

Are there more personality disorders in treatment-seeking pathological gamblers than in other kind of patients? A comparative study between the IPDE and the MCMI¹

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ABSTRACT. In this *ex post facto* study, the most frequent Personality Disorders (PDs) related to pathological gambling are described. A sample of 50 consecutively recruited treatment-seeking pathological gamblers was compared to 50 consecutively recruited psychiatric outpatients with non-addictive disorders and to 50 normative subjects from the general population with the same demographic features (age, sex, and socioeconomic level) to find out the prevalence of PDs. All participants were assessed with the International Personality Disorders Examination (IPDE), the Millon Clinical Multiaxial Inventory (MCMI-II), and with the South Oaks Gambling Screen (SOGS). According to the results, 32% of pathological gamblers and 16% of the general clinical sample (*versus* 8% of the normative sample) showed at least one personality disorder. The most prevalent ones were the borderline personality disorder (16%), followed by the antisocial, narcissistic, and non specified personality disorders (8% each). The coincidence about the number and the kind of PDs diagnosed by both instruments was not strong. Finally, implications of this study for clinical practice and future research in this field are commented upon.

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KEYWORDS. Pathological gambling. Personality disorders. Comorbidity. Assessment. *Ex post facto* study.

RESUMEN. En este artículo se presenta un estudio *ex post facto* acerca de los trastornos de personalidad más frecuentemente asociados al juego patológico. Para ello se contó con una muestra de 150 sujetos (50 jugadores patológicos, 50 pacientes clínicos no aquejados de ningún trastorno adictivo y 50 sujetos sanos de la población normal, con las mismas características demográficas). Todos ellos fueron evaluados con el *International Personality Disorders Examination (IPDE)*, el *Inventario Clínico Multiaxial de Millon (MCMI-II)*, y el *Cuestionario de Juego Patológico de South Oaks (SOGS)*. Los resultados obtenidos pusieron de manifiesto que el 32% de los jugadores patológicos y el 16% de la muestra clínica (frente al 8% de la muestra procedente de la población normal sana) presentaba, al menos, un trastorno de personalidad. El trastorno de mayor prevalencia fue el trastorno límite de la personalidad (16%), seguido del trastorno antisocial, el narcisista y el no especificado (8% cada uno de ellos). Los dos instrumentos de evaluación utilizados para los trastornos de personalidad no mostraron una gran coincidencia ni en la tasa ni en el tipo concreto de trastornos de personalidad encontrados. Por último, se comentan las implicaciones de este estudio para la práctica clínica y para las investigaciones futuras.

PALABRAS CLAVE. Juego patológico. Trastornos de personalidad. Comorbilidad. Evaluación. Estudio *ex post facto*.

The role played by Personality Disorders (PDs) in other addictions (*cf.* Solomon, Shollar, Solomon, and Zimberg, 1993) has encouraged clinicians to conduct research about the relationship between PDs and pathological gambling (Henderson, 2004; Steel and Blaszczynski, 2002). However, there are only a few studies where the personality disorders comorbidity in pathological gambling is analyzed. The main global studies up to now are summarized in Table 1. Unlike other recent reviews (*e.g.*, Petry, 2005), in this table studies dealing with an only PD, mainly antisocial PD, are not included.

TABLE 1. Personality disorders in pathological gambling.

<i>Authors</i>	<i>Instrument</i>	<i>N</i>	<i>Most frequent Personality Disorders</i>
Lesieur and Blume (1990)	Unknown	7	<ul style="list-style-type: none"> ≡ 71% with personality disorders - Schizotypal: 28% - Obsessive-compulsive: 14% - Passive-aggressive/borderline: 14% - Non specified: 14%
Specker, Carlson, Edmonson, Johnson, and Marcotte (1996)	SCID-II (interview)	40	<ul style="list-style-type: none"> - 25% with personality disorders - Avoidant: 12.5% - Obsessive-compulsive: 5% - Narcissistic: 5%

