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Personality disorders among patients with panic disorder and individuals with high anxiety sensitivity

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Abstract

Background: No studies have been found that compared the psychopathology features, including personality disorders, of Panic Disorder (PD) and Panic Disorder with Agoraphobia (PDA), and a nonclinical sample with anxiety vulnerability. **Method:** The total sample included 152 participants, 52 in the PD/PDA, 45 in the high anxiety sensitivity (AS) sample, and 55 in the nonclinical sample. The participants in PD/PDA sample were evaluated with the structured interview ADIS-IV. The Brief Symptom Inventory and the MCMI-III were used in all three samples. **Results:** Statistically significant differences were found between the PD/PDA and the nonclinical sample in all MCMI-III scales except for antisocial and compulsive. No significant differences were found between PD/PDA and the sample with high scores in AS. Phobic Anxiety and Paranoid Ideation were the only scales where there were significant differences between the PD/PDA sample and the high AS sample. **Conclusions:** Our findings showed that people who scored high on AS, despite not having a diagnosis of PD/PDA, were similar in regard to psychopathology features and personality to individuals with PD/PDA.

Keywords: Panic disorder, panic disorder with agoraphobia, anxiety sensitivity, personality disorders, MCMI-III.

Resumen

Trastornos de personalidad en pacientes con trastorno de pánico y en personas con alta sensibilidad a la ansiedad. **Antecedentes:** no se han encontrado estudios que comparen variables psicopatológicas, incluyendo trastornos de personalidad, entre pacientes con Trastorno de pánico (TP) y Trastorno de pánico con agorafobia (TPA), y una muestra no clínica con vulnerabilidad a la ansiedad. **Método:** la muestra total fue de 152 participantes, 52 en la muestra de TP/TPA, 45 en la muestra no clínica con alta sensibilidad a la ansiedad (SA) y 55 en la no clínica con baja SA. Los participantes con TP/TPA fueron evaluados a través de la entrevista estructurada ADIS-IV. Administramos el Inventario Breve de Síntomas y el MCMI-III en las tres muestras. **Resultados:** se encontraron diferencias estadísticamente significativas entre la muestra con TP/TPA y la no clínica con baja SA en todas las escalas salvo en la antisocial y compulsiva. No encontramos diferencias significativas entre la muestra con TP/TPA y la muestra no clínica con alta SA. Las únicas escalas psicopatológicas que diferencian las muestras clínica y con alta SA fueron la Ansiedad Fóbica y la Ideación Paranoide. **Conclusiones:** nuestros resultados muestran que las personas que puntúan alto en SA, a pesar de no tener un diagnóstico de TP/TPA, son muy similares a los pacientes con TP/TPA en variables psicopatológicas y de personalidad.

Palabras clave: trastorno de pánico, trastorno de pánico con agorafobia, sensibilidad a la ansiedad, trastornos de personalidad, MCMI-III.

The theoretical model of Brown and Barlow (2009) of the classification of emotional disorders emphasizes the similarities of anxiety and mood disorders and suggests that emotion regulation plays an important role in the psychopathology of these psychological disorders (Campbell-Sills & Barlow, 2007; Gross, 2007). These authors propose a common classification for them (Barlow, 1991, 2002). The similarity in psychopathology is due to two genetically established temperament dimensions that determine the aetiology and course of emotional disorders: Neuroticism/negative affect and extraversion/positive affect. The scientific literature supports the role of these vulnerability constructs in the onset, overlap, and maintenance of anxiety and mood disorders (e.g., Barlow, 2002; Brown, 2007; Blanco et al., 2013).

Researchers who have studied personality characteristics from a clinical model have found a high prevalence of personality disorders (PeD) in panic disorder (PD) and panic disorder with agoraphobia (PDA) samples, which shows the close relationship between both mental disorders. Recent studies provide data on comorbidity ranging between 33.3 and 76.8% (Albert, Maina, Bergesio, & Bogetto, 2006; Iketani et al., 2004; Marchesi, Cantón, Fonito, Giannelli, & Maggini, 2005; Marchesi et al., 2006). As we can see, there is unanimity in linking PeD with PD/PDA although there is also a high variability in prevalence rates. With respect to the specificity of the PeD found in clinical samples of PD/PDA, researchers have found a close relationship between cluster C and PD/PDA, particularly with avoidant PeD (Iketani et al., 2004; Telch, Kamphuis, & Schmidt, 2011), dependent PeD (Albert et al., 2006; Starcevic et al., 2008) and obsessive-compulsive PeD (Marchesi et al., 2005, 2006). With regard to the hypothesis that

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pathological personality traits constitute risk factors for PD/PDA, Bienvenu et al. (2009), indicated that features such as avoidant, dependent, and other related traits (i.e., shyness), predict the onset of PD, AG, or both.

