Exploratory factor analysis of borderline personality disorder criteria in monolingual Hispanic outpatients with substance use disorders

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A B S T R A C T
This study examined the factor structure of the Diagnostic and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) criteria for borderline personality disorder (BPD) in Hispanic patients. Subjects were 130 monolingual Hispanic adults who had been admitted to a specialty outpatient clinic that provides psychiatric and substance abuse services to Spanish-speaking individuals. All were reliably assessed with the Spanish-Language Version of the Diagnostic Interview for DSM-IV Personality Disorders. After evaluating internal consistency of the BPD criterion set, an exploratory factor analysis was performed using principal axis factoring. Results suggested a unidimensional structure, and were consistent with previous studies of the DSM-IV criteria for BPD in non-Hispanic samples. These findings have implications for understanding borderline psychopathology in this population, and for the overall validity of the DSM-IV BPD construct.

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1. Introduction
For well over a quarter century, considerable attention has been focused on refining the ‘‘borderline’’ construct. Based in part on the work of Gunderson and Singer (1975) and Spitzer et al. (1979), Diagnostic and Statistical Manual of Mental Disorders, third edition (DSM-III) (American Psychiatric Association [APA], 1980) subdivided this area of psychopathology into borderline and schizotypal personality disorders. Despite this refinement—and subsequent adjustments to the diagnostic criteria in DSM-III-R (APA, 1987) and DSM-IV (APA, 1994)—the borderline personality disorder (BPD) construct remains heterogeneous (Sanislow and McGrath, 1998). This heterogeneity is partly inherent in the polythetic nature of the diagnosis (Skodol et al., 2002). In addition, patients with BPD comprise a heterogeneous group, often manifesting a wide variety of co-morbid axis I and axis II disorders (Oldham et al., 1992, 1995). Such heterogeneity has been variously interpreted as demonstrating poor validity of the BPD construct and also as being one of its strengths (Clifton and Pilkonis, 2007).

One approach to examining this clinical heterogeneity has been through factor analytic techniques. Factor analysis can empirically identify meaningful components or latent elements within a diagnostic construct. Several such studies, using DSM criteria for BPD, have been reported (Rosenberger and Miller, 1989; Clarkin et al., 1993; Fossati et al., 1999; Sanislow et al., 2000; Whewell et al., 2000; Sanislow et al., 2002; Johansen et al., 2004; Becker et al., 2006; Clifton and Pilkonis, 2007). One study used DSM-III criteria in college students (Rosenberger and Miller, 1989), one used DSM-III-R criteria in adolescent inpatients (Becker et al., 2006), four used DSM-III-R criteria in adult patients (Clarkin et al., 1993; Sanislow et al., 2000; Whewell et al., 2000; Clifton and Pilkonis, 2007), and three studied DSM-IV criteria in adult patients (Fossati et al., 1999; Sanislow et al., 2002; Johansen et al., 2004).

Three studies in adult populations—all of which used confirmatory factor analysis—were consistent with a unidimensional construct (Fossati et al., 1999; Johansen et al., 2004; Clifton and Pilkonis, 2007). Other adult studies, however, have suggested multiple dimensions. Rosenberger and Miller’s (1989) exploratory factor analysis revealed two factors—the first including interpersonal and identity criteria, and the second encompassing dysregulation of behaviour and affect. Because most of the criteria loaded on both factors, however, these authors suggested that the BPD criteria could not be clearly distinguished by these underlying factors. Whewell et al. (2000) used exploratory methods to identify two factors—roughly corresponding to the impulsive and borderline subtypes of ICD-10 emotionally unstable personality disorder. Clarkin et al.’s (1993) exploratory analysis revealed three factors—disturbed identity and interpersonal relationships, affective dysregulation (including suicidality), and impulsivity. Sanislow et al. (2000) also used exploratory methods and DSM-III-R criteria, but found three somewhat different factors—disturbed relatedness, behavioural dysregulation, and affective dysregulation. Using DSM-IV criteria and a separate sample, Sanislow et al. (2002) attempted to validate this three-factor model via confirmatory factor analysis.
Although these authors noted that a unitary construct provided a good fit with their data, the three-factor model was significantly better. Our own exploratory study of adolescents revealed four factors that differ from those reported in the adult studies, suggesting that developmental processes may affect the underlying structure of BPD (Becker et al., 2006). Inasmuch as these components may reflect core dimensions of borderline psychopathology, this type of analysis has important theoretical and clinical implications (Skodol et al., 2002).