TABLE 1. Personality disorders in pathological gambling. (*Cont.*)

Blaszczynski and Steel (1998)	PDQ-R (self-report)	82	<ul style="list-style-type: none"> — 93% with personality disorders — Borderline: 69.5% — Histrionic: 65.9% — Narcissistic: 57.3% — Dependent: 48.8% — Paranoid: 40.2%
Black and Moyer (1998)	PDQ-IV (self-report)	30	<ul style="list-style-type: none"> — 87% with personality disorders — Obsessive-compulsive: 59% — Avoidant: 50% — Schizoid: 33% — Schizotypal: 30% — Paranoid: 26% — Borderline: 23%
Fernández-Montalvo and Echeburúa (2004)	IPDE (interview)	50	<ul style="list-style-type: none"> — 32% with personality disorders — Borderline: 16% — Antisocial: 8% — Narcissistic: 8% — Paranoid: 8%

As it can be seen, there is a tendency for a higher proportion of pathological gamblers to be found within the dramatic cluster B category (antisocial, borderline, histrionic and narcissistic). This category, most of all in the case of borderline PD, is typified by characteristics of impulsivity, poor self-regulation, affective instability manifested by marked shifts in mood in response to environmental stimuli, personal rejection, criticisms and ego-threat, and intolerance for frustration (Steel and Blaszczynski, 2002).

Anyway, it is not possible to draw definitive conclusions from these studies because the prevalence rate of PDs among pathological gamblers can range between 25% (Specker *et al.*, 1996), 42% (Ibáñez *et al.*, 2001) or even 93% (Blaszczynski and Steel, 1998) and because the average number of diagnosed PDs for each patient is, in some studies (Blaszczynski and Steel, 1998), over 4. In these studies overdiagnosis of PDs may be due to the use of self-report personality inventories, apart from the apparent lack of reliability for these disorders and the extensive overlapping. Self-reports are easy to administer and take less time, but in some cases can tend to overpathologize (Segal and Coolidge, 1998). Since PDs diagnosis has been fraught with controversy and difficulty, even though diagnostic criteria have become more refined in recent years, it is important to use appropriate assessment tools. Structured interviews generally are more reliable and allow consideration of important observational data, but they require extensive training and experience on the part of interviewer (Segal and Coolidge, 1998).

In a previous study, IPDE diagnoses were compared between pathological gamblers and a normative group (Fernández-Montalvo and Echeburúa, 2004). Going on with this area of research, the main aims of this *ex post facto* study (Montero and León, 2007; Ramos-Álvarez, Valdés-Conroy, and Catena, 2006) were, firstly, to find out if the frequency

and profile of PDs among treatment-seeking pathological gamblers were different from normal population and from non-addict patients who sought treatment for another Axis I mental disorder. And secondly, to compare the concordance between two well-known tools for assessment of PDs: a semistructured diagnostic interview (International Personality Disorders Examination, IPDE; Loranger, 1995) and a self-report (Millon Clinical Multiaxial Inventory, MCMI-II; Millon, 1997). This study has both theoretical and applied implications. The accurate understanding of PDs in pathological gamblers could help to guide further research regarding treatment decisions according to the patient's personality pattern.

Method

Subjects

The sample for this study consisted of 150 subjects (50 consecutively recruited pathological gamblers, 50 consecutively recruited non-gamblers outpatients, and 50 normative subjects from general population). All of them gave written informed consent to take part in the study.

The pathological gamblers sample consisted of patients who sought outpatient treatment at the Pathological Gambling Center of Rentería (Basque Country) during the period from October 2001 to August 2003. According to the criteria for admission to the study, the patients had to a) meet the diagnostic criteria of pathological gambling according to DSM-IV-TR (American Psychiatric Association, 2000); and b) have a score equal or above 5 on the Spanish version (Echeburúa, Báez, Fernández-Montalvo, and Páez, 1994) of the South Oaks Gambling Screen (SOGS; Lesieur and Blume, 1987). The average score on the SOGS was 11.9 ($SD = 2.5$), with a range from 9 to 18. Gambling behavior was characterized in mean values as being frequent (4 days per week), entailing a considerable amount of money invested (157 € per week), and involving a substantial amount of time (8 hours per week) and of debt (3,673 €). Patients were dependent of the gambling for nearly 6 years before seeking treatment.

