

The role of social factors in gambling disorder: A cluster analysis based on social support, perceived stigma and caregiver burden in a clinical population

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Abstract: *Background.* Social factors have received less attention than individual variables in the study of gambling. This study aimed to 1) analyze gender differences in social factors; and 2) identify clusters of gamblers based on social support, stigma, and caregiver burden. *Methods.* A total of 91 gamblers undergoing treatment for gambling disorder ($M_{age} = 47.31$; $SD = 14.70$, 71.4% males) were included in the study. A hierarchical cluster analysis was conducted to group gamblers based on social support, stigma, and caregiver burden. *Results.* Regarding gender differences, men scored higher on potential positive aspects and reported lower levels of discrimination. In terms of caregiver burden, women experienced a significantly higher burden than men. The findings indicated that gamblers could be classified into two clusters according to these social factors. Cluster 1 (“socially vulnerable gamblers”) showed greater stigma, lower social support, and a greater caregiver burden. Conversely, Cluster 2 (“socially protected gamblers”) presented lower stigma, higher social support, and a lower caregiver burden. *Conclusion.* Emphasizing social factors, particularly stigma, social support, and caregiver burden, as key determinants of problem gambling is a promising approach for developing tailored preventive strategies and interventions for this clinical population.

Keywords: Gambling, Stigma, Social Support, Caregiver Burden, Gender.

Introduction

In recent years, the study of risk factors for gambling behavior and gambling disorder has focused on individual variables, emphasizing, among others, sociodemographic characteristics (e.g., being male) (Secades-Villa et al., 2023), psychological variables (e.g., emotion regulation, personality traits) (Cooper et al., 2022; Estévez et al., 2022; Estevez et al., 2023; Velotti et al., 2021), mental health-related factors (e.g., depressive symptomatology) (Allami et al., 2021; Williams et al., 2021), and other addictive behaviors (Allami et al., 2021; Bonnaire et al., 2017; Kim et al., 2024; Williams et al., 2021). Nevertheless, social factors, understood as how interaction with others influences individuals' health and well-being, have received less attention in the scientific literature concerning gambling (see e.g., Afifi, Cox, et al., 2010).

One of the most extensively studied social protective factors related to gambling is social support. Research consistently shows that greater loneliness or lower social support is associated with increased gambling participation (Bickl et al., 2024; Kim et al., 2024; Stefanovics et al., 2023), higher severity of problematic gambling (Castrén et al., 2013; Marinaci et al., 2021; Savolainen et al., 2020; Sirola et al., 2023; Vuorinen et al., 2021), and more gambling-related issues (e.g., suicide ideation) (Bickl et al., 2024; Koompah et al., 2024; Lussier et al., 2014). In contrast, higher levels of social support are linked to better treatment outcomes (Gomes & Pascual-Leone, 2009; Petry & Weiss, 2009), and improved quality of life (Penfold & Ogden, 2024).

Notably, these findings are inconsistent, as some studies have found no significant relationship between loneliness and gambling (Vuorinen et al., 2024). Other research has shown that greater social support from friends can increase gambling behavior (Räsänen et al., 2016), or that this relationship is only observed in male populations (Afifi, Brownridge, et al., 2010).

To our knowledge, very few studies have explored gender differences in the impact of social support on gambling disorder. Findings have indicated that, while no significant differences were found between women with problem gambling and those with non-problem gambling, differences were observed in the male population (Afifi, Cox, et al., 2010). This outcome indicates that social support could be a transversal issue among the female population, regardless of their gambling status. Additionally, lower levels of social support were found to be a predictor of problem gambling only among women, compared to men with problem gambling (Afifi, Cox, et al., 2010).

