Summary.—The study compared clinical, psychopathological, and personality profiles between immigrants and Spanish native-born pathological gambling pa- tients. A total of 1,601 native-born and 133 immigrant patients attending treatment at a specialized hospital unit were administered a battery of questionnaires during clinical assessment. Outcome measures were compared between both groups and the incremental predictive accuracy of the area of origin was examined using a re- gression model. Native-born Spaniards showed a mean 2.6 yr. greater duration of the disorder, while immigrants scored higher on South Oaks Gambling Screen, fre- quency of going to casinos, and total money spent (in a single day and/or to recover losses). General psychopathology and personality scores did not differ between the cohorts. However, immigration from Asia had a statistically significantly incremen- tal validity for pathological gambling in South Oaks Gambling Screen scores. Both cohorts shared more similarities than differences in their gambling profiles.

Introduction

Pathological gambling is included as an impulse control disorder not otherwise specified in the Diagnostic and Statistical Manual of Mental Disor- *ders* (4th ed., text revised, DSM-IV–R; APA, 2000). The disorder is charac- terized by a failure to resist the impulse, drive, or temptation to perform an act that is harmful to the person or to others, and it is the only type of addiction where the addictive behaviour is not confounded by a drug and its effects. Thus, pathological gambling is a major health problem, with se- vere consequences for the individuals involved and their relatives, since the loss of control over gambling is associated with several cognitive, be- havioural, and physiological symptoms (Blaszczynski & Nower, 2002).

Gambling problems are particularly relevant in Spain, with the sec- ond highest per capita gambling expenditures in Europe (Becoña, 2010). Since the legalization of gambling in Spain in 1977, slot machines are the most popular type of gambling, available in many bars, pubs, and restau- rants, along with access to alcohol (Becoña, 1999). In Catalonia, an auton- omous community of Spain with more than 7.5 million inhabitants (Ins tituto Nacional de Estadística, 2010) and a high rate of immigration, the amount of money gambled during 2009 was €4,753.91 million, and 31.0% of this amount corresponds to tax income (Ministerio del Interior, 2009). However, some forms of gambling predate 1977, such as lotteries, football pools, and horserace betting (Becoña, 2009). In terms of accessibility to pri- vate management games, in Catalonia there are 44,044 slot machines, 50 bingo halls, and three casinos (Ministerio del Interior, 2009); in addition, state lotteries are easily accessible and socially accepted.

There are currently a wide range of treatment options in Spain, simi- lar to those in most countries: outpatient units within the national public healthcare system and public hospitals, self-help groups, and private cen- tres (Becoña, 2009). In this new environment in which different types of gambling are expanding through the development of new technologies, communication, and globalization, there is a need for major action by the administrative parties of several countries. These actions should promote responsible gambling policies and support public health initiatives in terms of facilitating prevention resources as well as specialized treatment.

Prevalence of pathological gambling in the adolescent and adult gen- eral populations ranges between 0.4% and 7.6% around the world (Beco- ña, 1996; Petry, Stinson, & Grant, 2005; Sussman, Lisha, & Griffiths, 2011), being comparable and relatively stable across surveys and inventories (Stucki & Rihs-Middel, 2007), with a mean prevalence rate in adults of 2.2% (Muñoz-Molina, 2008). Most research on gambling has been based on Western samples and results have often been generalized to other eth- nic and cultural groups (Raylu & Oei, 2002). However, prevalence can vary across racial and ethnic groups (Alegría, Petry, Hasin, Liu, Grant, & Blanco, 2009). To cite Raylu and Oei (2004; p. 1103), "cultures that have cultural

values and beliefs that favour gambling (such as the Chinese) are more likely to gamble or develop pathological gambling compared to cul- tures that do not have values that encourage gambling (e.g., Muslims)." However, some indigenous cultural groups tend to report higher preva- lence of pathological gambling than the general population in the country studied or the dominant cultural group, usually Caucasians (Raylu & Oei, 2004). In short, immigration and ethnic groups can be considered probable risk factors for pathological gambling (Johansson, Grant, Kim, Odlaug, & Götestam, 2009).