The clinical control group was selected among the non-gamblers subjects who sought outpatient treatment for different mental disorders (most of all, for mood/anxiety disorders) in a community Mental Health Center. The most frequent diagnoses according to DSM-IV-TR criteria were panic disorder (30%), dysthymic disorder (26%), social phobia (18%), major depression (16%), generalized anxiety disorder (6%), and obsessive-compulsive disorder (4%). Inclusion criteria included to be of age 18 years or older and to be able to give voluntary consent. Psychotic patients were excluded from this group.

The normal control group was composed by people without mental disorders of Axis I, selected among workers at university (clerks; $n = 25$) and in a canning factory ($n = 25$). Both clinical and normal control groups were matched up in age, sex, and social class with pathological gambling group.

The most significant demographic characteristics of the total sample are presented in Table 2. The only difference between groups was observed in the previous psychiatric history, which was significantly less frequent in the normative control group.

TABLE 2. Sociodemographic characteristics of the sample.

Variables	Pathological gambling group (n = 50)	Clinical control group (n = 50)	Normative control group (n = 50)	Test of significance
	Mean (SD) n (%)	Mean (SD) n (%)	Mean (SD) N (%)	F χ^2
Age	33.5 (5.52)	35.2 (6.76)	34.8 (6.01)	.32
Sex				
Men	50 (100%)	50 (100%)	50 (100%)	---
Marital status				
Married	38 (76%)	36 (72%)	40 (80%)	
Single	8 (16%)	11 (22%)	7 (14%)	1.41
Divorced	4 (8%)	3 (6%)	3 (6%)	
Education				
None	8 (16%)	5 (10%)	4 (8%)	
Primary studies	18 (36%)	21 (42%)	20 (40%)	3.67
Secondary studies	20 (40%)	16 (32%)	20 (40%)	
University	4 (8%)	8 (16%)	6 (12%)	
Socioeconomic status				
Low	10 (20%)	5 (10%)	9 (18%)	
Middle-low	8 (16%)	6 (12%)	10 (20%)	12.26
Middle	24 (48%)	20 (40%)	25 (50%)	
Middle-high	8 (16%)	19 (38%)	6 (12%)	
Previous psychiatric history				
Yes	16 (32%)	18 (36%)	5 (10%)	10.18*
No	34 (68%)	32 (64%)	45 (90%)	

* $p < .001$.

Instruments

- The South Oaks Gambling Screen (SOGS; Lesieur and Blume, 1987) is a screening questionnaire composed of 20 items which are related to gambling behavior, loss of control, the sources for obtaining money, and the emotions involved. The range is from 0 to 20. According to Lesieur and Blume (1987), a score higher than 5 (the cut-off point) serves to identify probable pathological gamblers. The four-week test-retest reliability is .71 and the internal consistency is .97. From the perspective of convergent validity, the correlation with the clinical assessment of pathological gambling according to the diagnostic criteria of the DSM-III-R (American Psychiatric Association, 1987) is .94, and it is .60 with the assessment by a patient's family member. In this study, the Spanish version of SOGS (Echeburúa *et al.*, 1994) was used. This assessment tool has a test-retest reliability of .98 and the internal consistency is .94. The convergent validity with DSM criteria is $r = .92$.
- The International Personality Disorders Examination (IPDE; Loranger, 1995). The Spanish version developed by López-Ibor, Pérez-Urdániz, and Rubio (1996) is a semistructured diagnostic interview designed to assess PDs. Items reflecting PD criteria according to the DSM are grouped into six thematic headings: work,

self, interpersonal relationships, affects, reality testing, and impulse control. The IPDE covers all the criteria for the 11 Axis II disorders of DSM. In order to establish reliable diagnoses, the behavior or trait must be present for at least five years to be considered and the criterion must be met before the age of 25. A self-administered IPDE screening questionnaire is available prior to the interview to assist in identifying personality disorders that might be of focus in the interview. Inter-rater reliability of the IPDE generally is good (median kappa = .73), as well as test-retest reliability (median = .87) (Blanchard and Brown, 1998; Segal and Coolidge, 1998).

