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Extended Abstract

The Frequency of Gambling among University Students and Its Relationships to Their Sensation-Seeking Behaviors*

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Abstract

Gambling is an important social problem common in the world and rising rapidly among young people. There is yet insufficient data regarding youth in Turkey. This study aims to identify the prevalence of gambling and pathological gambling among the students of a state university and to examine their relation with sensation-seeking behaviors. This study has been designed as a cross-sectional research, and the study's universe constitutes students from the central campus of Mersin University. The sampling universe was calculated using a well-known sampling formula, and 339 students were accessed in the schools through the simple random-sampling method. The research data has been collected using the Socio-Demographic Properties and Gambling Behaviour Form, the South Oaks Gambling Screen, and Zuckerman's (1996) Sensation-Seeking Scale Form V. In all the conducted analyses, a $p \leq 0.05$ has been taken as being statistically meaningful; 49.9% of the students are male and 70.8% are between 18 and 21 years old. Of the students, 25.6% have smoked cigarettes, 24.6% have drunk alcohol, 1.8% have used drugs, 11.5% have been diagnosed with a psychiatric disorder, 52.9% have a relative who has gambled; 41.4% have gambled at least once in their life, with 21.5% in the last month and 15.3% having gambled online. Pathological gambling has been found in 1.2% of the students. Those with a pathological gambling problem only had significantly higher scores in the sub-dimension of boredom susceptibility. As a result, although pathological gambling has low prevalence, the fact that half of the students have experiences with gambling may indicate the problem to be increasing.

Keywords

College student • Gambling • Pathological gambling • Sensation-seeking behavior

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Gambling, which is regarded as a spare-time activity and form of entertainment in almost every culture, can create personal and social problems when reaching pathological levels (George et al., 2016). The systematic reviews and meta-analyses have indicated the prevalence of pathological gambling among adults to be between 0.12% and 5.8% (Calado & Griffiths, 2016), 6.13% among university students (Nowak, 2017), and between 0.2% and 12.3% among adolescents (Calado et al., 2017). Therefore, a higher prevalence has been observed among youth, not adults. No comprehensive study has been conducted in Turkey that indicates the prevalence of gambling or pathological-gambling behavior.

The prevalence of gambling among youths is effected by a number of factors such as low perception of risk in adolescents, ease of access to gambling games, their promotion by the media, the presence of gambling games run by state institutions (which has also become a part of the culture), access to scholarships and credit cards, peer pressure, and the presence of a gambler in the family (Nowak & Aloe, 2014). In addition to studies arguing the existence of a direct proportion between gambling and sensation-seeking behavior (Fortune & Goodie, 2010; Zuckerman, 2005), other studies have claimed no such relation to exist (Hammelstein, 2004; Parke, Griffiths, & Irwing, 2004).

This study aims to identify the prevalence of gambling and pathological gambling among the students of a state university and examine its relation with their sensation-seeking behaviors.

Method

This study is designed as a cross-sectional research and has been conducted under the approval of the Ethics Council of Social Sciences Research at Mersin University between February 15 to May 8, 2017.

Working Group

The universe of this study is comprised of the 27,535 students from Mersin University's central campus. With the prior knowledge that the prevalence of chance games and gambling is around 30% (Coşkun, 2017), the required sampling size has been identified as 318 students using the sampling formula of the known universe with a confidence interval of 95%. With a predicted probable loss of 10%, the study reached out to 350 people from nine schools chosen using simple random selection. The students were selected from these schools in proportion to the total number of students enrolled in them. Each school has been layered according to the classes attended by students; students were then again selected at random from the student lists. Data have been collected from 350 students. After disqualifying those with insufficiently completed forms, data from 339 forms were analyzed. The turnout rate is 96.8%.

The research data have been collected through the face-to-face interview technique using the Socio-Demographic Properties and Gambling Behaviour Form (Calado et al., 2017; George et al., 2016; González-Roz et al., 2017; Pinarci, 2014), South Oaks Gambling Screen (SOGS Duvarci & Varan, 2001), and the Sensation-Seeking Scale Form V (SSS-V; Öngen, 2007; Ruch & Zuckerman, 2001;). Written and verbal consent were obtained from the students prior to the interviews.

The data has been evaluated using students' numbers, percentages, averages, standard deviations, medians, and quartiles (25% and 75%) as statistical figures, and correlation analysis, *t*-test, Chi-Square Test, Cohen's *d*, and multiple regression analysis as the prominent methods. In the multiple regression analysis, age; gender; smoking, alcohol, and drug use; having gambled at least once in one's life; having gambled once in the last month; having gambled online; and scores from the SOGS were taken as the dependent variables, while the sub-dimensions of thrill and adventure seeking, experience seeking, disinhibition, and boredom susceptibility from the SSS-V were taken as the independent variables. The method of step-wise selection has been used in integrating the variables to the model. In all the conducted tests, a $p \leq .05$ was taken as statistically significant.

Findings

Of the students, 49.9% of the students are male, 70.8% are between the ages of 18 and 21, and 93.8% are single; 58.5% rely on financial support from their families while 36.2% use student loans; 25.2% have scholarships; and 8.9% work at a paying job (see Table 1). The average monthly income of those who disclosed it is 692.02 ± 474.221 Turkish Lira.