On the other hand, one of the social constructs that has gained significant attention in recent gambling-related research is stigma, comprising both social stigma, perceived stigma, and self-stigma (Aonso-Diego et al., 2025; Keane, 2019; Quigley, 2022; Wöhr & Wuketich, 2021). Public stigma or social stigma is the general population's reaction to a person with a gambling disorder; "perceived stigma" is the belief that others hold stigmatizing ideas

about oneself; and finally, and “self-stigma” is the internalization of negative social stereotypes and their impact on psychological well-being. Stigma has been identified as a meaningful barrier to both self-identification in cases of problematic gambling and to seeking treatment for gambling disorder, as demonstrated by both quantitative (Gainsbury et al., 2014; Li & Whelan, 2024) and qualitative studies (Dąbrowska & Wieczorek, 2020, 2021; Hing et al., 2016).

Regarding gender differences, findings are mixed (Hitch & Hoon, 2024). Some studies suggest that women experience greater gambling-related stigma (Andrà et al., 2022; Aonso-Diego et al., 2025; Håkansson & Widinghoff, 2020; Hing & Russell, 2017; McCormack et al., 2014), while others report no significant differences between men and women (Carcelén-García et al., 2023; Horch & Hodgins, 2008; Lindsay et al., 2021; Raisamo et al., 2013). These discrepancies may be attributed to variations in sample characteristics (e.g., general population) (Andrà et al., 2022; Carcelén-García et al., 2023), participants’ age (e.g., adolescents) (Håkansson & Widinghoff, 2020; Raisamo et al., 2013), or the types of stigma measures employed, such as self-reported self-stigma (Hing & Russell, 2017; Raisamo et al., 2013) compared to psychometric questionnaires (e.g., gambling perceived stigma scale) (Andrà et al., 2022; Håkansson & Widinghoff, 2020). The study by Baxter et al. (2016) concluded that men and women experience stigma differently. Whereas men are more prone to perceive gambling as a way to manage emotional distress or stress (which can impact help-seeking due to a perceived need for self-reliance), women feel greater shame and self-blame for being attracted to these games (e.g., casino, bingo), often due to socially prescribed roles. Consequently, adopting a gender perspective on the issue of stigma is relevant to the clinical approach for individuals with gambling problems.

Finally, one of the least studied social variables is the impact of being a caregiver. Specifically, caregiver burden has been examined with a focus on individuals caring for people with addictive behaviors, including gambling (Côté et al., 2024). However, the distress caused by caregiving and its potential impact on the initiation and development of gambling remains largely unknown. While several studies have explored social factors (e.g., being a victim of violence) as strong risk factors for gambling (Dowling et al., 2016; Hing et al., 2023), the specific role of caregiver burden requires further investigation.

Studying the impact of caregiving on gambling is particularly relevant within the female population. Research indicates that men and women have different motivations for gambling, with women more frequently engaging in gambling as a coping mechanism (McCormack et al., 2014; Palmer Du Preez et al., 2021). This refers to gambling as a way to manage both internal distress (e.g., depressive symptoms) and external stressors (e.g., experiences of abuse). In this regard, it can be hypothesized that caregiving burden may be associated with gambling behavior, particularly among female gamblers (Estévez, Macía, Gandarias, et al., 2023). This phenomenon remains under-

researched and has been explored mostly in qualitative studies (Estévez, Macía, Ontalvilla, et al., 2023), which have concluded that caregiving burden is an emergent theme among the population of female gamblers.

In the field of addictive behaviors, there has been increasing interest in characterizing gamblers. This approach enables the classification of gamblers based on similar characteristics rather than treating them as a homogeneous group with identical traits. Extant literature has categorized gamblers according to gambling-related variables (e.g., severity, type of gambling) (Chamberlain et al., 2017; Devos et al., 2020; Guillou Landreat et al., 2020; James et al., 2016; Sanscartier et al., 2018; Wall et al., 2021), mental health variables (Aonso-Diego et al., 2024; Black & Allen, 2022; Çıtak, 2023; Nower et al., 2022), and psychological constructs (e.g., personality, emotional regulation) (Granero et al., 2018; Granero, Jiménez-Murcia, del Pino-Gutiérrez, Mena-Moreno, et al., 2020; Granero, Jiménez-Murcia, del Pino-Gutiérrez, Mora, et al., 2020; Lara-Huallipe et al., 2022), among others. Such subtyping offers a more comprehensive framework for understanding the observed variability among gamblers, not only improving the effectiveness of treatment programs but also facilitating personalized interventions for individuals with gambling disorder (Milosevic & Ledgerwood, 2010).