There are few studies about gambling differences between native- born people and immigrants. For example, Blaszczynski, Huynh, Dum- lao, and Farrell (1998) found the prevalence estimate for casino gambling in a Chinese-speaking community in Australia was more than twice that of the general Australian population. However, most of the studies on this topic have been conducted using community samples of immigrants in United States. Petry, Armentano, Kuoch, Norinth, and Smith (2003) found the frequency of gambling problems did not differ across three eth- nic groups in the United States (Laotians, Cambodians, and Vietnamese), while the types of gambling problems endorsed by this sample of South- east Asian refugees differed from those typically reported in Caucasian samples in the same geographic area. In contrast, pathological gamblers in any racial and ethnic group in the United States (White, Black, Native American, Asian, or Hispanic) were more engaged in casino gambling than in non-casino gambling (Alegría, *et al.,* 2009). In addition, undocu- mented Mexican immigrants in New York City who had lived in the Unit- ed States for a longer period of time were more likely to have gambled at all than those who had more recently immigrated (Momper, Nandi, Om- pad, Delva, & Galea, 2009). On the other hand, Wardman, el-Guebaly, and Hodgins (2001) found the Native American population was more likely to have problem or pathological gambling when compared to the general non-Native American population.

In Northern Europe, several studies compared at-risk gamblers and non-risk gamblers. The results were consistent: people born in a non- Western country or non-native born residents are more at risk of becoming at-risk gamblers in Denmark (Lyk-Jensen, 2010), Norway (Bakken, Götes- tam, Gråwe, Wenzel, & Øren, 2009; Lund, 2007), and Sweden (Volberg, Abbott, Ronnberg, & Munck, 2001). Regarding race and ethnicity, non- Whites in the United Kingdom were more likely to experience problem- atic gambling or pathological gambling, compared to their counterparts (McBride, Adamson, & Shevlin, 2010). However, there have been no studies that specifically examine gambling behaviours in clinical samples of pathological gambling patients with regard to immigration status.

This study includes a large sample of treatment-seeking pathologi- cal gambling patients living in Spain who attended a specialized unit at a hospital in Barcelona (Catalonia, Spain). Therefore, the present study only examined established gamblers. The aims were two-fold: (a) to as- sess gambling and psychological profiles in patients attending mental- health services to treat the symptoms and impairment due to pathological gambling disorder, and to evaluate differences due to immigration status; and (b) to evaluate the incremental predictive accuracy of immigrant sta- tus on the dependence of pathological gambling, having considered other socio-demographical and psychometrical characteristics. For both objec- tives, only the immigrant status was examined, since information on the length of residence in Spain was not collected. According to the literature review and the accumulated empirical evidence, it was hypothesized that immigrants would present greater psychopathology and that immigra- tion status would be incrementally predictive of the severity of gambling (Alegría, *et al*., 2009).

Method

Participants

The initial sample comprised 1,958 participants who consecutively went for outpatient treatment at the Pathological Gambling Unit of Bell- vitge University Hospital, between February 2004 and September 2010. All participants were diagnosed according to the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., APA, 1994), using a semi-structured clinical interview conducted by experienced psychologists and psychia- trists, and were treated with individual or group cognitive-behavioural oriented therapy. Two hundred and twenty-four participants were exclud- ed: 204 (10.4%) presented an impulse-control disorder other than patho- logical gambling, while for the remaining 20 participants (1.0%), it was not possible to collect sufficient data required for analysis. Therefore, the final sample comprised 1,734 adult pathological gambling patients.

