

# Gambling in Senegal: Sociodemographic, Clinical, and Risk Factors in an International Perspective

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## Abstract

**Background and Aims:** Gambling-related disorders are increasingly recognized as a public health concern, particularly in low- and middle-income countries where regulatory frameworks remain limited. This study aimed to assess the prevalence, patterns, and severity of gambling-related problems among gamblers in Senegal. **Methods:** A descriptive and analytical cross-sectional study was conducted from March 1 to May 30, 2023, across the entire territory of Senegal. A multistage sampling strategy was used, involving the selection of 20 districts, three gambling venues per district, and ten gamblers per venue. Gambling-related problems were assessed using the Canadian Problem Gambling Index (CPGI). Data were collected through face-to-face interviews using KoboToolbox and analyzed with Epi Info, R, and SPSS. **Results:** A total of 813 gamblers were included, of whom 97.2% were male. The mean age was  $42.8 \pm 15.3$  years old. Severe gambling dependence was observed in 59.3% of participants, while 29.0% were classified as moderate-risk gamblers. PMU betting and sports betting were the most frequently practiced gambling activities. Nearly half of the participants reported psychoactive substance use, predominantly tobacco. Virtual gambling emerged as a major factor associated with excessive gambling behavior. **Conclusions:** The prevalence of problem gambling among gamblers in Senegal is markedly higher than that reported in Western countries. These findings highlight the urgent need to strengthen regulatory measures, de-

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velop national prevention programs, and integrate the management of gambling disorders into public health policies.

## Keywords

Gambling, Problem Gambling, Behavioral Addiction, Sports Betting, West Africa, Senegal, Public Health

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## 1. Introduction

Gambling is currently recognized as the main behavioral addiction and represents a growing public health concern worldwide. The rise of digital technologies, the diversification of gambling products, and increasingly aggressive marketing strategies have contributed to a rise in problem gambling in many countries, particularly among young and middle-aged men.

In Western countries, the prevalence of problem gambling in the general population remains relatively low, ranging from 0.6% to 2% in Canada and around 1% to 1.5% in France, with 3% to 4% of moderate-risk gamblers. These figures are observed in contexts characterized by structured regulation, including betting limits, self-exclusion mechanisms, and prevention programs integrated into public health policies [1]-[3].

In Belgium, the prevalence of problem gambling in the general population is similar to that reported in other European countries. However, studies conducted directly in casinos and gambling halls have shown much higher proportions of at-risk gamblers, reaching 40% to 45%, underlining the impact of recruitment settings on prevalence estimates [4].

In sub-Saharan Africa, particularly in West Africa, scientific data on gambling remain limited. Nevertheless, several studies suggest a rapid expansion of sports betting and lottery-type games, driven by high accessibility, often incomplete regulation, and a socioeconomic context marked by precariousness and youth unemployment.

In Senegal, the National Lottery (LONASE) plays a central role in the gambling market, with horse race betting (PMU) and sports betting being particularly popular and considered highly addictive. Until recently, the lack of comprehensive national data limited understanding of the phenomenon. The nationwide study conducted in 2023 is therefore the first large-scale survey aiming to describe the sociodemographic, clinical, and psychopathological profile of gamblers across the entire Senegalese territory and to place these findings in an international comparative perspective.

## 2. Methodology

This was a descriptive and analytical cross-sectional study conducted from March 1 to May 30, 2023, across the entire territory of Senegal.

Sampling was carried out in multiple stages: selection of 20 districts, random selection of 3 gaming areas per district, followed by the selection of 10 players per area.

The Canadian Problem Gambling Index (CPGI), an internationally validated tool, was used to classify players into four levels: non-problem, low risk, moderate risk, and problem gambling.

Data were collected using KoboToolbox and analyzed with Epi Info, R, and SPSS.

Informed consent was obtained from each participant. In total, 813 players were included in the study.

### 3. Results

#### 3.1. Socio-Demographic Characteristics

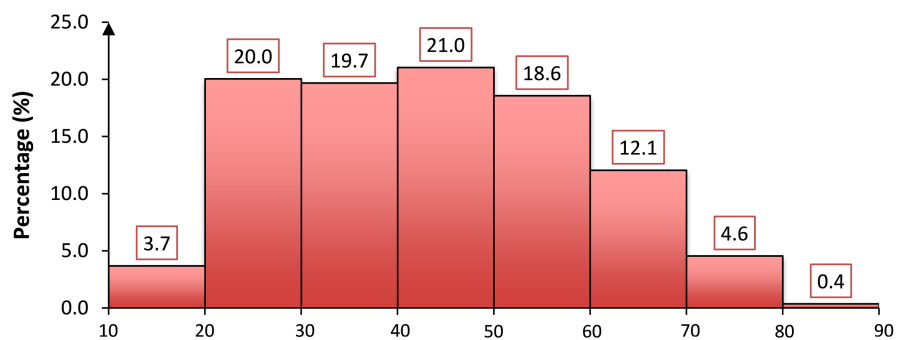
##### a) Sex

Male participants predominated, accounting for 97.2% ( $n = 790$ ), with a sex ratio of 34.3.