In the Spanish context, recent data indicate a gambling prevalence rate of 53.8% in the general population (National Plan on Drugs, 2025), with social factors such as the high density of betting houses in vulnerable neighborhoods and family-oriented culture playing a key role in gambling patterns (Pérez et al., 2022). Prior research in Spain has highlighted that while men are more frequently diagnosed, women face unique sociocultural barriers related to social acceptance and domestic roles (Estévez, Macía, Gandarias, et al., 2023). Against this background, previous evidence highlights the strong relationship between social factors, in particular stigma, social support and caregiver burden, and gambling behavior, as well as women's specific vulnerability concerning these social factors (Estévez, Macía, Gandarias, et al., 2023). To date, no studies have examined how gamblers are classified according to social variables. To address this gap in the literature, this exploratory study sought to 1) examine differences between men and women in social factors (i.e., stigma, social support, and caregiver burden) and 2) identify clusters of individuals with gambling disorder based on these social factors among a clinical sample of gamblers. Specifically, we hypothesized that: (H1) women would report higher levels of stigma and caregiver burden than men; and (H2) the cluster analysis would reveal at least one 'high-risk' group characterized by the combination of low social support and high stigma.

Method

Participants and procedure

Recruitment was conducted through associations belonging to the Spanish Federation of Rehabilitated Gamblers (FEJAR). Inclusion criteria were: (1)

being at least 18 years of age, (2) having a clinical diagnosis of gambling disorder according to DSM-5 criteria, and (3) being currently enrolled in treatment at a FEJAR-affiliated center. Exclusion criteria included the presence of severe cognitive impairment or psychotic disorders that would hinder the comprehension of the questionnaires.

The sample comprised 91 individuals with a diagnosis of gambling disorder who were currently receiving outpatient treatment for gambling. The participants' ages ranged from 21 to 76 years ($M_{\text{age}} = 47.31$; $SD = 14.70$), and 71.4% were male ($n = 65$). Most of the participants were enrolled in vocational training studies (27.5%, $n = 25$), followed by university studies (24.2%, $n = 22$), primary studies (19.8%, $n = 18$), high school (13.2%, $n = 12$), secondary studies (12.1%, $n = 11$), and no studies (3.3%, $n = 3$). Regarding marital status, 45.05% ($n = 41$) were single, 39.56% ($n = 36$) of the participants were married, and 15.38% ($n = 14$) were divorced. Finally, concerning employment status, the majority (56.0%) were employed, 13.2% were unemployed, and the remaining 30.8% were retired (16.5%), students (3.3%), working and studying (2.2%), on sick leave (6.6%), or other situations (2.2%).

Ethics statement

All participants provided written informed consent. We assured the participants of the confidentiality and anonymity of their responses and their voluntary participation. No compensation was provided for participation in this study. The research obtained the ethics committee's approval from the first author's university (ref.: ETK-37/23-24) and was performed following the principles of the Declaration of Helsinki.

Measures

Sociodemographic measures include sex, age, marital status (i.e., married, single, divorced), educational level (i.e., no studies, primary studies, secondary studies, high school, vocational training, university studies), and employment status (i.e., working, unemployed, students, sick leave). Additionally, all participants completed three questionnaires assessing social support, stigma, and caregiver burden.