Most of the participants (90.0%) were men (1,560 men vs 174 women); 1,601 (92.3%) were born in Spain, whereas the remaining 133 (7.7%) were immigrants: 13 (0.8%) from Eastern Europe, 22 (1.3%) from other Europe- an countries, 51 (2.9%) from Central and South America, 39 (2.2%) from North Africa, and 8 (0.5%) from Asia. The mean age of the participants was 42.1 yr. ($SD = 13.3$).

Measures

South Oaks Gambling Screen (SOGS; Lesieur & Blume, 1987).—This self-report questionnaire assesses cognitive, emotional, and behavioural aspects related to pathological gambling. It includes 33 items, most of them yes/no questions, and the total score ranges from 0 to 20, with high- er values indicating a worse psychopathological state. This study used the Spanish version of the questionnaire (Echeburúa, Báez, Fernández, & Páez, 1994), which has adequate psychometric properties. Internal con- sistency reliability in the present sample was satisfactory (Cronbach's $\alpha = .75$ for both the Spanish and immigrant groups).

Diagnostic Questionnaire for Pathological Gambling (Stinchfield, 2003).— This self-report questionnaire briefly assesses pathological gambling. The DSM–IV diagnostic criteria for pathological gambling measure compris- es 19 dichotomous items, which are combined to evaluate the presence of each of the 10 specific diagnostic criteria for pathological gambling ac- cording to DSM–IV (APA, 1994). Specifically, nine of the 10 criteria have two items, and if either item is endorsed in the pathological direction, the criterion is considered to be present. Scores range from 0 to 10 and scores ≥ 5 indicate pathological gambling per the DSM–IV (1994). The question- naire has demonstrated adequate internal consistency reliability and con- vergent validity. This study used the Spanish adaptation (Jiménez-Murcia, Stinchfield, Álvarez-Moya, Jaurrieta, Bueno, Granero, et al., 2009), with adequate psychometric properties. Internal consistency reliability in the present sample was acceptable for both groups ($\alpha = .79$ for the Spanish group and $\alpha = .76$ for the immigrant group).

Symptom Check List-90 items–Revised (SCL-90–R; Derogatis, 2002).— This 90-item self-report questionnaire is used to score current psychologi- cal distress and psychopathology in nine primary dimensions: somatisa- tion (12 items), obsessive-compulsive behaviour (10 items), interpersonal sensitivity (9 items), depression (13 items), anxiety (10 items), hostility (6 items), phobic anxiety (7 items), paranoid ideation (6 items), and psychoti- cism (10 items). The participants rate items on a Likert-type scale from 0: Total absence to 4: Maximum intensity, and higher scores reflect greater psychological distress. Three global indices are also derived: global se- verity index (GSI), positive symptom distress index (PSDI), and positive symptom total (PST). This study used the Spanish adaptation, which has shown adequate psychometric properties (González de Rivera, 2001). In- ternal consistency reliability in the present sample was good to excellent, with α values from .76 (paranoid ideation scale for the Spanish group) to .92 (depression scale for the immigrant group).

Temperament and Character Inventory–Revised (TCI–R; Cloninger, 1999).—This 240-item self-report questionnaire assesses personality traits according to seven general dimensions: novelty seeking (35 items), harm avoidance (33 items), reward dependence (30 items), persistence (35 items), self-directedness (40 items), cooperativeness (36 items), and self-transcendence (26 items), plus five validity items. Scores for each question range from 1: False to 5: True. The total scale scores are the sum of the re- spective item ratings, reversed when necessary, with higher scores indicat- ing a greater presence of the construct measured. The Spanish adaptation was used, which has shown adequate psychometric properties (Gutiérrez- Zotes, Bayón, Montserrat, Valero, Labad, Cloninge, *et al.*, 2004). Internal consistency reliability in the present sample was acceptable to good, with α values from .70 (novelty seeking scale for the immigrant group) to .88 (persistence scale for both groups).

Other socio-demographic and clinical variables.—Additional demograph- ic, clinical, and social/family variables related to gambling were measured using a semi-structured clinical interview, described elsewhere (Jiménez- Murcia, Aymamí-Sanromà, Gómez-Peña, Álvarez-Moya, & Vallejo, 2006).