##### b) Age

The mean age of bettors was  $42.8 \pm 15.3$  years old, ranging from 16 to 83 years old. The median and modal ages were 42 and 45 years old, respectively.

The 24 - 44-year age group was the most represented (41%). However, 0.9% of participants were minors, and 17% were aged 60 years old and above (**Figure 1**).



**Figure 1.** Distribution of bettors by age group ( $n = 813$ ).

##### c) Number of children

The mean number of children among bettors was  $3 \pm 3.2$ , with values ranging from 0 to 21 (**Figure 2**).

##### d) Type of housing

Most bettors lived with their parents (44.4%,  $n = 361$ ) or in their own homes (40.3%,  $n = 328$ ) (**Figure 3**).

##### e) Travel during the past three months

Almost all bettors (98.2%,  $n = 798$ ) had traveled during the previous three months.

##### f) Marital status

More than half of the bettors were married (64%,  $n = 520$ ), while 29.6% ( $n =$

241) were single (Table 1).

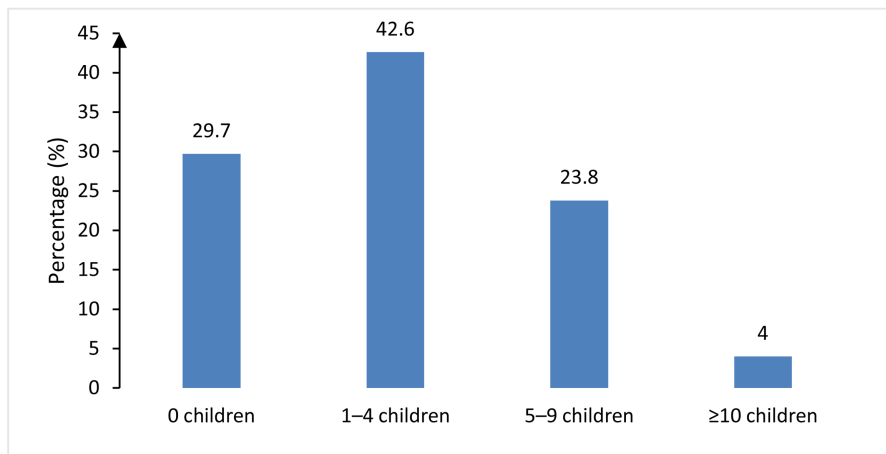


Figure 2. Distribution of bettors by number of children (n = 813).

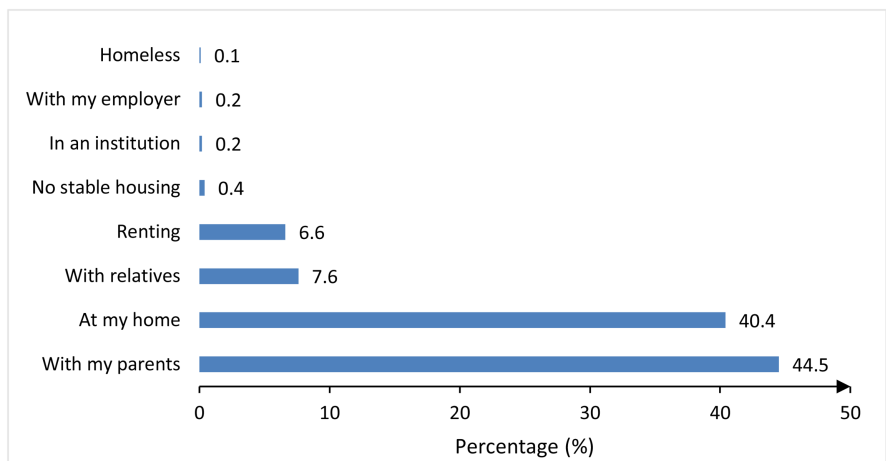


Figure 3. Distribution of bettors by type of housing (n = 813).

Table 1. Distribution of bettors by marital status (n = 813).

