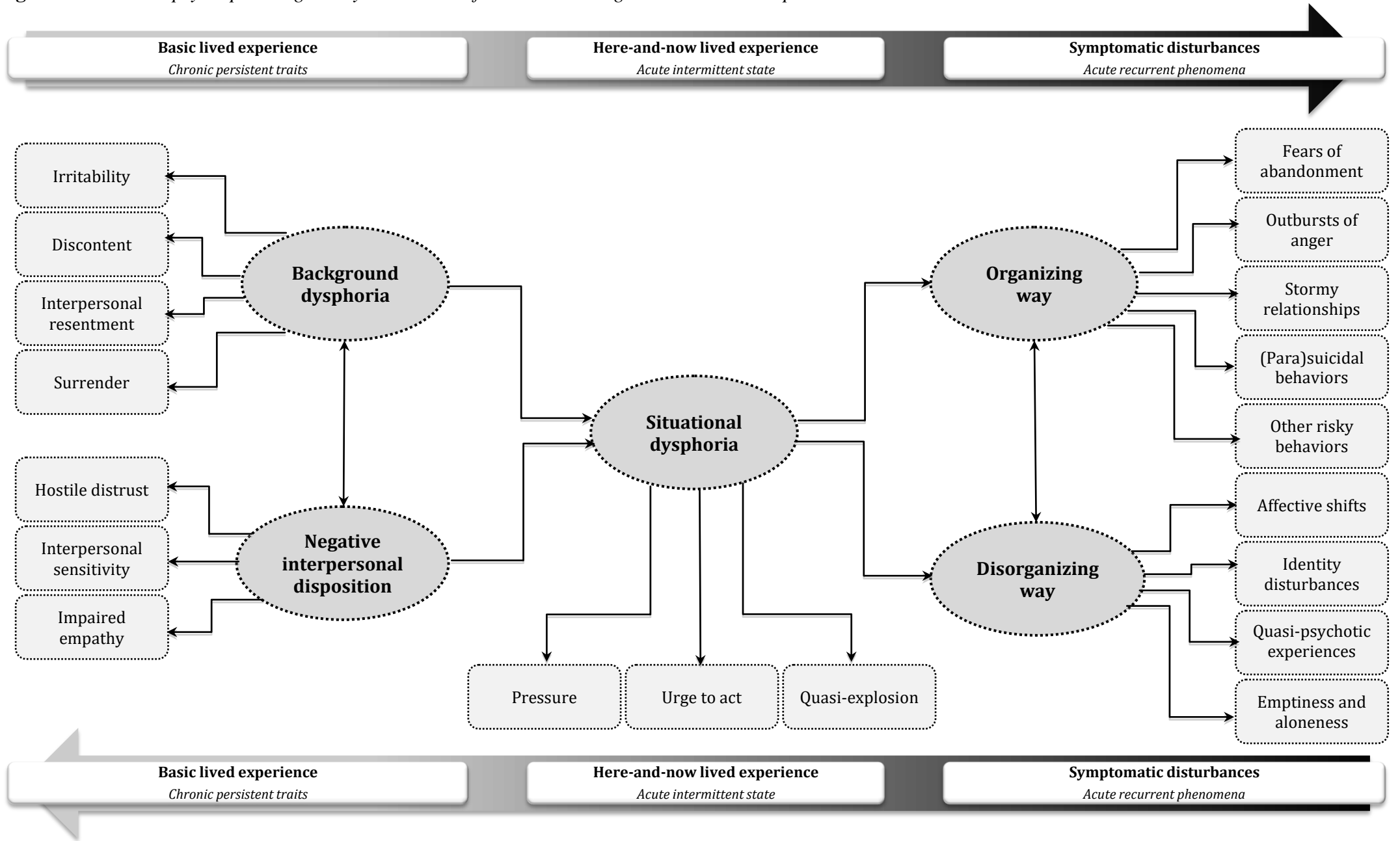


Figure 2.3. Schematic drawing of the new psychopathological-dynamic model for understanding BPD in all its components. At the basic lived experience level: background dysphoria with its subdimensions (irritability, discontent, interpersonal resentment, and surrender) and negative interpersonal disposition with its subdimensions (hostile distrust, interpersonal sensitivity, and impaired empathy); at the here-and-now lived experience level: situational dysphoria with its subdimensions (pressure, urge to act, and quasi-explosion); at the symptomatic disturbances level: organizing pathway of symptoms (comprising fears of abandonment, outburst of anger, stormy relationships, suicidal and parasuicidal behaviors, and other risky behaviors) and disorganizing pathway of symptoms (comprising affective shifts, identity disturbances, quasi-psychotic experiences, and emptiness and aloneness).

Chapter 3

Testing the model: a structural equation modeling analysis

3.1 Introduction

As evidenced in Chapter 1, borderline personality disorder is one of the most challenging disorders to understand and manage in the clinical setting. This is due to several reasons:

1. From a general point of view, there is an imbalance between the high public health significance of borderline personality disorder and the low levels of public awareness, funded research, and treatment resources associated with the disorder.
2. From an epidemiological point of view, the prevalence rates of BPD reported in literature are not exhaustive or, rather, they may be biased (Gunderson & Hoffman, 2005). For example, the assumption that BPD is over-represented among women is not supported by some recent findings showing an equal prevalence of BPD among males and females (Torgersen, 2005; Torgersen, Kringlen, & Kramer, 2001). Moreover, although BPD is thought to occur globally, there has been little epidemiological research into the disorder outside the Western world (National Collaborating Centre for Mental Health, 2009).
3. From a diagnostic point of view, BPD is very controversial. The BPD diagnosis may be misused, overused, or underused because of some problems inherent to the disorder and mainly related to the borderline construct, the assessment process, and the care context where the disorder is treated.
4. From a clinical point of view, BPD is characterized by complexity, multiple presentations and serious difficulties experienced by mental health professionals in

dealing with it. All these problems converge in a multiform symptomatology that is highly instable across time and consists of several elements, such as interpersonal hypersensitivity, affective dysregulation, impulsivity, and other factors (i.e., identity disturbances).

5. From an etiological point of view, BPD shows multiple causal factors, such as genetic, neurobiological and temperamental vulnerability, traumatic childhood, and a triggering event or a series of events, such as sexual abuse or other traumatic experiences.
6. From an “economic” point of view, BPD presents considerable costs. Some of these are related to heavy utilization of expensive health care resources and persistent lack of productivity of these patients. Others are of the emotional kind, and others regard the acting out of a variety of dangerous behaviors, such as reckless driving, domestic violence, imprisonment, and pathological gambling (Gunderson, 2011).

Despite all this, however, there is good news. Although BPD has long been considered a chronic and largely untreatable disorder, recent findings show a high remission rate (about 45% by 2 years and 85% by 10 years), with remission defined as no more than two DSM-5 diagnostic criteria being met for at least 12 months, and a low relapse rate (about 15%) (Gunderson et al., 2011). Of course, “all that glitters is not gold”; in fact, even after remission, many BPD patients have severe functional impairment, with only about 25% of patients employed full time and about 40% receiving disability payment after 10 years (Gunderson et al., 2011). Further, BPD seems to negatively affect the course and treatment of comorbid medical conditions (Rothrock et al., 2007) and other psychiatric disorders (Walter et al., 2009).

In order to address all these issues, increasing knowledge in borderline personality disorder is necessary. In fact, understanding the BPD patient in all his/her complexity is the

key to helping both the patient to feel better and the professionals/families to deal with him/her, without getting burned out. However, this is still a need for more scientific research. The development of a new, psychopathological model of understanding BPD arose from this theoretical-clinical gap. As described in Chapter 2, the model focuses on dysphoria. Trying to go beyond the description of the symptoms and emphasizing instead the singular experience of the borderline patient in terms of subjective consciousness, we argue that dysphoria can be seen as a process structuring the BPD experience in multiple, psychopathological pathways moving from basic lived experience to symptomatic disturbances (and vice versa), through the here-and-now lived experience, thus forming a real “dysphoric cycle”.

More specifically, we hypothesize that BPD is characterized by an “interpersonal-affective specialty” that consists of three relevant dimensions: a) background dysphoria and b) negative interpersonal disposition (at the basic lived experience level), and c) situational dysphoria (at the here-and-now-lived experience level). The variety of abnormal experiences (at the symptomatic disturbances level) can be considered as the external side of this interpersonal-affective specialty or the final outcome of the whole dysphoric cycle. In fact, loaded with background dysphoria and negative interpersonal disposition, and solicited by contingent stressful events, situational dysphoria can escape through the following two pathways: one disorganizing and another organizing, each ending up in several acute, recurrent phenomena (i.e., the nine DSM-5 symptoms).

The aim of this study was to test the fit of this new, psychopathological-dynamic model from an empirical point of view, using structural equation modeling analysis. This allowed for a detailed analysis of the clinical weight of each dimension hypothesized as being the core features of BPD, together with a deeper understanding of the causal relationship among all of them.

3.2 Materials and methods

3.2.1 Participants

The sample consisted of 105 patients with borderline personality disorder (Group B, “BPD patients”; mean age = 36.31 years; $SD = 7.02$) and 105 healthy controls who did not present any DSM-5 formal diagnosis (Group H, “Healthy”; mean age = 33.11 years; $SD = 8.86$). Demographic characteristics of Group B and Group H are shown in Table 3.1 and Table 3.2. There were no significant differences between the two groups, except for age.

Participants of Group B were ascertained from adult psychiatric outpatient services (75%) and residential inpatient communities (25%). Patients were admitted to the study if they: a) met criteria for BPD as assessed by the Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II, also used for DSM-5 diagnosis, given the lack of changes to the Personality Disorders Section in DSM-5; First, Gibbon, Spitzer, Williams, & Benjamin, 1997; Mazzi, Morosini, De Girolamo, & Guaraldi, 2003) (a cutoff of 5 or more was used to determine a formal diagnosis of BPD); b) were between the ages of 18 and 65 years.

Patients were excluded from the study if they also: a) met a lifetime history of or current schizophrenia, other psychotic disorders, bipolar affective disorder, intellectual disability (i.e., mental retardation) and neurocognitive disorders (i.e., cognitive impairment and dementias), as assessed by the Structured Clinical Interview for DSM-IV Axis I disorders (SCID-I; First, Gibbon, Spitzer, Williams, & Benjamin, 1996; Mazzi, Morosini, De Girolamo, Lussetti, & Guaraldi, 2000); b) presented current substance-related disorders and/or eating disorder (at least last 6 months), as assessed by SCID I; c) had insufficient knowledge of Italian language.

The general distress of Group B and Group H was also preliminary assessed by the Symptom Checklist-90-Revised questionnaire (SCL-90-R; Derogatis, 1994; Sarno, Preti,

Prunas, & Madeddu, 2011). The characteristics of both the groups are shown in Table 3.3. After complete description of the study to the participants, written informed consent was obtained. The study was approved by the local ethics committees.

Table 3.1. Means, standard deviations of age (with Anova), nationality, and sexual orientation in Group B and Group H

Group	Age		Italian	No-Italian	Heterosexual	Homosexual
	M (SD)	F* (p)				
B (n=105)	36.31 (7.02)	8.40 (.00)	95.2%	4.8%	97.1%	2.9%
H (n=105)	33.11 (8.86)		99.0%	1%	100%	0%

Note. *df=1,208. Group B= BPD patients; Group H=Healthy Controls.