Procedure

The Ethics Committee of Bellvitge University Hospital approved this study and informed consent was obtained from all participants. The as- sessment was conducted prospectively at baseline and it involved a single session (approximately 90 minutes), during which the above-mentioned tests were administered by

trained clinical psychologists. Data were col- lected between February 2004 and September 2010, as part of a larger re- search project. Clinicians helped immigrants with those items that might present problems due to language. Internal consistency reliability for all questionnaire measures was equivalent for the immigrant group in com- parison with the Spanish group ($p > .05$), since α comparison tests (Feldt, Woodruff & Salih, 1987) showed no statistical differences across groups, except for scores on the SCL-90–R anxiety (.89 for Spaniards and .86 for immigrants, $p = .02$) and SCL-90–R phobic anxiety (.80 for Spaniards and .84 for immigrants, $p = .03$).

Statistical Analysis

Statistical analysis was carried out with PASW 17 for Windows (SPSS System). Firstly, demographic characteristics were compared between Spanish-born and immigrant participants, through t test for quantitative variables and chi-squared test for categorical variables. Secondly, clinical, pathological and personality profiles were also compared between both groups, with an ANOVA adjusted by the covariate of patients' age. Cor- rections for lack of homogeneity and/or lack of sphericity were applied when necessary. The 95% confidence intervals for mean differences were used, and effect sizes were calculated as Cohen's d (1988; standardized difference between both means). For the latter, results were interpreted as small if d values were lower than 0.2, medium for d values ranging between 0.2 and 0.5, and large for d values higher than 0.5 (Rosnow & Rosenthal, 1996). Finner's adjustment was applied to control Type I error (Brown & Russell, 1997). This method is used to perform more than one hypothesis test simultaneously, and it controls the family-wise error rate for the set of hypotheses at a level (.05 in this research) in a less conserva- tive mode than the classic Bonferroni procedure.

Thirdly, pathological gambling profiles (individual dichotomized items of the South Oaks Gambling Screen and DSM questionnaires) were com- pared between groups, using binary logistic regression models adjusted by age. Odds ratios were calculated for the association of each answer to area of origin (immigrant vs Spanish), and effect sizes for proportions based on Cohen's d (1988; standardized difference between both propor- tions) were also obtained.

Finally, the differential and incremental predictive accuracy of the pa- tients' area of origin was examined based on the South Oaks Gambling Screen total score. This analysis was carried out using a hierarchical mul- tiple linear regression model, entering demographic characteristics (Step 1), age of onset (Step 2), Temperament and Character Inventory Revised scores (Step 3), and area of origin (Step 4). For each of the five areas of ori- gin (Spain, Europe, South America, North Africa, and Asia), four dummy dichotomous variables were entered in the last step, with the Spanish na- tive-born group being used as the reference category. Incremental predic- tive accuracy was estimated with the changes in R2 coefficient between steps. The adjustment of the final model was assessed by evaluating the normality distribution of the residuals using the Shapiro-Wilk Test (Shap- iro & Wilk, 1965).

Results

Sociodemographic Characteristics of the Sample

Table 1 shows the sociodemographic characteristics of Spaniards and immigrants. Most of the participants were males (90.1% of Spaniards and 88.8% of immigrants) and no sex differences were found regarding ori- gin ($p = .43$). Based on the Hollingshead's socio-economic status (SES) in- dex (Hollingshead, 1975), no differences appeared by origin (p = .21): for the whole sample, most of the patients were of medium-low, medium, or medium-high SES (61.1%) or low SES (37.4%) and only 1.5% were of high SES. Spanish participants were older than immigrants when they sought consultation (42.5 vs 37.2 yr.; $p < .001$), while more immigrants than Span- iards were married or lived with a partner (62.3% vs 51.2%; $p = .015$) and were currently employed (71.5% vs 61.0%; $p = .017$). Regarding educa- tion level, there were differences between the groups (p = .001): the Span- ish had fewer years of education than immigrants. For the whole sample, the mean monthly personal income was €1,242 ($SD = 705$) and the mean monthly family income was €2,115 (SD = 1,129), with no differences be- tween both groups. A high proportion of participants were regular smok- ers (75.7% for Spaniards and 66.9% for immigrants; $p = .035$). Furthermore, 14.8% abused alcohol and 10.7% were also habitual consumers of other substances.

