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Dimensional assessment of personality and impulsiveness in borderline personality disorder

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ABSTRACT

The aim of this study is to determine the dimensional personality profile in borderline personality disorder (BPD), and to assess the multidimensional nature of impulsiveness using self-reported and laboratorial measures. We compared the differences in 39 female subjects diagnosed with BPD and 102 healthy controls using a battery of self-report instruments and a laboratorial measure of impulsivity. BPD patients obtained higher scores in impulsivity and aggressiveness self-report measures and higher impulsive-related temperament dimensions, compared with the control group. BPD patients did not differ from controls in laboratorial-behavioral impulsivity and there was no association between self-report impulsivity and the performance in the laboratorial task. According to our findings, BPD patients are characterized by high levels of trait impulsivity in several domains. Our results do not support the hypothesis of a possible deficit in the inhibitory control in BPD patients, suggested by an impulsive response pattern in the neurocognitive assessment. Future studies should study the relationship between personality traits and rapid-response impulsivity using different laboratorial-behavioral measures in BPD patients.

1. Introduction

Impulsivity, a core feature of borderline personality disorder (BPD), is considered to be an underlying dimension of this disorder (Lieb, Zanarini, Schmahl, Linehan, & Bohus, 2004) and a central aspect in the understanding of the nature of BPD psychopathology (Links, Heslegrave, & van Reekum, 1999; Paris, 2005, Paris, 2007). It was previously correlated with BPD morbidity and mortality (Forman, Berk, Henriques, Brown, & Beck, 2004; Oldham, 2006) and clinically it is characterized by severe behavioral disturbance expressed by a pattern of impulsive aggressive behaviors like repetitive self-destructive behavior, substance abuse, risky sexual behavior, angry outbursts, among others (APA, 2000).

The broad concept of impulsivity understood as a stable trait of personality has been characterized as a multidimensional construct (Flory et al., 2006). Several previous studies found that BPD patients present high levels of trait impulsiveness and aggressiveness when measured by standard self-report instruments that have shown to capture these concepts of impulsivity. Impulsiveness as a broad personality trait can be measured by the Barratt impulsiveness scale (BIS, Barratt, 1985; Patton, Stanford, & Barratt, 1995), a widely used instrument in the study of impulsivity. Different studies suggested that when assessed by this instrument, BPD patients report high levels across all aspects of impulsivity (Kunert, Druecke, Sass, & Herpertz, 2003; Paris et al., 2004). Impulsive aggression in BPD patients seem to be related to an unplanned aggressive behavior generally defined as a hair-trigger aggressive response to provocation with loss of behavioral control (Dougherty, Bjork, Huckabee, Moeller, & Swann, 1999) and associated with a more emotional component. Using the *Buss–Durkee hostility inventory* (BDHI, Buss & Durkee, 1957), an instrument that has been shown to measure this component of impulsivity, results consistently demonstrated that BPD patients were characterized by high levels of aggressiveness and hostility, across various dimensions related to attitudinal and behavioral hostility (Dougherty et al., 1999; Paris et al., 2004).

According to some authors, impulsiveness and impulsive aggression are heritable traits of temperament that may contribute to the development of BPD (Lieb et al., 2004; Skodol et al., 2002). Cloninger (1987), suggested that impulsive aggression is observed clinically as a combination of high novelty seeking (NS) and low

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harm avoidance (HA), however subsequent findings have led to a revision of this prediction with more recent publications suggesting that BPD is associated with high NS and high HA (Barnow, Ruge, Spitzer, & Freyberger, 2005; Joyce et al., 2003; Pukrop, 2002), indicating that these temperament dimensions may be altered in BPD patients.

Accordingly as suggested above, BPD patients generally show high levels of impulsivity when measured by different self-reported instruments. However, a few studies have used these instruments combined with laboratorial-based measures of impulsivity in BPD samples.

Rapid-response model of impulsivity is one of the dominant models based on animal studies that defines impulsivity as an inability to act without adequately assessing the context (Swann, Bjork, Moeller, & Dougherty, 2002), leading to errors of commission on tests that required careful checking of the stimuli (Evenden, 1999). The continuous performance test (CPT) provides information on attentional processing, cognitive efficiency and impulsivity. A previous study (Keilp, Sackeim, & Mann, 2005) found that higher impulsiveness scores were associated with poorer performance on the CPT–identical pairs version (CPT–IP) in normal subjects, indicating an association between self-rated impulsiveness and the performance in neuropsychological testing. Another study (Swann et al., 2002), found that impulsivity ratings correlated significantly with commission error rate on a CPT–IP variant, suggesting that these types of errors are a possible measure of rapid-response impulsivity. In BPD patients, there are nearly no studies that have investigated the performance in the CPT. Lenzenweger, Clarkin, Fertuck, and Kernberg (2004) examined the differences in CPT–IP performance in BPD patients compared to normal controls but failed to find any significant differences.

