The Psychometric Properties of the Personality Inventory for the DSM-5 (PID-5) in a Colombian Clinic Sample*

Las propiedades Psicométricas del Inventario de Personalidad para el DSM-5 (PID-5) en población clínica colombiana

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ABSTRACT

Objective: to validate the Personality Inventory for DSM-5 (PID-5) in a Colombian clinical population and the gender differences. Participants: 341 patients between 18 and 60 years of age, 60% of women. Method: Confirmatory Factor Analyses (AFC) and concurrent validity whit PBQ-SF. Results: supported the existence of the 25 first-order factors. In terms of domains (second-order analysis), several organization models were posed. The results supported the model proposed by Krueger, Derringer, Markon, Watson, and Skodol (2012): χ^2(2661, n = 341) = 3350, RMSEA = 0.028 (90% CI: 0.025; 0.030), CFI = 0.99, NNFI=0.99. Men scored significantly higher than women on grandiosity, irresponsibility, manipulativeness, risk-taking, antagonism, and disinhibition. Women scored significantly higher than men on emotional lability and intimacy avoidance. The concurrent validity of PID with the PBQ-SF was high, giving support to the traits of personality disorder models of the DSM-5.

Keywords
Personality disorders; theory of traits; PID-5; PBQ-SF and confirmatory factor analysis.

RESUMEN

Objetivo: validar el Inventario de Personalidad para el DSM-5 en una población clínica colombiana e identificar diferencias de género. Participantes: 341 pacientes entre 18 y 60 años, 60% mujeres. Método: AFC en varios modelos de organización, y validez concurrente con el PBQ-SF. Resultados: el AFC respaldó la existencia de los 25 factores de primer orden. En términos de dominios (análisis de segundo orden), se plantearon varios modelos de organización, y se respaldó el modelo

propuesto por Krueger et al. (2012): χ^2(2661, n = 341) = 3350, RMSEA = 0.028 (90% CI:.025; 0.030), CFI = 0.99, NNFI = 0.99. Los hombres obtuvieron puntajes significativamente más altos que las mujeres en grandiosidad, irresponsabilidad, manipulación, toma de riesgos, antagonismo y desinhibición. Las mujeres puntuaron significativamente más alto que los hombres en labilidad emocional y la evitación de la intimidad. La validez concurrente del PID con el PBQ-SF reportó índices de correlación altas.

Palabras clave
Trastornos de personalidad; teoría de rasgos; PID-5; PBQ-SF y análisis factorial confirmatorio.

The main objective of this research was to carry out a psychometric and structural analysis of the PID-5 (Krueger, Derringer, Markon, Watson, & Skodol, 2012), using confirmatory factor analysis to evaluate the adequacy of the three hierarchical models of organization of facets in described domains. Importantly, in contrast with the previous studies, we examined the structure of the PID5 at both levels, facets and domains, simultaneously. We used parcels instead of items with this purpose. Namely, three item-parcels were used as indicators of the facets. This strategy reduces the number of parameters of the model considerably and allows using confirmatory factor analysis to test how item-parcels are arranged into facets, and facets are arranged into dimensions.

Moreover, other psychometric properties, such as the internal consistency of the facets and domains and concurrent validity, were evaluated. To do the last, correlations between the PID-5 (Krueger et al., 2012) scales and Personality Belief Questionnaire-Short-Form (Butler, Beck, & Cohen, 2007) were obtained. Finally, we wanted to compare the gender differences in domains and facets.

A while ago it started to be considered that the categorical approach to personality disorders, which had prevailed until the DSM-IV-TR (American Psychiatric Association, 1994), was not the most appropriate because, although it had the advantage of clarity and ease of communication among professionals, it also had serious difficulties. These difficulties included a high degree of overlap between categories and diagnoses, lack of clarity in the thresholds of each disorder, temporary instability of diagnoses, lack of agreement in the conceptualization of disorders, and variability of symptoms (Clark, 1999). This led some authors (e.g., Costa & Widiger, 2009) to consider the possibility of conceptualizing personality disorders from the theories of normal personality traits (such as the Five Factor Model) and to propose an evaluation of the instruments used in it (NEO-PI-R; Costa & McCrae, 1992). However, the forms of measurement used for normal personality were not designed to notice pathological personality changes (Krueger et al., 2011). Therefore, multiple models emerged in the dimensions of pathologic personality traits: The Dimensional Assessment of Personality Pathology (DAPP; Livesley, 2001); The Schedule for Nonadaptive and Adaptive Personality (SNAP) Model (Clark, Simms, Wu, & Casillas, 2008); The Personality Psychopathology Five (PSY-5) Model (Harkness, Finn, McNulty, & Shields, 2012; Harkness, McNulty, & Ben-Porath, 1995; Harkness & McNulty, 1994; Harkness, 1992); The Dimensional Personality Symptom Item Pool (DIPSI) Model (De Clercq, De Fruyt, Van Leeuwen, & Mervielde, 2006); The Millon Clinical Multiaxial Inventory-III (MCMI-III) Model (Millon, Millon, Davies, & Grossman, 2009); Models derived from the empirical structure of the DSM (Markon, 2010; O´Connor, 2005); and the Shedler-Westen Assessment Procedure (SWAP) Model (Westen & Shedler, 2007).

One of the main theoretical models that explained the domains of pathological personality traits was proposed by Widiger and Simonsen (2005), who raised the existence of four large bipolar domains: extroversion vs. introversion, antagonism vs. compliance, constraint vs. impulsivity, and negative affect vs. emotional stability. They also described a fifth domain, unconventionality vs. closeness to experience, derived from one of the large domains of the NEO Revised Personality Inventory (Costa & McCrae, 1992). However, this model, according to Krueger, Derringer,

Markon, Watson and Skodol (2012), had the problem of not being represented in the revised models, and has no correlation with the personality disorders in DSM-IV (American Psychiatric Association, 1994), as shown in the meta-analyses of Samuel and Widiger (2008). In addition, Krueger et al. (2012) sought to identify and evaluate the features of a fifth domain called "psychoticism". That would cover cognitive-perceptual distortions and the eccentric behavior of the schizotypal personality disorder. This approach to the four domains of Widiger and Simonsen (2005) in addition to the domain of psychoticism coincides with the model of the Personality Psychopathology Five (PSY-5) by Harkness et al. (1995).

With this background, the Work Group on Personality and Personality Disorders of DSM-5 proposed to develop an alternative model for personality disorders, based on performance and the existence of pathological personality traits. With this purpose, they focused on the delimitation and measurement of maladaptive traits in five domains: introversion, antagonism, impulsivity vs. constraint, negative affect and psychoticism (Krueger et al., 2012). Subsequently, they changed the name of the domains introversion for detachment, and impulsivity for disinhibition. To develop this model, the Group proposed the objective of identifying and operationalizing the domains and facets of pathological personality and developed a measurement for these, emphasizing the characteristics of personality disorders (Krueger et al., 2012). This is how they arrived at a model of Personality Disorders and an assessment that met three conditions: (1) to cover the four domains of maladaptive personality identified by Widiger and Simonsen (2005); (2) to add a fifth domain of psychoticism, which was not included in the model of Widiger and Simonsen (2005); and (3) to have specific facets of maladaptive traits within those domains (Krueger et al., 2012). Thus, the Group developed a measurement for personality disorders, called Personality Inventory for DSM-5 (PID-5; Krueger et al., 2012), with 25 facets

of personality organized within the five domains described above.

