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Gambling behavior in young adults: The relationship between depression, emotion regulation, and impulsivity

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Abstract

This study aimed to examine the associations between gambling behavior, depression, difficulties in emotion regulation, and impulsivity in young adults. The sample consisted of 310 individuals aged 18–35, including 105 participants who reported engaging in gambling activities and 205 non-gamblers. Data were collected using the South Oaks Gambling Screen (SOGS), the Beck Depression Inventory (BDI), the Difficulties in Emotion Regulation Scale–Short Form (DERS-SF), and the Barratt Impulsiveness Scale-11 (BIS-11). Independent-samples t tests, chi-square tests, and binary logistic regression analysis were conducted for the statistical analysis. The results indicated that gender, education level, marital status, monthly income level, the Goals subscale of the DERS, total BIS-11 score, and the Attentional and Motor Impulsivity subscales significantly predicted gambling behavior. Compared with non-gamblers, individuals who gambled exhibited significantly higher levels of total impulsivity, attentional impulsivity, and motor impulsivity, whereas scores on the Goals subscale of the DERS were significantly lower. Logistic regression analyses further demonstrated that attentional and motor impulsivity were significant predictors of gambling behavior, whereas depressive symptoms and other emotion regulation subscales did not show significant predictive value. Male gender emerged as a prominent risk factor for gambling behavior. The inclusion of young individuals from a non-clinical, community-based sample distinguishes this study from the existing literature. Within the context of the studied sample, the findings highlight the relevance of impulsive traits and difficulties in emotion regulation, particularly among individuals with lower income levels, in relation to gambling-related risk among young adults.

Keywords: gambling behavior, depression, emotion regulation difficulties, impulsivity

Main points

- Attentional impulsivity among individuals who gamble varies by gender.
- Both attentional and motor impulsivity are significantly higher among individuals who gamble and are significant predictors of gambling behavior.
- Male gender is associated with a higher likelihood of gambling behavior in the present sample.
- The findings highlight the relevance of impulsivity and emotion regulation difficulties in relation to gambling behavior, particularly among individuals with lower socioeconomic status.

Introduction

Gambling is defined as games in which a person risks a valuable asset in order to achieve a certain gain or profit, the outcome of which depends partially or completely on chance. The prevalence of problematic and potentially pathological gambling represents one of the most prevalent behavioral addictions worldwide. Moreover, gambling disorder has been recognized as a serious public health problem (World Health Organization, 2025). The prevalence of gambling addiction among young people has been reported to range from 4% to 8% (Yazdi & Katzian, 2017).

In a study conducted by the State Supervisory Board in Türkiye in 2009, 67.3% of participants reported having gambled at least once in the previous year. Another study involving men recruited through gambling websites found that 34.8% met the criteria for problem or pathological gambling based on the South Oaks Gambling Screen (SOGS) cut-off score (Elmas et al., 2016). Being male, aged between 19 and 30 years, and

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having a higher level of education were identified as significant risk factors (Çakıcı et al., 2019; Şahin et al., 2025). Additionally, individuals who engage in impulsive gambling have been shown to develop emotional dependence on gambling, experience a loss of self-control, and exhibit impairments in daily functioning (Ambreen et al., 2024).

Within the broader framework of addictive behaviors, Gambling Disorder (GD) is classified in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR) under "Substance Related and Addictive Disorders" as a "Non-Substance Related Disorders". The diagnosis of Gambling Disorder (GD) requires the presence of at least four of the nine diagnostic criteria specified in the DSM-5-TR. Conceptualized as a heterogeneous and multidimensional disorder, GD is associated with substantial personal and social consequences; adversely affecting occupational functioning, financial stability, health, and overall well-being across individual, interpersonal, and societal levels (Pettorruso et al., 2021).

In line with the escalating global burden of behavioral addictions, recent reports from Türkiye indicate a marked increase in gambling and online gambling addiction. The Türkiye Gambling Report published by the Turkish Green Crescent Society highlights a concerning decrease in the age of onset to as young as 15 years, underscoring the heightened vulnerability of adolescents and young people. Moreover, gambling has been identified as the most frequently reported addiction among the five addiction domains addressed by the Society, with approximately two out of every seven individuals seeking professional support for gambling-related problems (Yeşilay, 2025).

Access to gambling opportunities, whether legal or illegal, represents a key determinant of the prevalence of problematic gambling behavior. High levels of gambling participation have been linked to the increased availability and ease of access to electronic gambling machines and casino table games (Rimal et al., 2023). Moreover, the ability to engage in online gambling at any time and from any location via computers or smartphones, combined with increasing social acceptance and normalization of gambling, has substantially contributed to the rapid expansion of the gambling industry. These developments have been identified as critical factors underlying the rising prevalence of problem gambling in recent years, particularly among young people (Calado et al., 2017).