The aim of this study was to examine the factor structure of the DSM-IV criteria for BPD in individuals who had been reliably assessed with semistructured interviews, and to do so with a study group of monolingual Hispanic patients. Subjects were Hispanic outpatients receiving mental health and addiction services in a community-based programme. Because research in this area of psychopathology has consistently documented the co-occurrence of BPD with substance use disorders (Grilo et al., 1997; Skodol et al., 1999), we felt that this study group would represent a population in which BPD is clinically relevant.

By using a Hispanic group, we hoped to contribute to a small body of literature on personality pathology in the nation’s largest, and fastest growing, minority population. While considerable research has documented frequency differences by ethnicity for a broad range of psychiatric disorders (Baskin et al., 1981; Adams et al., 1984; Kanno et al., 1987), very few have made comparisons that included Hispanic subjects and the BPD diagnosis. Although one such study found no differences between Hispanics and other ethnic groups (Castaneda and Franco, 1985), another study found a higher rate of BPD among Hispanic subjects (Chavira et al., 2003). Potential explanations for the latter finding include the negative psychological effects of acculturation, as well as diagnostic bias due to language or cultural differences (Baskin et al., 1981; Chavira et al., 2003). Beyond these studies of disorder frequency, many have argued that culture – which, in part, can be seen as the shared values, beliefs and attitudes of a group – will affect both personality development and the clinical phenomenology of mental illness (Marsella, 1988; Sundbom et al., 1998). While some studies have demonstrated that the underlying structure of personality is similar across cultures (McCrae and Costa, 1997) – and between Hispanic and non-Hispanic cultures in particular (Benet-Martínez and John, 1998) – one study has suggested that cultural factors may be an important determinant of personality pathology within Hispanic populations (Gibbs, 1982). And, indeed, there are aspects of Hispanic (or Latino) cultures which may be relevant to the structure of BPD and other personality disorders (Long and Martinez, 1997; Benet-Martínez and John, 1998; Grilo et al., 2003).

In particular, the cultural psychology literature has documented that, compared to non-Hispanic Anglo groups, Hispanic/Latino groups tend to be less individualistic, and subscribe to a set of cultural values that are believed to play a significant role in their lives (Comas-Díaz, 1996). These values include confianza (trust and intimacy in a relationship), personalismo or simpatia (valuing interpersonal harmony, relating to others on a personal level, and the avoidance of interpersonal conflict), and familismo (placing a strong emphasis on the importance of family as the center of one’s experience, and on the primacy of collective over individual values). Finally, Hispanic culture has been characterised as having distinct gender–role expectations, such as machismo for men and marianismo for women (Andrés-Hyman et al., 2006). Given their importance in Hispanic populations, researchers have recommended that these values be understood and used in clinical work with Latino groups (Bracero, 1998; Falcì, 1998; Santiago-Rivera et al., 2002; Añez et al., 2005; Andrés-Hyman et al., 2006; Añez et al., 2008).