Table 3.2. Level of education in Group B and Group H

Group	Primary School Level	Middle School Level	High School Level	University Level	Ph.D. Level
B (n=105)	3.8%	24.8%	53.3%	17.1%	0%
H (n=105)	1.9%	24.8%	43.8%	28.6%	1%

Note. Group B= BPD patients; Group H=Healthy Controls.

Table 3.3. ANOVA With Fischer's *F* of SCL-90-R Subscales in Group B and Group H

SCL-90-R Subscales	BPD (n=105)		Healthy (n=105)		F*	<i>p</i>
	M	SD	M	SD		
Somatization	57.40	12.25	41.25	4.63	159.35	.00
Obsessive-Compulsive	57.33	8.68	41.64	6.21	226.66	.00
Interpersonal Sensitivity	67.97	10.35	42.61	5.77	480.02	.00
Depression	65.87	9.45	43.77	6.88	375.12	.00
Anxiety	64.88	9.33	44.82	5.89	346.24	.00
Hostility	70.87	7.29	45.39	8.00	581.45	.00
Phobic Anxiety	66.40	9.58	46.49	6.97	296.26	.00
Paranoid Ideation	67.30	8.21	41.49	7.47	566.85	.00
Psychoticism	55.82	9.24	43.69	4.21	149.75	.00
Global Severity Index	66.60	8.82	41.69	6.00	571.98	.00

Note. *df=1,208; Group B=Patients with BPD; Group H=Healthy Controls.

3.2.2 Measures

In order to test the validity of the psychopathological-dynamic model for understanding BPD, a total of five self-report instruments and one semi-structured interview were administered to the participants. The five self-report instruments were: NDS-I, CynDis, IIP-47, EQ, and SITDS.

The **Nepean Dysphoria Scale-I** (NDS-I; D'Agostino, Manganelli, Aportone, Rossi Monti, & Starcevic, 2016) is the Italian validated version of the Nepean Dysphoria Scale (NDS; Berle & Starcevic, 2012), developed to measure the severity of dysphoria. It consists of 24 items, which are rated for frequency on a five-point Likert scale, from 0 ("not at all") to 4 ("always"). 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. Every item (except for items 2, 4, 13 and

24) starts with the phrase: “Have you felt...” and is followed by a specific feeling (e.g., “...discontent?”, “...on edge?”, “...cranky?”). The NDS has shown excellent psychometric properties (Berle & Starcevic, 2012), as did the NDS-I (D’Agostino et al., 2016).

The **Cynical Distrust Scale** (CynDis; Julkunen, Salonen, Kaplan, Chesney, & Salonen, 1994; Emiliani, Casu, & Gremigni, 2011) is a measure of interpersonal distrust, the cognitive component of hostility. It was factor-analytically derived from the Cook-Medley Hostility Scale (Cook & Medley, 1954) and consists of eight items such as: “I think most people would lie to get ahead”, “Most people inwardly dislike putting themselves out to help other people”, or “It is safer to trust nobody”. Response options were altered from the original true-false format of the Cook-Medley Hostility Scale to a four-point Likert Scale from 1 (“completely disagree”) to 4 (“completely agree”). A total score is obtained by adding up item scores. CynDis has shown good psychometric properties (Julkunen et al., 1994), as did the Italian version (Emiliani et al., 2011).

The **Inventory of Interpersonal Problems-47** (IIP-47; Pilkonis, Kim, Proietti, & Barkham, 1996; Ubbiali, Chiorri, & Donati, 2011) is a measure of chronic interpersonal problems associated with personality disorders. It is composed of five subscales: Interpersonal Sensitivity, Interpersonal Ambivalence, Aggression, Need for Social Approval, and Lack of Sociability. It consists of 47 items, including the following: “I am too sensitive to rejection”; “It is hard for me to ignore criticism from other people”, or “I feel too anxious when I am involved with another person”. Responses are rated on a five-point scale ranging from 0 (“not at all”) to 4 (“extremely distressing”). 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 (i.e., the scores on Interpersonal Sensitivity subscale were particularly relevant for our study). The IIP-47 has shown very good psychometric properties (Pilkonis et al., 1996), as did the Italian version (Ubbiali et al., 2011).

The **Empathy Quotient** (EQ; Baron-Cohen & Wheelwright, 2004; Preti et al., 2011) is a measure of the cognitive and affective aspects of empathy. It was designed to assess low empathy as a feature of psychopathology, so as to be used in clinical setting. It was also designed to detect subtle individual differences in empathy in the general population. Previous factor analysis indicated three subscales of EQ: cognitive empathy, emotional reactivity, and social skills (Lawrence, Show, Baker, Baron-Cohen, & David, 2004). The EQ consists of 60 items, with 40 questions tapping empathy (such as the following: “I find it hard to know what to do in a social situation”; “I can tell if someone is masking their true emotion”; “I find it easy to put myself in somebody else’s shoes”) and 20 filler items included to distract the participants from the focus on empathy. Responses are given on a four-point Likert scale. Scores can range from 0 to 80 (with a cutoff score of fewer than 30 to differentiate adults with autism spectrum disorders). The EQ has shown acceptable psychometric properties (Baron-Cohen & Wheelwright, 2004), as did the Italian version (Ubbiali et al., 2011).

The **Situational Dysphoria Scale** (SITDS) was specifically developed to measure situational dysphoria (a new construct) for this study. It is composed of 58 items consisting of various possible minor events (such as “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 it made him/her: a) feel pressured; b) have a strong urge to do something; c) feel as if he/her was about to explode. Items were divided into five clusters: Interpersonal Events, Personal Events, Cognitive Events, Environmental Events, and Various Events. Three scores were derived from SITDS: a) a total score, by summing up the scores on its sub-dimensions (pressure, urge to act, and quasi-explosion); b) a dimension-specific score, by summing up the scores on each sub-dimension of situational dysphoria (pressure, urge to act,

or quasi-explosion); c) an event-specific score, by summing up the scores on each cluster of items (interpersonal, personal, cognitive, environmental, or various events).

In addition to these five self-report instruments, a semi-structured interview was administered: the **Borderline Personality Disorder Severity Index-IV Edition** (BPDSI-IV; Arntz et al., 2003; Madeddu, Prunas, & Riboldi, 2005). The BPDSI-IV was developed to assess 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, from 0 (“never”) to 10 (“daily”). Identity disturbance-items form an exception and are rated on five-point Likert scales, from 0 (“absent”) to 4 (“dominant, clear and well-defined not knowing who he/she is”), multiplied by 2.5. Criteria scores for the nine DSM criteria are derived by calculating the mean of the scores on all the items. The total score is the sum of the nine criteria scores (range 0–90). The BPDSI-IV has shown excellent psychometric properties (Arntz et al., 2003; Giesen-Bloo, Wachters, Schouten, & Arntz, 2010), as did the Italian version (Madeddu et al., 2005).

3.2.3 A two-step procedure

This was a two-step procedure. The first step involved the development and preliminary validation of the Situational Dysphoria Scale (SITDS). The second step was the validation of the whole theoretical model for understanding BPD using structural equation modeling analysis. These two steps were preceded by a preliminary sample size determination through power analysis.

Preliminary sample size determination

A power analysis was preliminarily conducted in order to determine the minimum sample size for validating the theoretical model. Power analysis is a relevant aspect of studies requiring more complex statistical methods, such as structural equation modeling analysis (SEM). Without a proper power analysis, sample size might be too low to find a real effect of small magnitude; on the other side, sample size might be also too large and so undesirable because it is usually wasteful to spend additional resources on larger samples with only marginal benefits (Thoemmes, MacKinnon, & Reiser, 2010).

Step 1. SITDS development and validation

The SITDS development and validation involved a four-stage process, as suggested by Furr, 2011 (Box 3.1).

Box 3.1. *The four-stage scale construction process (Furr, 2011)*

- I. Articulate construct and context
 - II. Choose response format and assemble initial item pool
 - III. Collect data from respondents
 - IV. Examine psychometric properties and quality
-

Stage I: Articulate construct and context

Firstly, the construct of situational dysphoria was carefully defined so that it could be measured precisely. Secondly, the context in which the construct of situational dysphoria is likely to be experienced was also articulated, considering two elements: the likely target population and the likely administration context.

Stage II: Choose response format and assemble initial item pool

Guided by considerations from the first step, items that seemed relevant to the

intended construct were selected and a preliminary item pool including instructions and scores was created. The items were also divided into clusters of content, largely derived from the Daily Stress Inventory (Brantley & Jones, 1989) and the Weekly Stress Inventory (Brantley, Jones, Boudreaux, & Catz, 1997). In addition, according to Furr's guidelines (2011) for "ad hoc scales" (i.e., scales created to measure specific constructs for a study), independent raters (i.e., clinical psychologists and psychiatrists) were recruited to evaluate the degree to which each item clearly reflected the intended variable in order to produce validity-related evidence that goes beyond the scale developers' opinion and convince the readers that the scale is sufficiently valid for narrowly-focused application.

Stage III: Collect data from respondents

After the construct was defined, the likely assessment context was determined, and the preliminary item pool together with instructions and scores were created, the scale was administered and data were collected from respondents representing the likely target population (BPD patients), in a manner reflecting the likely administration context (mental health services and/or residential communities). This was done in order to check for possible issues related to the construction of the scale through respondent feedback or observation.

Stage IV: Examine psychometric properties and quality

Once data were collected from the target population, the final step was to analyze the psychometric properties of the SITDS to enhance the possibility that the scale could be useful and psychologically informative. A single exploratory factor analysis (principal factor axis in SPSS with Promax rotation) was performed on each subscale (Internal Pressure, Urge to Act, Quasi-Explosion), with the number of factors constrained to five and then compared to the factor analyses performed on the other subscales in order to retain just the items loading on the same factor for all the three subscales to ensure homogeneity between the subscales for each item scored. Factor structure was "cleaned" following Costello and Osborne's

recommendations for best practices in exploratory factor analysis (2005): item loadings above .30, no or few item cross-loadings, and no factors with fewer than three items. A second exploratory factor analysis (principal factor axis in SPSS with Promax rotation) was then conducted on the derived item pool of SITDS in order to see how many factors to retain. The analysis was repeated with different extraction/rotation methods (i.e., maximum likelihood and principal axis with Varimax or Promax rotation) in order to check the results. Subsequent issues related to a strong common factor dominating the other factors were addressed empirically using a hierarchical cluster analysis (Ward's method), per Raise, Waller, and Comrey (2000). The coefficient of internal consistency (Cronbach's α value) for the whole SITDS, for each cluster, and for each subscale was also calculated. Finally, convergent and discriminant validity of the SITDS was examined by means of parametric Pearson's correlations between the scores on the SITDS and its subscales and scores on other instruments (some instruments were similar in terms of the construct measured, such as NDS-I, and some others were different in terms of the construct measured, such as CynDis, IIP-47, EQ, and BPDSI-IV). All statistical analyses were conducted using SPSS for Window, version 19.0.

Step 2. Validation of the theoretical model

The validation of the theoretical model involved a two-stage process (Box 3.2).

Box 3.2. *The two-stage process for validating the theoretical model*

- I. Checking for normality
 - II. Testing the model
-

Stage I: Checking for normality

As one of the assumptions for using SEM is that data must follow a normal

distribution, checking normality for both the BPD and the healthy controls samples was needed before performing SEM analysis. According to Kline (2011), 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. The variables found as being highly skewed were transformed using a natural log function (Tabachnick & Fidell, 2007) in order to be used. Multivariate normality was assessed via Mardia's coefficient.