Problematic gambling is frequently comorbid with a wide range of physical and mental health disorders, including alcohol and substance use disorders, depression, anxiety disorders, bipolar disorder, attention-deficit/hyperactivity disorder, antisocial personality disorder, insomnia, chronic stress, and impairments in social functioning. Such comorbidities are among the most commonly reported characteristics of individuals exhibiting problematic gambling behaviors (Çakıcı et al., 2019; Gezgin et al., 2025; Şahin et al., 2025).

Individuals who engage in problematic gambling are reported to experience significant difficulties in emotion regulation, often seeking rapid relief from negative affect or stress and, during such periods, struggling to maintain self-control and turning to impulsive behaviors such as alcohol or substance use (Marchica et al., 2019). Within this framework, gambling may function as a maladaptive emotion regulation strategy. Empirical evidence further indicates that individuals with pathological gambling exhibit lower levels of emotional awareness and reduced access to effective emotion regulation strategies; notably, the use of cognitive reappraisal, an adaptive emotion regulation strategy, is less prevalent in this population (Williams et al., 2012).

A study conducted among adolescent gamblers identified male gender and higher scores on the "Impulse Control Difficulties" subscale of the Difficulties in Emotion Regulation Scale (DERS) as the strongest predictors of gambling behavior (Ciccarelli et al., 2021). Similarly, a study conducted in Türkiye with 246 male participants demonstrated that individuals' total DERS scores significantly predicted gambling severity (Elmas et al., 2016). Research examining the role of personality traits in the development and maintenance of GD consistently indicates that individuals with GD tend to exhibit elevated levels of impulsivity and marked difficulty in disengaging once gambling behavior has begun. High impulsivity has been identified as a major risk factor for GD across numerous studies and is also considered a key factor facilitating the onset and persistence of addiction-related psychopathology (Billieux et al., 2012). Furthermore, compared to healthy controls, pathological gamblers have been shown to display higher impulsivity alongside lower levels of emotional openness and emotional awareness (Williams et al., 2012).

The literature in Türkiye does not yet comprehensively examine youth gambling by simultaneously addressing key risk factors such as depression, impulsivity, and difficulties in emotion regulation. Existing studies have predominantly relied on clinical samples comprising individuals diagnosed with Gambling Disorder who are actively receiving treatment (Elmas et al., 2016; Güriz et al., 2012). This focus on treatment-seeking clinical samples limits the applicability of findings to individuals experiencing gambling-related problems outside clinical settings. Accordingly, the present study aimed to compare levels of depression, difficulties in emotion regulation, and impulsivity between young adults aged 18–35 in Türkiye who engage in gambling and those who do not. In addition, the study examined the extent to which these variables predict gambling behavior among individuals who gamble. Notably, the inclusion of a non-clinical, community-based sample of young adults allows for the examination of gambling-related characteristics beyond treatment-seeking clinical populations.

Material and Methods

Sample

The present study included a convenience sample of 310 young adults aged 18–35, comprising 105 individuals who reported gambling and 205 non-gamblers. Participants were

required to be between 18 and 35 years of age, and those who provided incomplete responses to the study measures were excluded. The mean age of the participants who gambled was 25.35 years, whereas the mean age of non-gamblers was 26.80 years. Women constituted the majority in both the gambling and non-gambling groups (54.29% and 89.76%, respectively). Most participants were unemployed (57.14% and 50.24%, respectively). With regard to monthly income, the majority of participants reported an income of 10,000 Turkish Lira (TRY) or below (72.38% and 58.54%, respectively), (46.67% and 61.95%, respectively) (Table 1).

The gambling behaviors of participants who reported engaging in gambling are given in Table 2. The findings indicate that 39.05% of participants reported gambling once a year or less, and 4.76% reported having gambling-related debt. In addition, 32.38% indicated that they had family members or close relatives who engage in gambling or games of chance. With respect to types of gambling, 41.90% of participants reported betting less than once per week, 39.05% reported playing okey for money, 41.90% reported playing Lotto/ Lucky Ball/ Ten Numbers/ Super Lotto, 49.52% reported playing scratch cards or instant-win games, and 62.86% reported participating in the national lottery. By contrast, activities such as horse racing, dice games for money, cockfighting, stock exchange–based gambling, casino games, billiards, skill-based games, and online gambling for money were reported as either infrequently engaged in or not engaged in at all.

Data Collection Tools

Personal Information Form: The Personal Information Form was prepared by the researchers to collect sociodemographic and gambling-related data. The form consisted of 20 items assessing participants' characteristics, including gender, age, marital status, education level, employment status, income level, history of psychiatric or psychological treatment, gambling behavior (i.e., whether participants engaged in gambling), and frequency of gambling.