The high percentages of PeD and specific personality pathological profiles (cluster C), and the presence of high levels of neuroticism and lower levels of extraversion in PD/PDA samples (Carrera et al., 2006; Kotov, Gamez, Schmidt, & Watson, 2010) corroborate Brown and Barlow's (2009) theory on temperamental vulnerability factors of higher order in emotional disorders.

Besides the temperamental vulnerability factors described, other vulnerability factors have been proposed as playing a role in the onset, course and maintenance of PD/PDA, such as anxiety sensitivity (AS – Drost et al., 2012; Schmidt et al., 2010; Weems, Costa, Watts, Taylor, & Cannon, 2007). AS refers to the tendency to respond with fear to anxiety-related sensations (Reiss, Peterson, Gursky, & McNally, 1986). Maller and Reiss (1992) were the first authors to explore whether people with high AS are at risk of developing PD. To answer this question, they conducted a three-year follow-up study with 151 high school students without PD history and found that Anxiety Sensitivity Index scores (ASI; Reiss et al., 1986) at baseline predicted the frequency and intensity of panic attacks in the follow-up period. In addition, participants with higher levels of AS were five times more likely to develop an anxiety disorder. Since this study, many others have confirmed that people who score high on the ASI are at increased risk for experiencing panic attacks compared with those who score lower (Plehn & Peterson, 2002).

The aim of this study is to explore the similarities and differences in personality pathology and clinical features among three different samples, PD/PDA sufferers, a non-clinical sample with high levels of AS, and a non-clinical sample with low levels of AS. If people with high scores on the ASI are at greater risk of developing anxiety and panic (Plehn & Peterson, 2002), and there are specific personality features linked to PD/PDA individuals, we hypothesized that the personality profile of the sample with high levels of AS will be more similar to that of people with a diagnosis of PD/PDA than people without clinical pathology and low levels of AS. We consider that this type of studies may be relevant to shed further light on the study of risk factors in PD/PDA.

Method

Participants

The total sample was composed of 152 participants (52 in the PD/PDA sample, 55 in the non-clinical sample with low AS scores and 45 in the sample with high AS scores). Table 1 shows the composition and demographic characteristics of the three groups. Group comparisons indicated the existence of statistically significant differences in age and employment status.

Table 1
Sociodemographic data in the different study groups

	Clinical PD/PDA	Non-clinical High AS	Non-clinical Low AS
Number	52	45	55
Sex[a]			
Male	26 (50.0%)	15 (33.3%)	21 (38.2%)
Female	26 (50.0%)	30 (66.7%)	34 (61.8%)
Mean age[b]* (SD)	32 (10.4)	26.9 (9.4)	31.8 (8.2)
Marital status[a]			
Never married	31 (59.6%)	35 (77.8%)	28 (50.9%)
Married	18 (34.6%)	10 (22.2%)	23 (41.8%)
Divorced or separated	3 (5.8%)	0 (0%)	4 (7.3%)
Education[a]			
Elementary school	3 (5.8%)	3 (6.67%)	6 (10.9%)
High-school	20 (38.5%)	9 (20%)	11 (20.0%)
University degree	29 (55.8%)	33 (73.33%)	38 (69.1%)
Occupational level**			
Unemployed	4 (7.7%)	1 (2.22%)	2 (3.6%)
Student	14 (26.9%)	27 (60.0%)	14 (25.5%)
Unskilled labor	20 (38.5%)	8 (17.8%)	19 (34.5%)
Skilled labor	14 (26.9%)	9 (20.0%)	20 (36.4%)

[a] Independence tested with a χ^2 test; [b] mean differences tested with a one-way ANOVA; * p<.05; AS: Anxiety Sensitivity

Instruments

Data from the following measures were collected:

Anxiety Disorders Interview Schedule. The ADIS-IV (Brown et al., 1994) is a structured diagnostic interview designed to comprehensively evaluate anxiety disorders according to the DSM-IV-TR (2000). Test-retest reliability varies, depending on the study, from .68 to 1. The ADIS-IV is a useful interview that exhaustively traces the symptoms of anxiety and is sensitive to changes after treatment (Antony & Swinson, 2000).