Stage II: Testing the model

After having conducted preliminary analyses, structural equation modeling (SEM) was performed to analyze data. According to Anderson and Gerbing (1988), a two-step procedure was followed to test the proposed model. The measurement model was tested first via a confirmatory factor analysis. Once the model had acceptable fit, its constructs were tested for convergent and discriminant validity. Thereafter, the structural model was tested. As suggested by Kline (2011), the fit of both the measurement and structural models was assessed via the chi-square statistic and the fit indices shown in Table 3.4. Kline (2011) 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. Nevertheless, it is reported since most researchers include it in their evaluations of model fit. The study hypotheses were evaluated via the proposed structural model. All statistical analyses were conducted using AMOS 23.0.

Table 3.4. *Fit indices and their threshold values*

Index	Threshold	Reference
Comparative Fit Index (CFI)	> .95	Hu & Bentler, 1999
Root Mean Square Error of Approximation (RMSEA)	< .06	Brown & Cudeck, 1993
Standardized root mean square residual (SRMR)	< .08	Hu & Bentler, 1999

3.3 Results

Preliminary sample size determination

Table 3.5 presents six possible models and their respective degrees of freedom. Using MacCallum, Browne, and Sugawara's (1996) RMSEA test of close fit with $\varepsilon_a \leq .05$, $\varepsilon_1 = .08$, $\alpha = .05$, the minimum sample size needed to attain statistical power of .80 ranged from 56 to 153. 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 (our sample was composed of 105 BPD patients and 105 controls).

Table 3.5. *Minimum sample size as a function of degrees of freedom*

Model	<i>df</i>	Minimum N
Five latent constructs		
Three indicators	80	153
Four indicators	160	97
Five indicators	265	71
Six latent constructs		
Three indicators	120	116
Four indicators	237	76
Five indicators	390	56

Note. Assumptions are $\varepsilon_a \leq .05$, $\varepsilon_1 = .08$, $\alpha = .05$, and $\beta = .80$.

SITDS development and validation

Stage I: Articulate construct and context

Situational dysphoria was defined as “a state of internal pressure, urge to act, feeling of quasi-explosion, characterized by a marked reactive component and so strongly dependent on situational triggers that can be personal, but especially interpersonal and environmental.” BPD patients were indicated as the likely target population and clinical and/or research contexts were also indicated as the likely administration context.

Stage II: Choose response format and assemble initial item pool

A preliminary over-inclusive item pool of 58 items was created. Items consisted of various, minor events that could possibly happen during week (such as “was ignored by others”, “argued with spouse or girlfriend/boyfriend”, or “had a minor accident”) and were divided into five clusters of content: Interpersonal Events, Personal Events, Cognitive Events, Environmental Events, and Various Events. Items were rated on three subscales (Internal Pressure, Urge to Act, and Quasi-Explosion) based on a five-point Likert scale from 1 (“Not at all”) to 5 (“Very much”). In summary, the preliminary over-inclusive SITDS version was composed of 58 items for three subscales (for a total of 174 items), each rated on a five-Likert scale for a maximum score of 15 per item. A picture of the SITDS format with instructions, scores, and the first item (translated in English for this thesis) is shown in Figure 3.1.

Three scores were derived from SITDS: a) *Total score*, by summing up the scores on its sub-dimensions (Internal Pressure, Urge to Act, and Quasi-Explosion); b) *Dimension-specific score*, by summing up the scores on each sub-dimension of situational dysphoria (Internal Pressure, Urge to Act, or Quasi-Explosion); c) *Event-specific score*, by summing up the scores on each cluster of items (Interpersonal, Personal, Cognitive, Environmental, or

Various Events).

Figure 3.1. *Picture of SITDS format with instructions, scores, and the first item*

Situational Dysphoria Scale (SITDS)

Below is a list of various events that may happen. Think carefully about each of them and please indicate whether that event happened to you **during the past week**. If the event did not happen this week, put an **X** in the corresponding box. If the event did happen, please score **from 1 to 5** whether the event:

a) Made you feel pressured;
 b) Made you have a strong urge to do something;
 c) Made you feel as if you were about to explode.

Please, use the guide below to make your evaluations.

1 = Not at all or minimally 2 = Slightly 3 = Moderately 4 = Quite a bit 5 = Very much

		Not happened	Made me feel pressured	Made me have a strong urge to do something	Made me feel as if I was about to explode
1.	Was interrupted while talking		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Stage III: Collect data from respondents

Data coming from the target population (Group B=105 BPD patients) were collected in clinical administration contexts (mental health services and/or residential communities) in order to validate and eventually revise the developed scale.

Stage IV: Examine psychometric properties and quality

The comparison among the exploratory factor analyses performed on each subscale with the number of factors constrained to five led to us eliminating 30 items (3, 7, 8, 11-14, 16, 19-25, 27-29, 31, 32, 39, 40, 43, 44, 47, 48, 50, 51, 53, and 58) not loading on the same factor for all the three subscales. Thus, the final scale consisted of 28 items (1, 2, 4-6, 9, 10, 15, 17, 18, 26, 30, 33-38, 41, 42, 45, 46, 49, 52, and 54-57). (Table 3.6).

Table 3.6. Disposition of the 58 items of SITDS in factors and subscales (red-shaded items were excluded, whereas green-shaded items were retained)

Item	IP	UA	QE	Item	IP	UA	QE
1	Factor 2	Factor 2	Factor 2	30	Factor 2	Factor 2	Factor 2
2	1	1	1	31	3	4	3
3	3	4	3	32	0	5	5
4	1	1	1	33	1	1	1
5	4	4	4	34	1	1	1
6	2	2	2	35	1	1	1
7	2	3	2	36	1	1	1
8	0	5	0	37	1	1	1
9	1	1	1	38	1	1	1
10	2	2	2	39	3	4	3
11	2	1	2	40	2	0	0
12	4	3	4	41	1	1	1
13	0	3	0	42	1	1	1
14	4	3	0	43	2	3	2
15	5	5	5	44	2	3	2
16	0	0	0	45	2	2	2
17	1	1	1	46	1	1	1
18	5	5	5	47	0	0	0
19	0	0	2	48	1	0	1
20	4	0	0	49	5	5	5
21	4	0	4	50	3	4	2
22	0	5	0	51	0	0	0
23	2	1	1	52	5	5	5
24	3	4	3	53	0	0	3
25	3	4	3	54	1	1	1
26	1	1	1	55	1	1	1
27	4	3	0	56	1	1	1
28	0	0	0	57	2	2	2
29	0	0	0	58	1	2	3

Note. IP = Internal Pressure; UA = Urge to Act; QE = Quasi Explosion; 0 = no factor loading above .30.

The exploratory factor analysis (principal axis factoring with Promax rotation) conducted on the derived 28-item SITDS showed a strong common factor (Factor 1) dominating the other factors; subsequent factor analyses repeated with different extraction/rotation methods confirmed these results (Table 3.7).

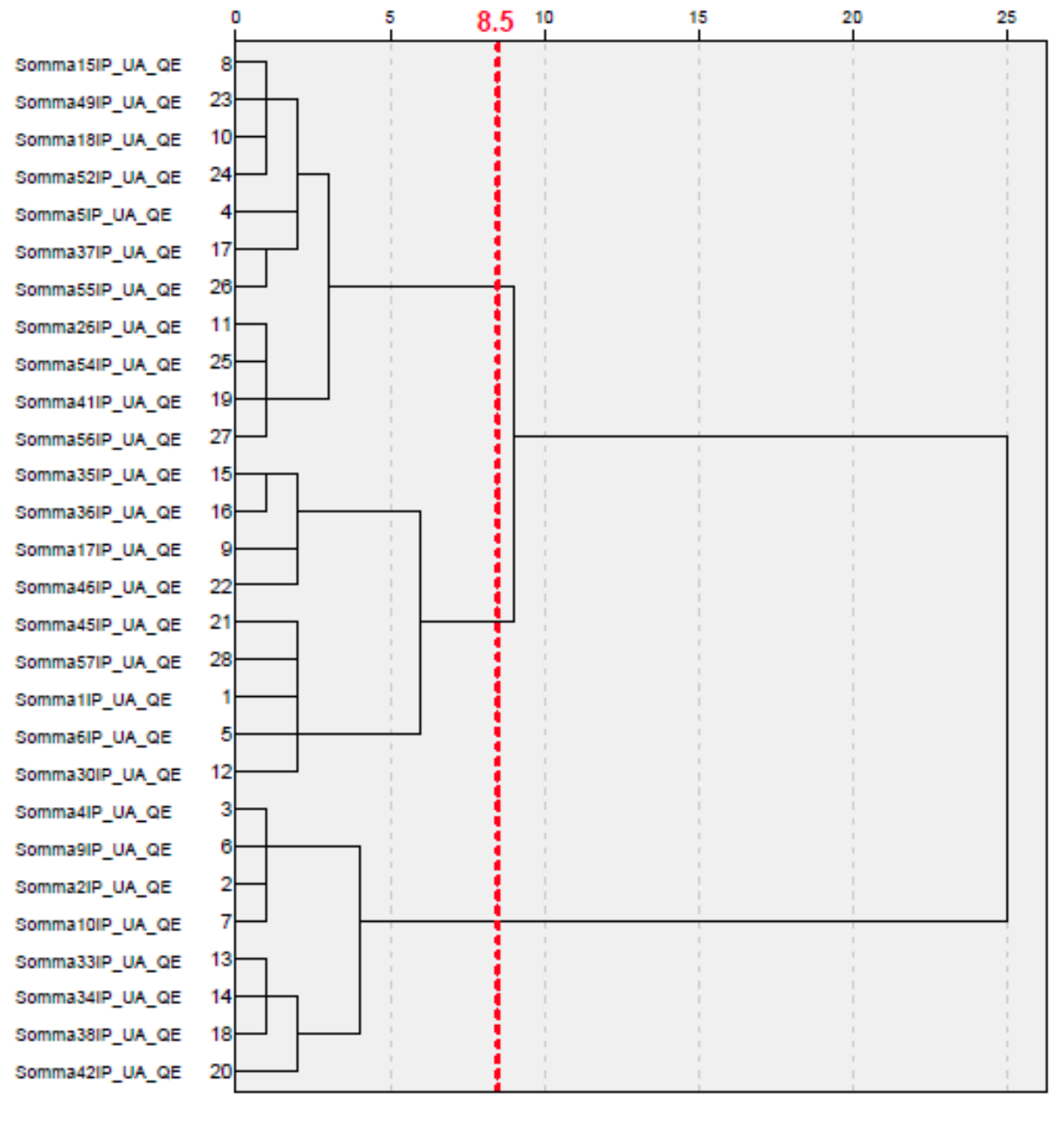
Table 3.7. Disposition of the 28 items of SITDS in factors across different factor extraction/rotation methods

Item	ML with Promax				ML with Varimax				PA with Varimax				PA with Promax			
	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4	F1	F2	F3	F4
1			X				X			X				X		
2	X				X				X				X			
4	X				X				X				X			
5	0	0	0	0	0	0	0	0				X				X
6			X				X			X			X			
9	X				X				X				0	0	0	0
10			X				X		X				0	0	0	0
15	0	0	0	0	0	0	0	0			X		X			
17	X				X				X						X	
18				X				X			X		X			
26	X				X				X					X		
30			X				X			X			X			
33	X				X				X				X			
34	X				X				X				X			
35		X				X			X				X			
36		X				X			X				X			
37		X				X			X				X			
38	X				X				X				X			
41	X				X				X				X			
42	X				X				X				X			
45			X				X			X				X		
46	X				X				X				X			
49				X				X			X				X	
52				X				X			X				X	
54	X				X				X				X			
55		X				X			X				X			
56	X				X				X				X			
57	0	0	0	0	0	0	0	0				X				X
Tot.	13	4	5	3	13	4	5	3	18	4	4	2	18	3	3	2

Note. ML = Maximum Likelihood; PA = Principal Axis; F1 = Factor 1; F2 = Factor 2; F3 = Factor 3; F4 = Factor 4; 0 = no factor loading above .30.