Beck Depression Inventory (BDI): The BDI was developed by Beck (1961) to assess the severity of depressive symptoms in adults and was adapted for use in Türkiye by Hisli (1989). It is a 21-item self-report measure, with each item rated on a 4-point Likert scale ranging from 0 to 3, yielding a total score between 0 and 63. A cut-off score of 17 has been recommended to

Table 1. Sociodemographic characteristics of gamblers and non-gamblers.

		Gamblers		Non-Gamblers	
Variable	**Group**	**n**	**%**	**n**	**%**
Gender	Male	48	45.71	21	10.24
	Female	57	54.29	184	89.76
Education level	Associate/undergraduate graduate	30	28.57	39	19.02
	Undergraduate student	38	36.19	36	17.56
	Postgraduate	37	35.24	130	63.41
Marital status	Single	61	58.10	135	65.85
	Partner/partnership	29	27.62	30	14.63
	Married	15	14.29	40	19.51
Employment status	Employed	45	42.86	102	49.76
	Unemployed/student	60	57.14	103	50.24
Number of children	1	2	1.90	12	5.85
	2 and more	3	2.86	6	2.93
	None	100	95.24	187	91.22
Average monthly income	10.000 TRY and below	76	72.38	120	58.54
	10.001-15.000 TRY	13	12.38	28	13.66
	15.001 and above	16	15.24	57	27.80
Average monthly household income	10.000 TL and below	30	28.57	42	20.49
	10.001-15.000 TRY	26	24.76	36	17.56
	15.001 TL and above	49	46.67	127	61.95
Alcohol use	Yes	73	69.52	65	31.71
	No	32	30.48	140	68.29
Tobacco use	Yes	54	51.43	60	29.27
	No	51	48.57	145	70.73
Substance use	Yes	6	5.71	2	.98
	No	99	94.29	203	99.02
Psychiatric diagnosis	Yes	14	13.33	53	25.85
	No	91	86.67	152	74.15
Currently receiving psychiatric/psychological help	Yes	10	9.52	35	17.07
	No	95	90.48	170	82.93

Table 2. Characteristics of gambling in gamblers.

Variable	Prevalence	n	%	Variable	Prevalence	n	%
Frequency of gambling	2-4 times a month	15	14.29	People in the family and close relatives who play games of chance/ betting or gamble	First degree relatives	34	32.38
	Once a month or less	38	36.19		Second degree relatives have	23	21.90
	2-3 times a week	5	4.76		None	48	45.71
	4 or more times a week	6	5.71				
	Once a year or less	41	39.05				
Gambling debt	Yes	5	4.76				
	No	100	95.24				
Frequency of Gambling							
Horse racing	Once a week or more	2	1.90	Scratch Cards/Instant Win Games	Once a week or more	17	16.19
	Less than once a week	8	7.62		Less than once a week	52	49.52
	None	95	90.48		None	36	34.29
Betting	Once a week or more	21	2 0.01	National Lottery	Once a week or more	13	12.38
	Less than once a week	44	41.90		Less than once a week	66	62.86
	None	40	38.10		None	26	24.76
Playing card games for money (like poker. etc.)	Once a week or more	7	6.67	Exchange	Once a week or more	14	13.33
	Less than once a week	30	28.57		Less than once a week	19	18.10
	None	68	64.76		None	72	68.57
Play okay for money	Once a week or more	12	11.43	Casino games	Once a week or more	9	8.57
	Less than once a week	41	39.05		Less than once a week	23	21.90
	None	52	49.52		None	73	69.52
Dice games for money	Once a week or more	3	2.86	Skill-based games (like billiards)	Once a week or more	5	4.76
	Less than once a week	9	8.57		Less than once a week	21	20.01
	None	93	88.57		None	79	75.24
Cockfighting	Once a week or more	1	.95	Play games for money on the internet	Once a week or more	7	6.67
	None	104	99.05		Less than once a week	12	11.43
Spor Toto	Once a week or more	7	6.67		None	86	81.90
	Less than once a week	30	28.57	Other types of gambling not mentioned above	Once a week or more	1	.95
	None	68	64.76		Less than once a week	5	4.76
Lotto/Lucky Ball/Ten Number /Super Lotto	Once a week or more	9	8.57		None	99	94.29
	Less than once a week	44	41.90				
	None	52	49.52				

indicate clinically significant depressive symptomatology. In the present study, the total BDI score was used in the analyses, and the internal consistency of the inventory was excellent, with a Cronbach's alpha coefficient of .92 for the total sample.