Social support was assessed using the Medical Outcomes Study (MOS, Sherbourne & Stewart, 1991) adapted to Spanish by Revilla-Ahumada et al. (2005). The MOS scale consists of 20 items. The first item assesses structural or quantitative support ("number of close friends and family members"), while the remaining 19 items are rated on a 5-point Likert scale (1 = *never*, 5 = *always*). These items are grouped into three subscales: emotional support (i.e., support given to a person to meet their emotional and psychological needs, such as talking, understanding, or counseling.), affective support (i.e., support for meeting a person's emotional needs through the expression of love, affection, and closeness, such as receiving love), and instrumental support (i.e., physical or material assistance to facilitate the performance of daily activities (e.g., household chores, transport, care). In the present study,

internal consistency was excellent across the three subscales, ranging from .845 for instrumental support to .969 for emotional support, with the overall scale showing an internal consistency of $\alpha = .967$.

Stigma was assessed using the Internalized Stigma Scale (King et al., 2007), adapted to Spanish by Flores Reynoso et al. (2011), which consists of 28 items rated on a five-point Likert scale (0 = *strongly agree*, 4 = *strongly disagree*). The items are organized into three subscales: 1) Discrimination, which evaluates negative reactions (including discrimination) from others due to the individual's problems; 2) Disclosure, which captures feelings of shame, guilt, or fear related to revealing their problems; and 3) Potential positive aspects, which reflect the positive impact that the individual's problems have had on their personality and behavior. Some items were reverse-coded so that higher scores on the discrimination and disclosure subscales indicate lower levels of stigma, whereas higher potential positive aspects indicate lower stigma. The total scale demonstrates good internal consistency in our study, as indicated by Cronbach's alpha of .772 (.878 for the discrimination subscale, .792 for the disclosure subscale, and .729 for the positive aspects subscale).

The Zarit Caregiver Burden Assessment is the most widely used instrument to measure caregiver burden (Zarit et al., 1980), adapted to Spanish by Martin-Carrasco et al. (2010). It comprises 22 items rated on a 5-point Likert-type scale ranging from 0 (*never*) to 4 (*nearly always*). Thus, the total score ranges from 0 to 88, classifying individuals into “no to mild burden (0-21 points), “mild to moderate burden” (21-40 points), “moderate to severe burden” (41-60 points), and “severe burden” (higher than or equal to 61 points) (Álvarez et al., 2008). In the Spanish validation, items are grouped into three subscales: burden (i.e., subjective impact of caregiving on individuals), competency (i.e., caregivers' perceptions of their capacity to provide care), and dependence (i.e., excessive dependence that the carer perceives from the patient). In this study, the scale displayed excellent reliability for the entire scale ($\alpha = .949$), and in its subscales ($\alpha = .939$ in the burden subscale, $\alpha = .855$ in the dependence subscale, and $\alpha = .786$ in the competency subscale).

The MULTICAGE CAD-4 instrument (Pedrero Pérez et al., 2007) was used to assess the severity of different addictive behaviors. The instrument comprises 32 dichotomous items assessing eight subscales (4 items each): alcohol, substance use, gambling, Internet, gaming, compulsive buying, eating disorders, and compulsive sexual behavior. Although this instrument consists of eight subscales, only six were administered in this study: alcohol use, substance use, gambling, video gaming, Internet use, and compulsive buying. The subscales for eating disorders and compulsive sexual behavior were excluded for several reasons. Methodologically, this decision was made to ensure parsimony and reduce participant burden, thereby minimizing response fatigue in a clinical sample. Furthermore, it was prioritized to include only those behaviors with solid theoretical and diagnostic backing as behavioral addictions, avoiding the introduction of statistical noise that could

compromise the stability and clinical validity of the subsequent cluster analysis. In the present study, Cronbach's α ranged from .773 on the compulsive buying subscale to .905 on the gaming subscale.

Data analysis

Descriptive statistics were performed to characterize the sample in sociodemographic characteristics and social factors. Gender differences were analyzed using ANCOVA, controlling for participants' age.