Hierarchical cluster analysis conducted on the 28-item SITDS identified instead three clusters cutting the branches of the tree at 8.5 (Figure 3.2). Cluster 1, composed of items: 5, 15, 18, 26, 37, 41, 49, 52, and 54-56 (a total of 11 items); Cluster 2 composed of items: 1, 6, 17, 30, 35, 36, 45, 46, and 57 (a total of 9 items); Cluster 3 composed of items: 2, 4, 9, 10, 33, 34, 38, 42 (a total of 8 items).

Figure 3.2. Dendrogram using Ward's method and showing the clustering of SITDS



The Cronbach's α value calculated on the whole 28 x 3-item SITDS was .89, suggesting very good internal consistency. The Cronbach's α value calculated on each cluster was also very good (Cluster 1 Cronbach's α value = .79; Cluster 2 Cronbach's α value = .84; Cluster 3 Cronbach's α value = .95). But the Cronbach's α value calculated on each subscale was questionable ("Internal Pressure" Cronbach's α value = .66; "Urge to Act" Cronbach's α

value = .67; “Quasi-Explosion” Cronbach’s α value = .68). However, a more detailed item analysis showed that, eliminating items 5 (“Was forced to socialize”), 26 (“Worried about another’s problems”), 54 (“Was stared at”), and 55 (“Ran out of food/personal articles”) (all belonging to Cluster 1), the Cronbach’s α value for the whole 24 x 3-item scale increased to excellent value (from .89 to .91), the Cronbach’s α value for Cluster 1 increased to very good value (from .79 to .81), and the Cronbach’s α value for each subscale increased each to acceptable values (“Internal Pressure” Cronbach’s α value = .71; “Urge to Act” Cronbach’s α value = .73; “Quasi-Explosion” Cronbach’s α value = .73). As all the four critical items were also not relevant in content for Cluster 1, we decided to eliminate them from the final version of SITDS.

Inspection of the remaining items in each of the three clusters indicated that the first cluster could be considered a “Personal Events” cluster (including items such as: “Did something I am unskilled at”, “Performed poorly at sport/game”, and “Hurried to meet a deadline”); the second, an “Environmental Events” cluster (including items: “Was interrupted during task/activity”, “Had car trouble”, and “Experienced illness or physical discomfort”; and the third, an “Interpersonal Events” cluster (including items: “Was ignored by others”, “Argued with spouse, boyfriend/girlfriend, etc.”, and “Someone spoiled my completed task”).

Correlations among the three clusters are reported in Table 3.8. They show a moderate positive correlation between the “Environmental Events” cluster and the “Interpersonal Events” Cluster ($r_s = .45$) and a very weak but still significant negative correlation between the “Personal Events” cluster and the “Interpersonal Events” cluster ($r_s = -.12$), thus suggesting that the three clusters are representative of similar and opposite tendencies, all related to the underlying construct (situational dysphoria).

Correlations among the three subscales are reported in Table 3.9. They show very strong positive correlations ($r_s = .98$), thus suggesting that they are representative of the

underlying construct.

Table 3.8. *SITDS clusters correlations matrix*

Pearson's correlations			
	1. Personal Events	2. Environmental Events	3. Interpersonal Events
1. Personal Events	1	.06	-.12 **
2. Environmental Events	.06	1	.45 **
3. Interpersonal Events	-.12 **	.45 **	1

Note. $N=105$. * $p < .05$; ** $p < .01$.

Table 3.9. *SITDS subscales correlations matrix*

Pearson's correlations			
	1. Internal Pressure	2. Urge to Act	3. Quasi-Explosion
1. Internal Pressure	1	.98 **	.98 **
2. Urge to Act	.98 **	1	.98 **
3. Quasi-Explosion	.98 **	.98 **	1

Note. $N=105$. * $p < .05$; ** $p < .01$.

The content of each item was then revised in order to clarify the meaning in accordance with the belonging cluster. The final version of SITDS (showed at the end of this Chapter) consisted of 24 items (divided into three clusters: Personal Events, Interpersonal Events, and Environmental Events), each of them rated on three subscales (Internal Pressure, Urge to Act, and Quasi-Explosion).

Table 3.10 summarizes the correlations between scores on the final 24x3-item SITDS and its subscales and scores on the other instruments. The SITDS total score and scores on its subscales showed medium to strong Pearson's correlations with NDS-I scores (r s ranging from .54 to .63). The correlations with CynDis total score (r s ranging from .39 to .65), IIP-47

total score (*rs* ranging from .23 to .51), EQ (*rs* ranging from -.28 to -.22, excluding Internal Pressure and Urge to Act), and BPDSI-IV (*rs* ranging from .29 to .45) were weaker, but still noteworthy.

Table 3.10. *Correlations between scores on the SITDS and its subscales and scores on other measures*

		Pearson's correlations								
	1.	2.	3.	4.	5.	6.	7.	8.	9.	
1. Internal Pressure (SITDS)	1	.98 **	.98 **	.80 **	.54 **	.39 **	.23 *	-.18	.45 *	
2. Urge to Act (SITDS)	.98 **	1	.98 **	.83 **	.55 **	.45 **	.30 **	-.16	.43 **	
3. Quasi-Explosion (SITDS)	.98 **	.98 **	1	.83 **	.58 **	.46 **	.30 **	-.22 *	.44 **	
4. SITDS	.80 **	.83 **	.83 **	1	.63 **	.65 **	.51 **	-.28 **	.29 **	
5. NDS-I	.54 **	.55 **	.58 **	.63 **	1	.53 **	.50 **	-.35 **	.31 **	
6. CynDis	.39 **	.45 **	.46 **	.65 **	.53 **	1	.70 **	-.23 *	.10	
7. IIP-47	.23*	.30 **	.30 **	.51 **	.50 **	.70 **	1	-.24 *	-.07	
8. EQ	-.18	-.16	-.22 *	-.28 **	-.35 **	-.23 *	-.24 *	1	-.09	
9. BPDS-IV	.45 **	.43 **	.44 **	.29 **	.31 **	.10	-.07	-.09	1	

Note. *N*=105. * *p*< .05; ** *p*< .01.

Validation of the theoretical model

Results for the BPD patients

Stage I: Checking for normality

Univariate normality

As displayed in Table 3.11, the Background Dysphoria and Negative Interpersonal Disposition indicators had a skewness index above three and so they were transformed. The skewness index of the transformed variables fell below three; therefore, these transformed variables were used in subsequent procedures.

Table 3.11. *Skewness and kurtosis values for the study variables (N = 105)*

Variable	Skewness		Kurtosis	
	Statistic	Index	Statistic	Index
Background dysphoria				
Irritability	-2.18	-9.11	8.68	18.58
Discontent	-1.22	-5.12	1.50	3.20
Interpersonal resentment	-2.41	-10.08	9.85	21.07
Surrender	-1.97	-8.25	5.56	11.90
Negative interpersonal disposition				
Hostile distrust	-.99	-4.15	-.07	-.15
Interpersonal sensitivity	-.97	-4.04	1.07	2.29
Impaired empathy	.99	4.14	4.35	9.92
Situational dysphoria				
Pressure	-.72	-3.01	1.44	3.07
Urge to act	-.70	-2.95	1.24	2.65
Quasi-explosion	-.87	-3.64	1.89	4.05
Organizing				
Fears of abandonment	-.39	-1.61	-.40	-.86
Outbursts of anger	-.10	-.42	-.73	-1.56
Stormy relationships	-.63	-2.64	-.28	-.59
Parasuicidal behaviors	.76	3.17	.30	.65
Other risky behaviors	.07	.30	-.64	-1.37
Disorganizing				
Affective shifts	-.85	-.85	.53	1.12
Identity disturbances	-.58	-.58	.54	1.16
Dissociation and paranoid ideation	.70	2.91	.40	.86
Emptiness and aloneness	-.80	-3.37	.06	.13

Note. SE for skewness statistic = .24; SE for kurtosis statistic = .47.

Multivariate normality

Mardia's coefficient was, $z = 11.25$. Kline (2011) 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.

Stage II: Testing the model

Results for the measurement model

Proposed measurement model. The measurement model, depicted in Figure 3.3, did not fit the data well. As shown in Table 3.12, 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 (Hair, Black, Babin, & Anderson, 2009). Based on these criteria, several variables were deleted: Empathy, Parasuicidal Behaviors, Other Risky Behaviors, Identity Disturbances, and Quasi-Psychotic Experiences.

Table 3.12. *Fit indices for the measurement models*

Index	Proposed	Best-Fitting
Chi-square	260.31	115.67
Degrees of freedom	142	67
Probability level	.00	.00
Normed chi-square	1.83	1.73
Comparative Fit Index (CFI)	.92	.96
Root Mean Square Error of Approximation (RMSEA)	.09	.08
Lower bound 90% confidence interval	.07	.06
Upper bound 90% confidence interval	.11	.11
P-close	.00	.02
Standardized root mean square residual (SRMR)	.09	.06

Note. At $p < .001$, critical $\chi^2_{crit}(75) = 118.60$.

Best-fitting measurement model. The fit indices for the revised measurement model are summarized in Table 3.12 while the revised measurement model is depicted in Figure 3.4. This 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, as shown in Table 3.13, all item indicators loaded on significantly to their respective constructs. Therefore, the convergent and discriminant validity of the constructs of this revised model were assessed.

Convergent validity of 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 (Hair, et al., 2010) and the average variance extracted (AVE) is above .50 (Bagozzi & Yi, 1988). As shown in Table 3.13, the composite reliability values of all the constructs were above .70. Further, all the AVE values were all above .50. Thus, all the constructs had convergent validity.

Discriminant validity of constructs. 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 said to have discriminant validity (Fornell & Larcker, 1981). The findings in Table 3.14 reveal that Background Dysphoria, Negative Interpersonal Disposition, and Situational Dysphoria had discriminant validity. But because the correlation between the Organizing and Disorganizing constructs ($r = .84, p < .001$) was higher than the square roots of their AVE values, these constructs did not demonstrate discriminant validity.