Clinical, Psychopathological, and Personality Profiles

Table 2 includes quantitative clinical characteristics (top) and shows the results of comparing Spaniards and immigrants. Duration of the gam- bling problem was more than two years higher in Spaniards than in im- migrants ($p < .001$). However, immigrants scored higher on the South Oaks Gambling Screen total score ($p = .03$) and on the maximum amount of money spent per episode of gambling (the mean difference was €552; $p = .046$). With regard to current psychological distress (centre) and per- sonality traits (bottom), there were no differences attributable to the ori- gin of patients. Effect sizes were moderate to small for many measures, and the highest coefficient was found for the maximum amount of money spent per episode (Cohen's $d > 0.65$).

Regarding South Oaks Gambling Screen items, which evaluated the type of gambling behaviour, several statistical differences were found de- pending on area of origin (available on supplementary material): com- pared to native-born Spaniards, immigrants showed a higher frequency of weekly gambling in casinos (37.4% vs 21.6%; $p = .003$), spent more than €300 a day (74.6% vs 52.2%; $p = .001$), claimed to be winning when actually losing (53.7% vs 38.8%; $p = .048$), and took money from credit accounts in casinos (6.7% vs 0.7%; $p < .001$). Effect sizes were also moderate to small for many gambling behaviours, and the highest value was found for maxi- mum amount ever bet in a single day ($d = 0.48$). The percentage of positive answers for the DSM questionnaire only differed for one item (available on supplementary material): immigrants gambled more often to recover financial losses (68.8% vs 52.0; $p = .018$), which also showed the largest ef- fect size value ($d = 0.35$).

Incremental Predictive Accuracy of Area of Origin

Table 3 shows the final model of the hierarchical multiple regression that evaluated the incremental validity of sociodemographics, person- ality traits, and origin on the South Oaks Gambling Screen total score. Adjustment of the model was correct (residuals normally distributed; *$p = .20$), and global predictive capacity of the final global model was good* ($R^2 = .31$). Older participants ($\beta = .18$), those with lower monthly family incomes ($\beta = -.10$), and a lower age of onset ($\beta = -.36$) were the predic- tors that achieved higher scores for the South Oaks Gambling Screen total score. Regarding the contribution of personality traits, higher scores for novelty seeking ($\beta = .31$) and lower scores for self-directedness ($\beta = -.22$) also predicted more pathological gambling. The incremental validity of the area of origin on the total South Oaks Gambling Screen score was sig- nificant (change in $R^2 = .01$; $p = .021$). However, compared to native-born Spaniards, only being of Asian origin was predictive of higher South Oaks Gambling Screen total scores ($\beta = .09$).

Discussion

This was the first study to compare pathological gambling between native-born people and immigrants in a large sample of outpatients re- ceiving treatment from a specialized hospital unit in Spain. The main re- sults of the study indicated that native-born Spaniards and immigrants, which both have positive attitudes to seeking professional psychological help, share more similarities than differences in their gambling profiles.

In terms of clinical characteristics, some differences emerged between both cohorts. Non-native patients were younger, but showed less dura- tion of the disorder, while there were no differences regarding age of onset of the problematic gambling behaviour. However, it could not be deter- mined how long the immigrants had lived in Spain, or whether the onset of the pathological gambling came before or after they immigrated.