A hierarchical cluster analysis was performed to identify homogeneous profiles of individuals with gambling disorder. The distance metric used was Pearson correlation, and the linkage method was average. To determine the clusters, we included the specific scores of each subscale (total of 9 variables): stigma (discrimination, disclosure, and potential positive aspects), social support (emotional, affective, and instrumental support), and caregiver burden (burden, competency, and dependence). The number of clusters was optimized according to Schwarz's Bayesian Information Criterion (BIC). The Silhouette index ranges between 0 and 1, serving as an indicator of cohesion and separation, namely, how closely individuals align with their respective clusters compared to other clusters. As proposed by Rousseeuw (1987), values below .30 are deemed poor fits, those falling between .30 and .50 are considered fair, and those exceeding .50 are regarded as good. The BIC uses the within-cluster sum of squares, the number of clusters generated, the number of dimensions, and the sample size to optimize the clustering output. Lower values represent better clustering outputs.

Additionally, to characterize each of the resulting clusters, a set of Student's *t*-tests for independent samples was conducted to examine differences in social support, stigma, and caregiver burden. Furthermore, to provide a more comprehensive description of each cluster, differences in gender and in addictive behaviors (i.e., alcohol use, substance use, gambling, gaming, Internet use, and compulsive buying) were analyzed using Student *t*-tests and chi-square, as appropriate.

Effect sizes were calculated using Cohen's *d*, with values lower than .40 being considered a small effect, values between .40 and .70 an intermediate effect, and values over .70 a large effect (Cohen, 1988). The confidence level was 95%, and both IBM SPSS (version 28) and the JASP package (version 0.18.3) were used for the analysis.

Results

Gender differences in social factors

Regarding stigma, men scored higher on potential positive aspects (9.7 vs. 8.2) and reported lower levels of perceived discrimination from others (13.5 vs. 22.3). In terms of caregiver burden, women experienced a significantly higher burden compared to their male counterparts (19 vs. 12). No significant differences were observed in social support (p -values $\geq .107$); but, men exhibited higher scores across all subscales (see Table 1).

Table 1*Differences between men and women in stigma, social support, and caregiver burden.*

	Total (<i>N</i> = 91)	Men (<i>n</i> = 65)	Women (<i>n</i> = 26)	<i>p</i> -value	Cohen's <i>d</i>
Stigma					
Disclosure	17.42 (7.53)	16.86 (7.20)	18.31 (8.11)	.365	.194
Potential positive aspects	9.31 (4.30)	9.68 (4.49)	8.24 (3.54)	.037	.339
Discrimination	15.59 (11.40)	13.49 (10.78)	22.25 (11.42)	.003	.799
Social support					
Emotional support	41.50 (9.89)	42.40 (8.40)	38.90 (13.23)	.302	.350
Instrumental support	15.43 (4.67)	16.02 (4.22)	13.70 (5.66)	.107	.497
Affective support	20.77 (5.22)	21.33 (4.68)	18.95 (6.37)	.144	.457
Caregiver burden					
Burden	14.09 (13.30)	12.02 (12.05)	18.95 (15.42)	.045	.530
Competency	5.58 (4.45)	4.96 (4.26)	7.19 (4.71)	.056	.508
Dependence	3.75 (2.83)	3.51 (2.77)	4.40 (3.05)	.315	.312

Clustering procedure

The analysis yielded two clusters based on Schwarz's BIC. This solution achieved the highest measure of separation (Silhouette = .320) and lower BIC (418.390). The Dunn index, that is, the division of minimum separation by maximum diameter, was .150 (1.243/8.263). The model explained 19.40% of the variance.

Cluster 1 comprised 40 individuals (Silhouette score = .330) who were characterized by a greater stigma (particularly greater disclosures and lower positive aspects), lower social support (both emotional, instrumental, and affective support), and greater caregiver burden; that is, burden, competency, and dependence. Accordingly, Cluster 1 was labeled "socially vulnerable gamblers". Conversely, Cluster 2 comprised 51 individuals (Silhouette score = .312) who were characterized by lower stigma (both lower disclosure and higher potential positive aspects), greater social support, and lower caregiver burden. Therefore, we called cluster 2 "socially protected gamblers" (see Table 2).