Figure 3.3. Standardized coefficients for the proposed measurement model

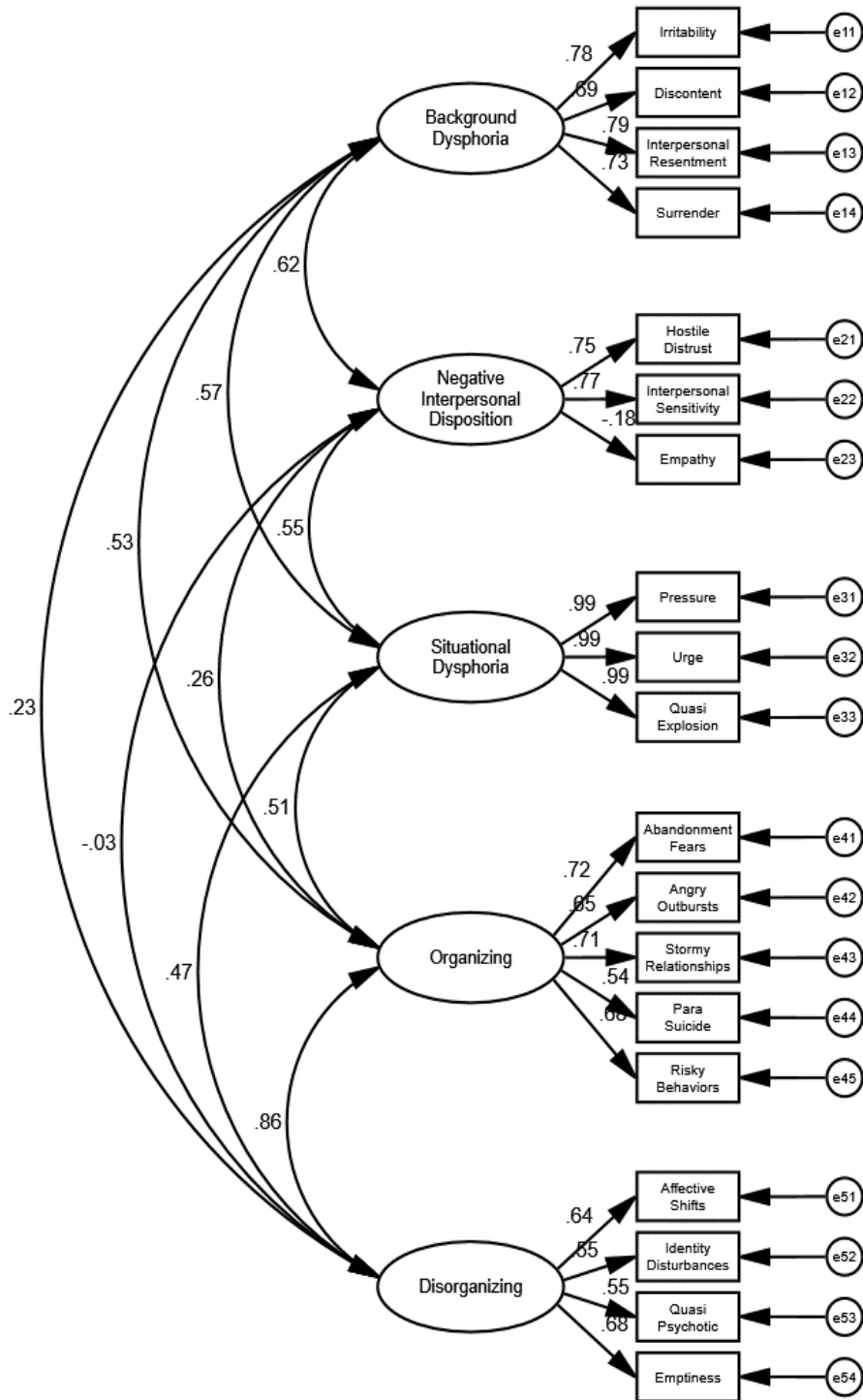


Figure 3.4. Standardized coefficients for the best-fitting measurement model

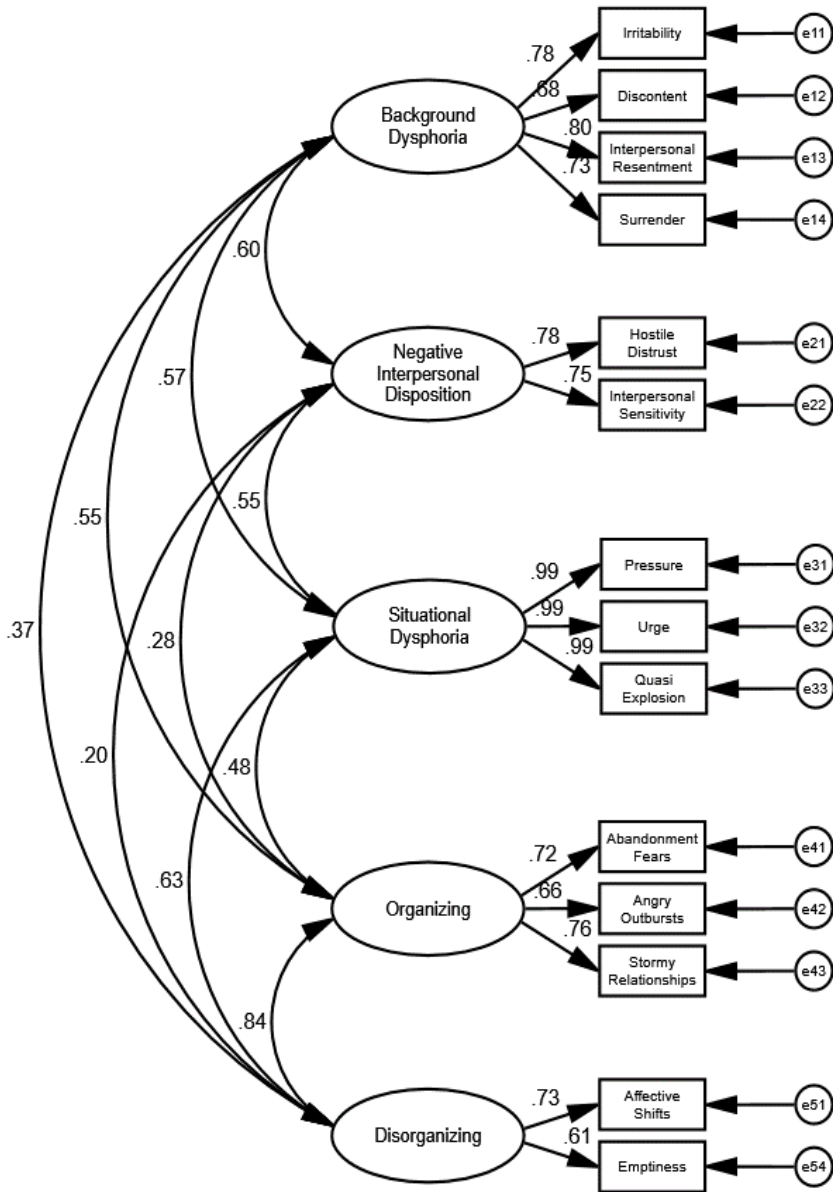


Table 3.13. *Convergent validity for the constructs*

Construct	SFL	CR	AVE
Background dysphoria		.83	.63
Irritability	.78		
Discontent	.68		
Interpersonal resentment	.80		
Surrender	.73		
Negative interpersonal disposition		.74	.65
Hostile distrust	.78		
Interpersonal sensitivity	.75		
Situational dysphoria			
Pressure	.99	.99	.98
Urge to act	.99		
Quasi-explosion	.99		
Organizing		.77	.59
Fears of abandonment	.72		
Outbursts of anger	.66		
Stormy relationships	.76		
Disorganizing		.74	.55
Affective shifts	.73		
Emptiness	.61		

Note. SFL = standardized factor loading. CR = composite reliability; AVE = average variance extracted; All items loaded significantly onto their respective constructs, $p < .001$.

Table 3.14. *Discriminant validity results for the final measurement model*

Construct	1	2	3	4	5
1 Background dysphoria	.79				
2 Negative interpersonal disposition	.60 ***	.81			
3 Situational dysphoria	.60 ***	.55 ***	.99		
4 Organizing	.55 ***	.28 *	.48 ***	.77	
5 Disorganizing	.37 **	.20	.63 ***	.84 ***	.74

Note. The values of the square root of the average variance extracted are on the diagonal; all other entries are the correlations.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Results for the structural model

Proposed structural model. The proposed structural model, depicted in Figure 3.5, did not fit the data very well but had close-to-acceptable fit. As shown in Table 3.15, the CFI was close-to-acceptable and the SRMR and RMSEA were in the mediocre range. The findings in Table 3.16 reveal, moreover, that all the path coefficients were significant and in the predicted direction.

Figure 3.5. *Standardized coefficients for the proposed structural model*

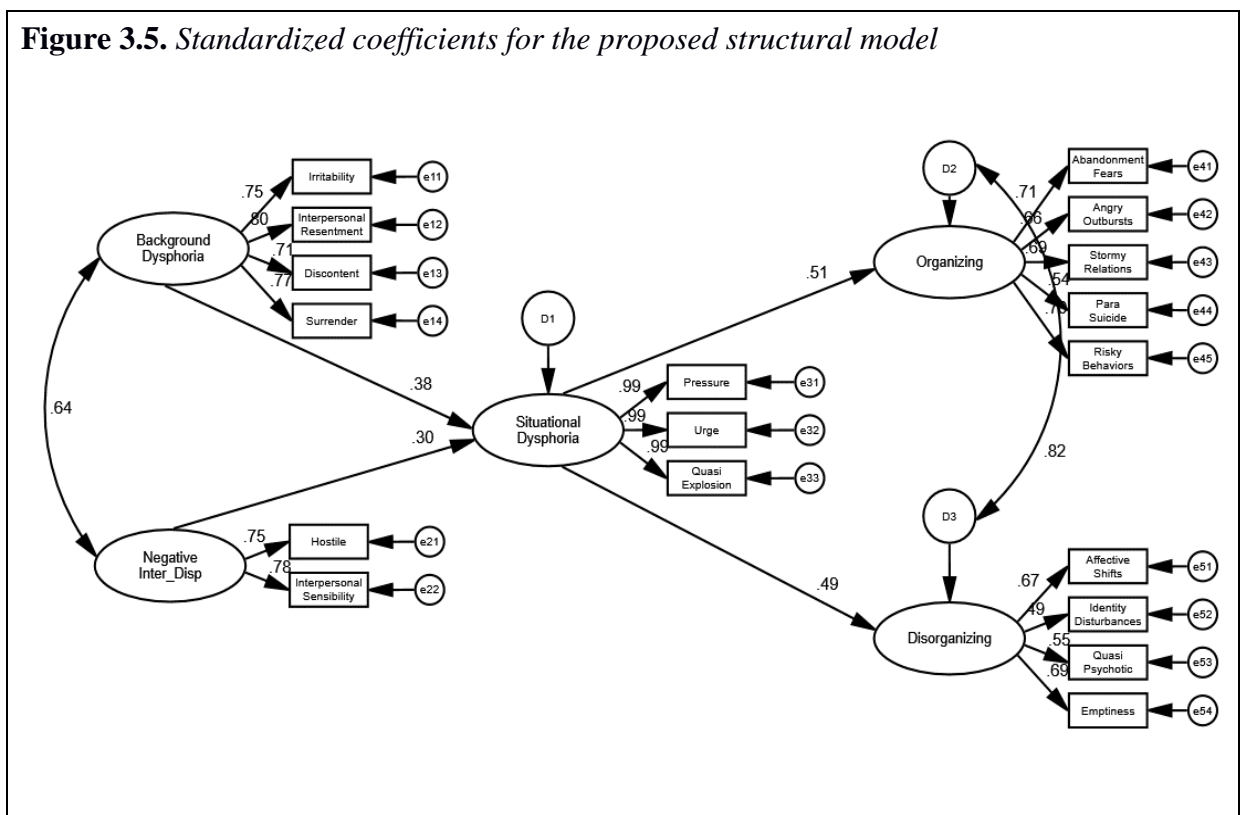


Table 3.15. *Fit indices for the structural model*

Index	Proposed	Revised
Chi-square	242.10	128.31
Degrees of freedom	129	71
Probability level	.00	.00
Normed chi-square	1.88	1.81
Comparative Fit Index (CFI)	.92	.95
Root Mean Square Error of Approximation (RMSEA)	.09	.09
Lower bound 90% confidence interval	.07	.06
Upper bound 90% confidence interval	.11	.11
P-close	.00	.01
Standardized root mean square residual (SRMR)	.10	.08

Table 3.16. *Unstandardized and standardized path coefficients for the proposed structural model*

Path	<i>B</i>	<i>SE</i>	β	<i>t</i>
Background dysphoria to situational dysphoria	8.77	3.08	.38	2.85 **
Negative disposition to situational dysphoria	6.76	3.21	.30	2.11 *
Situational dysphoria to organizing	.03	.01	.51	4.70 ***
Situational dysphoria to disorganizing	.02	.00	.49	4.17 ***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Best-fitting structural model. The best-fitting structural model, illustrated in Figure 3.6, fit the data well. As shown in Table 3.15, all but the RMSEA met the criterion for acceptability. The findings in Table 3.17 reveal, moreover, that all the path coefficients were significant and in the predicted direction.