- The Millon Clinical Multiaxial Inventory (MCMI-II; Millon, 1997). The Spanish version (Ávila, 1998) is a 175-item, true/false, self-report questionnaire. It was designed to identify clinical states and personality disorders similar to those contained in the DSM. The MCMI-II contains eight basic personality scales: a) Schizoid-asocial; b) Avoidant; c) Dependent-submissive; d) Histrionic-gregarious; e) Narcissistic; f) Antisocial-aggressive; g) Compulsive-conforming; and h) Passive-aggressive. In addition to the basic personality patterns, there are three pathological personality scales: Schizotypal (S), Borderline (B), and Paranoid (P). This instrument has proven to be useful for the assessment of personality disorders (Besteiro, Lemos, Muñoz, García, and Álvarez, 2007; Marañón, Grijalbo, and Echeburúa, 2007). According to the conservative criteria of Weltzler (1990), a base rate score above 84 is considered to be significant. In this study additional clinical syndrome scales of Axis I have not been taken into account because are not relevant for the purpose of this research. In this study MCMI-II has been used, instead of MCMI-III, because this last version is not yet available in Spain.

Procedure

The pre-treatment assessment of the pathological gamblers was conducted in 2 sessions. In the first one, data related to gambling behavior were collected and the MCMI-II and the IPDE screening test were carried out. And in the second session, the presence of personality disorders identified in the previous screening test was assessed with the IPDE interview. The time interval between IP assessment occasions was one week. The assessment of both clinical and normative control groups was carried out with the same instruments (one session dedicated to MCMI-II and IPDE screening and the second one to IPDE interview) and with the same time interval.

In order to control the inter-rater reliability, two experienced clinical psychologists, sitting in on the same interview and providing independent rating, carried out together the clinical diagnosis of Axis I mental disorders (or of its lack, in the case of the normal control group) and of personality disorders in the three groups. Regarding pathological gambling/other mental disorders of Axis I, both professionals coincided in all cases. In the case of personality disorders, the inter-rater reliability in joint interviews was quite high (kappa = .85).

Results

Personality disorders with the IPDE

The 32% of the pathological gamblers and the 16% of the non-gambling clinical sample (*versus* the 8% of the normative group) showed at least one personality disorder (average: 1.5, that is, more than one personality disorder for person). Comparison between groups in the overall prevalence rate of personality disorders showed statistically significant differences ($\chi^2_2 = 9.8, p < .01$). Personality disorders were more frequently diagnosed in gamblers than in the other groups.

The most prevalent one, among the gamblers, was the borderline personality disorder (16%), followed by the antisocial, paranoid, narcissistic and non-specified (8% each). In turn, the most diagnosed PDs in the clinical control group were the obsessive-compulsive and the avoidant (4% each). And finally, in the normative control group there were only 4 subjects with different personality disorders. The only one significant difference was observed in the borderline personality disorder, which was more frequently diagnosed among pathological gamblers than among clinical sample (see Table 3).

TABLE 3. Personality disorders with the IPDE.