The South Oaks Gambling Screen (SOGS): The SOGS was developed by Lesieur and Blume (1987) to identify individuals exhibiting pathological gambling behavior. The validity and reliability of the scale in Türkiye were examined by Duvarcı and Varan (2001). The instrument consists of 19 items, with a cut-off score of 8 points, whereby individuals scoring above this threshold are classified as "probable pathological gamblers". In the present study, the total SOGS score was used in the analyses, and the internal consistency of the scale was acceptable, with a Cronbach's alpha coefficient of .79 among participants who gambled.

Difficulties in Emotion Regulation Scale – Brief Form (DERS-16): The DERS-Brief Form was developed and validated by Gratz and Roemer (2008) to assess individuals' difficulties in emotion regulation. The Turkish adaptation of the scale was conducted by Yiğit and Guzey Yiğit (2019). The scale consists of 16 items rated on a 5-point Likert scale and comprises five subscales: Openness, Goals, Impulse, Strategies, and Non-acceptance. Higher scores indicate greater difficulties in regulating emotions. In the present study, internal consistency was excellent, with the Cronbach's alpha coefficients of .93 for gamblers and .95 for non-gamblers. Subscale reliability coefficients ranged from .77 to .90 for gamblers and .79 to .86 for non-gamblers. Both total and subscale scores were used in the analyses.

Barratt Impulsivity Scale-11 (BIS-11): The BIS-11 was developed by Patton et al. (1995) to assess individual levels of impulsivity. The Turkish adaptation and validation of the scale were conducted by Güleç et al. (2008). It consists of 30 items, rated on a 4-point Likert-type scale, and comprises three subscales: 'Attentional Impulsivity', 'Motor Impulsivity', and 'Non Planning'. Higher scores indicate greater impulsivity. In the present study, the internal consistency was good, with

Cronbach's alpha coefficients of .87 for gamblers and .81 for non-gamblers. Both total and subscale scores were used in the analyses.

Data Collection

After obtaining ethical approval from the Ankara Hacı Bayram Veli University Ethics Committee (approval number: 2022/265, dated September 9, 2022), the Personal Information Form and the selected psychometric instruments were compiled into an online survey using Google Forms. The survey link was disseminated via social media platforms. Prior to participation, individuals were presented with an electronic informed consent form that provided detailed information regarding the study's aims, duration, data confidentiality, and the voluntary nature of participation. Data were collected from individuals aged 18–35 who provided informed consent and voluntarily completed the survey. Gambling behavior was determined based on participants' dichotomous (yes/no) responses to the relevant item in the Personal Information Form.

Data Analysis

Data were analyzed using SPSS version 22 (IBM Corp). Eleven participants identified as extreme outliers were excluded from the analyses. Skewness and kurtosis values were within ±2.0 (George and Mallery, 2010), indicating approximate normality; therefore, parametric tests were used. Independent samples and chi-square test were used to compare two groups. One-way analysis of variance (ANOVA) was applied for comparisons involving more than two groups, with Bonferroni correction for post-hoc analyses. The effect of independent variables on the dependent variable was examined using multiple regression analysis.

Results

Independent-samples t-test results showed statistically significant differences between gamblers and non-gamblers on the DERS Goals subscale, Attentional Impulsivity, and Motor Impulsivity, and total BIS-11 scores. No significant differences were found for the Openness, Impulse, Strategies, and Non-Acceptance subscales of the DERS, Lack of Planning, and Depression Scale scores (Table 3). When the mean scores of the Depression, DERS, and BIS-11 scales and subscales were compared by gender among participants who gambled, women scored higher than men on the Attentional Impulsivity subscale; however, this difference did not reach statistical significance (p = .054). In contrast, no statistically significant gender differences were observed for the Openness, Goals, Impulse, Strategies, and Non-Acceptance subscales of the Difficulties in Emotion Regulation Scale; the Motor Impulsivity and Lack of Planning subscales of the Barratt Impulsivity Scale; the total BIS-11 score; or Beck Depression Inventory scores (Table 4).

To examine differences between gamblers and non-gamblers, a logistic regression analysis was conducted to assess the effects of the Goals subscale of the DERS, the total Barratt Impulsivity Scale score, and the Attentional Impulsivity and Motor Impulsivity subscales on gambling behavior. Prior to the regression analysis, associations between participants' socio-

Table 3. Comparison of mean scores of depression. DERS and impulsivity scales and sub-scales of gamblers and non-gamblers.