*Anxiety Sensitivity Index***.** The ASI (Reiss et al., 1986; Spanish version by Sandín, Chorot, & McNally, 1996) is a questionnaire containing 16 items that measure fear of anxiety symptoms. Each item is rated along a 5-point Likert scale ranging from 0 (*very little*) to 4 (*very much*). There is good evidence of the reliability and validity of the ASI with a Cronbach's alpha of .84.

*Brief Symptom Inventory***.** The BSI (Derogatis & Melisaratos, 1983; validated for Spanish population by Ruipérez et al., 2001) is a 49-item inventory measuring general psychopathology. It provides information on 6 subscales: Depression, phobic anxiety, paranoid ideation, obsession-compulsion, somatization, and hostility/aggressivity. Responses are obtained through a 5-point Likert scale ranging from 0 (*none*) to 4 (*much*). The different scales offer high reliability in non-clinical samples (Cronbach's alpha ranging from .70 to .91).

Millon Clinical Multiaxial Inventory-III. The MCMI-III (Millon, Davis, & Millon, 2007; adapted and validated for Spanish population by Cardenal & Sánchez, 2007). The MCMI-III consists of 175 items and provides a profile according to 14 scales: Schizoid, avoidant, depressive, dependent, histrionic, narcissistic, antisocial, aggressive, compulsive, negativistic, self-defeating, schizotypal, borderline, and paranoid. Prevalence scores equal to or higher than 75 indicate the presence of personality traits, and equal to or higher than 85 indicate the presence of a personality disorder. The MCMI-III has shown good psychometric properties.

Procedure

In Figure 1, we offer the participant flow. Participants in the clinical sample (n = 80) were invited to participate in the study when they were going through the assessment in their clinical

center (PREVI center in Valencia and Castellón, CREOS, centro de psicoterapia y formación [center of psychotherapy and formation] in Castellón, and Psychological Assistance Service at the Universitat Jaume I in Castellón). All the participants in this sample were diagnosed of PD/PDA by the clinicians with the ADIS-IV (Brown, et al., 1994). The invitation was made when it was confirmed that they met the inclusion criteria and before starting the psychological treatment. The final clinical sample included 52 participants, 44 met criteria for PDA and 8 for PD. The mean duration of the disorder was 5.0 years (*SD* = 5.0 years; range from 4 months to 17 years). If the participants agreed to participate, they voluntarily signed an informed consent. The study had the approval of the ethical committees of all the centers who participated in this study. The participants filled out the MCMI-III, the BSI and the ASI.

All participants in the non-clinical samples were undergraduate and postgraduate students at Universitat Jaume I and employees of different companies in Castellon; all of them were volunteers and they signed an informed consent (*n* = 173). The assessment of the non-clinical samples was done by the author J. O. They filled out the MCMI-III, the BSI and the ASI in a single session. In the same session, they were asked whether they had received or were receiving psychological or psychiatric treatment.

For all groups under study, the exclusion criterion established was being younger than 18 years. Also, for the clinical sample: diagnosis of schizophrenia or bipolar I disorder, diagnosis of severe organic disease, diagnosis or history of substance dependence, diagnosis of mental retardation or developmental disorder, and currently receiving psychological treatment for PD/PDA. For the non-clinical samples: History or currently suffering any psychiatric disorder (this was assessed by a question in the assessment protocol). Additionally, to divide the non-clinical sample between those with high or low AS, as the ASI (Reiss et al., 1986) does not provide a cut-off score, we used the range offered by Peterson and Reiss (1992) for non-clinical population, between 14.2 and 22.5 to set the cut-off at 23. Participants who score equal to or higher than 23 were assigned to the non-clinical with high AS sample and participants with lower scores than 23 were assigned to the non-clinical with low AS sample.

Data analysis

To analyze the data, parametric statistics were used from the Statistical Package for Social Sciences (SPSS) 19.0 (SPSS 19.0, SPSS Inc, Chicago, IL). To compare the samples regarding demographics, chi-square statistic was used with categorical variables, and analysis of variance (ANOVA) was used to compare means. ANOVAs were performed to compare the clinical sample and the other study groups in the different measures.