Marital status	Marital regime	Frequency (n)	Percentage (%)
Married	Monogamous	382	47.0
	Polygamous	138	17.0
Single	-	241	29.6
Divorced	-	44	5.4
Widowed	-	8	1.0
Total		813	100.0

**g) Type of activity**

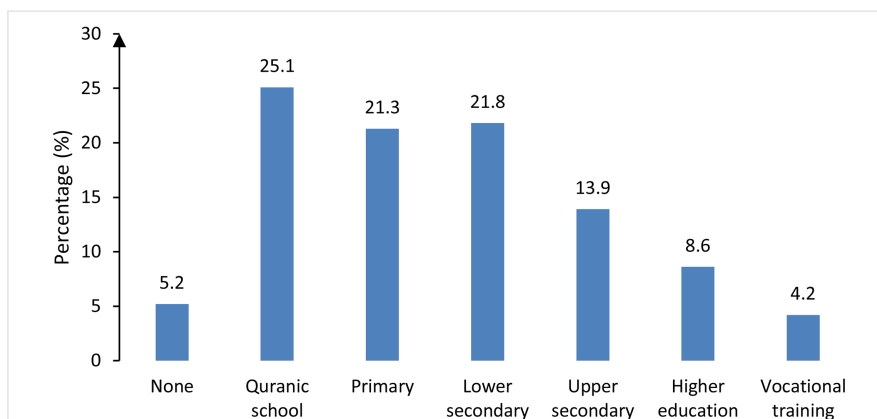
More than two-thirds of bettors (66.3%, n = 539) were employed (Table 2).

**Table 2.** Distribution of bettors by type of activity (n = 813).

Type of activity	Frequency (n)	Percentage (%)
Employed	539	66.3
Other	98	12.1
Unemployed (previously employed)	66	8.1
Student	50	6.2
Retired	26	3.2
Unemployed (never worked)	21	2.6
Unable to work (for health reasons)	9	1.1
Housewife	4	0.5
Total	813	100.0

#### h) Educational level

Most bettors (94.8%, n = 771) had received formal education: 25% had Quranic education, 21% had primary education, 21.8% had lower secondary education, and 13.9% had upper secondary education (Figure 4).

**Figure 4.** Distribution of bettors by educational level (n = 813).

### 3.2. Types of Gambling during the Last 30 Days

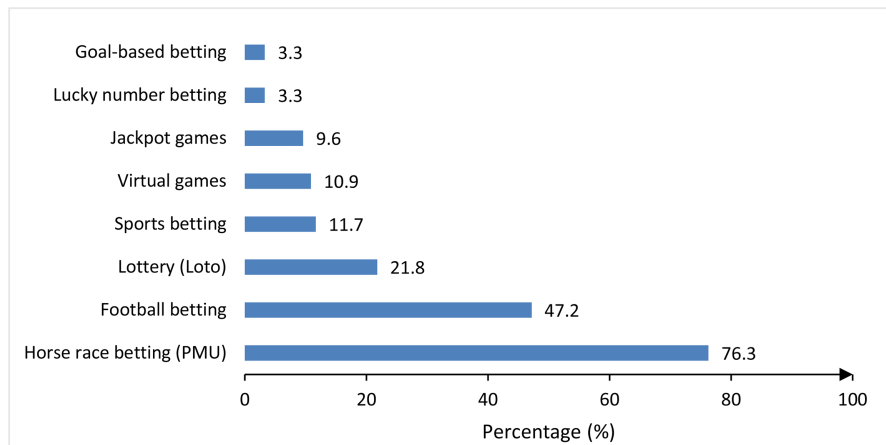
PMU betting (76.3%) and sports betting (47.2%) were the most commonly practiced forms of gambling (Figure 5).

### 3.3. Characteristics of Gamblers by Type of Game

#### PMU betting

Approximately three-quarters of bettors (76.3%, n = 620) engaged in PMU betting. The total amount wagered was 7,181,500 FCFA (11048€), with a mean of  $11,583 \pm 37,080$  FCFA (range: 200 - 800,000 FCFA). Nearly half wagered less than 5000 FCFA (7.69€).

The mean age at first bet was  $30 \pm 10.7$  years old. Daily betting was reported by 69.7% of PMU bettors (**Table 3**).



**Figure 5.** Distribution of bettors by type of gambling practiced during the last 30 days (n = 813).

**Table 3.** PMU betting characteristics (n = 620).

Characteristics	Frequency (n)	Percentage (%)	
Amount wagered at the PMU	<5000 CFA (7.69€)	308	49.7
	5000 - 10,000 FCFA (7.69€ - 15.38€)	115	18.6
	≥10,000 FCFA (15.38€)	197	31.7
Age at first placement	<18 years old	45	7.3
	18 - 24 years old	159	25.7
	25 - 44 years old	357	57.6
	45 - 59 years old	46	7.4
	≥60 years old	13	2.1
Frequency of PMU games	Every day	432	69.7
	One to several times a week	131	21.1
	Less than once a week	57	9.2

### Pari sportif

Among the 813 bettors, 11.7% (n = 95) placed sports bets. The total amount wagered was 453,300 FCFA (697.38€), with an average of  $4771 \pm 11,276$  FCFA. The range was from 300 FCFA (0.46€) to 100,000 FCFA (153.84€). More than two-thirds (72.6%) wagered less than 5000 FCFA (7.69€).