Variables	Group	n	Mean±SD	t	sd	p
Openness	Gamblers	105	5.02±2.17	0.42	308	0.67
	Non-Gamblers	205	4.91±2.22			
Goals	Gamblers	105	9.72±3.43	-2.93	308	<.01
	Non-Gamblers	205	10.92±3.37			
Impulse	Gamblers	105	7.04±3.10	-1.63	308	0.10
	Non-Gamblers	205	7.68±3.39			
Strategies	Gamblers	105	13.06±4.88	-1.03	308	0.31
	Non-Gamblers	205	13.74±5.80			
Non-acceptance	Gamblers	105	7.20±3.08	-0.23	308	0.82
	Non-Gamblers	205	7.30±3.66			
Difficulties in Emotion Regulation Scale	Gamblers	105	42.04±13.82	-1.38	308	0.17
	Non-Gamblers	205	44.54±15.69			
Attentional impulsivity	Gamblers	105	17.30±4.50	2.09	308	0.04
	Non-Gamblers	205	16.22±4.17			
Motor impulsivity	Gamblers	105	21.12±5.61	5.02	308	<.01
	Non-Gamblers	205	18.24±4.31			
Not planning	Gamblers	105	23.57±5.08	0.48	308	0.63
	Non-Gamblers	205	23.29±4.74			
Barratt Impulsivity Scale	Gamblers	105	61.99±13.04	3.06	308	<.01
	Non-Gamblers	205	57.75±10.71			
Beck depression inventory	Gamblers	105	13.36±10.55	-1.47	308	0.14
	Non-Gamblers	205	15.18±10.22			

Table 4. Comparison of mean scores of depression, DERS and impulsivity scales and sub-scales of gamblers in terms of gender.

Variables	Group	n	$\bar{X}$±Ss	t	sd	p
Openness	Male	48	5,04±2,04	0,10	103	0.92
	Female	57	5,00±2,28			
Goals	Male	48	9,25±3,39	-1,30	103	0.20
	Female	57	10,12±3,44			
Impulse	Male	48	7,06±2,81	0,07	103	0.94
	Female	57	7,02±3,36			
Strategies	Male	48	12,96±4,56	-0,19	103	0.85
	Female	57	13,14±5,18			
Non-Acceptance	Male	48	7,23±3,12	0,09	103	0.93
	Female	57	7,18±3,08			
Difficulties in Emotion Regulation Scale	Male	48	41,54±12,79	-0,34	103	0.74
	Female	57	42,46±14,74			
Attentional impulsivity	Male	48	16,38±4,37	-1,95	103	0.54
	Female	57	18,07±4,50			
Motor impulsivity	Male	48	21,77±5,19	1,09	103	0.28
	Female	57	20,58±5,92			
Not planning	Male	48	23,25±5,23	-0,59	103	0.55
	Female	57	23,84±4,97			
Barratt Impulsivity Scale	Male	48	61,40±12,74	-0,43	103	0.67
	Female	57	62,49±13,38			
Beck depression inventory	Male	48	12,06±9,43	-1,16	103	0.25
	Female	57	14,46±11,37			

Table 5. Relationship between gambling and sociodemographic variables.

Variable	Group	Gamblers		Non-Gamblers		Test Statistics	p
		n	%	n	%		
Gender	Male	48	69.57	21	30.43	50.49	<.01
	Female	57	23.65	184	76.35		
Education level	Associate/undergraduate graduate	30	43.48	39	56.52	23.17	<.01
	Undergraduate student	38	51.35	36	48.65		
	Postgraduate	37	22.16	130	77.84		
Marital status	Single	61	31.12	135	68.88	7.88	0.02
	Partner/partnership	29	49.15	30	50.85		
	Married	15	27.27	40	72.73		
Employment status	Employed	45	30.61	102	69.39	1.33	0.25
	Unemployed/student	60	36.81	103	63.19		
Average monthly income	10.000 TRY and below	76	38.78	120	61.22	6.85	0.03
	10.001-15.000 TRY	13	31.71	28	68.29		
	15.000 TL and above	16	21.92	57	78.08		
Age		25.35±4.67		26.80±4.18		-2.78	<.01

demographic characteristics and gambling behavior were examined. The relationships between gambling behavior and gender, education level, marital status, employment status, and monthly average income were analyzed using chi-square tests, while age was examined using an independent-samples t-test. According to Table 5, gender, education level, marital status, monthly average income, and age were significantly related to gambling behavior. Specifically, the mean age of participants who gambled was significantly lower than that of non-gamblers. In contrast, employment status was not significantly associated with gambling behavior.

The logistic regression model constructed with the selected independent variables demonstrated an overall classification accuracy rate of 79% in predicting gambling (Table 6). The Omnibus Test of Model Coefficients indicated that the model provided a good fit to the data. Furthermore, the independent variables explained 39% of the variance in gambling behavior, as indicated by the Nagelkerke R^2 value.

As shown in Table 6, gender, education level, marital status, monthly income level, the Goals subscale of the DERS, total BIS-11 score, and the Attentional and Motor Impulsivity subscales were all statistically significant predictors of

Table 6. Binary logistic regression predicting self-reported gambling status.