2. Method

2.1. Subjects

Subjects were 130 monolingual (Spanish-speaking only) Hispanic adults evaluated at a community-based, outpatient psychiatric clinic. This clinic, which is located within a larger community mental health centre, provides services only to monolingual Hispanic adults and has a specialty focus on the aftercare treatment of substance abuse. The study group consisted of a nearly consecutive series of patients assigned to a particular treatment team within the clinic. Assignment to this team was not determined by clinical, demographic or financial considerations, but rather by case flow. All subjects had a clinically derived lifetime diagnosis of an alcohol use disorder, and approximately three-quarters had a lifetime diagnosis of an additional substance use disorder. At the time of evaluation, all had been abstinent from substances for a minimum of 60 days. Patients were excluded from the study if they had mental status impairments that could preclude valid assessment (e.g., acute symptoms of psychosis). Of the 130 subjects, 90 (69%) were male, and 40 (31%) were female. The mean age was 37.4 years (S.D. = 10.5), and 76 (58%) were married. Sixty-six percent of subjects were originally from Puerto Rico. The remaining subjects had a range of origins – 16% from Mexico, 4% from Central America, 2% from the United States, 1% from South America – and about 10% either originated elsewhere or information was not obtained. The mean period of U.S. residence was 12.2 years (S.D. = 9.3). After complete explanation of study procedures, and prior to initiating the interviews, written informed consent was obtained in Spanish from all subjects.

2.2. Procedures and assessments

The Spanish-Language Version of the Diagnostic Interview for DSM-IV Personality Disorders (S-DIPD-IV; Grilo et al., 2003) was administered to all subjects. The S-DIPD-IV – like the original, English-language version of the DIPD-IV (Zanarini et al., 1996) – is a semistructured diagnostic interview that assesses for all DSM-IV personality disorders and criteria. The development of the S-DIPD-IV, through a process of translation and back-translation, and the analysis of its reliability are described elsewhere (Grilo et al., 2003). The S-DIPD-IV requires that criteria must be present and pervasive for at least 2 years, and that they must be characteristic of the person during adulthood. The semistructured interview was administered by experienced, bilingual Hispanic, doctoral-level research clinicians. Final research diagnoses were established by the ‘best estimate’ method, based on the S-DIPD-IV and on any additional relevant data from the clinical record, following the LEAD (longitudinal, expert, all data) standard (Pilkonis et al., 1991).

Inter-rater reliability of S-DIPD-IV diagnoses was evaluated using pairs of independent ratings for 27 randomly-selected taped assessments. Kappa coefficients for the personality disorders were generally acceptable (M = 0.83; S.D. = 0.16), Inter-rater reliability for the BPD diagnosis, in particular, was high (κ = 0.91). Kappa coefficients were also acceptable for the individual BPD criteria (M = 0.71; S.D. = 0.019).

2.3. Statistical analysis

Correlational analyses examined the associations between the DSM-IV criteria for BPD, and internal consistency of the criterion set was evaluated by Cronbach’s (1951) alpha coefficient. Then, an exploratory factor analysis was performed on the BPD criteria, using principal axis factoring (Norusis, 1994; Fabrigar et al., 1999; Costello and Osborne, 2005).

3. Results

Frequencies for all the DSM-IV personality disorders within this study group are provided in Table 1. BPD was diagnosed in 39 (30%) of the subjects.

Coefficient alpha for the BPD criterion set was 0.89, suggesting adequate internal consistency. The coherence of the criterion set is further supported by the strength of the intercorrelations among the individual BPD criteria, shown in Table 2. Here, it is evident that all criteria were significantly correlated with all other criteria.

Results of the principal axis factoring are shown in Table 3. The Kaiser–Meyer–Olkin measure of sampling adequacy (0.88) and Bartlett’s test of sphericity (χ² = 522.8, df = 36, P < 0.001) indicated that the data were appropriate for factor analysis. Examination of the

<table>
<thead>
<tr>
<th>Personality disorder</th>
<th>N</th>
<th>%</th>
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<td>2</td>
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<td>5</td>
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<td>30</td>
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<td>3</td>
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<tr>
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<td>3</td>
</tr>
<tr>
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<td>26</td>
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<tr>
<td>Dependent</td>
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<td>15</td>
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<tr>
<td>Obsessive–compulsive</td>
<td>34</td>
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