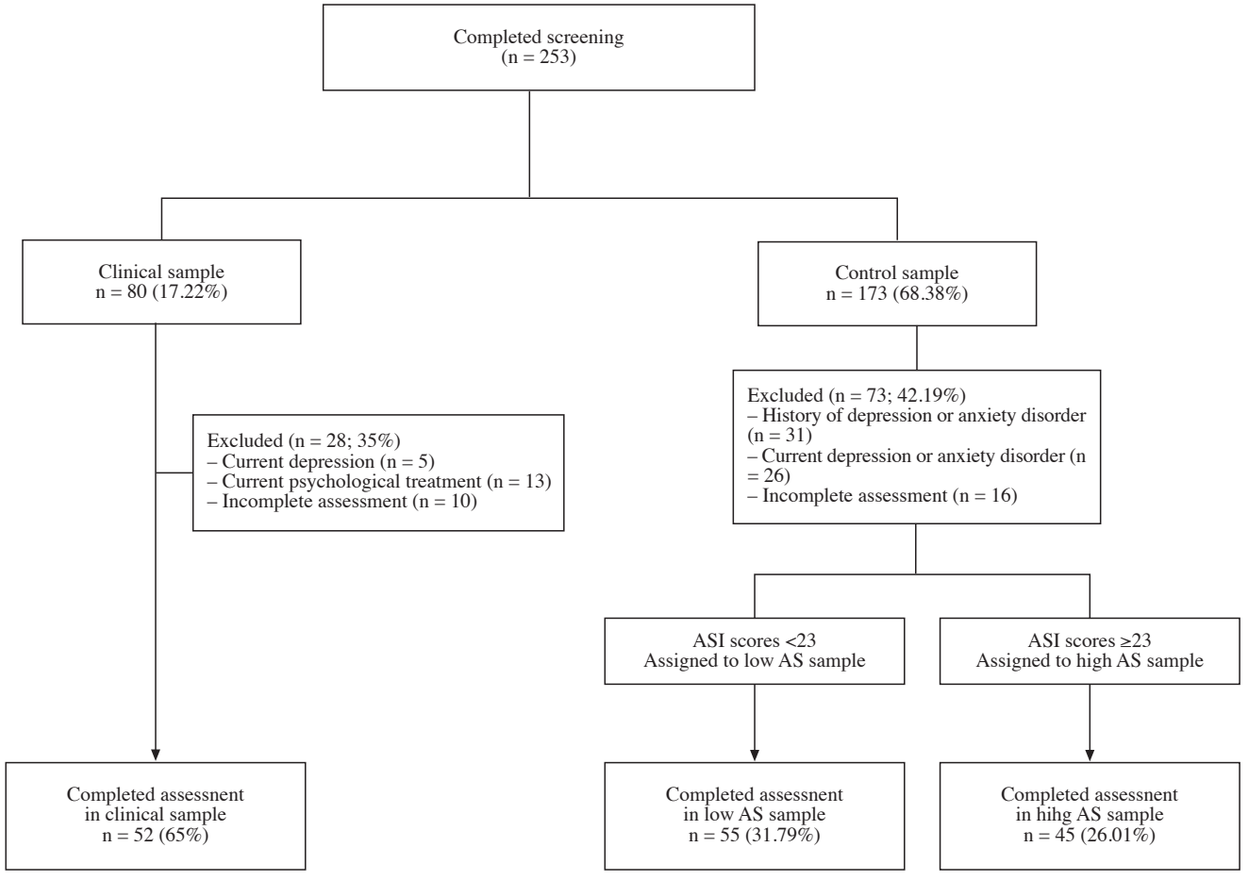

Figure 1. *Participant flow chart*

Homoscedasticity assumption was checked with Levene's statistic. When the hypothesis of equality of means was rejected, *p*-values of the ANOVA were computed with the Welch and Brown and Forsythe tests (in all the cases where variances were not homogeneous, the conclusion of the hypothesis testing of equality of means never changed with the common ANOVA test and the robust alternatives). Post-hoc analyses were also performed. The test selected was Tukey with a level of $p<.05$ to determine statistical significance. To set the effect size in mean comparisons, Cohen's *d* tests were performed.