Variables	B	S.E.	Wald	df	p	Exp(B)	95% Confidence interval	
							Lower	Upper
Age	0.00	0.05	0.01	1.00	0.93	1.00	0.91	1.11
Gender Reference (male)	-1.97	0.35	31.16	1.00	<.01	0.14	0.07	0.28
Educational level reference (Associate/ undergraduate graduate)			9.83	2.00	<.01			
Undergraduate student	-0.29	0.51	0.32	1.00	0.57	0.75	0.28	2.04
Postgraduate	-1.09	0.37	8.81	1.00	<.01	0.34	0.16	0.69
Marital status reference (Single)			9.08	2.00	<.01			
Partner/partnership	1.12	0.38	8.69	1.00	<.01	3.06	1.45	6.43
Married	0.60	0.48	1.61	1.00	0.20	1.83	0.72	4.65
Monthly income reference (10.000 TL and below)			5.45	2.00	0.05			
10.001-15.000 TL	-0.55	0.46	1.44	1.00	0.23	0.57	0.23	1.42
15.000 TL and above	-1.03	0.45	5.19	1.00	0.02	0.36	0.15	0.87
Goals	-0.13	0.05	6.70	1.00	<.01	0.88	0.80	0.97
Attentional impulsivity	0.20	0.07	7.78	1.00	<.01	1.22	1.06	1.39
Barratt Impulsivity Scale	-0.09	0.04	4.79	1.00	0.03	0.91	0.84	0.99
Motor impulsivity	0.20	0.07	7.85	1.00	<.01	1.22	1.06	1.40
Constant	-0.41	1.63	0.06	1.00	0.80	0.66		

gambling behavior. Women had significantly lower odds of gambling than men (OR = 0.14).

Individuals with a postgraduate degree had lower odds of gambling compared to those with associate or bachelor's degrees (OR = 0.34), whereas individuals in a partner/ romantic relationship had higher odds of gambling than single individuals (OR = 3.06). In addition, participants with a monthly income of 15,000 TRY or more had lower odds of gambling compared to those with a monthly income of 10,000 TRY or below (OR = 0.36).

Regarding psychological variables, a one-unit increase in the DERS Goals subscale score was associated with reduced odds of gambling (OR = 0.88), and a one-unit increase in the total BIS-11 score was associated with reduced odds of gambling (OR = 0.91). In contrast, higher Attentional Impulsivity was associated with increased odds of gambling (OR = 1.22 per unit increase), as was higher Motor Impulsivity (OR = 1.22 per unit increase).

Discussion

The present study aimed to compare the levels of depression, emotion regulation difficulties, and impulsivity between young adult gamblers and non-gamblers aged 18–35, as well as to examine the associations among gambling behavior, depression, emotion regulation difficulties, and impulsivity. The findings indicated that impulsivity and the Goals subscale of the Difficulties in Emotion Regulation Scale differed significantly between gamblers and non-gamblers, whereas no significant group differences were observed in depressive symptoms. Specifically, gamblers exhibited significantly higher total impulsivity scores and higher levels of attentional and motor impulsivity compared to non-gamblers. These findings are consistent with previous research demonstrating a positive linear association between impulsivity and gambling severity, highlighting impulsivity as a central risk factor for gambling-related problems (Ioannidis et al., 2019). Individuals with elevated impulsivity tend to exhibit difficulties in delaying gratification and in considering the long-term consequences of their behavior, which may increase vulnerability to persistent gambling. Although none of the participants in the present study met the diagnostic criteria for pathological gambling, the elevated impulsivity observed in the gambling group may indicate a potential vulnerability to gambling-related problems over time within this group.

Interestingly, the finding that gamblers' total DERS scores did not differ significantly from those of non-gamblers contrasts with much of the existing literature (Williams et al., 2012), although some studies have reported similar results. For example, Schreiber et al. (2012) examined the relationship between emotion regulation and impulsivity in young adults and found no significant differences in gambling, substance use, alcohol use, or cognitive impulsivity across groups with low, moderate, and high levels of emotion regulation difficulties. Contrary to previous research indicating that difficulties in goal-directed behavior and impulsivity are significant predictors of problematic gambling, gamblers in the present study exhibited significantly lower scores on the Goals subscale of the DERS (Marchica et al., 2019; Williams

et al., 2012). One possible explanation is that individuals who gamble may underreport emotion regulation difficulties due to social desirability bias or concerns about stigma, labeling, or social exclusion. Additionally, recent studies have shown that university students with problematic gambling tendencies frequently rely on maladaptive cognitive emotion regulation strategies (Uçar, 2022), which may not be fully captured by self-report measures assessing general emotion regulation difficulties. Finally, the absence of a clinical sample in the present study may partially explain the lack of significant differences in overall emotion regulation between gamblers and non-gamblers, as more pronounced emotion regulation deficits are typically observed in treatment-seeking or clinically diagnosed populations.