The average age at the first bet was  $26.0 \pm 10.8$  years old. The range was from 13 to 68 years old. The median and mode were 22 and 18 years old, respectively.

Bettors aged between 25 and 44 years old represented 37.9% of cases at the time of the first bet. 47.4% of bettors placed sports bets daily (**Table 4**).

**Table 4.** Characteristics of Pari sportif bettors (n = 95).

Characteristics	Frequency (n)	Percentage (%)	
Amount wagered on Pari sportif	<5000 CFA (7.69€)	69	72.6
	5000 - 10,000 FCFA (7.69€ - 15.38€)	13	13.7
	≥10,000 FCFA (15.38€)	13	13.7
Age at first placement	<18 years old	14	14.7
	18 - 24 years old	39	41.1
	25 - 44 years old	36	37.9
	45 - 59 years old	5	5.3
	≥60 years old	1	1.1
Frequency of Pari sportif games	Every day	45	47.4
	One to several times a week	27	28.4
	Less than once a week	23	24.1

### Pari foot

Among the 813 bettors, 47.2% (n = 384) placed bets on Pari foot. The total amount wagered was 2,804,200 FCFA (4314.15€), with an average of 7302 ± 15,316 FCFA (11.23€ ± 23.56€).

The range was from 200 FCFA (0.30€) to 125,000 FCFA (192.30€). 64.6% of bettors wagered less than 5000 FCFA (7.69€) on Pari foot.

The average age at the first bet was 28.5 ± 11.5 years old, with a range from 10 to 78 years old. The median and mode were 26 and 20 years old, respectively.

Bettors aged between 25 and 44 years old represented 47.4% of cases at the time of the first bet. Each day, 56.8% of bettors placed bets on football (**Table 5**).

### Characteristics of bettors on Loto

Of the 813 bettors, 21.8% (n = 177) placed bets on Loto. The total amount wagered was 478,900 FCFA (738.30€), with an average of 2705 ± 8404 FCFA (4.16€ - 12.92€). The extremes were 100 FCFA (0.15€) and 100,000 FCFA (153.84€).

The average age at the first bet was 36.5 ± 13.0 years old, with a range of 14 to 72 years old. The median and mode were 35 and 20 years old, respectively.

Among these bettors, those aged 25 - 44 years old represented 45.8% of cases at the time of the first bet. Each day, 37.9% placed bets on football (**Table 6**).

### Characteristics of jackpot bettors

Of the 813 bettors, 9.6% (n = 78) placed bets on the Jackpot. The total amount wagered was 177,700 FCFA (273.38€), with an average of 2278 ± 3345 FCFA (3.50

$\pm 5.14\text{€}$ ). The extremes were 100 FCFA (0.15€) and 16,000 FCFA (24.61€).

The average age at the first bet was  $32.8 \pm 12.5$  years old. The extremes were 13 and 77 years old. The median and mode were 32 and 25 years old, respectively.

Among these bettors, those aged between 25 and 44 years old represented 53.9% of cases at the time of the first bet. Each day, 47.4% placed the Jackpot bet (**Table 7**).

**Table 5.** Distribution of bettors according to information on Pari foot (n = 384).

Characteristics	Frequency (n)	Percentage (%)	
Amount wagered on the Pari foot	<5000 CFA (7.69€)	248	64.6
	5000 - 10,000 FCFA (7.69€ - 15.38€)	60	15.6
	$\geq 10,000$ FCFA (15.38€)	76	19.8
Age at first placement	<18 years old	42	10.9
	18 - 24 years old	126	32.8
	25 - 44 years old	182	47.4
	45 - 59 years old	26	6.8
	$\geq 60$ years old	8	2.1
Frequency of games in Pari foot	Every day	218	56.8
	One to several times a week	96	25.0
	Less than once a week	70	18.2

**Table 6.** Distribution of bettors according to information on Loto (n = 177).

Characteristics	Frequency (n)	Percentage (%)	
Amount wagered on Loto	<5000 CFA (7.69€)	158	89.3
	5000 - 10,000 FCFA (7.69€ - 15.38€)	14	7.9
	$\geq 10,000$ FCFA (15.38€)	5	2.8
Age at first placement	<18 years old	3	1.7
	18 - 24 years old	37	20.9
	25 - 44 years old	81	45.8
	45 - 59 years old	47	26.5
	$\geq 60$ years old	9	5.1
Frequency of Loto games	Every day	67	37.9
	One to several times a week	65	36.7
	Less than once a week	45	25.4