The organization of facets in domains has had three models of presentation. In the first one, 25 facets are distributed without repetition in five domains (Krueger et al., 2012). This first form of organization is called in this article Model 1 (table 1). Model 2 appears in section III of the DSM-5: Emerging Measures and Models (American Psychiatric Association, 2013a). In this organization two facets that were not on the model of Krueger et al. (2012) are incorporated into the domain of negative affect: depressivity and suspiciousness; in the domain of detachment is incorporated a facet that was not on the model of Krueger et al. (2012): restricted affectivity; and in the domain of antagonism is incorporated a facet that was not on the model of Krueger et al. (2012): hostility (Table1). Model 3 is presented in a Web page of the American Psychiatric Association (2013b), which brings online evaluation measurements, among them the PID-5 for adults. In this model, each domain consists of three facets (Table 1).

Table 1

Organization of Facets and Domains of the PID

Model 1 Krueger, Derringer, Markon, Watson y Skodol (2012)	Model 2 DSM-5 (American Psychiatric Association, 2013a)	Model 3 American Psychiatric Association (2013b)
Negative Affect	**Negative Affect**	**Negative Affect**
- Anxiousness	- Anxiousness	- Anxiousness
- Emotional Lability	- Emotional Lability	- Emotional Lability
- Hostility	- Hostility	
- Perseveration	- Perseveration	
- (Lack of) Restricted Affectivity	- (Lack of) Restricted Affectivity	
- Separation Insecurity	- Separation Insecurity	- Separation Insecurity
- Submissiveness	- Submissiveness	
	- Depressivity	
	- Suspiciousness	
Detachment	**Detachment**	**Detachment**
- Anhedonia	- Anhedonia	- Anhedonia
- Depressivity	- Depressivity	
- Intimacy Avoidance	- Intimacy Avoidance	- Intimacy Avoidance
- Suspiciousness	- Suspiciousness	
- Withdrawal	- Withdrawal	
	- Restricted Affectivity	- Withdrawal
Antagonism	**Antagonism**	**Antagonism**
- Attention Seeking	- Attention Seeking	
- Callousness	- Callousness	
- Deceitfulness	- Deceitfulness	- Deceitfulness
- Grandiosity	- Grandiosity	- Grandiosity
- Manipulativeness	- Manipulativeness	- Manipulativeness
	- Hostility	
Disinhibition	**Disinhibition**	**Disinhibition**
- Distractibility	- Distractibility	- Distractibility
- Impulsivity	- Impulsivity	- Impulsivity
- Irresponsibility	- Irresponsibility	- Irresponsibility
- (Lack of) Rigid Perfectionism	- (Lack of) Rigid Perfectionism	
- Risk Taking	- Risk Taking	
Psychoticism	**Psychoticism**	**Psychoticism**
- Eccentricity	- Eccentricity	- Eccentricity
- Cognitive and Perceptual Dysregulation	- Cognitive and Perceptual Dysregulation	- Perceptual Dysregulation
- Unusual Beliefs and Experiences	- Unusual Beliefs and Experiences	- Unusual Beliefs and Experiences

The psychometric properties of the PID-5 were initially established by Krueger et al. (2012), showing very suitable Cronbach Alpha (with values ranging from 0.72 to 0.96) and a first Exploratory Factor Analysis showing adequate factor loadings of the facets within the five proposed domains. In this same vein, Markon, Quilty, Bagby and Krueger (2013) evaluated the psychometric properties of a version of the PID-5 for informants (Informant Report Form of the PID-5), and Quilty, Ayearst, Chmielewski, Pollock and Bagby (2013) evaluated the psychometric properties of the PID-5 in a sample of psychiatric patients who participated in the APA DSM-5 Field Trial (Centre for Addiction and Mental Health Site). The hierarchical structure of the PID-5 was described by Wright et al. (2012), who showed a hierarchical model of five levels. This same hierarchical structure was found in a sample of adolescents (De Clercq et al., 2014) and a sample made up of clinical population (Morey, Krueger, & Skodol, 2013).

The PID-5 (Krueger et al., 2012) has been adapted to many languages like Italian (Fossati, Krueger, Markon, Borroni, & Maffei, 2013), German (Zimmermann et al., 2014), Dutch (Bastiaens et al., 2015), French (Roskam et al., 2015), Danish (Bo, Bach, Mortensen, & Simonsen, 2016), and Spanish (Gutiérrez et al., 2017). The factor structure of the test has been the subject of several studies. Most of these studies have used exploratory factor analysis (Anderson et al., 2013; Bastiaens et al., 2015; Bo et al., 2016; Gutiérrez et al., 2017; Krueger et al., 2012; Morey et al., 2013; Roskam et al., 2015; Thomas et al., 2013; Wright & Simms, 2014; Zimmermann et al., 2014), and a few have used confirmatory factor analysis (Fossati et al., 2013; Zimmermann et al., 2014), and structural equations (Bastiaens et al., 2015; Markon et al., 2013). It is important to note that none of the previous studies that we know have carried out a confirmatory factor analysis that includes both facets level and domains level. Fossati et al. (2013) conducted a confirmatory factor analysis at the domain level only, and Zimmermann et al. (2014) conducted a confirmatory factor analysis only at the level of the items (facets).

Method

Participants

In this research, the sample was non-probabilistic, and the type of sampling was intentional. Clinical psychologists, psychiatrists, psychological and psychiatric care centers, registered in the phone book of the Yellow Pages in the city of Medellin (Colombia) were contacted and were asked to inform their patients about a research project that was underway with psychological and psychiatric patients in the city, which sought to validate a personality test. The criteria for selecting patients who would like to collaborate with the research were the following: (1) to be, at the time of selection under psychological, psychiatric treatment, or both; (2) to have attended minimum primary school; (3) to be between 18 and 60 years of age; and (4) not to be hospitalized at the time of selection.

The patients who agreed to cooperate with the research were informed about the project and its objectives and, after that, if they agreed to be part of the research, signed an informed consent and filled out a short socio-demographic survey. The patients also filled the MINI (International Neuropsychiatric Interview; Sheehan et al., 2000, 1998) to establish their clinical diagnoses. A total of 341 patients filled out the PID-5 (Krueger et al., 2012), of which 284 also filled the PBQ-SF (Butler et al., 2007) (table 2). One of the researchers (AF) returned the results of the evaluation of each patient to the clinical psychologists and psychiatrists who had sent them, so that they, in turn, could explain the results to their patients.