The present study's findings regarding depression were not fully consistent with the existing literature, as no significant relationship was observed between depressive symptoms and gambling behavior (Cunningham-Williams et al., 1998; Çakıcı et al., 2019). This outcome may be partly attributable to the relatively small number of participants exhibiting problem or pathological gambling in the sample. Previous research presents mixed findings regarding the temporal relationship between depression and gambling: some studies indicate that depressive symptoms may precede the onset of gambling problems (Kessler et al., 2008), whereas others suggest that depression can emerge as a consequence of gambling due to its negative psychosocial and financial impacts (Awaworyi Churchill & Farrell, 2018). Moreover, as noted by Kaya (2007), individuals with gambling disorder frequently seek treatment for comorbid depression or anxiety rather than for gambling itself. These findings highlight the clinical importance of conducting thorough assessments of both gambling behaviors and co-occurring affective symptoms during the treatment process.

According to the results, gambling behavior was significantly less prevalent among women compared to men, which aligns with previous findings indicating that men are more likely to engage in gambling and are at higher risk for developing gambling-related problems (Carneiro et al., 2020; Şahin et al., 2025). However, the observed gender-based difference in the present study, with women being 0.14 times less likely to gamble, appears relatively small. This may be partly due to the severe gender imbalance in the sample, as the number of non-gambling women was 89.76% higher than that of non-gambling men, limiting the interpretability of gender-related findings. Gambling behavior is highly gendered; therefore, these findings may reflect sample differences rather than gambling-related patterns alone. Notably, recent studies have reported that gambling behavior is now observed at similar rates in women and men (Hing et al., 2016; McCarthy et al., 2019).

Education level also emerged as a significant predictor of gambling behavior. Individuals with a postgraduate degree were significantly less likely to gamble compared to those with an associate's or bachelor's degree (Hing et al., 2016; Welte et al., 2017). Conversely, low education levels have been identified as a risk factor for developing gambling disorder, though the literature presents some contradictory findings (Hing et al., 2016), indicating the need for further research.

Marital status and income level were additional sociodemographic factors influencing gambling behavior. Participants in a romantic or partner relationship were more likely to engage in gambling than single individuals, which may reflect increased exposure to emotional stressors such as relationship conflicts or unmet relational expectations during young adulthood (Zaranek & Lichtenberg, 2008).

Regarding income, individuals with a monthly income of 15,000 TRY or more were less likely to gamble compared to those with lower income levels, highlighting that low socioeconomic status may increase vulnerability to gambling behavior. Financial stress may interact with psychological traits such as impulsivity and emotion regulation difficulties to exacerbate risky gambling tendencies (Hing et al., 2016; Welte et al., 2017). Overall, these findings underscore that gambling behavior in young adults is shaped by a combination of gender, education, marital status, and income, emphasizing the importance of considering sociodemographic context in both research and clinical assessment.

In the present study, the Goals subscale of the DERS emerged as a significant negative predictor of gambling behavior, indicating that difficulties in maintaining goal-directed behavior under negative emotional states may influence gambling tendencies. Contrary to the initial hypothesis, overall emotion regulation difficulties did not significantly predict gambling behavior. This unexpected finding may be attributed to the relatively small number of gamblers in the sample or the absence of a clinical population, which could have limited the variability in emotion regulation difficulties among participants.

Additionally, although the total Barratt Impulsivity Scale score showed a statistically significant predictive effect on gambling behavior, the magnitude of this effect was relatively small. While higher impulsivity has consistently been associated with increased gambling involvement, the relationship between impulsivity and problem gambling remains a subject of ongoing debate, with contradictory findings reported in the literature. This inconsistency has been partly attributed to conceptual and methodological challenges in defining and measuring impulsivity as a multifaceted construct (Dannon et al., 2010). In the present study, the Non-Planning subscale of the BIS-11 and the Openness, Impulse, Strategies, and Non-acceptance subscales of the DERS did not significantly predict gambling behavior. The reliance on self-report measures and the use of a non-clinical sample may have contributed to these findings. Moreover, the high educational level of the sample, predominantly consisting of undergraduate and graduate students, may have been associated with relatively lower levels of difficulty in these domains, thereby reducing variability across subscales. Future research would benefit

from incorporating objective cognitive performance tasks to assess impulsivity in individuals with gambling disorder, in line with DSM-5 diagnostic frameworks.