Personality disorders	Pathological gambling group (n = 50)		Clinical control group (n = 50)		Normative control group (n = 50)		χ^2
	n	(%)	n	(%)	n	(%)	
Paranoid	4	(8%)	1	(2%)	--	--	5.3
Schizoid	--	--	--	--	--	--	--
Schizotypal	--	--	--	--	--	--	--
Histrionic	--	--	1	(2%)	1	(2%)	1.1
Antisocial	4	(8%)	--	--	--	--	--
Narcissistic	4	(8%)	--	--	--	--	--
Borderline	8	(16%)	1	(2%)	--	--	13.4*
Obsessive-compulsive	--	--	2	(4%)	1	(2%)	2.1
Dependent	--	--	1	(2%)	--	--	--
Avoidant	--	--	2	(4%)	1	(2%)	2.1
Non specified	4	(8%)	1	(2%)	1	(2%)	3.12
Total	16	(32%)	8	(16%)	4	(8%)	9.8*

Note. The total number of people affected by personality disorders is inferior to the total sum of disorders because there are patients who present more than one personality disorder.

* $p < .01$.

Personality disorders with the MCMI-II

Regarding the results in the MCMI-II, the prevalence rate of PDs is showed in Table 4. As in the case of the results with the IPDE, personality disorders were more frequently diagnosed in pathological gamblers than in the other groups. However, now the most prevalent one among gamblers was the narcissistic personality disorder (32%), followed by the antisocial and the passive-aggressive (16% each), all of them with a significant higher rate than the observed in the clinical control group. In addition, the 20 gamblers with PDs presented an average of 2.2 disorders.

TABLE 4. Personality disorders with the MCMI-II.

Personality disorders	Pathological gambling group (n = 50)		Clinical control group (n = 50)		Normative control group (n = 50)		χ^2
	n	(%)	n	(%)	n	(%)	
Schizoid	--		--		--		--
Phobic	--		3 (6%)		2 (4%)		2.8
Dependence	4 (8%)		3 (6%)		2 (4%)		.7
Histrionic	--		2 (4%)		1 (2%)		2.1
Narcissistic	16 (32%)		1 (2%)		--		31.9***
Antisocial	8 (16%)		--		--		--
Aggressive-sadistic	4 (8%)		1 (2%)		--		5.3
Compulsive	--		3 (6%)		1 (2%)		3.6
Passive-aggressive	8 (16%)		2 (4%)		--		11.14**
Self-destructive	--		--		--		--
Schizotypal	--		--		--		--
Borderline	--		3 (6%)		1 (2%)		3.6
Paranoid	4 (8%)		--		--		--
Total	20 (40%)		15 (30%)		7 (14%)		8.5*

Note. The total number of people affected by personality disorders is inferior to the total sum of disorders because there are patients who present more than one personality disorder.

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

Comparison between the IPDE and the MCMI-II

From a clinical point of view, it is very relevant to know the degree of concordance between a self report instrument and a clinical interview for diagnosis of PDs. Results of this comparison are showed in Table 5.

TABLE 5. Comparison in the rate of personality disorders between the IPDE and the MCMI-II.

Groups	IPDE + MCMI-II		IPDE		MCMI-II		χ^2
	n	(%)	n	(%)	n	(%)	
Pathological gamblers	12	(24%)	16	(32%)	20	(40%)	9.96*
Clinical	6	(12%)	8	(16%)	15	(30%)	6.81*
Normative	4	(8%)	4	(8%)	7	(14%)	19.5**
Total	22	(14.6%)	28	(18.7%)	42	(28%)	40.6**

* $p < .01$; ** $p < .001$.

In all cases, the prevalence of PDs was significant higher when the MCMI-II was used. The IPDE seems to be more conservative in the diagnosis of PDs. Likewise the coincidence about the kind of PDs diagnosed by both instruments was not strong. Finally, the concordance between the IPDE and the MCMI-II in the total sample was

of $r = .54$, $p < .001$ (gambling group: $r = .49$, $p < .001$; clinical group: $r = .43$, $p < .01$; normative group: $r = .73$, $p < .001$).

This discrepancy is observed in the lower rate of PDs diagnosis when a positive score in both instruments was required (14.6%). Thus, the PDs rates among the different groups were the following ones: 24% in the gambling group, 12% in the clinical group, and 8% in the normative group.