Table 2

Demographic characteristics of the sample

Variable	Variable Categories	PID-5 n: 341 #	PID-5 n: 341 %	PID-5 y PBQ-SF n: 284 #	PID-5 y PBQ-SF n: 284 %
Gender	Men	138	40.5%	124	43.7%
	Women	203	59.5%	160	56.3%
Age	18-25	114	33.4%	85	29.9%
	26-35	103	30.2%	89	31.3%
	36-45	74	21.7%	65	22.9%
	46-55	34	10%	30	10.6%
	56-60	16	4.7%	15	5.3%
Civil Status	Single	212	62.1%	168	59.2%
	Married/de-facto marriage	92	26.9%	84	29.5%
	Separated/divorced	35	10.4%	30	10.6%
	Widow(er)	2	0.6%	2	0.7%
Strata	Low (Strata 1, 2)	44	12.9%	30	10.6%
	Medium (Strata 3 and 4)	102	29.9%	77	27.1%
	High (Strata 5 and 6)	195	57.2%	177	62.3%
Academic Level	Complete Elementary	8	2.3%	6	2.1%
	Incomplete High School	17	5%	12	4.2%
	Complete High School	41	12%	29	10.2%
	Incomplete Superior Education	75	22%	58	20.4%
	Complete Superior Education	104	30.5%	94	33.1%
	Graduate Studies	96	28.2%	85	30%
Diagnoses of clinical mental disorders	Depressive disorders	157	46%		
	Bipolar disorder	16	4.6%		
	Anxiety / agoraphobia disorders	10	2.8%		
	Social phobia	25	3.4%		
	Obsessive-compulsive disorder	12	5.4%		
	Generalized anxiety	46	13.3%		
	Posttraumatic stress	10	2.8%		
	Substance abuse (alcoholic and non-alcoholic)	29	8.4%		
	Psychotic disorders	14	7%		
	Eating disorders (anorexia, bulimia)	4	1.1%		
	Other problems that can be the object of clinical attention	18	5.2%		

Instruments

Personality Inventory for DSM-5 (PID-5), Adult (Krueger et al., 2012). This is a 220-item test that evaluates 25 facets contained in 5 domains, which was translated into Spanish using the following procedure suggested for Ruiz, Gómez and Londoño (2001): two expert and certified translators were asked to do the translation of each of the 220 test items independently. Once the two translations were ready, a third translator was asked to assess which of the two translations was the best for each item. This translator could make remarks to the translations. In addition, if it was considered that none of the two translations reflected the original item, this translator could propose a new translation. The test was developed in Spanish under the judgment of this third translator, and then a fourth translator was asked to re-translate the test into English. Subsequently, two of the authors of this article (AF and NHL) compared the re-translation with the original version. This way, the final version of the PID-5 into the Spanish spoken in Colombia was obtained.

Each item of the PID-5 (Krueger et al., 2012) is graded on a scale of 0 (if the statement is "very false or frequently false") to 3 (if the statement is "very certain or with certain frequency"). Each facet contains from 4 to 14 items. The allocation of items in facets was made according to the proposal in Appendix B of Krueger et al. (2012) the supplementary material, as well as the grading of every facet (which is the arithmetic mean of it, in other words, the sum of the scores of all the constituent items of the facet, divided by the number of them). The grading of the domains was obtained from the arithmetic mean of the constituent facets of each domain. As there are 3 organizations of the facets in domains (Krueger et al., 2012; American Psychiatric Association, 2013; 2015), each domain has three grades, depending on the model of facet organization into domains (Table 1). It is important to clarify that for both the organization of facets in domains in Model 1 (Krueger et al., 2012), as in Model 2 (American Psychiatric Association, 2013a), the scores for restricted affectivity and rigid perfectionism were reversed, so that they could be included in the domains of negative affect and disinhibition, respectively.

Personality Belief Questionnaire, Short Form (PBQ-SF) (Butler et al., 2007). This test is the short version of the Personality Belief Questionnaire (Beck & Beck, 1991), a test developed to operationalize the beliefs identified by Beck (Beck et al., 1995, 2005). The Personality Belief Questionnaire, Short Form (PBQ-SF) (Butler et al., 2007), is a 65-item test that evaluates 10 beliefs associated with personality disorders. Each belief is evaluated with 7 questions, and each question is scored on a Likert scale of 0 to 4. The only questions that are repeated, and therefore are shared with other beliefs, are the beliefs of borderline personality disorder. The test evaluates the following beliefs: schizoid, paranoid, antisocial, narcissistic, histrionic, limit, avoidant, dependent, obsessive-compulsive and passive-aggressive. This test was validated in Colombian non-clinical population by Londoño, Calvete and Palacio (2012). The solution was very satisfactory with excellent adjustment rates, χ^2 (1854; N= 665) = 2720; p<

0.001; RMSEA = 0.027 (95% IC = 0.025; 0.029); CFI = 1. The internal consistency coefficients were appropriate, between 0.58 and 0.96.

Procedure

After having the test translated, as described above, clinical psychologists, psychiatrists, psychological and psychiatric care centers listed in the Yellow Page directory in the city of Medellin (Colombia) were contacted and asked to refer their patients for the research. To do it, an event was held in a hotel in the city of Medellin, to which many of the psychologists and psychiatrists listed in the directory were invited. One of the researchers (AF) gave a lecture on the research project. After that, the professionals were invited to send those patients that met the following inclusion criteria, to participate in the project: to be undergoing psychological and/or psychiatric treatment, to have attended a minimum of primary school, to be between 18 and 60 years of age, and not be hospitalized at the time of selection. In the end, 341 patients filled out the PID-5 (Krueger et al., 2012), the MINI (International Neuropsychiatric Interview; Sheehan et al., 2000, 1998) and 284 of which also filled the PBQ-SF (Butler et al., 2007) (table 2). The patients' tests were evaluated, and the results were delivered; after evaluating the tests, the results were delivered in a preset letter to the therapists, so that they could explain the results to their patients. Then, a patient database was developed, and the data were processed using the IBM SPSS Statistics 20.0 and LISREL 9.1

Data Analysis Approach

The structure of the PID-5 (Krueger et al., 2012) was assessed. Confirmatory factor analyses were conducted using LISREL 9.2 (Jöreskog & Sörbom, 2013) via Weighted Least Square (WLS) method using the polychoric matrix and the asymptotic covariance of the indicators. Due to the high number of items in the PID-5, three item-parcels were used as indicators of the 25

first-order latent variables (Little, 2013). Items were assigned to parcels after conducting an exploratory factor analysis with all the items corresponding to a latent variable, so that factor loadings were balanced within parcels. We used the procedure described by Little, Cunningham, Shahar, and Widaman (2002). Using the loadings as a guide, we started by using the three items with the highest loadings to anchor the three parcels. The three items with the next highest item-to-construct loadings were added to the anchors in reverse order. The highest loaded item from among the anchor items was matched with the lowest loaded item from among the second selections. If more items were available, the basic procedure was continued by placing lower loaded items with higher loaded parcels. This procedure was repeated for each first-order latent variable. Thus, in total 75 parcels were used as indicators of the 25 first-order latent variables.

Based on the above structure, several alternative hierarchical models were tested. Model 1 consisted of a hierarchical model in which five broader factors (negative affectivity, detachment, antagonism, disinhibition, and psychoticism) explained the associations among the 25 first-order factors. Model 2 was similar to model 1, but some first-order factors were allowed to load into two different second-order factors (American Psychiatric Association, 2013a). Finally, Model 3 consisted of a hierarchical model in which the above five second-order factors explained 15 first-order factors (emotional lability, anxiousness, separation insecurity, withdrawal, anhedonia, intimacy avoidance, manipulativeness, deceitfulness, grandiosity, irresponsibility, impulsivity, distractibility, unusual beliefs and experiences, eccentricity, perceptual dysregulation). Following the recommendations of several statisticians (Hu & Bentler, 1999; Little, 2013), the goodness of model fit was evaluated using the Comparative Fit Index (CFI), the NonNormative Fit Index (NNFI), and the Root Mean Square Error of Approximation (RMSEA). Generally, a good fit is indicated by CFI and NNFI values of 0.9 or higher, and RMSEA values lower than 0.06.