Results

As can be seen in Table 1, there were statistically significant differences between the samples in age, $F(2, 149) = 4.412$, $p = .014$, adjusted $R^2 = .043$, and employment status, $\chi^2(6, N = 152) = 17.88$, $p = .007$. These differences could be attributed mainly to the fact that the high AS sample was composed of university students. The mean and standard deviation of the ASI in the PD/PDA sample were 30.67 ($SD = 11.06$), for the high AS sample 25.56 ($SD = 2.17$) and for the non-clinical sample 10.49 ($SD = 4.47$).

Taking into account the results in personality traits, using 75 as the cut-off point, 44 participants (80%) in the non-clinical sample with low AS presented personality traits in compulsive, histrionic, narcissistic and avoidant scales. In the non-clinical sample with higher AS, 40 participants (88.89%) obtained scores indicating depressive, compulsive, avoidant, dependent and histrionic personality traits. Finally, 48 participants (92.31%) in the clinical sample obtained scores indicative of avoidant, compulsive, histrionic and dependent personality traits. With respect to the identified PeD, using 85 as the cut-off point, 3 participants (21.43%) in the non-clinical sample with low AS presented narcissistic, histrionic and obsessive PeD. Only 2 participants (14.28%) in the non-clinical sample with higher AS presented obsessive and avoidant PeD, and 4 participants (28.57%) in the PD/PDA sample presented histrionic, obsessive, avoidant and paranoid PeD.

The ANOVAs showed statistically significant differences in the comparison between the three study samples in all the MCMI-III personality pathology scales with the exception of antisocial and compulsive. The post-hoc tests revealed that the differences were only statistically significant in the comparisons between the PD/PDA and the non-clinical with high AS scores sample with the non-clinical with low AS scores sample. Between the PD/PDA and the high AS sample, there were no statistically significant differences in any personality disorder scale. Individuals with PD/PDA, in comparison with the non-clinical with low AS sample, showed significant differences in all personality scales except for the Antisocial and Compulsive scales. The high AS sample, in comparison with the low AS sample, showed significant differences in all personality scales except for the Narcissistic, Antisocial and Compulsive scales.

Finally, Table 3 shows the means obtained in the BSI (Derogatis & Melisaratos, 1983) scales in the three samples and the comparison among them. The scores of the non-clinical sample with low AS were lower than the scores of the normative group provided by the authors of the questionnaire, confirming that participants belonging to this group, although presenting high scores in some of the personality pathology profiles of the MCMI-III (histrionic, narcissistic, and compulsive), did not present significant symptoms of Axis I psychopathology. The average rating for the PD/PDA and the high AS sample were very similar (significant differences were not found) except for the Phobic Anxiety and Paranoid Ideation scales where significant differences were found ($p<.001$ and $p<.05$, respectively). The scores in the PD/PDA sample were significantly higher in Phobic Anxiety and lower in paranoid ideation than the ones found in the high AS sample. The comparisons between the PD/PDA and the high AS samples with the low AS sample offered statistically significant differences in all BSI scales with a high effect size (ranging from 0.74 to 2.17).

Table 2
Means, standard deviations, mean differences (Tukey's statistical) significance and effect size on the MCMI-III in the different study groups

	Clinical PD/PDA	Non-clinical High AS	Non-clinical Low AS		PD/PDA– High AS		PD/PDA– Low AS		High AS– Low AS	
	Mean (SD)	Mean (SD)	Mean (SD)	F	Difference	d	Difference	d	Difference	d
Squizoid	43.82 (22.59)	42.82 (20.68)	31.58 (19.33)	5.61***	1.00	0.05	12.24**	0.58	11.24*	0.56
Avoidant	53.78 (25.63)	54.73 (20.31)	29.76 (25.23)	18.20***	-0.94	-0.04	24.03***	0.94	24.97***	1.09
Depressive	46.75 (21.46)	49.35 (26.90)	19.56 (18.40)	28.80***	-2.60	-0.10	27.18***	1.36	29.79***	1.19
Dependent	52.30 (22.30)	54.02 (20.07)	30.47 (19.48)	21.14***	-1.71	-0.08	21.83***	1.04	23.55***	1.19
Histrionic	46.94 (24.94)	40.73 (22.38)	59.25 (17.26)	9.63***	6.21	0.26	-12.31*	-0.57	-18.52***	-0.93
Narcissistic	51.51 (15.30)	54.75 (17.12)	61.94 (17.40)	5.51**	-3.24	-0.20	-10.43***	-0.64	-7.19	-0.42
Antisocial	40.69 (20.65)	46.29 (18.06)	38.47 (20.97)	1.95	-5.59	-0.29	2.22	0.11	7.81	0.4
Agressive	44.28 (19.24)	45.95 (19.66)	30.98 (21.71)	8.53***	-1.67	-0.08	13.31***	0.65	14.97***	0.72
Compulsive	57.84 (16.61)	51.02 (20.09)	59.40 (20.37)	2.61	6.82	0.37	-1.55	-0.08	-8.38	-0.41
Negativistic	46.30 (22.70)	52.89 (17.68)	31.93 (18.95)	14.68***	-6.58	-0.32	14.38***	0.69	20.96***	1.14
Self-defeating	38.80 (26.04)	41.27 (22.36)	15.44 (18.09)	21.30***	-2.46	-0.1	23.37***	1.04	25.83***	1.27
Squizotypal	39.36 (24.57)	44.58 (21.49)	17.02 (18.67)	23.62***	-5.21	-0.23	22.35***	1.02	27.56***	1.37
Borderline	38.57 (20.32)	47.53 (20.88)	19.04 (17.91)	27.99***	-8.98	-0.43	19.52***	1.02	28.49***	1.46
Paranoid	40.13 (25.22)	42.84 (25.73)	24.60 (24.84)	7.91***	-2.71	-0.11	15.53**	0.62	18.24***	0.72