Table 2*Characterization of clusters based on social variables of stigma, social support and caregiver burden.*

	Total (<i>N</i> = 91)	Cluster 1 “Socially vulnerable gamblers” (<i>n</i> = 40)	Cluster 2 “Socially protective gamblers” (<i>n</i> = 51)	<i>p</i> -value	Cohen’s <i>d</i>
Stigma					
Disclosure	17.65 (8.04)	21.20 (6.89)	15.21 (7.96)	.009	.794
Potential positive aspects	9.20 (4.30)	10.90 (4.89)	8.03 (3.46)	.031	.699
Discrimination	17.12 (11.74)	16.55 (12.30)	17.52 (11.55)	.780	.082
Social support					
Emotional support	42.67 (9.28)	35.70 (10.45)	47.48 (3.86)	< .001	1.618
Instrumental support	15.71 (4.50)	12.95 (4.75)	17.62 (3.19)	.001	1.199
Affective support	21.61 (4.77)	18.10 (5.48)	24.03 (1.94)	< .001	1.566
Caregiver burden					
Burden	15.04 (14.21)	21.55 (16.37)	10.55 (10.65)	.006	.829
Competency	5.53 (4.58)	7.80 (4.76)	3.97 (3.79)	.003	.910
Dependence	4.10 (3.03)	5.40 (3.02)	3.21 (2.74)	.011	.768

On the other hand, outcomes concerning gender differences between clusters did not show significant differences. Specifically, cluster 1 comprised 26 men (65%) and cluster 2 comprised 37 men (72.54%) ($p = .766$). Similarly, there were no significant differences in the severity of addictive behaviors, either in gambling (cluster 1 = 2.45 ± 1.61 , cluster 2 = 3.04 ± 1.07 , $p = .165$), alcohol use (cluster 1 = 1.40 ± 1.54 , cluster 2 = $.75 \pm 1.26$, $p = .115$), substance use (cluster 1 = $.79 \pm 1.51$, cluster 2 = 0.32 ± 0.98 , $p = .249$), gaming (cluster 1 = 0.55 ± 1.23 , cluster 2 = 0.24 ± 0.091 , $p = .319$), Internet use (cluster 1 = 1.1 ± 1.33 , cluster 2 = 0.71 ± 1.21 , $p = .303$), or compulsive buying (cluster 1 = 1.42 ± 1.39 , cluster 2 = 0.26 ± 0.86 , $p = .130$).

Discussion

The aim of the current study was to examine gender differences in social factors (specifically, social support, stigma, and caregiver burden), and to classify individuals with gambling disorder into clusters based on the aforementioned social variables. The findings highlighted that women gamblers experienced greater stigma, characterized by higher levels of discrimination and fewer potential positive aspects, as well as a higher caregiver burden. Furthermore, the results revealed two distinct profiles within this clinical population: “socially vulnerable” and “socially protected” gamblers, distinguished by their levels of social support, stigma, and caregiver burden.

The study of stigma in relation to gambling is a pertinent area of research, given that gambling status has been demonstrated to be more stigmatizing than other addictive behaviors (Gavriel-Fried & Rabayov, 2017; Horch & Hodgins, 2008) and even other mental health problems (Lindsay et al., 2021). Further, considering gambling stigma has both theoretical and practical importance, as it has been identified as one of the main barriers to recognizing addiction and, consequently, a significant obstacle to seeking help (Dąbrowska & Wieczorek, 2020, 2021; Gainsbury et al., 2014; Hing et al., 2016; Li & Whelan, 2024).

Additionally, the study of stigma is even more relevant in the female population, as women are exposed to a triple stigma: for being women, for their addictive behaviors, and for their concomitant mental health issues (Estévez, Macía, Gandarias, et al., 2023; Estévez, Macía, Ontalvilla, et al., 2023). These results, in line with previous studies, have stressed that women suffer greater stigma, both relative to gambling (Andrà et al., 2022; Håkansson & Widinghoff, 2020; Hing & Russell, 2017; McCormack et al., 2014), other addictive behaviors (Goodyear et al., 2018; Motyka et al., 2022; Wallhed Finn et al., 2023), and mental health problems (Kaushik et al., 2016; Topkaya, 2014).