Results

Exploratory Factor Analyses

Table 3
Factor loadings of Exploratory Factor Analysis (EFA) of items and Confirmatory Factor Analysis (CFA) of parcels

Facets	Items	EFA Factor items' loadings	CFA Factor loadings of the parcels	Facets	Items	EFA Factor items' loadings	CFA Factor loadings of the parcels
Anhedonia	26	0.83	Anhedonia C1: 0.97	**Depressivity**	148	0.79	Depressivity 2: 0.99
	189	0.78			81	0.78	
	155(R)	0.71			212	0.73	
	157	0.8	Anhedonia 2: 0.95		86	0.61	
	23	0.73			104	0.82	Depressivity 3: 0.99
	30(R)	0.61			163	0.78	
	124	0.79	Anhedonia 3: 0.99		27	0.76	
	1	0.72			119	0.68	
Anxiousness	174	0.83	Anxiousness 1: 0.99	**Distractibility**	118	0.85	Distractibility 1: 0.94
	109	0.78			199	0.81	
	130	0.64			88	0.6	
	110	0.82	Anxiousness 2: 0.99		132	0.82	Distractibility 2: 0.99
	95	0.73			29	0.75	
	93	0.63			68	0.59	
	79	0.79	Anxiousness 3: 0.87		144	0.81	Distractibility 3: 0.94
	141	0.68			6	0.66	
	96(R)	0.34			47	0.44	
Attention Seeking	173	0.85	Attention Seeking 1: 0.94	**Eccentricity**	205	0.85	Eccentricity 1: 0.99
	14	0.74			25	0.82	
	43	0.65			21	0.78	
	211	0.83	Attention Seeking 2: 0.96		172	0.73	
	111	0.74			33	0.65	Eccentricity 2: 0.96
	113	0.56			24	0.83	
	74	0.78	Attention Seeking 3: 0.96		152	0.79	
	191	0.66			55	0.76	
Callousness	153	0.86	Callousness 1: 0.98		185	0.71	
	19	0.71			70	0.82	Eccentricity 3: 0.99
	200	0.6			71	0.78	
	207	0.53			52	0.74	
	198	0.34			5	0.67	
	166	0.77	Callousness 2: 0.97	**Emotional Lability**	122	0.78	Emotional Lability 1: 0.95
	183	0.7			18	0.74	
	208	0.59			102	0.51	
	13	0.41			181	0.76	Emotional Lability 2: 0.9
	90(R)	0.31			165	0.7	
	72	0.76	Callousness 3: 0.95		138	0.76	Emotional Lability 3: 0.99
	54	0.63			62	0.67	
	73	0.58		**Grandiosity**	114	0.81	Grandiosity 1: 0.9
	11	0.38			187	0.63	
Deceitfulness	53	0.8	Deceitfulness 1: 0.93		40	0.71	Grandiosity 2: 0.96
	41	0.72			179	0.62	
	214	0.65			65	0.7	Grandiosity 3: 0.77
	142(R)	0.33			197	0.59	
	218	0.79	Deceitfulness 2: 0.99	**Hostility**	38	0.82	Hostility 1: 0.97
	126	0.72			28	0.73	
	56	0.55			188	0.62	
	206	0.74	Deceitfulness 3: 0.97		32	0.5	
	134	0.66			158	0.88	Hostility 2: 0.99
	76	0.53			216	0.68	
Depressivity	169	0.83	Depressivity 1: 0.97		85	0.54	
	168	0.8			92	0.79	Hostility 3: 0.99
	66	0.78			170	0.64	
	61	0.74			116	0.53	
	178	0.67	Depressivity 2: 0.99	**Impulsivity**	16	0.88	Impulsivity 1: 0.97
	151	0.83			22	0.83	

Table 3 displays the factor loadings obtained in a series of exploratory factor analyses with items of each facet. All factor loadings were higher than 0.40 but a few ones. The exceptions were items 11, 198 and 90 in Insensibility, items 3 and 195 in Risk-Taking, item 96(reverse) in Anxiety, item 142 (reverse) in Deceitfulness, item 201 in Irresponsibility, and item 20 in Withdrawal.

Next, based on the above item-parcels, we conducted a Confirmatory Factor Analysis, which indicated that the 25 first-order factor structure showed good adjustment to the data, $\chi^2(2400, n = 341) = 2473$, RMSEA = 0.001(90% CI: 0; 00.015), CFI = 1, NNFI = 1. Factor loadings ranged between 0.76 and 0.99. This model served as a baseline to test the hierarchical models of the PID-5. Table 3 displays the factor-loadings for item-parcels.

Next, three alternative hierarchical models were tested. The procedure proposed by Byrne (2012) was used. Model 1 consisted of five broader factors (negative affectivity, detachment, antagonism, disinhibition and psychoticism) that explained the associations among the 25 first-order factors. Adjustment indexes were excellent for this model, $\chi^2(2665, n = 341) = 3384$, RMSEA = 0.028 (90 % CI: 0.025; 0.031), CFI = 0.99, NNFI = 0.99. This model increased χ^2 significantly, $\Delta\chi^2(265, n = 341) = 911, p < 0.001$. However, the change in CFI was within the cut-off of 0.01 proposed by Cheung and Rensvold (2002), which indicates that the adjustment of both models is similar. Table 4 displays factor loadings for the second-order structures. All coefficients were adequate. Model 2 was similar to Model 1, but some first-order factors were allowed to load into two different second-order factors. This model showed excellent adjustment indexes, $\chi^2(2661, n = 341) = 3350$, RMSEA = 0.028 (90 % CI:0.025; 0.030), CFI = 0.99, NNFI = 0.99. When compared to the baseline model, this model significantly increased χ^2, $\Delta\chi^2(261, n = 341) = 877, p < 0.001$. Once again, the change in CFI was within the cut-off. However, the functioning of some items in Model 2 was poor. The restricted affectivity (lack of) facet loaded negatively on negative affectivity and the hostility facet loaded negatively on antagonism. In addition, two factor loadings in the detachment domain were low: Depressivity (0.39) and Suspiciousness (0.33). Comparison between Model 1 and Model 2 indicated a significant $\Delta\chi^2(4, n = 341) = 34, p < 0.05$. Finally, Model 3, consisting of 15 first-order factors explained by the five second-order factors, showed excellent adjustment indexes, $\chi^2(920, n = 341) = 1550$, RMSEA = 0.045 (90 % CI: 0.041; 0.049), CFI = 0.99, NNFI= 0.98. All second-order factor loadings ranged between 0.60 and 1. This model was not compared by changes in χ^2 because it was not nested into the other models.