* $p<.05$; ** $p<.01$; *** $p<.005$; AS: Anxiety Sensitivity

Table 3
Means and standard deviations on normative data, means, standard deviations, mean differences (Tukey's statistical), significance and effect size on the Brief Symptom Inventory in the different study groups

	Man[a] Mean (SD)	Woman[a] Mean (SD)	Clinical PD/PDA	Non-clinical High AS	Non-clinical Low AS		PD/PDA– High AS		PD/PDA– Low AS		High AS– Low AS	
			Mean (SD)	Mean (SD)	Mean (SD)	F	Difference	d	Difference	d	Difference	d
Depression	6.04 (6.53)	7.68 (6.88)	10.55 (6.88)	11.69 (7.11)	4.67 (4.77)	17.98***	-1.14	-0.16	5.88***	0.99	7.02***	1.16
Phobic anxiety	1.37 (2.55)	2.47 (3.55)	10.57 (6.26)	4.08 (3.34)	0.69 (1.47)	74.32***	6.49***	1.29	9.89***	2.17	3.39***	1.31
Paranoid ideation	6.98 (6.16)	7.82 (6.52)	7.13 (5.08)	9.66 (6.37)	3.61 (3.41)	17.39***	-2.53*	-0.44	3.52***	0.81	6.05***	1.18
Obsession-compulsion	6.56 (6.00)	7.83 (6.52)	12.19 (6.46)	12.00 (6.76)	4.69 (4.05)	28.23***	0.19	0.03	7.50***	1.39	7.31***	1.31
Somatization	3.79 (3.64)	5.32 (4.02)	10.01 (5.48)	8.30 (4.51)	2.76 (2.41)	41.39***	1.71	0.34	7.25***	1.71	5.54***	1.53
Hostility/Aggressivity	2.77 (2.89)	2.71 (3.04)	2.88 (3.31)	3.05 (3.34)	0.94 (1.64)	8.72***	-0.17	-0.05	1.94***	0.74	2.11***	0.8

[a] Reported by Ruipérez et al. (2001); * $p<.05$; ** $p<.01$; *** $p<.005$; AS: Anxiety Sensitivity

Discussion

The results obtained by several researchers in their quest to determine whether there are specific personality pathology profiles for PD/PDA are similar to those found in our study, which shows that the more frequent personality pathology profiles in the PD/PDA sample were avoidant, dependent and obsessive-compulsive (Albert et al., 2006; Iketani et al., 2004; Marchesi et al., 2005, 2006).

The use of a non-clinical sample with high AS in the study of personality characteristics in patients with PD/PDA has not been included in any other study that we have reviewed; our work represents a contribution in this regard. No statistically significant differences between PD/PDA and the high AS sample were found when using the MCMI-III. These results support the new proposals in the conceptualization and classification of emotional disorders, which states that there are basic characteristics common to all, indicating a dimensional structure of the emotional disorders (Brown & Barlow, 2009). It could be that people belonging to the high AS sample share with the clinical group a vulnerability to suffer emotional disorders. If the characteristics of personality and AS were similar in both groups, we may have evaluated those individuals at a time when the disorder had not yet been activated. In our study, the high AS sample is younger than the clinical group, and it could be argued that the differences found between these groups could be explained by this age difference (maybe the high AS sample was too young to have developed PD/PDA). However, the studies that have attempted to find clinical differences in PD/PDA depending on the age of onset have used 18 (Seguí et al., 1999), 20 (Goldstein, Wickramaratne, Horwath, & Weismann, 1997) or 25 years old (Iketani et al., 2004) to determine the early or late onset of the disorder. Given that the mean age of the high AS sample is almost 27 years (26.9), we could say that they have exceeded the usual age of onset of PD/PDA.