Discussion

The main contribution of this study to a better knowledge of the comorbidity of personality disorders and pathological gambling is related to the specific design. That is, apart from the experimental group, there were a clinical control group and a normative control group. The aim of this design was to find out if the frequency and profile of PDs among pathological gamblers were different from normal population and from non-addict patients who sought treatment for another Axis I mental disorder. In addition, the diagnosis of a personality disorder was identified, by using a systematic and comprehensive approach, by two assessment tools (IPDE and MCMI-II). These requirements are unusual in the previous literature. The sample size is 50 in each group, which is comparable to other similar studies in the literature (ranging from 7 to 82 participants; $M = 40$).

Participants in this study are representative of treatment-seeking pathological gamblers. The most relevant finding is that 32% of the pathological gamblers met DSM-IV-TR diagnostic criteria for a personality disorder compared to 16% of the non-addict patients and to 8% of the normative control group. That is, PDs were very common in pathological gamblers, but not so strangely frequent as in other studies, ranging from 71% to 93% (Black and Moyer, 1998; Blaszczynski and Steel, 1998; Lesieur and Blume, 1990; Specker *et al.*, 1996). This lack of consistence is probably related to the assessment tools, mainly the IPDE, which is more accurate and conservative than self-report inventories used in those studies. Anyway, the main contribution of this study is to have proven that this high rate of comorbidity with PDs is specific of pathological gambling and much higher than in other Axis I mental disorders, such as mood and anxiety disorders.

Unlike other studies, where the average number of PD diagnoses is over 4 (Blaszczynski and Steel, 1998), the average number of diagnosed PDs for each subject in our study was 1.5. Once again the lack of consistence between the studies could be related to the different assessment tools. Other factor which might contribute to the difference with previous studies is the sample difference (particularly sample size and sex and type of gambling). PDs found in pathological gamblers tended to be within the dramatic cluster B category, mainly the borderline personality disorder (present in the 50% of patients with PDs). Actually the role played by impulsivity in the development of pathological gambling has been stressed by other studies (Blaszczynski, Steel, and McConaghy, 1997; Fernández-Montalvo and Echeburúa, 2004; Steel and Blaszczynski, 2002). The main difference between pathological gamblers and non-addict patients was that the former ones showed 2 times PDs more than the latter ones. The main difference

between both groups regarding the type of PDs was the presence of cluster B personality disorders in the pathological gamblers group (*versus* cluster C in the clinical sample). In turn, non-addict patients showed 2 times PDs more than the participants of normative control group.

The purpose of this paper was to understand the role played by the psychiatric comorbidity (referred, in this case, to PDs) in pathological gambling and to help identify different kinds of patients. In other studies (Fernández-Montalvo and Echeburúa, 2004; Ibáñez *et al.*, 2001) gamblers with PDs showed a higher severity of symptoms in all studied variables. Personality processes must be integrated to forward our understanding of pathological gambling (Steel and Blaszczynski, 2002). This information could be helpful in alerting the clinician to potential obstacles and difficulties early in therapy, thereby guiding treatment decisions based on the patient's personality pattern. Further research is needed to develop tailor-made treatment for this kind of patients.

Yet much remains to be achieved. The findings are not consistent with previous studies, which are themselves inconsistent. This is a pilot-study with the sample size being not large enough to generate generalizable and reliable findings. There are several suggestions of this exploratory study which could shed light on further research. In this study, according to the diagnostic philosophy contained within DSM-IV-TR, PDs have been considered in a categorical way. However, the dimensional approach to personality disorder diagnosis may yield more precise information (Ullrich, Borkenau, and Marneros, 2001) to plan interventions within a promising individual therapy model that focuses both on pathological gambling and maladaptive schemas and coping styles (Ball and Cecero, 2001). Moreover it would be interesting, according to the typology based on indicators of vulnerability and severity (Blaszczynski and Nower, 2002; González *et al.*, 2003), not to consider pathological gambling as an only construct, but to study the application of this empirically-derived typology to treatment matching. And, finally, the exclusive focus on men in this study (women pathological gamblers are rarely treatment-seekers) is a limitation which should be dealt with in further research.

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