Table 4

Second-order factor loadings for hierarchical models

Facets and Domains	Model 1	Model 2	Model 3
Negative Affect			
Anxiousness	0.98	0.98	0.97
Emotional Lability	0.98	0.99	0.98
Hostility	0.99	0.99	
Perseveration	0.99	0.99	
(Lack of) Restricted Affectivity	0.93	-0.36	
Separation Insecurity	0.86	0.86	0.85
Submissiveness	0.69	0.69	
Depressivity		0.63	
Suspiciousness		0.66	
Detachment			
Anhedonia	0.97	0.98	0.97
Depressivity	0.99	0.39	
Intimacy Avoidance	0.8	0.81	0.77
Suspiciousness	0.99	0.33	
Withdrawal	0.97	0.97	0.95
Restricted Affectivity		0.99	
Antagonism			
Attention Seeking	0.94	0.95	
Callousness	0.99	0.99	
Deceitfulness	1	1	1
Grandiosity	0.93	0.93	0.84
Manipulativeness	0.99	0.99	0.99
Hostility		-0.04	
Disinhibition			
Distractibility	0.94	0.94	0.91
Impulsivity	0.95	0.96	0.92
Irresponsibility	0.97	0.97	0.99
(Lack of) Rigid Perfectionism	0.82	0.82	
Risk Taking	0.52	0.52	
Psychoticism			
Eccentricity	0.99	0.99	0.99
Cognitive and Perceptual Dysregulation	0.99	0.99	0.99
Unusual Beliefs and Experiences	0.96	0.96	0.92

All Cronbach Alpha Coefficients (Table 5) of the PID-5 (Krueger et al., 2012) facets have a value greater than 0.7, ranging from 0.71 (irresponsibility) to 0.94 (eccentricity and depressivity). Domain coefficients also have excellent internal consistency, ranging from 0.87 (disinhibition Models 1 and 2) to 0.96 (detachment Model 1).

Table 5

Cronbach Alpha of the facets and domains of the PID-5

Facets and Domains	Items	α	Average Scores			Gross Scores		
			Mean	SD	Range	Mean	SD	Range
Anhedonia	8	0.89	1.29	0.77	3	10.28	6.16	24
Anxiousness	9	0.87	1.72	0.74	3	15.46	6.65	27
Attention Seeking	8	0.88	1.16	0.72	2.88	9.26	5.78	23
Callousness	14	0.85	0.51	0.46	2.14	7.09	6.42	30
Deceitfulness	10	0.85	0.75	0.57	2.8	7.53	5.73	28
Depressivity	14	0.94	0.95	0.78	3	13.24	10.92	42
Distractibility	9	0.88	1.24	0.73	3	11.11	6.55	27
Eccentricity	13	0.94	0.95	0.78	2.92	12.37	10.2	38
Emotional Lability	7	0.84	1.48	0.75	3	10.34	5.27	21
Grandiosity	6	0.76	0.86	0.62	3	5.13	3.7	18
Hostility	10	0.87	1.18	0.67	2.9	11.83	6.74	29
Impulsivity	6	0.9	1.17	0.83	3	7.04	4.97	18
Intimacy Avoidance	6	0.82	0.66	0.67	3	3.96	4.01	18
Irresponsibility	7	0.71	0.79	0.55	2.71	5.51	3.85	19
Manipulativeness	5	0.78	0.79	0.64	3	3.94	3.2	15
Perceptual Dysregulation	12	0.83	0.64	0.51	2.5	7.62	6.1	30
Perseveration	9	0.82	1.2	0.64	2.89	10.75	5.73	2
Restricted Affectivity	7	0.77	1.1	0.66	3	7.73	4.62	21
Rigid Perfectionism	10	0.89	1.35	0.74	3	13.27	4.62	21
Risk Taking	14	0.86	1.22	0.58	2.86	13.47	7.41	30
Separation Insecurity	7	0.87	1.05	0.79	3	16.53	7.41	30
Submissiveness	4	0.85	1.03	0.77	3	17.11	8.06	40
Suspiciousness	7	0.79	1.13	0.66	3	7.38	5.54	21
Unusual Beliefs and Experiences	8	0.79	0.64	0.59	2.88	4.11	3.08	12
Withdrawal	10	0.89	1.12	0.71	3	7.9	4.6	21

Gender differences in the facets and domains of PID-5

The *t* test was performed to examine gender differences in the scores of the PID-5 (Krueger et al., 2012). There were no statitiscally significant differences in the scores for men and women, except in the following facets and domains, in which men had a score significantly higher than women: grandiosity (mean for men = 1.01, SD for men = 0.62, mean for women = 0.75, SD for women = 0.59, $t = 3.95$, $p < 0.001$, Effect Size = 0.43), irresponsibility (mean for men = 0.88, SD for men = 0.57, mean for women = 0.73, SD for women = 0.53 $t = 2.53$, $p = 0.012$, Effect Size = 0.27), manipulativeness (mean for men = 0.92, SD for men = 0.62, mean for women = 0.70, SD for women = 0.64, $t = 3.27$, $p < 0.001$, Effect Size = 0.35), risk taking (mean for men = 1.32, SD for men = 0.58, mean for women = 1.16, SD for women = 0.57, $t = 2.50$, $p = 0.013$, Effect Size = 0.28). , antagonism Model 1 (mean for men = 0.85 SD for men = 0.41 mean for women = 0.71, SD for women = 0.45, $t = 2.80$, $p = 0.005$, Effect Size = 0.32), disinhibition Models

1 and 2(mean for men = 1.30, SD for men = 0.37, mean for women = 1.21, SD for women = 0.39, t = 2.30, p = 0.022, Effect Size = 0.23), antagonism Model 2 (mean for men = 0.9, SD for men = 0.4, mean for women = 0.80, SD for women = 0.46, t = 2.16, p = 0.037, Effect Size = 0.23) and antagonism Model 3 (mean for men = 0.90, SD for men = 0.49, mean for women = 0.71, SD for women = 0.51, t = 3.40, p < 0.001, Size Effect = 0.38).

In two facets the scores for women were significantly higher than for men: emotional lability (means for men: 1.36, SD for men: 0.73, means for women: 1.56, SD for women: 0.76, t = -2.34, p = 0.020, Size Effect: -0.27), intimacy avoidance (means for men = 0.52, SD for men = 0.54, means for women = 0.76, SD for women = 0.73, t = -3.36, p < 0.001, Size Effect = -0.36).

Association between PID-5 scores and Personality Beliefs (PBQ-SF)

To evaluate the concurrent validity of PID-5 (Krueger et al., 2012), the results were correlated with a recognized test that measures personality disorders as it is PBQ-SF (Butler et al., 2007). Cronbach Alpha Coefficients in this test were excellent, ranging from 0.71 (avoidant) to 0.9 (paranoid), which indicates good internal consistency. The correlations between the facets and domains of the PID-5 (Krueger et al., 2012) and beliefs in the personality disorders of the PBQ-SF (Butler et al., 2007) were very consistent with provisions of the alternative model of the personality disorders of the DSM-5 (American Psychiatric Association, 2013a). The traits with higher correlations within each personality disorder generally correspond to the predictions in the traits model of the DSM-5 (American Psychiatric Association, 2013a) (Table 6).