**Table 7.** Distribution of bettors according to information on the jackpot bet (n = 78).

Characteristics		Frequency (n)	Percentage (%)
Amount wagered on the jackpot bet	<5000 CFA (<7.69€)	70	89.8
	5000 - 10,000 FCFA (7.69€ - 15.38€)	4	5.1
	≥10,000 FCFA (≥15.38€)	4	5.1
Age at first placement	<18 years old	5	6.5
	18 - 24 years old	15	19.5
	25 - 44 years old	42	53.9
	45 - 59 years old	15	19.2
	≥60 years old	1	1.3
Jackpot game frequency	Every day	37	47.4
	One to several times a week	25	32.1
	Less than once a week	16	20.5

#### Characteristics of bettors on the numéro porte-bonheur game

Among the 813 bettors, 3.3% (n = 27) placed bets on the Numéro Porte-Bonheur game. The total amount wagered was 27,000 FCFA (41.53€), with an average of 1000 ± 980 FCFA (1.53 ± 1.50€) and a range of 200 FCFA (0.30€) to 5000 FCFA (7.69€).

The average age at the first bet was 31.4 ± 14.7 years old, with a range of 15 to 70 years old. The median and mode were 26 and 20 years old, respectively.

Bettors aged between 25 and 44 years old represented 25.9%. Each day, 66.7% placed bets on the Numéro Porte-Bonheur game (**Table 8**).

**Table 8.** Distribution of bettors according to information on the Numéro Porte-Bonheur game (n = 27).

Characteristics		Frequency (n)	Percentage (%)
Amount wagered on the Numéro Porte-Bonheur game	<5000 CFA (<7.69€)	26	96.3
	5000 - 10,000 FCFA (7.69€ - 15.38€)	1	3.7
	≥10,000 FCFA (≥15.38€)	0	0.0
Age at first placement	<18 years old	1	3.7
	18 - 24 years old	12	44.4
	25 - 44 years old	7	25.9
	45 - 59 years old	6	22.2
	≥60 years old	1	3.7

**Continued**

Frequency of Numéro Porte-Bonheur games	Every day	5	18.5
	One to several times a week	4	14.8
	Less than once a week	18	66.7

**Characteristics of bettors on virtual games**

Among the 813 bettors, 21.5% (n = 175) wagered on virtual games. The total amount wagered was 1,256,800 FCFA (1933.53€), with a mean of  $7181 \pm 12,702$  FCFA ( $11.04 \pm 19.54$ €) and a range of 100 FCFA (0.15€) to 100,000 FCFA (153.84€).

The mean age at first wager was  $27.3 \pm 11.8$  years old, with a range of 14 to 68 years old. The median and mode were 23 and 18 years old, respectively.

Bettors aged between 18 and 24 years old predominated (39.4%). 51.4% of bettors placed bets daily (Table 9).

**Table 9.** Distribution of bettors according to information on virtual games (n = 175).

Characteristics	Frequency (n)	Percentage (%)	
Amount wagered on virtual games	<5000 CFA (<7.69€)	101	57.7
	5000 - 10,000 FCFA (7.69€ - 15.38€)	35	20.0
	≥10,000 FCFA (≥15.38€)	39	22.3
Age at first placement	<18 years old	24	13.7
	18 - 24 years old	69	39.4
	25 - 44 years old	64	36.6
	45 - 59 years old	13	7.4
	≥60 years old	5	2.9
Frequency of virtual gaming	Every day	90	51.4
	One to several times a week	56	32.0
	Less than once a week	29	16.6

**3.4. Gambling Abroad**

Of the 813 bettors, 36.8% (n = 299) had been outside the country in the past 30 days. Among these, 29.8% (n = 89) gambled. PMU was the most common form of gambling abroad, accounting for 67.4% of bets (Table 10).

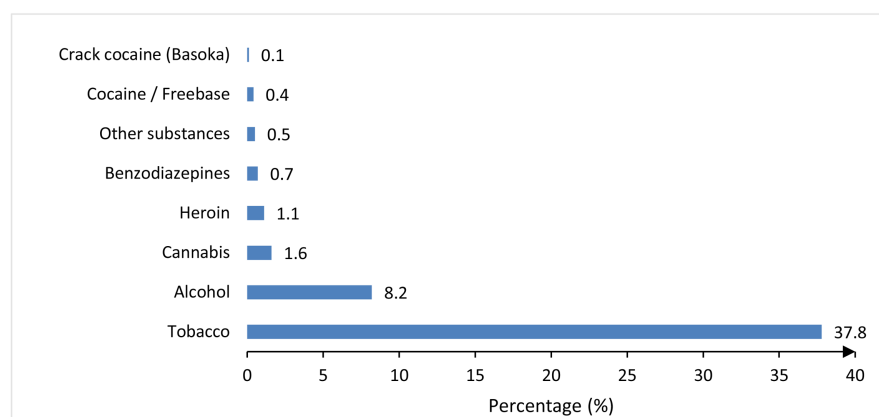
**3.5. Gamblers' Behavior towards Psychoactive Substances**

Nearly half of bettors (48.9%, n = 479) reported using psychoactive substances during the last 30 days. Tobacco was the most commonly used substance (37.8%)

(Figure 6).