Immigrants scored generally higher on the South Oaks Gambling Screen. Many immigrants may be unemployed when they arrive in Spain from foreign areas where gambling is not very widespread. Moreover, the higher scores can be related to the previous history of immigrants. In this sense, some studies had related traumas and adverse childhood events in the pre-immigration histories of patients (losses, abandonment, neglect and deprivation, physical and emotional abuse, socio-economic and po- litical oppression, etc.) with the development of pathological gambling, higher severity, and other co- morbidities (Lee, Solowoniuk, & Fong, 2007). For other psychological conditions, such as bulimia nervosa, difficulties in dealing with stressful life events related to immigration and to the transition from one way of life to another may be potentially influential on the predisposition to the disorder (Forcano, Santamaría, Agüera, Gunnard, Tchanturia, Krug, *et al*., 2008).

When examining each individual South Oaks Gambling Screen item, some differences also emerged: immigrants spent more hours per week in casinos and took money out of credit accounts, claimed to be winning when losing and had at least once spent more than €300 in a day than did native-born Spaniards. Likewise, there were also a few differences be- tween both groups for diagnostic criteria: more immigrants than native- born Spaniards continued to gamble to recover lost money. On the oth- er hand, slot machines, lotteries, and bingo (in this order) were the three most common types of gambling in both groups. In fact, these forms of gambling are based on luck, and are easily accessible in Spain. Consider- ing the difference on South Oaks Gambling Screen total scores, it seems this difference was not due to differences in endorsement of forms of gam- bling (Volberg, *et al*., 2001): percentages for gambling based purely on luck and those involving relatively high skill or an intermediate mix of skill and luck did not differ between the two cohorts, except for going to casi- nos, as was mentioned earlier. While immigrants scored slightly higher on the South Oaks Gambling Screen total score than Spaniards (11.1 vs 10.0), there were no statistically significant differences on DSM number of cri- teria endorsed by both groups3 (7.4 vs 6.9). Although both measures were highly related in this sample ($r = .66$; $p < .001$), as has been reported else- where (Stinchfield, 2003; Salinas, 2004), they do not exactly measure path- ological gambling in the same way, given that the South Oaks Gambling Screen is a screening tool used to discriminate among probable pathologi- cal gamblers, problematic gamblers, and non-problematic gamblers (Le- sieur & Blume, 1987; Echeburúa, *et al*., 1994), whereas the DSM question- naire provides the number of DSM–IV diagnostic criteria for pathological gambling (Stinchfield, 2003).

Despite similar amounts of money spent per episode for both groups, the mean maximum amount of money ever spent was much higher in im- migrants. This contrasts with the results found by the Victorian Casino and Gambling Authority (VCGA, 1999), wherein ethnic groups spent larg- er amounts of money per week than the general Australian community. This result can also be related to the immigrants' perception that gambling is an easy way to obtain money, which could motivate people to continue spending money despite losses in single sessions, but with the expectation of recovering losses across several sessions (Raylu & Oei, 2002). However, 3Supplementary tables are available reporting the differences in scores on separate items of the SOGS and DSM in Document APD2012-002. Remit $10.00 for a photocopy to the Archive for Psychological Data, P.O. Box 7922, Missoula, MT 59807-7922, for recipients inside the USA. Contact APD for shipping rates outside the USA. it should be noted that responses about money expended are based upon recall, which can lessen their reliability.

An additional finding was the area of origin partially predicted patho- logical gambling severity, once other sociodemographic characteristics and personality traits were included in the hierarchical model. Only the Asian participants scored higher than native-born Spaniards for South Oaks Gambling Screen total score. However, this result should be considered with caution, due to the small sample size of the group of immigrant pa- tients born in Asia. In addition, personality profiles such as higher novelty- seeking and lower self-directedness were also associated with pathological gambling severity, as has been found in previous studies (Cunningham- Williams, Grucza, Cottler, Womack, Books, Przybeck, *et al*., 2005; Grane- ro, Penelo, Martínez-Giménez, Álvarez-Moya, Gómez-Peña, Aymamí, *et al., 2009; Jiménez-Murcia, Álvarez-Moya, Stinchfield, Fernández-Aranda,* Granero, Aymamí, *et al*., 2010).