The similarity of personality characteristics between the two groups may indicate that the high AS sample could have "protective" factors for the development of the PD/PDA. If we consider the diathesis-stress models, in spite of having psychological vulnerability factors, stressful life events are necessary to develop a psychological disorder. Perhaps participants in our sample with high SA have not suffered major life stressors or have managed to deal with them through psychological (emotional regulation strategies) and social resources. It would be interesting to conduct a more extensive and detailed assessment of this sample to help identify which aspects make the difference between the high AS sample and the clinical sample. These findings would be of great importance first, to identify individuals at risk, second, to implement preventive programs, third, to help clinicians to improve the assessment and treatment protocols, and finally, to improve efficacy and effectiveness of the clinical interventions for PD/PDA.

We found no significant differences among the three groups regarding two personality pathology scales, Antisocial and Compulsive. From a dimensional perspective, it would not be surprising to obtain high scores on personality pathology in individuals without a diagnosis of personality disorder or Axis I disorders, because a more complete clinical assessment should consider other aspects such as interference, frequency, distress, number and intensity of symptoms or severity. It would be interesting to study whether specific personality pathology profiles appear more frequently in the normal population. If this option were true, we might consider whether some personality pathology traits may be being reinforced in our society, causing, on one hand, a higher prevalence of these disorders and, on the other, a growing standardization of them. For example, the promotion in our society of individualism, competitiveness or fast success could lead to histrionic, compulsive or narcissistic patterns of functioning that could somehow be socially supported.

The scores obtained in the BSI indicated that the high AS sample presented a similar profile of psychopathology than the PD/PDA group in all scales but Phobic Anxiety and Paranoid Ideation. PD/PDA patients scored higher ($p<.001$) in phobic anxiety and lower ($p<.05$) in paranoid ideation. The Paranoid Ideation scale refers to feelings of distrust, suspicion, irritability, and delusions ideation. The Phobic Anxiety scale includes aspects such as panic attacks or intense fear associated with agoraphobic situations. This factor would essentially include symptoms related to PDA (APA, 1994). In view of these results, we could argue that moderate scores on the ASI failed to influence the phobic anxiety scores. These data support the idea that AS is a vulnerability factor, but there are other variables like phobic anxiety that could be a key element in the development of anxiety psychopathology.

As hypothesized, participants with high AS not only presented one vulnerability factor for developing a emotional disorder such PD/PDA, that is AS (Schmidt et al., 2010; Weems et al., 2007), but they also presented another source of vulnerability, personality disorder traits. The neuroticism/negative affect construct raised by Brown and Barlow's model (2009) is observed, according to

this preliminary work, not only in PD/PDA patients, but also in people with no diagnosis on Axis I or II but with a similar psychopathology profile, characterized specially by: (a) high scores on the ASI, (b) high scores on depression, obsession, and paranoid psychopathology scales of BSI, and (c) avoidant, dependent and narcissistic personality traits. Other studies will be required, with clinical and larger high AS samples, to confirm the preliminary results presented in this paper. In addition, it will require more comprehensive assessment of high AS samples to identify protective factors that prevent the onset of PD/PDA disorders. Finally, this research should include longitudinal studies that prove that the vulnerability factors identified in high AS samples trigger the onset of PD/PDA disorders and whether preventive interventions could prevent the activation of psychopathological processes related to anxiety that trigger a PD/PDA disorder.

This study has some limitations. First, the small sample size of the different samples and the differences observed in demographic factors suggest caution in the generalization of our results. Second, it would be necessary to evaluate the absence of Axis I disorders with clinical structured interviews such as the ADIS-IV in the non-clinical samples. Finally, it would be interesting to conduct a more extensive and detailed assessment of the non-clinical samples to help identify which aspects make a difference between the high AS sample and the clinical sample.

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