Table 6

Correlations between Beliefs of Personality Disorders and facets and domains of PID-5

Facets and Domains	Schizoid	Paranoid	Antisocial	Narcissistic	Histrionic	Borderline	Avoidant	Dependent	Obsessive-Compulsive	Passive-Aggressive
Anhedonia	0.30**	0.43**	0.27**	0.19**	0.25**	0.56**	0.46**	0.44**	0.29**	0.38**
Anxiousness	0.18**	0.40**	0.22**	0.21**	0.34**	0.60**	0.53**	0.51**	0.48**	0.32**
Attention Seeking	0.12*	0.27**	0.33**	0.52**	0.70**	0.22**	0.22**	0.24**	0.34**	0.29**
Callousness	0.45**	0.44**	0.57**	0.41**	0.26**	0.29**	0.23**	0.19**	0.08	0.45*
Deceitfulness	0.28**	0.32**	0.58**	0.37**	0.47**	0.29**	0.22**	0.28**	0.18**	0.40**
Depressivity	0.31**	0.49**	0.31**	0.20**	0.35**	0.63**	0.54**	0.49**	0.35**	0.39**
Distractibility	0.21**	0.31**	0.27**	0.25**	0.37**	0.46**	0.38**	0.40**	0.15*	0.35**
Eccentricity	0.44**	0.54**	0.38**	0.35**	0.32**	0.43**	0.39**	0.28**	0.29**	0.49**
Emotional Lability	0.16**	0.35**	0.25**	0.26**	0.37**	0.51**	0.46**	0.46**	0.36**	0.31**
Grandiosity	0.36**	0.33**	0.43**	0.65**	0.49**	0.11	0.15**	0.12	0.28**	0.41**
Hostility	0.41**	0.44**	0.48**	0.38**	0.32**	0.38**	0.45**	0.25**	0.34**	0.47**
Impulsivity	0.21**	0.32**	0.40**	0.27**	0.36**	0.39**	0.33**	0.37**	0.18**	0.37**
Intimacy Avoidance	0.50**	0.35**	0.25**	0.20**	0.07	0.30**	0.36**	0.16**	0.13*	0.29**
Irresponsibility	0.28**	0.42**	0.42**	0.31**	0.39**	0.37**	0.27**	0.29**	0.10	0.42**
Manipulativeness	0.30**	0.25**	0.55**	0.39**	0.39**	0.11	0.13*	0.11	0.21**	0.33**
Perceptual Dysregulation	0.38**	0.54**	0.37**	0.36**	0.40**	0.54**	0.45**	0.47**	0.27**	0.46**
Perseveration	0.33**	0.45**	0.35**	0.34**	0.48**	0.58**	0.56**	0.52**	0.48**	0.44**
Restricted Affectivity	0.50**	0.31**	0.32**	0.22**	0.11	0.16**	0.27**	0.07	0.09	0.34
Rigid Perfectionism	0.26**	0.25**	0.21**	0.24**	0.25**	0.30**	0.38**	0.25**	0.68**	0.21**
Risk Taking	0.12*	0.14*	0.23**	0.16**	0.07	-0.14*	-0.14*	-0.18**	-0.06	0.16**
Separation Insecurity	-0.10	0.28**	0.31**	0.24**	0.46**	0.53**	0.33**	0.66**	0.28**	0.23**
Submissiveness	0.07	0.22**	0.11	0.16**	0.36**	0.43**	0.35**	0.44**	0.21**	0.15*
Suspiciousness	0.41**	0.74**	0.46**	0.41**	0.34**	0.64**	0.57**	0.43**	0.27**	0.50**
Unusual Beliefs and Experiences	0.34**	0.38**	0.33**	0.33**	0.27**	0.27**	0.27**	0.22**	0.18**	0.31**
Withdrawal	0.59**	0.44**	0.24**	0.23**	0.08	0.39**	0.42**	0.23**	0.29**	0.36**

Note. **Correlation is significant at the 0.01 level (bilateral) * Correlation is significant at the 0.05 level (bilateral)

Once the models were confirmed using the confirmatory factor analysis, which showed the excellent internal consistency and concurrent validity of the PID-5 (Krueger et al., 2012), the percentiles required by the clinician or researcher to locate any test score related to the studied sample were developed (Colombian clinic) (Table 7).

Table 7

Percentiles of the facets and domains of PID-5

Mean, SD, and Percentile	Facets of the PID-5												
	Anhedonia	Anxiousness	Attention Seeking	Callousness	Deceitfulness	Depressivity	Distractibility	Eccentricity	Emotional Lability	Grandiosity	Hostility	Impulsivity	Intimacy Avoidance
Mean	1.29	1.72	1.16	0.51	0.75	0.95	1.24	0.95	1.48	0.86	1.18	1.17	0.66
SD	0.77	0.74	0.72	0.46	0.57	0.78	0.73	0.78	0.75	0.62	0.67	0.83	0.67
1	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.03	0.33	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
4	0.13	0.33	0.00	0.00	0.00	0.00	0.08	0.00	0.14	0.00	0.10	0.00	0.00
5	0.13	0.44	0.00	0.00	0.00	0.00	0.11	0.00	0.29	0.00	0.20	0.00	0.00
6	0.13	0.44	0.00	0.00	0.00	0.00	0.11	0.00	0.29	0.00	0.20	0.00	0.00
7	0.13	0.56	0.13	0.00	0.09	0.00	0.21	0.00	0.29	0.00	0.20	0.00	0.00
8	0.25	0.56	0.13	0.00	0.10	0.00	0.22	0.00	0.43	0.00	0.30	0.00	0.00
9	0.25	0.56	0.13	0.06	0.10	0.07	0.22	0.00	0.43	0.00	0.30	0.00	0.00
10	0.28	0.58	0.13	0.07	0.10	0.07	0.22	0.00	0.43	0.00	0.30	0.00	0.00
20	0.55	1.00	0.50	0.14	0.20	0.21	0.49	0.15	0.77	0.23	0.60	0.33	0.00
30	0.75	1.33	0.75	0.21	0.36	0.36	0.78	0.38	1.00	0.50	0.80	0.67	0.17
40	1.00	1.56	0.88	0.29	0.50	0.56	1.00	0.54	1.29	0.67	0.98	0.83	0.33
50	1.13	1.78	1.13	0.36	0.60	0.79	1.22	0.85	1.57	0.83	1.10	1.17	0.50
60	1.38	2.00	1.38	0.43	0.80	1.00	1.44	1.00	1.71	1.00	1.30	1.50	0.67
70	1.68	2.22	1.63	0.64	1.00	1.29	1.67	1.31	1.86	1.17	1.50	1.67	0.83
80	2.08	2.44	1.88	0.86	1.20	1.69	1.89	1.77	2.14	1.33	1.76	2.00	1.17
90	2.38	2.67	2.13	1.21	1.60	2.14	2.22	2.08	2.57	1.67	2.10	2.33	1.67
91	2.50	2.69	2.13	1.29	1.70	2.23	2.22	2.15	2.57	1.67	2.20	2.33	1.67
92	2.50	2.78	2.25	1.33	1.70	2.29	2.33	2.23	2.57	1.77	2.20	2.50	1.67
93	2.50	2.78	2.25	1.35	1.71	2.37	2.34	2.24	2.71	1.83	2.21	2.50	1.83
94	2.56	2.78	2.31	1.46	1.80	2.423	2.44	2.38	2.71	1.83	2.34	2.50	1.83
95	2.63	2.78	2.38	1.50	1.89	2.50	2.44	2.46	2.84	1.98	2.49	2.67	2.00
96	2.75	2.89	2.50	1.50	1.90	2.57	2.56	2.46	2.86	2.00	2.53	2.67	2.05
97	2.75	2.89	2.50	1.62	2.07	2.64	2.56	2.54	2.86	2.17	2.60	2.79	2.33
98	2.88	3.00	2.63	1.80	2.10	2.79	2.57	2.69	2.88	2.19	2.70	2.83	2.67
99	2.95	3.00	2.75	1.97	2.43	2.93	2.73	2.81	3.00	2.50	2.80	3.00	2.76