**Table 10.** Distribution of bettors according to gambling abroad (n = 89).

Gambling abroad	Frequency (n)	Percentage (%)
PMU	60	67.4
Pari FOOT	21	23.6
PMU	9	10.1
Casino	5	5.6
1xbet	3	3.4
Loto	2	2.2
Cash chrono	2	2.2
Winer	2	2.2
Pari sportif	1	1.1
Just boule	1	1.1



**Figure 6.** Distribution of bettors by psychoactive substances used during the past 30 days (n = 813).

**a) Characteristics of gamblers who have used tobacco in the past 30 days**

Of the 813 bettors, 37.8% (n = 307) smoked tobacco. The mean age at first use was  $22 \pm 7.9$  years old, with a range of 10 to 71 years old.

The median and mode were 20 and 18 years old, respectively. At their first use, bettors aged between 18 and 24 years old represented 43.0% of cases. 86.6% of bettors smoked tobacco daily (Table 11).

**b) Characteristics of gamblers who consumed alcohol in the last 30 days**

Of the 813 bettors, 8.2% (n = 67) consumed alcohol. The mean age at first consumption was  $22.6 \pm 7.9$  years old, with a range of 7 to 49 years old.

The median and mode were 22 and 20 years old, respectively. 41.8% of bettors aged 18 to 24 consumed alcohol on their first occasion.

Among these bettors, 44.8% consumed alcohol less than once a week (Table 12).

**Table 11.** Distribution of bettors according to tobacco consumption data (n = 307).

Characteristics		Frequency (n)	Percentage (%)
Age at first placement	<18 years old	82	27.0
	18 - 24 years old	132	43.0
	≥25 years old	92	30.0
Frequency of tobacco use	Every day	266	86.6
	One to several times a week	35	11.4
	Less than once a week	6	2.0
Tobacco Consumption Patterns	Inhaled + Smoked	307	100.0

**Table 12.** Distribution of bettors according to alcohol consumption data.

Characteristics		Frequency (n)	Percentage (%)
Age at first placement	<18 years old	15	22.4
	18 - 24 years old	28	41.8
	≥25 years old	24	35.8
Frequency of alcohol consumption	Every day	13	19.4
	One to several times a week	24	35.8
	Less than once a week	30	44.8
Consumption method	Inhaled-Smoked	67	100.0

#### c) Characteristics of crack cocaine users over the last 30 days

Only one bettor has smoked/inhaled crack fewer than once a week in the past 30 days.

#### d) Characteristics of gamblers who have used cannabis in the past 30 days

Of the 813 bettors, 1.6% (n = 13) used cannabis. The mean age at first use was  $19.7 \pm 4.5$  years old, with a range of 14 to 31 years old. Among the bettors who used cannabis, 53.8% were between 18 and 24 years old. These bettors used it at least once a week in 76.9% of cases (Table 13).

#### e) Characteristics of gamblers who have used benzodiazepines in the past 30 days

Among the 813 gamblers, 0.7% (n = 6) used benzodiazepines. The mean age at first use was  $18.3 \pm 3.4$  years old, with a range of 13 to 22 years old.

Among benzodiazepine users, those aged between 18 and 24 years old repre-

sented 66.7% of cases. These gamblers used them at least once a week in 66.7% of cases (**Table 14**).

**Table 13.** Distribution of bettors according to cannabis consumption data (n = 13).

Characteristics	Frequency (n)	Percentage (%)	
Age at first placement	<18 years old	4	30.8
	18 - 24 years old	7	53.8
	≥25 years old	2	15.4
Frequency of alcohol consumption	Every day	7	15.4
	One to several times a week	1	7.7
	Less than once a week	10	76.9
consumption mode	Inhaled-Smoked	13	100.0

**Table 14.** Distribution of bettors according to benzodiazepine consumption data (n = 6).

Characteristics	Frequency (n)	Percentage (%)	
Age at first consumption	<18 years old	2	33.
	18 - 24 years old	4	66.7
	≥25 years old	0	0.0
Consumption frequency	Every day	0	0.0
	One to several times a week	2	33.3
	Less than once a week	4	66.7
Consumption method	Oral (swallowed, drunk)	6	100.0

#### **f) Characteristics of gamblers who have used cocaine in the past 30 days**

Among the 813 gamblers, 0.4% (n = 3) used cocaine. The mean age at first use was  $33.3 \pm 15.8$  years old, with a range of 16 to 47 years old. Almost two-thirds (66.7%) of the gamblers who used cocaine were 25 years old of age or older.