Although depressive symptoms were not significantly associated with gambling behavior in the present study, impulsivity-related findings were more consistent with the existing literature. In particular, attentional and motor impulsivity were higher among participants who gambled, suggesting that specific dimensions of impulsivity may be relevant to gambling behavior. Previous research has similarly associated gambling disorder with impairments in attention-related inhibitory control (Ioannidis et al., 2019). Individuals who gamble have also been reported to perform more poorly on higher-order attentional tasks and to more frequently report a history of attention-deficit-related behaviors during childhood (Leppink et al., 2016). These findings suggest that individuals who experience difficulties in inhibiting or delaying inappropriate responses, particularly those driven by an urge for immediate action, may therefore contribute to vulnerability to gambling behavior. Motor impulsivity may also be relevant to the persistence of gambling behavior, as it reflects difficulty resisting immediate behavioral responses despite potential adverse consequences. Consistent with previous studies, gambling behaviors and gambling-related problems are reported more frequently among adolescents and young adults than among older age groups (Calado et al., 2017). However, age was not a significant predictor of gambling behavior in the present study, possibly because of the restricted age range of the sample (18–35 years).

Limitations and Directions/Suggestions for Future Research

This study has several limitations that should be acknowledged. First, due to its cross-sectional and correlational methods, causal inferences regarding the relationships between gambling behavior, emotion regulation difficulties, impulsivity, and depression cannot be drawn. Second, the sample consisted of individuals aged 18–35 recruited through convenience sampling, the majority of whom were undergraduate or graduate students. The use of convenience sampling may have limited the inclusion of individuals with more diverse gambling patterns and sociodemographic backgrounds, potentially introducing selection bias. Importantly, the sample exhibited a substantial gender imbalance, particularly within the non-gambling group, which represents a significant limitation. Given that gambling behavior is known to vary by gender, the observed associations may partially reflect gender-related differences rather than patterns directly attributable to gambling behavior.

Therefore, the findings should be interpreted within the context of the studied sample and may not extend to individuals with gambling disorder from different age groups, educational levels, or socioeconomic backgrounds. Additionally, the limited representation of different types of gambling activities in the sample constrained the ability to examine gambling subtypes separately. Future research would benefit from investigating specific gambling modalities, such as sports betting, online gambling, lottery games, and their distinct associations with psychological and behavioral variables such as impulsivity, emotion regulation strategies, and depressive symptoms.

Conclusion

In conclusion, young adulthood represents a critical developmental period for understanding the factors that contribute to the initiation and maintenance of gambling behavior. Emotion regulation difficulties and impulsivity, both frequently associated with gambling behavior and of particular relevance for clinicians, should be carefully assessed, especially among individuals with low income levels. Given that emotion regulation difficulties are considered a transdiagnostic factor across many mental health disorders and are positively associated with depressive symptoms among individuals who gamble, interventions aimed at enhancing emotion regulation skills may be effective in reducing depressive symptoms that commonly co-occur with gambling-related problems. Notably, many individuals experiencing gambling-related difficulties do not seek treatment or do not intend to do so, and the existing literature has largely focused on clinical samples. In this regard, the present study contributes to the literature by examining a non-clinical, community-based sample of young adults who were not currently receiving treatment, rather than treatment-seeking clinical populations. Given the substantial gender imbalance in the sample, the findings should be interpreted within the context of the studied group and may partly reflect gender-related differences alongside gambling-related patterns. Accordingly, the results are best understood as reflecting associations observed within this specific sample, rather than as broadly generalizable findings. These findings underscore the importance of early identification and prevention strategies within community-based and digital intervention settings, particularly for at-risk young adults.

In intervention settings, adopting a holistic approach that concurrently addresses comorbid depressive symptoms and impulsivity may be particularly beneficial. Evidence-based interventions such as cognitive-behavioral therapy and motivational interviewing techniques should be considered central components of treatment for individuals with gambling-related problems. In addition, the potential role of pharmacological treatment should be evaluated, especially for individuals exhibiting high levels of impulsivity or co-occurring psychopathology. Given the consistently low rates of treatment-seeking among individuals with gambling problems, expanding access to addiction treatment services, such as national and community-based addiction counseling services (i.e. YEDAM), through online platforms may represent a promising strategy to enhance engagement and early intervention.

Author contributions

Conception and design: Y.D., H.D.; Data acquisition: Y.D., H.D.; Data analysis: Y.D.; Data interpretation: Y.D., H.D.; Drafting of the manuscript: Y.D., H.D.; Critical revision of the manuscript: Y.D., H.D. All authors reviewed the results, approved the final version of the manuscript, and agreed to be accountable for all aspects of this study.

Ethical approval

This study was approved by the ethics committee (Date: September 9, 2022, Decision/Protocol No: 2022/265). Informed consent was obtained from all participants involved in this study.

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflict of interest

The authors declare that this study was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Generative AI statement

The authors declare that no generative AI or AI-assisted technologies were used in the writing or preparation of this study.

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