The present study has several limitations which should be highlight- ed. The assessment procedures used prevents us from evaluating either specific psychopathological or comorbid disorders in depth. Conclusions about the onset of pathological gambling are limited in this study given the lack of information about the time of arrival in Spain for the non-na- tive group. Therefore, the possibility of previous traumatic experiences on current problem gambling status was not explored. In addition, the small sample size of some of the specific areas of origin of immigrants pre- vents comparisons among these groups. Moreover, the present sample of patients was seeking treatment for pathological gambling, so the results might not be generalizable to those gamblers not seeking treatment. How- ever, this is the first study of pathological gambling profiles regarding im- migration status in a large clinical sample of outpatients in Spain.

In short, the results of this study suggested that native-born Span- iards and immigrants show similar gambling profiles, with few differ- ences, mostly related to the maximum amount of money spent as well as repeat gambling to recover loses. However, these specificities could be taken into account in the design of better strategies for acknowledging, as- sessing, diagnosing, and treating this disorder. Future research

with larg- er samples of individuals with similar cultural features could help public   health managers to provide effective clinical help to specific immigrant populations.

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Table 1

		Spanish (n = 1,601)	Immigrant (n = 133)	p
Age (yr.)	M	42.5	37.2	< .001
	SD	13.5	8.9	
Sex (% men)		90.1	88.0	.43
Civil status (% couple)		51.2	62.3	.02
Employed (% yes)		61.0	71.5	.02
Personal income (Eur/month)	M	1,244.7	1,208.0	.59
	SD	703.9	718.6	
Family income (Euro/month)	M	2,114.9	2,113.9	.99
	SD	1,124.5	1,189.4	
Education (%)	No studies	2.6	3.5	.001
	Primary	57.0	32.2	
	Secondary	36.5	46.1	
	University	3.9	18.3	
Socioeconomic status (%)	High	1.5	1.2	.21
	Medium-high	6.1	11.8	
	Medium	14.8	14.1	
	Medium-low	39.5	43.5	
	Low	38.0	29.4	
Smokers (%)		75.7	66.9	.04
Alcohol abuse (%)		15.1	11.9	.35
Abuse of other substances (%)		10.8	9.2	.60