Figure 3.6. Standardized coefficients for the best-fitting structural model

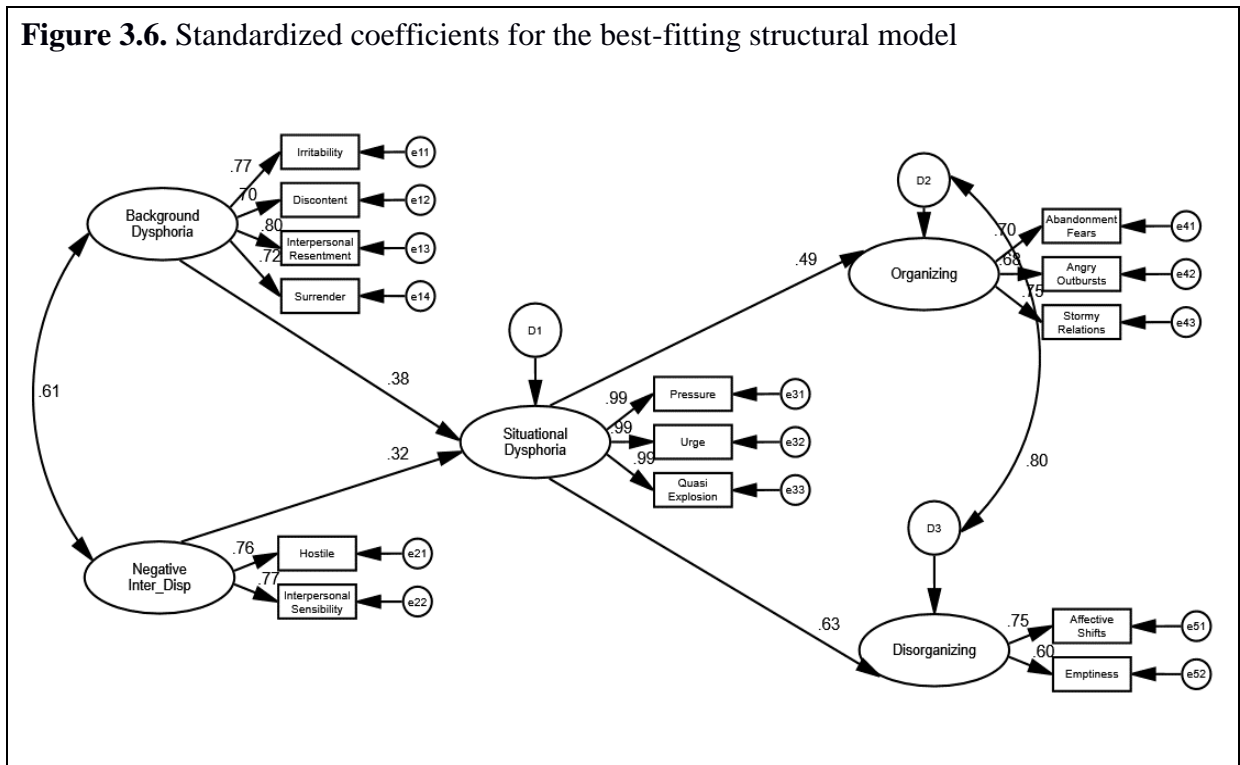


Table 3.17. Unstandardized and standardized path coefficients for the best-fitting structural model

Path	B	SE	β	t
Background dysphoria to situational dysphoria	8.64	2.92	.38	2.96 **
Negative disposition to situational dysphoria	7.26	3.04	.32	2.39 *
Situational dysphoria to organizing	.03	.01	.49	4.26 ***
Situational dysphoria to disorganizing	.03	.01	.63	5.59 ***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Results for the healthy controls

Stage I: Checking for normality

Univariate normality. The findings in Table 3.18 reveal that all but the Empathy variable had a skewness index above three and so they were transformed. The skewness index of the transformed variables fell below three; therefore, these transformed variables were used in subsequent procedures.

Table 3.18. *Skewness and kurtosis values for the study variables (N = 105)*

Variable	Skewness		Kurtosis	
	Statistic	Index	Statistic	Index
Background dysphoria				
Irritability	1.25	5.32	1.26	2.69
Discontent	1.34	5.69	1.68	3.59
Interpersonal resentment	1.87	7.94	3.22	6.89
Surrender	1.55	6.56	1.64	3.51
Negative interpersonal disposition				
Hostile distrust	.79	3.36	-.02	-.04
Interpersonal sensitivity	1.23	5.23	1.12	2.39
Impaired empathy	-.70	-2.96	.52	1.12
Situational dysphoria				
Internal pressure	2.02	8.57	4.77	10.21
Urge to act	2.21	9.39	5.31	11.37
Quasi-explosion	2.49	10.55	6.84	14.63
Organizing				
Fears of abandonment	2.81	11.90	12.06	25.82
Outbursts of anger	3.23	13.71	11.60	24.82
Stormy relationships	2.16	9.16	5.84	12.49
Other risky behaviors	3.31	14.06	14.07	30.10
Disorganizing				
Affective shifts	1.96	8.30	3.95	8.46
Identity disturbances	1.57	6.65	2.01	4.30
Dissociation and paranoid ideation	3.63	15.41	13.12	28.07
Emptiness and aloneness	3.84	16.31	16.08	34.41

Note. SE for skewness statistic = .24; SE for kurtosis statistic = .47.

Multivariate normality. Mardia’s coefficient was, $z = 12.40$. Kline (2011) 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.

Stage II: Testing the model

Results for the measurement model

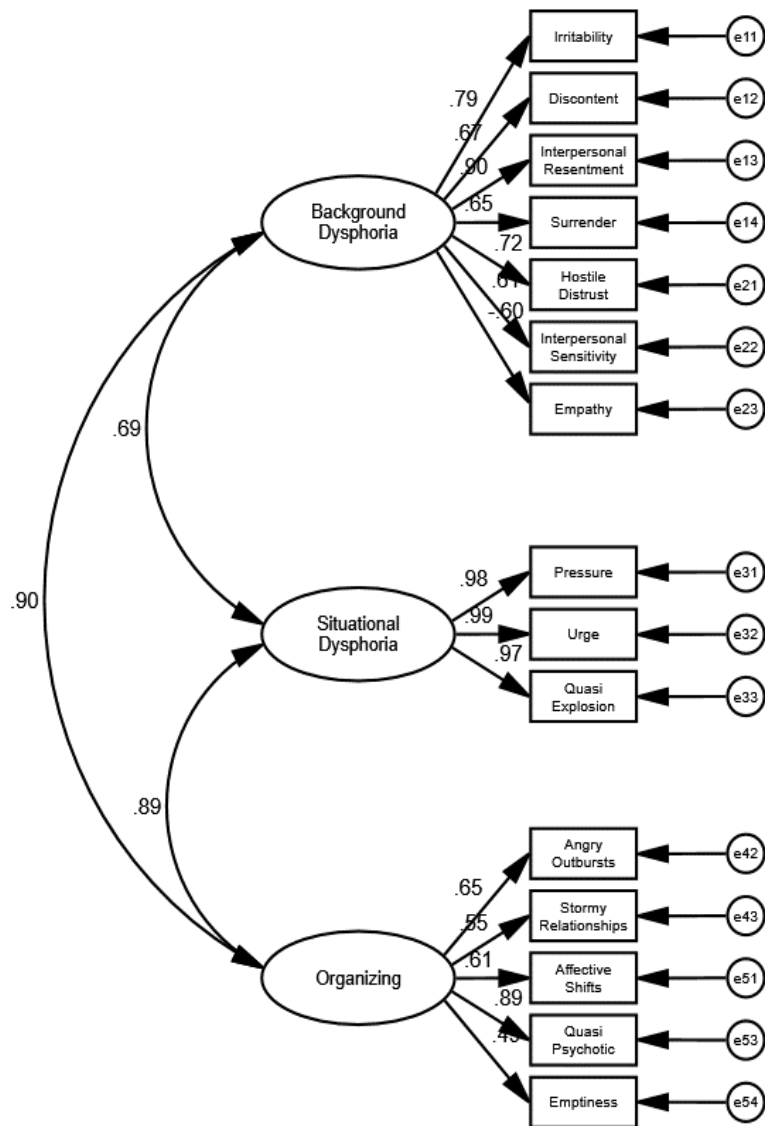
Proposed measurement model. Because all participants had zero parasuicidal behaviors, this variable was not included in the model tests. The proposed measurement model yielded a non-positive definite matrix. Correlations between constructs were examined for extreme collinearity. Background Dysphoria and Negative Interpersonal Disposition were highly correlated ($r = .99, p < .001$); Organizing and Disorganizing were also highly correlated ($r = .99, p < .001$). Therefore, these constructs were combined into a single construct. The resulting measurement model, depicted in Figure 3.7, did not fit the data well (see Table 3.19) and was revised; only indicator variables with standardized factor loadings above .60 were retained (Hair, et al., 2009). Several variables were deleted: Empathy, Stormy Relationships, and Emptiness.

Table 3.19. *Fit indices for the measurement models*

Index	Proposed	Best-Fitting
Chi-square	289.46	179.14
Degrees of freedom	87	51
Probability level	.00	.00
Normed chi-square	3.33	3.51
Comparative Fit Index (CFI)	.86	.90
Root Mean Square Error of Approximation (RMSEA)	.15	.16
Lower bound 90% confidence interval	.13	.13
Upper bound 90% confidence interval	.17	.18
P-close	.00	.00
Standardized root mean square residual (SRMR)	.09	.08

Note. At $p < .001$, critical $\chi^2_{crit} (36) = 67.99$.

Figure 3.7. Standardized coefficients for the proposed measurement model



Best-fitting measurement model. The fit indices for the revised measurement model are summarized in Table 3.19 while the measurement model is depicted in Figure 3.8. Although this model had better fit than the proposed model, $\Delta\chi^2(36) = 110.32, p < .001$, it still did not fit the data well. But, as shown in Table 3.20, all item indicators loaded on significantly to their respective constructs. Since this model fit the data better, the convergent and discriminant validity of the constructs of this revised model were assessed.

Convergent validity of constructs. As shown in Table 3.20, the composite reliability values of all the constructs were above .70. Further, all the AVE values were all above .50. Thus, all the constructs had convergent validity.