These findings suggest that stigma should be addressed at both the individual level and micro- and macro-social levels (see (Brown & Russell, 2020; Quigley, 2022) for a review). At the individual level, interventions

should aim to help patients recognize addiction while mitigating the impact of self-stigma on help-seeking behavior. At the microsocial level, interventions may include modules that address the social or public stigma surrounding individuals with gambling issues. For instance, considering gambling disorder as not being reduced to personal causes that emphasize individual responsibility (e.g., poor decision making, lack of control) (Wöhr & Wuketich, 2021) and using the appropriate terminology (e.g., pathological gambler vs. person with a gambling disorder) (Delfabbro & King, 2020; Quigley et al., 2020), among others. Finally, at the macrosocial level, advertising campaigns promoting "responsible gambling" have been shown to increase the stigma associated with gambling behavior by focusing on individuals with gambling disorder rather than on the gambling products themselves (Miller & Thomas, 2018). In other words, these campaigns emphasize individual responsibility and personal factors in explaining gambling, leading to an internal attribution of gambling-related problems (Hancock & Smith, 2017; Marko et al., 2023; van Schalkwyk et al., 2022). Advertising campaigns targeting problematic gambling products (see e.g., "odds are: they win" advertising) may help reduce the social stigma faced by individuals who gamble (Mills et al., 2023).

In line with general population studies, our results indicate that women in treatment for gambling disorder experience a greater caregiving burden than their male counterparts (Swinkels et al., 2019; Xiong et al., 2020). This gender-based disparity in caregiving is typically associated with a greater impact on physical and mental health. Although this relationship is well-documented in the general literature, it has been under-researched specifically within the clinical population of female gamblers, making our findings particularly relevant for tailored interventions. To our knowledge, few qualitative studies (Estévez, Macía, Gandarias, et al., 2023; Estévez, Macía, Ontalvilla, et al., 2023) have emphasized the role of caregiving specifically in individuals with gambling disorder, and more specifically, among female gamblers. One explanation is that women are more affected by social responsibility (Díaz et al., 2019; Kahreh et al., 2014; Reig-Aleixandre et al., 2023), leading to the negative stereotypes associated with such responsibility impacting their feelings of guilt and shame. Moreover, caregiving responsibilities may directly hinder recovery; for example, mothers have been found to exhibit higher dropout rates than women without children (Gavriel-Fried et al., 2023).

The fact that women experience a greater caregiving burden may also explain why they tend to start gambling at a later age, often due to fears regarding the potential loss of child custody or family stability (Estévez, Macía, Ontalvilla, et al., 2023; Macía et al., 2024) or exhibit a lower gambling frequency (Chóliz et al., 2021; Nacional Plan on Drugs, 2025) than men. Additionally, it is noteworthy that a higher caregiving burden in women is likely associated with a more severe clinical profile, characterized by heightened depressive and anxious symptomatology (Del-Pino-Casado et al., 2019; del-Pino-Casado et al., 2021; Liu et al., 2018; Unsar et al., 2021).

Previous studies have concluded that social factors, such as social support, stigma, and caregiving burden, are cross-cutting variables in addictive behaviors (Estévez, Macía, Gandarias, et al., 2023), meaning they are consistently associated with the development, maintenance, and recovery processes across different types of addictions. However, to our knowledge, this is the first study that aims to classify individuals with gambling disorder based on these social variables.

The differences observed among gamblers in these variables align with recent academic calls to classify individuals with gambling disorder on social vulnerability rather than solely on clinical severity (Aonso-Diego et al., 2024; Guillou Landreat et al., 2020; Jiménez-Murcia et al., 2019). In this regard, the current results indicate that gamblers can be categorized into two groups, characterized by differing levels of social support, stigma, and caregiving burden. Notably, cluster membership was independent of gender and did not significantly differ based on the severity of gambling behavior or other comorbid addictive behaviors.