Among cocaine users, 66.7% used it at least once a week (**Table 15**).

#### **g) Characteristics of gamblers who have used heroin in the last 30 days**

Among the 813 gamblers, 1.1% (n = 9) used heroin. The mean age at first use was  $28.8 \pm 5.2$  years old, with a range of 24 to 39 years old.

Among the gamblers who used heroin, those aged 25 and over represented 88.9%. Those who used it at least once a week accounted for 55.6% of cases (**Table 16**).

**Table 15.** Distribution of bettors according to data on cocaine consumption (n = 3).

Charateristics		Frequency (n)	Percentage (%)
Age at first consumption	<18 years old	1	33.3
	18 - 24 years old	0	0.0
	≥25 years old	2	66.7
Consumption frequency	Every day	0	0.0
	Once or several times a week	3	100.0
	Less than once a week	0	0.0
Consumption method	Snif	3	100.0

**Table 16.** Distribution of gamblers according to data on heroin consumption (n = 9).

Charateristics		Frequency (n)	Percentage (%)
Age at first consumption	<18 years old	0	0.0
	18 - 24 years old	1	11.1
	≥25 years old	8	88.9
Fréquency of consumption	Every day	0	0.0
	Once or several times a week	5	55.6
	Less than once a week	4	44.4
Consumption method	Snif	3	100.0

#### **h) Characteristics of gamblers who have used other psychoactive substances in the past 30 days**

Among the 813 gamblers, 0.5% (n = 4) used other psychoactive substances, with “volet” being the most common.

The mean age at first use was  $19.5 \pm 8.2$  years old, with a range of 10 to 30 years old. The median and mode were 19 and 10 years old, respectively (Table 17).

### **3.6. Treatment for Addiction Problems**

Of the 813 gamblers, 1.0% (n = 8) had received treatment for addiction problems. In 87.5% of cases (n = 7), the treatment was related to tobacco use, and in 12.5% to heroin.

### **3.7. Arrests/Detentions Related to Gambling**

Among the 813 bettors, 4.9% (n = 40) had been arrested or imprisoned because of gambling.

**Table 17.** Distribution of bettors according to data on the consumption of other psychoactive substances (n = 4).

Characteristics		Frequency (n)	Percentage (%)
Age at first consumption	<18 years old	1	25.0
	18 - 24 years old	2	50.0
	≥25 years old	1	25.0
Frequency of consumption	Chaque jour	1	25.0
	One to several times a week	2	50.0
	Less than once a week	1	25.0
Method of consumption	Oral, Inhaled (smoked)	2	50.0
		2	50.0
Other psychoactive substances	MDMA	1	25.0
	Tea	1	25.0
	Volet	2	50.0

### 3.8. Degree of Gambling Addiction

#### a) Gambling addiction assessment

In 16.7% of cases, bettors almost always wagered more money than they could afford to lose.

More than a third of bettors (35.8%) gambled again on another day to try to recoup their losses (**Table 18**).

**Table 18.** Distribution of bettors according to their behavior towards games of chance (n = 813).

Behavioral characteristics	Never	Sometimes	Most of the time	Almost always
	n (%)	n (%)	n (%)	n (%)
Betting more money than you can afford to lose	278 (34.2)	229 (28.2)	179 (22)	136 (16.7)
Need to bet more and more money to achieve the same excitement.	161 (19.8)	264 (32.5)	222 (27.3)	166 (20.4)
Play again on another day to recover the money lost by gambling.	124 (15.3)	183 (22.5)	215 (26.4)	291 (35.8)
Borrowing or selling something to obtain money for gambling	530 (65.2)	137 (16.9)	88 (10.8)	58 (7.1)
Feeling as if there is a problem with the game.	357 (43.9)	211 (26)	140 (17.2)	105 (12.9)
To cause health problems, including stress or anxiety.	403 (49.6)	190 (23.4)	108 (13.3)	112 (13.8)
Criticism of your gaming habits or having a problem with the game	333 (41)	182 (22.4)	129 (15.9)	169 (20.8)