Discriminant validity of constructs. The findings in Table 3.21 reveal that none of the constructs demonstrated discriminant validity. The correlations between the constructs were higher than their respective AVE values.

Figure 3.8. Standardized coefficients for the best-fitting measurement model

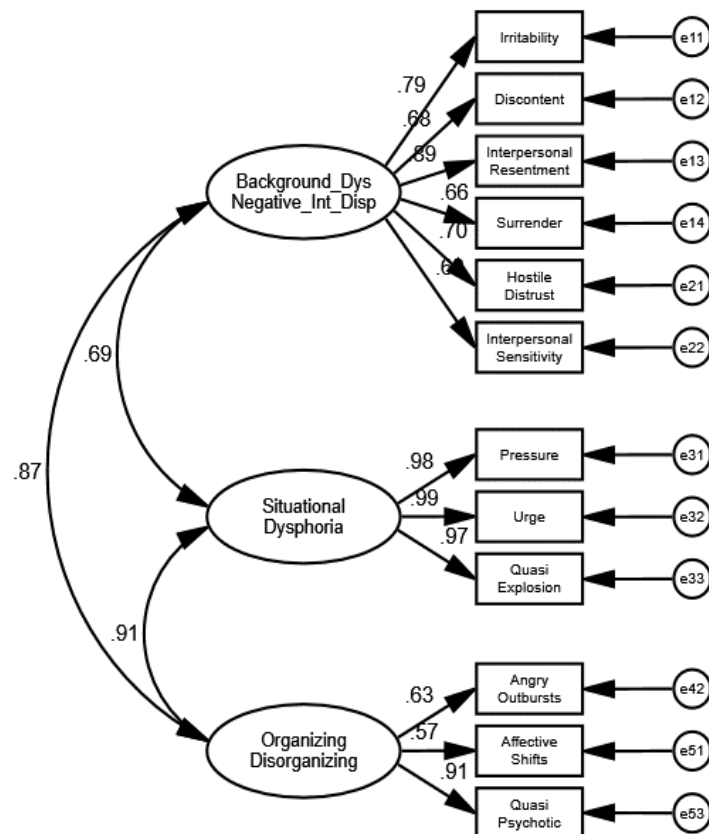


Table 3.20. *Convergent validity for the constructs*

Construct	SFL	CR	AVE
Background dysphoria/negative interpersonal disposition		.87	.61
Irritability	.79		
Discontent	.68		
Interpersonal resentment	.90		
Surrender	.66		
Hostile distrust	.71		
Interpersonal sensitivity	.62		
Situational dysphoria			
Internal pressure	.98	.99	.96
Urge to act	.99		
Quasi-explosion	.97		
Organizing/disorganizing			
Outbursts of anger	.63	.75	.59
Affective shifts	.57		
Emptiness	.91		

Note. SFL = standardized factor loading. CR = composite reliability; AVE = average variance extracted; All items loaded significantly onto their respective constructs, $p < .001$.

Table 3.21. *Discriminant validity results for the final measurement model*

Construct	1	2	3
1 Background dysphoria and negative interpersonal disposition	.78		
2 Situational dysphoria	.69 ***	.98	
3 Organizing and disorganizing	.88 ***	.91 ***	.77

Note. The values of the square root of the average variance extracted are on the diagonal; all other entries are the correlations.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Results for the structural model

The structural model, depicted in Figure 3.9, did not fit the data well. As shown in Table 3.22, none of the fit indices met their respective thresholds for acceptable model fit. The findings in Table 3.23 reveal, however, that all the path coefficients were significant.

Figure 3.9. Standardized coefficients for the structural model

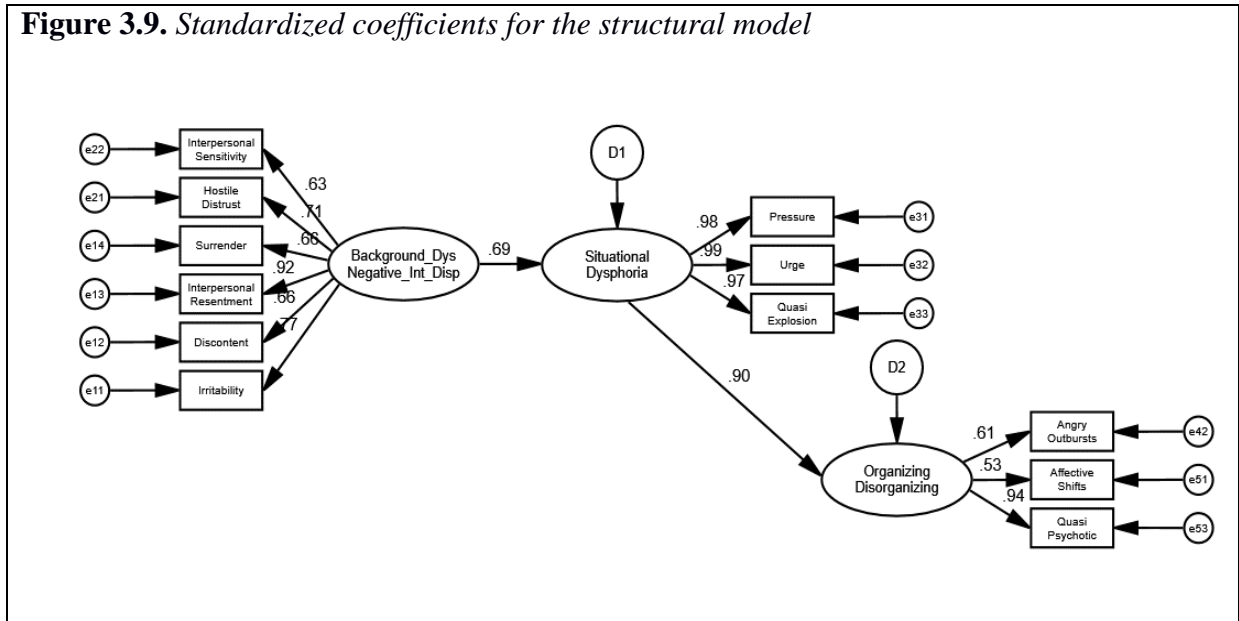


Table 3.22. Fit indices for the structural model

Index	Values
Chi-square	208.75
Degrees of freedom	52
Probability level	.00
Normed chi-square	4.01
Comparative Fit Index (CFI)	.88
Root Mean Square Error of Approximation (RMSEA)	.17
Lower bound 90% confidence interval	.15
Upper bound 90% confidence interval	.20
P-close	.00
Standardized root mean square residual (SRMR)	.11

Table 3.23. Unstandardized and standardized path coefficients for the structural model

Path	B	SE	β	t
Background dysphoria/negative interpersonal disposition to situational dysphoria	44.32	7.50	.69	5.91 ***
Situational dysphoria to organizing/disorganizing	.01	.00	.91	6.81 ***

* $p < .05$. ** $p < .01$. *** $p < .001$.

3.4 Discussion

SITDS development and validation

This study aimed to develop and validate a scale for assessing situational dysphoria in borderline patients (the Situational Dysphoria Scale, SITDS). To this end, the SITDS was firstly developed and then administered to a sample of 105 patients, ascertained from inpatient and outpatient services, who met criteria for BPD as assessed by the Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II). A preliminary over-inclusive 58-item SITDS was firstly created. Then it was administered to the BPD sample, along with other conceptually similar (Nepean Dysphoria Scale) and conceptually distinct (Cynical Distrust Scale, Inventory of Interpersonal Problems-47, Empathy Quotient, and Borderline Personality Severity Index-IV) instruments. The psychometric characteristics (reliability, internal structure, convergent and divergent validity) of the SITDS were then examined and a final 24-item SITDS was developed.

The results of the study show that Situational Dysphoria Scale (SITDS) has a factor structure consistent with the proposed theoretical concept of situational dysphoria. According to our hypothesis, situational dysphoria is a temporary, overwhelming state characterized by three prevalent sub-dimensions (internal pressure, urge to act, and quasi-explosion), and very dependent on situational triggers (personal, interpersonal, and environmental). In this sense, the SITDS appeared to measure situational dysphoria by quantifying the severity with which several situational triggers (personal, interpersonal, and environmental) cause internal pressure, urge to act, and/or a feeling of quasi-explosion in the patient. An excellent overall internal consistency and a very good internal consistency at the cluster- and sub-scale level further support the conceptual coherence of the SITDS.

Although the associations between scores on the SITDS and scores on the measure of background dysphoria (NDS-I) suggest a degree of overlap, results of this study support the notion that situational dysphoria and background dysphoria are distinct constructs, as we hypothesized (and discussed in greater detail in the next paragraph). Weaker but still significant correlations between scores on the SITDS and scores on the measures of hostile distrust (CynDis), chronic interpersonal problems (IIP-47), empathy (EQ – excluding the subscales of Internal Pressure and Urge to Act), and BPD manifestations (BPDSI-IV) suggest that the concept of situational dysphoria is different from but related to these dimensions, and particularly to hostile distrust.

This is consistent both with previous findings emphasizing the role of dysfunctional beliefs (especially interpersonal distrust) in mood instability of BPD (Arntz et al., 1999; Barnow et al., 2009; Beck et al., 2004; Bhar et al., 2008) and with our hypothesis that situational dysphoria is related, on the one hand, to a negative interpersonal disposition (composed of hostile distrust, interpersonal sensitivity, and impaired empathy) and, on the other, to various BPD symptoms. However, there is need to include other measures in further studies of the psychometric properties of the SITDS to better delineate the relationship between situational dysphoria and other constructs.

Finally, the SITDS needs to be tested in clinical samples consisting of individuals with disorders related to dysphoria other than borderline personality disorder (i.e., major depressive disorder, dysthymic disorder, and generalized anxiety disorder) in order to see if the concept of situational dysphoria can be generalized to other clinical conditions or not. Demonstrating that situational dysphoria exists only in BPD patients would lend further credence to the validity of the SITDS but also to the hypothesis that situational dysphoria is (relatively) specific for BPD. In summary, the present study provides preliminary support for the use of the SITDS. This measure may allow practitioners to assess dysphoria in a more

nuanced and conceptually coherent way, thereby differentiating between situational and background manifestations.

Structural equation modeling analysis

This study aimed to develop and validate the new psychopathological-dynamic model for understanding BPD. To this end, the model was firstly developed in detail from a theoretical perspective. Secondly, it was validated administering a specific battery of tests to a sample of 105 patients, ascertained from inpatient and outpatient services, who met criteria for BPD as assessed by the Structured Clinical Interview for DSM-IV Axis II Disorders (SCID-II) (and compared to a sample of 105 healthy controls). The tests (comprising the Nepean Dysphoria Scale, the Situational Dysphoria Scale, the Cynical Distrust Scale, the Inventory of Interpersonal Problems-47, the Empathy Quotient, and the Borderline Personality Severity Index-IV), assessed, each, a specific dimension of the model (background dysphoria, negative interpersonal disposition with its subdimensions of hostile distrust, interpersonal sensitivity, and impaired empathy, situational dysphoria, and BPD symptoms). Then, data were analyzed through structural equation model analysis.