Cont. Table 7
Percentiles of the facets and domains of PID-5

Mean, SD, and Percentile	Facets of the PID-5											
	Irres ponsibility	Manipu lative ness	Percept ual Dysre gulation	Persev eration	Restric ted Affecti vity	Rigid Perfec tionism	Risk Taking	Separa tion Insecurity	Submis sive ness	Suspi cious ness	Unusual beliefs and expe riences	With drawl
Mean	0.79	0.79	0.64	1.20	1.10	1.35	1.22	1.05	1.03	1.13	0.64	1.12
SD	0.55	0.64	0.51	0.64	0.66	0.74	0.58	0.79	0.77	0.66	0.59	0.71
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.10	0.21	0.00	0.00	0.14	0.00	0.10
4	0.00	0.00	0.00	0.11	0.09	0.20	0.21	0.00	0.00	0.14	0.00	0.10
5	0.00	0.00	0.00	0.11	0.14	0.20	0.29	0.00	0.00	0.14	0.00	0.10
6	0.00	0.00	0.00	0.17	0.14	0.20	0.36	0.00	0.00	0.14	0.00	0.20
7	0.00	0.00	0.00	0.22	0.14	0.29	0.36	0.00	0.00	0.14	0.00	0.20
8	0.05	0.00	0.08	0.22	0.14	0.30	0.38	0.00	0.00	0.29	0.00	0.20
9	0.14	0.00	0.08	0.22	0.29	0.40	0.43	0.00	0.00	0.29	0.00	0.20
10	0.14	0.00	0.08	0.33	0.29	0.40	0.43	0.00	0.00	0.29	0.00	0.30
20	0.29	0.20	0.17	0.56	0.43	0.70	0.71	0.29	0.25	0.57	0.00	0.40
30	0.43	0.40	0.33	0.89	0.71	0.90	0.86	0.57	0.50	0.71	0.25	0.60
40	0.57	0.60	0.42	1.00	0.86	1.10	1.07	0.71	0.75	0.86	0.38	0.90
50	0.71	0.80	0.50	1.22	1.00	1.30	1.21	1.00	1.00	1.14	0.50	1.10
60	0.86	0.80	0.67	1.33	1.29	1.50	1.36	1.14	1.25	1.29	0.65	1.30
70	1.00	1.00	0.83	1.56	1.43	1.70	1.50	1.43	1.50	1.43	0.88	1.50
80	1.29	1.40	1.00	1.78	1.71	2.00	1.64	1.80	1.75	1.71	1.13	1.76
90	1.57	1.80	1.40	2.09	2.00	2.48	2.00	2.14	2.00	2.00	1.50	2.10
91	1.57	1.80	1.42	2.11	2.00	2.50	2.07	2.29	2.06	2.14	1.50	2.20
92	1.57	1.80	1.47	2.11	2.14	2.50	2.07	2.29	2.25	2.23	1.58	2.20
93	1.71	1.80	1.51	2.22	2.14	2.60	2.14	2.43	2.25	2.29	1.63	2.30
94	1.71	2.00	1.58	2.22	2.21	2.60	2.14	2.43	2.25	2.29	1.63	2.35
95	1.84	2.00	1.58	2.22	2.29	2.70	2.21	2.57	2.25	2.29	1.75	2.50
96	1.86	2.00	1.75	2.33	2.33	2.80	2.26	2.62	2.50	2.43	1.88	2.60
97	1.86	2.20	1.83	2.33	2.43	2.90	2.36	2.72	2.50	2.53	1.88	2.67
98	2.02	2.23	2.00	2.44	2.45	2.90	2.57	2.86	2.54	2.57	2.00	2.70
99	2.37	2.60	2.35	2.56	2.80	2.90	2.76	2.94	3.00	2.80	2.25	2.80

Cont. Table 7
Percentiles of the facets and domains of PID-5

Mean, SD, and Percentile	Domains of the PID-5														
	Model 1					Model 2					Model 3				
	Nega tive Affect	Detac hment	Antag onism	Disinh ibition	Psycho ticism	Nega tive Affect	Detac hment	Antag onism	Disinh ibition	Psycho ticism	Nega tive Affect	Detac hment	Antag onism	Disinh ibition	Psycho ticism
Mean	1.38	1.04	0.77	1.25	0.76	1.27	1.05	0.85	1.25	0.76	1.44	1.06	0.79	1.08	0.76
SD	0.45	0.58	0.44	0.38	0.56	0.48	0.55	0.44	0.38	0.56	0.63	0.59	0.51	0.56	0.56
1	0.44	0.08	0.07	0.31	0.00	0.37	0.09	0.08	0.31	0.00	0.22	0.08	0.00	0.05	0.00
2	0.53	0.11	0.09	0.41	0.00	0.42	0.13	0.14	0.41	0.00	0.26	0.12	0.05	0.09	0.00
3	0.57	0.16	0.10	0.57	0.00	0.47	0.18	0.17	0.57	0.00	0.26	0.13	0.05	0.14	0.00
4	0.59	0.18	0.12	0.65	0.02	0.48	0.22	0.19	0.65	0.02	0.33	0.13	0.10	0.14	0.02
5	0.62	0.20	0.14	0.67	0.03	0.53	0.23	0.19	0.67	0.03	0.35	0.21	0.10	0.14	0.03
6	0.65	0.20	0.14	0.70	0.05	0.54	0.26	0.21	0.70	0.05	0.46	0.21	0.14	0.21	0.05
7	0.68	0.24	0.18	0.72	0.06	0.57	0.27	0.24	0.72	0.06	0.48	0.25	0.14	0.23	0.06
8	0.74	0.27	0.19	0.74	0.06	0.59	0.30	0.27	0.74	0.06	0.52	0.27	0.14	0.27	0.06
9	0.74	0.29	0.20	0.74	0.08	0.62	0.33	0.30	0.74	0.08	0.56	0.29	0.18	0.27	0.08
10	0.76	0.31	0.26	0.76	0.09	0.63	0.33	0.30	0.76	0.09	0.57	0.29	0.19	0.28	0.09
20	0.98	0.49	0.36	0.91	0.21	0.85	0.54	0.44	0.91	0.21	.8261	0.50	0.33	0.50	0.21
30	1.11	0.66	0.49	1.04	0.33	1.00	0.71	0.58	1.04	0.33	1.09	0.71	0.46	0.73	0.33
40	1.26	0.82	0.60	1.15	0.58	1.14	0.88	0.70	1.15	0.58	1.26	0.83	0.61	0.95	0.58
50	1.40	0.96	0.72	1.22	0.70	1.24	0.98	0.79	1.22	0.70	1.48	1.04	0.71	1.05	0.70
60	1.51	1.13	0.84	1.35	0.82	1.38	1.13	0.91	1.35	0.82	1.61	1.17	0.86	1.27	0.82
70	1.64	1.27	0.98	1.48	1.00	1.52	1.27	1.06	1.48	1.00	1.78	1.38	1.05	1.41	1.00
80	1.77	1.53	1.12	1.54	1.27	1.69	1.53	1.21	1.54	1.27	2.00	1.54	1.29	1.59	1.27
90	1.99	1.91	1.37	1.72	1.61	1.93	1.82	1.49	1.72	1.61	2.30	1.92	1.48	1.77	1.61
91	2.00	1.93	1.40	1.74	1.64	1.96	1.90	1.51	1.74	1.64	2.30	1.96	1.52	1.82	1.64
92	2.01	1.96	1.47	1.77	1.67	2.00	1.92	1.53	1.77	1.67	2.38	1.96	1.52	1.85	1.67
93	2.06	2.02	1.53	1.87	1.73	2.01	1.93	1.55	1.87	1.73	2.39	2.00	1.57	1.87	1.73
94	2.06	2.11	1.55	1.91	1.76	2.04	2.05	1.61	1.91	1.76	2.43	2.04	1.67	1.93	1.76
95	2.15	2.26	1.60	1.91	1.79	2.06	2.13	1.68	1.91	1.79	2.48	2.12	1.71	2.00	1.79
96	2.17	2.29	1.64	1.92	1.83	2.13	2.19	1.76	1.92	1.83	2.52	2.25	1.81	2.06	1.83
97	2.23	2.31	1.70	1.97	1.99	2.19	2.23	1.83	1.97	1.99	2.61	2.31	1.89	2.17	1.99
98	2.35	2.38	1.84	2.03	2.10	2.34	2.29	1.91	2.03	2.10	2.70	2.42	2.02	2.23	2.10
99	2.44	2.45	2.00	2.20	2.21	2.42	2.45	2.02	2.20	2.21	2.76	2.46	2.17	2.30	2.21