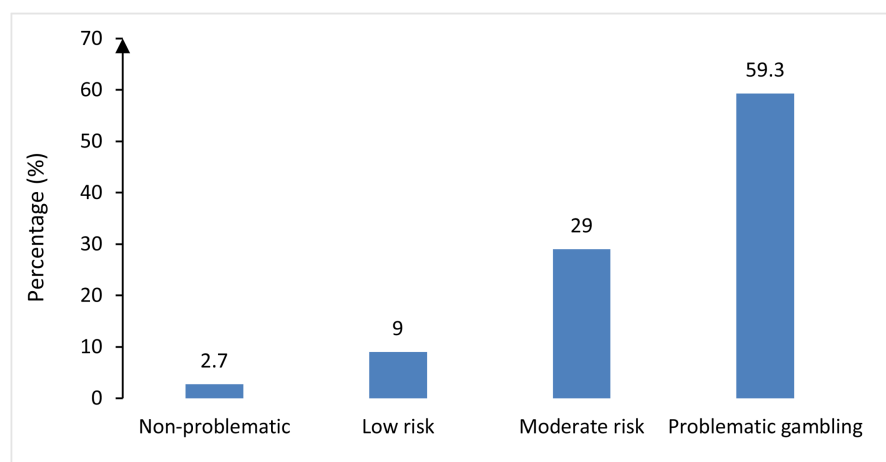
**Continued**

Financial difficulties you or those around you may be experiencing due to gambling	442 (54.4)	196 (24.1)	113 (13.9)	62 (7.6)
Feeling guilty about gambling habits	337 (41.5)	262 (32.2)	138 (17)	76 (9.3)

**b) Level of gambling addiction**

The mean gambling addiction score was  $10 \pm 6.1$ , with a range of 0 to 27 points. The median and mode were 9 and 4 points, respectively.

More than half of the gamblers, 59.3% ( $n = 482$ ), had a severe gambling addiction; 29% ( $n = 236$ ) were at moderate risk; 9% were at easy risk; and 2.7% had no gambling addiction (**Figure 7**).



**Figure 7.** Distribution of gamblers according to the degree of gambling addiction over the last 30 days,  $n = 813$ .

**4. Discussion**

This study highlights a particularly high prevalence of problem gambling in Senegal (59.3%) among players frequenting online gambling sites, a level significantly higher than that reported in the international literature.

In France, data from the Public Health France Barometer indicate that 1.3% of adults have a problem with gambling, while 3 to 4% are classified as being at moderate risk [1]. This low prevalence is partly explained by a strict regulatory framework, including advertising controls, betting limits, and protection measures for minors and vulnerable players, under the auspices of the National Gaming Authority [2].

In Canada, population studies show a prevalence of problem gambling between 0.6% and 2%, with provincial variations [3] [5]. The Canadian model is based on decentralized regulation, combined with structured programs for prevention, self-exclusion, and specialized care.

In Belgium, the prevalence of problem gambling is low in the general population (approximately 2% to 3%), but studies conducted directly in casinos and

gaming halls have reported significantly higher proportions, reaching up to 45% of at-risk gamblers, illustrating the effect of recruitment within the gambling environment [4] [6].

The differences observed with Senegal are largely explained by methodological differences, but also by structural factors. The gambling market in Senegal is dominated by horse racing betting and sports betting, recognized as particularly addictive due to their speed, frequency, and potential for repeated losses [7]. Conversely, Western countries have a higher proportion of lottery and scratch-off games, which are associated with a lower risk.

Furthermore, the rapid digitization of games, combined with still limited regulation, appears to amplify the phenomenon in Senegal. In our study, virtual games emerged as the main predictor of excessive gambling. Similar trends have been observed in France and Canada, particularly among young men, although public policies there have helped to contain the increase in risk [2] [8].

Finally, comorbidity with the use of psychoactive substances, especially tobacco, is a common factor across different contexts. However, the prevalence of smoking among Senegalese gamblers is higher than that reported among French or Canadian gamblers, where alcohol is more frequently associated with problem gambling [9].

Overall, while some mechanisms of excessive gambling appear universal, the intensity of the phenomenon observed in Senegal seems to be exacerbated by high accessibility to gambling establishments, strong socio-economic pressure, and the absence of robust national prevention and treatment mechanisms.

## 5. Conclusions

This study highlights the alarming extent of gambling addiction in Senegal, with a prevalence of problem gambling significantly higher than that reported in Western countries. While some determinants of excessive gambling are universal, the intensity observed in Senegal appears to be amplified by contextual factors such as high accessibility to gambling, the predominance of highly addictive forms of gambling, and the lack of structured prevention and treatment programs.

These findings underscore the urgent need to strengthen regulation, develop national prevention programs, and integrate the management of pathological gambling into public health policies, drawing inspiration from French and Canadian models. This study provides an essential basis for guiding future strategies to combat excessive gambling in Senegal and argues for further surveys of the general population.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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