Table 2

	Spanish (n = 1,601)		Immigrant (n = 133)		Effect size Cohen's d	p^*	ANOVA Adjusted by Age	
	M	SD	M	SD			MD	95%CI (MD)
Age of onset of problem (years)	36.4	13.2	33.9	8.65	0.16	.06	−2.41	−4.15, 0.67
Duration of problem (years)	5.79	6.15	3.24	3.54	0.34	<.001	−2.55	−3.28, −1.83
SOGS: total score	10.0	3.23	11.1	3.21	0.28	.03	0.90	0.33, 1.48
Total DSM–IV criteria	6.91	2.08	7.38	1.87	0.15	.34	0.30	−0.06, 0.67
Maximum money spent/episode (€)	804.1	1,988.7	1,391.3	3,126.5	0.65	.05	551.7	150.7, 952.8
Average money spent/episode (€)	156.8	441.4	168.9	190.9	0.05	.93	7.49	−96.89, 111.87
Total accumulated debts (€)	10,253.1	26,901.8	8,338.0	20,728.9	0.14	.69	−1,417.7	−6,923.4, 4,088.1
SCL: Somatisation	0.92	0.80	0.89	0.74	0.00	.99	0.00	−0.16, 0.16
SCL: Obsessive–compulsive	1.09	0.80	1.17	0.79	0.11	.54	0.09	−0.08, 0.25
SCL: Interpersonal sensitivity	0.97	0.80	1.04	0.87	0.08	.64	0.07	−0.10, 0.23
SCL: Depressive	1.40	0.89	1.48	0.96	0.11	.54	0.10	−0.08, 0.28
SCL: Anxiety	0.95	0.79	0.99	0.77	0.06	.67	0.05	−0.11, 0.21
SCL: Hostility	0.85	0.80	0.88	0.76	0.01	.95	0.01	−0.16, 0.17
SCL: Phobic anxiety	0.45	0.63	0.45	0.68	0.00	.98	0.00	−0.13, 0.13
SCL: Paranoid Ideation	0.84	0.75	0.88	0.72	0.07	.67	0.05	−0.10, 0.20
SCL: Psychotic	0.84	0.72	0.90	0.78	0.10	.56	0.07	−0.07, 0.22
SCL-90–R: GSI score	0.99	0.68	1.03	0.69	0.08	.64	0.05	−0.09, 0.19
SCL-90–R: PST score	44.8	21.7	45.9	22.4	0.07	.67	1.47	−2.96, 5.90
SCL-90–R: PSDI score	1.85	0.58	1.88	0.57	0.07	.67	0.04	−0.08, 0.16
TCI–R: Novelty seeking	109.0	14.5	110.4	15.8	0.01	.95	0.14	−2.82, 3.10
TCI–R: Harm avoidance	101.2	17.2	98.1	18.2	0.15	.38	−2.54	−6.15, 1.06
TCI–R: Reward dependence	100.3	15.8	102.5	15.5	0.16	.34	2.58	−0.74, 5.89
TCI–R: Persistence	110.0	20.6	115.0	22.3	0.23	.14	4.68	0.35, 9.02
TCI–R: Self-directedness	126.8	21.5	128.6	23.9	0.09	.64	1.88	−2.69, 6.45
TCI–R: Cooperativeness	132.4	17.5	134.9	18.1	0.17	.34	2.95	−0.72, 6.62
TCI–R: Self-transcendence	65.2	15.4	67.9	16.0	0.25	.09	3.85	0.69, 7.02

Table 3

Hierarchical Multiple-linear Regression	β	p	B	95%CI (B)	Total R²	p	Δ R²	p
Sex (male)	.01	.67	0.16	−0.56, 0.87	.048	<.001		
Age (yr.)	.18	.007	0.05	0.01, 0.08				
¹Studies level								
Primary or less	−.11	.12	−0.67	−1.53, 0,18				
Secondary	−.06	.42	−0.35	−1.20, 0.50				
¹Marital status								
Married	.07	.05	0.46	−0.01, 0.93				
Separated/divorced	.04	.28	0.38	−0.30, 1.06				
Employment status (yes)	−.02	.60	−0.12	−0.57, 0.33				
Own income (€/mo.)	.05	.23	0.00	0.00, 0.00				
Family income (€/mo.)	−.10	.01	0.00	0.00, 0.00				
Age of onset of problem (yr.)	−.36	<.001	−0.09	−0.12, −0.06	.110	<.001	.062	<.001
TCI-R: Novelty seeking	.31	<.001	0.06	0.05, 0.08	.298	<.001	.188	<.001
TCI-R: Harm avoidance	.02	.57	0.00	−0.01, 0.02				
TCI-R: Reward dependence	.01	.70	0.00	−0.01, 0.02				
TCI-R: Persistence	.04	.32	0.01	−0.01, 0.02				
TCI-R: Self-directedness	−.22	<.001	−0.03	−0.04, −0.02				
TCI-R: Cooperativeness	−.06	.16	−0.01	−0.02, 0.00				
TCI-R: Self-Transcendence	.02	.50	0.00	−0.01, 0.02				
²Origin: rest of Europe	.01	.75	0.20	−1.02, 1.42	.307	<.001	.010	.021
²Origin: South America	.04	.20	0.65	−0.34, 1.64				
²Origin: North Africa	.03	.28	1.96	−1.62, 5.54				
²Origin: Asia	.09	.003	7.70	2.62, 12.77				