Discussion

This study examined the structure and other psychometric properties of the PID-5 in a clinical sample in Colombia. The confirmatory factor analysis of the 25 facets of the PID-5 showed a good level of data adjustment. The factor loadings for all the parcels were high (range from 0.76 to 0.99). These results are very similar to those established by Zimmermann et al. (2014) when a confirmatory factor analysis was performed at the level of the test items.

Regarding domains, three models of facet organization were tested. The three models had excellent adjustment indicators. Both Model 1 and Model 2 presented similar adjustment indexes. However, Model 1 had better factor loadings for its facets. The facet with lowest factor loading was risk taking (0.52) in the domain disinhibition. In model 2 there were two facets with negative factor loading (lack of) restricted affectivity (-0.36) in the domain negative affect and hostility (-0.04) in the domain hostility. In this same model were observed two facets with factor loading lower than 0.40: depressivity (0.39) and suspiciousness (0.33), both in the domain detachment. It is interesting to outline that these two facets are shared, in this model, between the domains negative affect and detachment. This could lead to think that a model in which two domains share some facets, is not the most appropriate.

Model 3 (American Psychiatric Association, 2013b), which is the simplest, presented adequate adjustment indicators. However, this model only included three facets per domain. This model is an attempt to eliminate interference (interstitial); due to that, it is reduced to only three facets per domain. This model could be preferable when shorter measures are needed.

Findings indicated some sex differences. Overall, the traits in which men had a result significantly higher than women are associated with anti-social features (irresponsibility, manipulativeness, risk-taking, antagonism and disinhibition). Men scored higher than women on the domain of antagonism (in the three models), which is consistent with the findings of Bastiaens et al. (2015), who found a medium effect in this domain with men's scores significantly higher than women's. Women scored higher than men in facets and domains that are associated with borderline traits (emotional lability) and avoidant (intimacy avoidance). In contrast with the results of Bastiaens et al. (2015), we did not find that the women's scores in the negative affectivity domain are significantly higher than men's scores.

The relationships between facet and domains of the PID-5 (Krueger et al., 2012) and beliefs in the personality disorders of the PBQ-SF (Butler et al., 2007) were very high, consistent with what was proposed in section III: emerging measures and models of the DSM-5 (American Psychiatric

Association, 2013a). For instance, in four of the six specific personality disorders defined in the alternative model of traits (antisocial, avoidant, narcissistic and obsessive-compulsive), the obtained results match the expectations. The narcissist belief of the PBQ-SF had the highest correlations with the two traits predicted by the model of the DSM-5 (American Psychiatric Association, 2013a): grandiosity and attention seeking.

The features posed by the model of features of the DSM-5 (American Psychiatric Association, 2013a) for the Borderline Personality Disorder were least met. The risk-taking feature, one of the most important associated to the borderline belief, had a negative correlation. Likewise, not predicted features were found: suspiciousness (which had the highest correlation with Borderline belief), anhedonia and perseveration. Undoubtedly, the reason for these inconsistencies is because in the PBQ-SF (Butler et al., 2007) items in the borderline belief are taken as dependent, avoidant and paranoid beliefs. No items were created for this belief, which could include, in addition to negative affect, aspects of disinhibition and antagonism, characteristic in this personality disorder.

Among the facets of the PID-5 (Krueger et al., 2012) with significantly high correlations with beliefs in the personality disorders of the PBQ-SF (Butler et al., 2007), which correlated with the 10 beliefs of personality disorders were: anhedonia, anxiousness, deceitfulness, depressivity, eccentricity, emotional lability, hostility, impulsivity, perceptual dysregulation, perseveration, rigid perfectionism, suspiciousness and unusual beliefs and experiences. It can be thought that these facets have a much wider psychopathology than others, for example, risk-taking (with a significantly high correlation with 4 beliefs in personality disorders), restricted affectivity (with a significantly high correlation with 6 beliefs in personality disorders), manipulativeness and submissiveness (with a significantly high correlation with 7 beliefs of personality disorder).

All the domains of the PID-5 (Krueger et al., 2012) had significantly high correlations with all the 10 beliefs of personality disorders of the PBQ-SF (Butler et al., 2007), except disinhibition in Model 1 and Model 2 (that had a significantly high correlation with 7 beliefs of personality disorders) and negative affect in Model 3 (that had a significantly high correlation with 9 beliefs of personality disorders).

In conclusion, the validation of the PID-5 (Krueger et al., 2012) in Colombian clinical population was very appropriate. The confirmatory factor analysis at the level of facets showed good data adjustment. At domain level, it was considered that Model 1 of facet organization by domains (Krueger et al., 2012) was the most appropriate because, although it shows the same adjustment indicators as Model 2 (American Psychiatric Association, 2013a), all its facets have factor loadings higher than 0.4. In model 2, instead, two facets presented negative factor loadings, and two facets presented factor loadings lower than 0.40. Model 1 has, in addition, the advantage of being the original model proposed by Krueger et al., (2012) and is based on a hierarchical organization (Wright et al., 2012). Model 3 was excellent, but it is recommended when short analysis is required. Gender differences in facets and domains showed that men tend to score significantly higher than women in aspects related to antisocial traits and that women tend to score significantly higher than men do in borderline, avoidant features.

The concurrent validity of the PID-5 (Krueger et al., 2012) was proven with the PBQ-SF (Butler et al., 2007), showing in its great majority, the relations predicted by the model of traits of the DSM-5 (American Psychiatric Association, 2013a).

The main limitation of the research project was the number of participants. This was the fundamental reason to use the method of dividing each one of the 25 facets of the PID-5 (Krueger et al., 2012) in three parcels, to finally make up 75 items. The sample was much more adequate using this number of items, being certain of its representativeness. Despite that, we could not make sure of having the same percentage of men and women. Something similar happened with the age, civil status, socio-

economic strata, and academic level groups. It would be important that in future research projects we could have a more balanced sample, regarding gender, age, civil status, social strata and academic level.

Despite the above limitations, the study has important positive characteristics. This is the first study in our knowledge that test simultaneously the structure of facets and domains of the PID5. The use of item-parcels allowed these analyses as it reduces the number of parameters of the models. The study provides data on the PID-5 facets in a clinical sample in Colombia. Thus, it contributes to confirm the adequacy of the questionnaire across several different countries.

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Notes

*   Research article.