The classification of gamblers has significant clinical implications. As not all gamblers present the same profile, gambling disorder and its comorbidities should not be subjected to a uniform homogeneous approach (Milosevic & Ledgerwood, 2010). Based on these results, the two groups could benefit from different interventions tailored to the analyzed social factors, thereby potentially increasing cost-effectiveness. Cluster 1 (“socially vulnerable gamblers”) exhibits a more vulnerable profile (evidenced by greater stigma, lower social support, and greater caregiver burden), so these individuals may benefit from more intensive interventions that address social variables. For instance, they could include social and family interventions to enhance social support or reduce caregiving burden and implement specific modules to address social stigma and self-stigma. Conversely, Cluster 2 (“socially protected gamblers”), given their more favorable clinical profile, could leverage these protective factors (e.g., greater social support) to enhance therapeutic objectives.

These findings should be considered in light of several limitations. First, the most important limitation is the small sample size, which may have resulted in inadequate statistical power to detect certain effects. Nevertheless, this exploratory study remains highly relevant as it focuses on a specific clinical population undergoing specialized treatment. Second, the cross-sectional design precludes the establishment of causal relationships between the variables. Third, participants were recruited from diverse gambling rehabilitation associations (FEJAR), which utilize various therapeutic approaches (e.g., self-help groups, mixed-gender groups). This variability may limit the generalizability of the results to other clinical settings, such as public health centers using standardized protocols. Fourth, the reliance on self-report measures may introduce social desirability or recall biases. Finally, recruitment was restricted to individuals already seeking treatment in associations, which may introduce a potential selection bias. These individuals may possess different levels of social support or motivation

compared to the 'hidden' population of gamblers who have not yet accessed formal care.

Conclusion

In conclusion, this study provides significant insight into gender differences in social factors among people with gambling disorder and thus advances our understanding of their heterogeneous social profiles. Our findings reveal that women are disproportionately affected by stigma and caregiver burden, face more discrimination, and experience fewer potential positive aspects than their male counterparts. Furthermore, the two groups identified (i.e., socially vulnerable and socially protected) show distinct social profiles within the population with gambling disorder.

This classification has implications for clinical practice. First, it underscores the necessity of incorporating social variables into standard assessment procedures for all individuals entering treatment, with a particular emphasis on women with gambling disorder. Second, regarding treatment planning, individuals within the 'socially vulnerable' group (i.e., Cluster 1) would benefit from targeted interventions designed to increase perceived social support and the integration of social work services to manage environmental stressors. Furthermore, a gender-sensitive perspective may be beneficial when addressing self-stigma in women. It is possible that female-only therapy groups could provide a supportive environment for addressing gender-specific shame and caregiving burdens, a possibility that warrants further clinical attention. Future research should investigate whether addressing these social variables leads to a measurable impact on long-term recovery for individuals with gambling disorder. Moreover, it is crucial to determine if the adoption of a gender-sensitive approach significantly improves treatment adherence and recovery outcomes for individuals with gambling disorder.

STATEMENT OF COMPETING INTERESTS

None declared.

ETHICS APPROVAL

The study was approved by the Ethics Committee of the University of Deusto (project title: ‘Evaluation of Gambling Disorder from a Gender Perspective: The Role of Stigma and Self-Stigma’; approval reference: ETK-37/23-24) on December 19, 2023.

RELATIVE CONTRIBUTIONS

GAD: conceptualization, formal analysis, methodology, writing original draft. LM: conceptualization, editing, writing review, supervision. AE: conceptualization, writing original draft, supervision.

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RESEARCH PROMOTION

Social factors like stigma and caregiver burden are critical yet overlooked drivers of gambling disorder. This study identifies distinct patient profiles, highlighting how social vulnerability (especially among women) creates significant barriers to recovery. The findings emphasize the need for holistic, gender-sensitive treatments that address the patient's social environment alongside individual symptoms.

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