Additionally, some previous studies suggested that individuals with BPD may show a possible dysfunction in the inhibitory control (Grootens et al., 2008; Ruchsow et al., 2008). However, results are fairly inconsistent and other investigations report no significant evidences of impairment in cognitive functioning in BPD patients (Kunert et al., 2003; Lampe et al., 2007).

As suggested above, it becomes necessary to replicate and clarify previous results in order to accomplish a complete understanding of the role of impulsivity in BPD. It is not clear whether neuropsychological dysfunction plays a role in BPD, and/or if this dysfunction is related to certain traits of personality like impulsivity and aggressiveness. Therefore, and considering the severe behavioral disturbance characteristic in BPD, it is of considerable interest to complement the assessment of impulsivity with a laboratorial-based measure of impulsivity in these patients.

This study intends to address the multidimensional nature of impulsivity, using self-reported measures known to capture different aspects of this construct, combined with a laboratorial measure of impulsivity in BPD patients, in comparison to healthy subjects. Secondly, determine whether there is a relationship between impulsivity personality traits and the performance in a laboratorial-based measure of impulsivity in BPD patients. As an additionally aim, we intend to report about the dimensional personality profile in BPD individuals according to Cloninger's psychobiological model, compared with a healthy control group.

2. Method

2.1. Subjects

2.1.1. BPD patients group

The clinical sample consisted of 39 BPD female patients (mean age 28.6 years, SD = 7.34) recruited over a period of two years in a specialized unit in the assessment and treatment of personality disorders. Patients were initially screened through a clinical psychiatric interview and included in the study if they met BPD criteria according to DSM-IV-TR (APA, 2000) and if they were between the ages of 18 and 45. We use the structured clinical interview for DSM-IV Axis II personality disorders (SCID-II, Spanish version by First, Gibbson, Spitzer, Williams, and Benjamin, 1999), to establish BPD diagnose. The reliability and validity of the SCID-II are well established (First et al., 1999). All clinical and SCID-II interviews were conducted by an experienced clinical psychologist previously trained in the use and scoring of this interview.

Subjects were excluded if any of the following were detected: schizophrenia or other psychotic disorders, current severe substance abuse or dependence, severe organic illness, or mental retardation. Forty nine patients were asked to participate in the study, 10 abandoned the study before completing the assessment.

2.1.2. Healthy control group

The control group (mean age 22.6 years, SD = 3.61) consisted of 102 female university students, recruited through a bulletin-board announcement during a period of one week in a university campus of the Barcelona Autonomous University, Spain. All participants were initially screened for prior history of psychiatric disorder and for DSM-IV BPD criteria (APA, 2000) using the self-reported questionnaire of the SCID-II and excluded if five or more criteria were present. If none of the previous conditions were detected, and the subjects were between the ages of 18 and 45, they were invited to participate in the study, and paid 15€ for their participation. One hundred and twenty female students registered for the study, 10 of whom were excluded for having a prior history of psychiatric disorder, and eight for meeting DSM-IV-TR criteria to BPD.

Demographic characteristics of both samples are given in Table 1. Informed written consent was obtained from both groups prior to the assessment. The study was approved by the Ethics Committee from the Fundación Sociosanitaria Barcelona and from the Universitat Autònoma de Barcelona, respectively. This study was conducted in the city of Barcelona metropolitan area in Spain.

2.2. Measures

2.2.1. Self-report measures

The Barratt impulsiveness scale-11 (BIS-11, Barratt, 1985; Patton et al., 1995) is a 30-items self-report questionnaire developed spe-

Table 1
Demographic data of BPD and control group

	BPD (n = 39) n (%)	Control (n = 102) n (%)
Years of education		
Less than 8	9 (23.1%)	–
8–12	22 (56.4%)	–
12–16	8 (20.5%)	95 (93.1%)
More than 16	–	7 (6.9%)
Occupation		
Student	7 (17.9%)	102 (100%)
Employee	8 (20.5%)	–
Jobless	21 (53.9%)	–
Other	3 (7%)	–
Relationship status		
Single	29 (74.4%)	81 (79.4%)
Married	2 (5.1%)	19 (18.6%)
Separated/divorced	7 (17.9%)	2 (2.0%)
Widow	1 (2.6%)	–
Household		
With parents/family	23 (59.0%)	51 (52.0%)
With partner	6 (15.4%)	10 (10.2%)
Alone	8 (20.5%)	4 (4.1%)
Shared flat	2 (5.1%)	33 (33.7%)