The results of the study seem to confirm the proposed model, even though some revision was 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 organizing and disorganizing symptoms. This is consistent with both previous findings emphasizing the role of interpersonal sensitivity in the affective oscillations of BPD (Goodman et al., 2009) and with our hypothesis that there is an “interpersonal-affective specialty” in BPD, composed of background dysphoria, negative interpersonal disposition, and situational dysphoria. Moreover, background dysphoria,

negative interpersonal disposition, and situational dysphoria demonstrated discriminant validity and a moderate degree of correlation between them, thus confirming our hypothesis that they are related but different constructs.

Secondly, the two hypothesized pathways of symptomatic disturbances seemed to partially represent the variety of BPD manifestations but did not demonstrate discriminant validity, thus suggesting the need for revision. Particularly, (para)suicidal behaviors and other risky behaviors did not seem to fit in the organizing way of symptoms; identity disturbances and quasi-psychotic experiences did not seem to fit in the disorganizing way of symptoms. However, this could be due to the fact that the sample of BPD patients was ascertained from adult psychiatric outpatient services and residential inpatient communities, where they received psychopharmacological and psychotherapeutic treatments that could keep their most severe symptoms under control (i.e., suicidal and parasuicidal behaviors, and paranoid and dissociative experiences). For this reason, there is need to further test the model in a more heterogeneous sample of BPD patients comprising also borderline individuals who are currently not receiving treatment.

Thirdly, impaired empathy seemed not to be involved in the construct of negative interpersonal disposition, which appeared to be best represented only by hostile distrust and interpersonal sensitivity. However, 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 (Baron-Cohen & Wheelwright, 2004). These two components cannot be easily separated but do not seem to be equally impaired in BPD, as reported in literature (the emotional components seem even more prominent, according to some studies; Frank & Hoffman, 1986), thus making the measure of the whole construct of empathy difficult to explore in such patients. This suggests the need to include other measures differentiating

between cognitive and emotional components of empathy in further studies in order to better explore the role of empathy in our model.

Fourthly, situational dysphoria, the newest construct in the model, appeared to be confirmed as composed of three sub-dimensions: internal pressure, urge to act, and quasi-explosion. Including the three indicators of situational dysphoria actually improved model fit. It also made the path coefficient between negative interpersonal disposition and situational dysphoria significant. This is noteworthy because it confirms the construct validity of the instrument developed to measure situational dysphoria (the Situational Dysphoria Scale, SITDS), previously explored through exploratory factor analysis and hierarchical cluster analysis. Besides, it strengthens the argument that proximal mechanisms (i.e., contingent states triggered by everyday events), rather than distal mechanisms (i.e., genetic, cognitive, and environmental risk factors), have a crucial role in driving the acute, short-term occurrence of BPD symptoms, thus accounting for the individual variability in borderline manifestations, as in accordance with recent literature (Furr et al., in preparation; Miskewicz et al., 2015; Wright et al., 2015).

Finally, the model did not fit the healthy controls at all. This is important because the model was developed for a specific clinical population, those with BPD. That it fit only the BPD sample and not the sample of health controls shows that the model appeared to have discriminant validity. To further buttress the validity of the model, however, the model has to be tested with patients suffering from psychiatric disorders other than BPD.

Scala per la Disforia Situazionale (Situational Dysphoria Scale, SITDS)

Qui sotto troverà elencata una serie di eventi che possono accadere. Rifletta attentamente su ognuno di esse e indichi, per favore, se l'evento le è accaduto **durante l'ultima settimana**. Se l'evento non è accaduto in questa settimana, metta una **X** nella casella corrispondente. Se invece l'evento è accaduto in questa settimana, indichi con un **punteggio da 1 a 5** quanto questo:

- l'ha fatta sentire sotto pressione;
- le ha fatto sentire una forte spinta a fare qualcosa;
- l'ha fatta sentire come se stesse per esplodere.

Utilizzi la seguente guida per le sue valutazioni. Grazie.

1 = Per nulla o quasi 2 = Poco 3 = Abbastanza 4 = Molto 5 = Moltissimo

		Non accaduto	Mi ha fatto sentire sotto pressione	Mi ha fatto sentire una forte spinta a fare qualcosa	Mi ha fatto sentire come se stessi per esplodere
1.	Ho fatto qualcosa che non ero qualificato a fare		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
2.	Ho fatto male qualcosa per colpa di altre persone		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
3.	Sono stato interrotto mentre parlavo		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
4.	Ho ottenuto scarsi risultati nello sport/gioco		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
5.	Sono stato ignorato da altre persone		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
6.	Mi è saltato un impegno importante		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
7.	Mi sono messo nei guai con la legge		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
8.	Ho litigato con il coniuge, compagno/a, etc.		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

9.	Sono arrivato tardi al lavoro/appuntamento a causa di un imprevisto		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
10.	Mi sono trovato esposto a una situazione/oggetto temuti		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
11.	Ho litigato con altre persone (collega, cliente, vicino, vigile urbano, etc.)		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
12.	Sono stato interrotto mentre pensavo o mi rilassavo		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
13.	Ho corso per rispettare una scadenza		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
14.	Ho avuto un piccolo incidente (rotto qualcosa, etc) a causa di altre persone		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
15.	Ho avuto problemi con la macchina		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
16.	Ho preso parte a una competizione		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
17.	Ho avuto problemi di soldi per colpa di altre persone		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
18.	Ho guidato in cattive condizioni (traffico, maltempo, etc)		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
19.	Ho fatto qualcosa che non volevo fare		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
20.	Ho dovuto affrontare spese non previste (multe, etc) a causa di altre persone		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
21.	Sono stato frainteso		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
22.	Mi sono passati avanti mentre ero in fila		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
23.	Qualcuno ha mandato all'aria il lavoro che avevo fatto		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
24.	Ho avuto una malattia o problema fisico		1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Descrizione e scoring

La Scala per la Disforia Situazionale è un questionario autosomministrato, formato da 24 item, che misura lo stato di pressione, spinta all'azione, sensazione di stare sul punto di esplodere, che la persona ha esperito nell'ultima settimana in relazione a specifici eventi (personali, interpersonali, ambientali). Per ogni item, la persona deve indicare: I) se l'evento è accaduto nell'ultima settimana; II) se accaduto, quanto (su una scala da 1, per nulla o quasi, a 5, moltissimo) quell'evento: a) l'ha fatto sentire sotto pressione; b) le ha fatto sentire una forte spinta a fare qualcosa; c) lo ha fatto sentire sul punto di esplodere.

[Disforia situazionale: stato di pressione interna, spinta all'azione, sensazione di stare sul punto di esplodere, caratterizzato da una marcata componente reattiva e dunque fortemente dipendente da eventi contingenti scatenanti (personali, interpersonali, ambientali)]

Gli item sono divisi in cluster diversi per tipologia di evento:

- 1) Personali (PE, Personal Events): item 1-4-7-10-13-16-19
- 2) Interpersonali (IE, Interpersonal Events): item 2-5-8-11-14-17-20-23
- 3) Ambientali (EE, Environmental Events): item 3-6-9-12-15-18-21-22-24

Ogni item viene valutato su 3 sottodimensioni: pressione, spinta (all'azione), quasi-esplosione.

E' possibile derivare dalla scala tre punteggi principali:

- 1) *Disforia situazionale (globale)*: somma dei punteggi ottenuti in tutti gli item su tutte e tre le dimensioni
- 2) *Disforia situazionale (dimensione-specifica)*: somma dei punteggi ottenuti in tutti gli item per ogni singola dimensione
- 3) *Disforia situazionale (evento-specifica)*: somma dei punteggi ottenuti negli item relativi a una delle tre tipologie di evento (personale, interpersonale, ambientale) su tutte e 3 le dimensioni

NB: QUESTA ULTIMA PAGINA NON VA STAMPATA PER IL PARTECIPANTE!

Conclusions

Several theoretical and clinical implications can be gleaned from the results of this study. Firstly, the findings support a new, psychopathological-dynamic model that posited the BPD subjective experience to be an essential interpersonal and affective problem. This is in accordance with recent literature describing the borderline clinical core as being characterized by a specific form of emotional instability that is strongly dependent on the context (environmental relational, interpersonal) (Gratz et al., 2010; Gunderson & Lyons-Ruth, 2008; Zanarini & Frankenburg, 1997, 2007).

Secondly, the results indicate that dysphoria, in contrast with the vagueness with which it is still described in psychiatric and clinical psychology literature (Starcevic, 2007; Starcevic et al., 2013), needs to be carefully assessed because it may capture different levels of the BPD patients' subjective experience (basic lived experience or here-and-now lived experience). Also, the findings highlight the importance of both dispositional (background dysphoria and negative interpersonal disposition) and situational (situational dysphoria) factors in BPD. Working on these levels from a therapeutic point of view could be helpful in preventing the development of symptomatic disturbances.

One of the major limitations of this study was the fact that the BPD participants represented only a specific portion of borderline variety (that is, patients ascertained from inpatient and outpatient services, and so were under current psychopharmacological and/or psychotherapeutic treatment). This may affect the generalizability of the results to the broader population of borderline patients, thus making the inclusion of those who are not currently receiving treatment (and so with probably a severe dysfunction still present) a priority in future tests of the model. Moreover, the relatively small sample size is likely to have

influenced the power of the statistical analyses, even though such (or less large) sample sizes are not uncommon in studies of BPD (Linehan et al., 1991; Low et al., 2001; Verheul et al., 2003). Lastly, the use of self-report measures (of which one, the Situational Dysphoria Scale, was created ad hoc for this study), helpful in speeding the test administration in clinical contexts, could have affected the results, as such measures are limited by participants' subjective interpretations.

Future research should further investigate the model in a larger BPD sample with a more broad level of functioning. In fact, as previously shown, the borderline psychopathology is so multifaceted that it can be compared to a "condominium". Using Kernberg' theory of personality organization, mental capacity of the tenants on upper floors (i.e., patients with low BPD severity) is equivalent to neurotic functioning, while mental operations of the tenants on lower floors (i.e., patients with high BPD severity) is akin to psychotic functioning (Rossi Monti & D'Agostino, 2009). Taking into account the individual differences within BPD may help to improve the accuracy of the model in sketching a portrait of borderline patients that is as realistic as possible.

Moreover, future research should test the model with the organizing and disorganizing pathways of symptoms revised. Below, we propose a possible, alternative route to do. *Organizing pathway of symptoms* may be subdivided into two further paths: a) *relational path*, comprising behaviors oriented to the others, such as fears of abandonment, outbursts of anger, and stormy relationships; b) *impulsive path*, comprising impulsive behaviors, such as suicide and parasuicide, and other risky behaviors. Similarly, *disorganizing pathway of symptoms* may be subdivided into two further paths: a) *affective path*, comprising affective oscillations, such as affective shifts and emptiness; b) *cognitive and self-related path*, comprising cognitive and identity-related symptoms, such as identity disturbances and quasi-psychotic experiences.

This revised part of the model could be seen as a slightly different outcome of the gunshots in the metaphor of the BPD patient as a individual having a gun and bullets available discussed in Chapter 2. If he/she gets to the point of shooting, it can happen that some gunshots hit some targets out of him/her (*organizing pathway of symptoms*), aiming at someone in particular (*relational path*) or hitting something/harming oneself without thinking too much (*impulsive path*). Instead, some other gunshots have not the strength to hit something outside of him/herself and make just him/her loose balance (*disorganizing pathway of symptoms*); in this case he/she can only hit his/her foot (*cognitive path*) or misfire and fall to the ground (*affective path*) due to the recoil of the shot fired. In both cases the patient has lowered the internal pressure, thus coming back to the baseline state, that of having a gun and bullets available for the next shoot.

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