Of the students, 25.6% of students smoke cigarettes, 24.6% drink alcohol, and 1.8% use drugs; 11.5% have been diagnosed with a psychiatric disorder; 52.9% have a relative who has gambled; 41.4% have gambled at least once in their lifetime (21.5% in the last month); and 15.3% have gambled online. Of those who have gambled, 51.4% play more than one game, and the most frequent game played is İddaa (80.7%; see Table 1).

Table 1
Socio-Demographic Features of Students and Distribution of Habits

	n	(%)		*n*	%
Age (*n* = 339)			**Gender (*n* = 339)**		
18-21 year	240	70.8	Female	170	50.1
22 year and older	99	29.2	Male	169	49.9
Department (*n* = 339)			**Class (*n* = 339)**		
Fine Arts	16	4.7	Freshman	124	36.6
Communication	25	7.4	Sophomore	124	36.6
Architecture	24	7.1	Junior	44	13.0
Medicine	53	15.6	Senior	47	13.9
Tourism	45	13.3	**Marital status (*n* = 339)**		
Health High School	16	4.7	Single	318	93.8
High School of Physical Education and Sports	4	1.2	Engaged	16	4.7
Technical Sciences VHS	97	28.6	Married	5	1.5
Social Sciences VHS	59	17.4	**Family Income (*n* = 336)**		
Residence (*n* = 339)			Low income	86	25.6
With family	145	42.8	Median income	198	58.9
Government dorm	81	23.9	High income	52	15.5
With friends	54	15.9	**Students' income sources (*n* = 337)***		
With relatives	9	2.7	Paid work	30	8.9
Alone	24	7.1	Scholarship	85	25.2
Private residence	25	7.4	Family	197	58.5
Other	1	0.3	Education credit	122	36.2
Credit card (*n* = 338)			**Diagnosed with a psychological problem (*n* = 338)**		
No	180	53.3	No	299	88.5
Yes	158	46.7	Yes	39	11.5
Smoking (*n* = 336)			**Alcohol use (*n* = 338)**		
No	233	69.3	No	239	70.7
Quit	17	5.1	Quit	16	4.7
Yes	86	25.6	Yes	83	24.6
Substance use (*n* = 337)			**Gambled at least once in one's life (*n* = 336)**		
No	323	95.8	No	197	58.6
Quit	8	2.4	Yes	139	41.4
Yes	6	1.8			
Gambling in past month (*n* = 339)			**Online gambling (*n* = 339)**		
No	266	78.5	No	287	84.7
Yes	73	21.5	Yes	52	15.3
Do you have any relatives who gamble?(*n* = 339)			**Gambling games (*n* = 109)***		
No	160	47.2	İddaa	88	80.7
Yes	179	52.9	Lottery	23	21.1
Gambles how many times a month (*n* = 43)			National lottery, super lottery, power balls, scratch, horse race	37	33.9
1-5 times	25	58.1	Okey	13	11.9
6 times and over	18	41.9	Roulette, poker, card game	20	18.3
Monetary amount spent gambling in past month (*n* = 46)					
0-50 TL	23	50.0			
51-500 TL	13	28.3			
501-2300 TL	10	21.7			

VHS = Vocational High School; * these people indicated more than one.

According to the SOGS results, 335 people scored between 0 and 7; four people scored between 8 and 12, these scores indicate pathological gambling (see Figure 1).

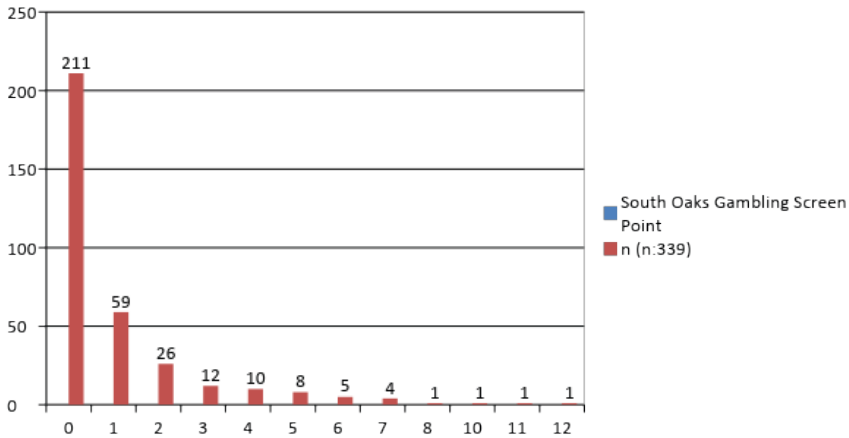

Figure 1. South Oaks Gambling Screening Test score distributions.

Those exhibiting pathological gambling only had significantly higher scores for the sub-dimension of BS. Those who gambled at least once in their life or in the last month have higher scores for the sub-dimensions of disinhibition, experience seeking, and boredom susceptibility as well as the overall SSS–V, while those who gamble online have significantly higher scores for the sub-dimensions of disinhibition and boredom susceptibility as well as the overall SSS-V (see Table 2).

A low correlation exists between SOGS scores with the overall SSS-V total score and scores for the sub-dimensions of disinhibition, experience seeking, and boredom susceptibility (see Table 3).

Having gambled at least once in one's life, in the past month, or online; using drugs; being male; and the DIS sub-dimension have mid-level correlations with the SOGS scores. These variables constitute 29.4% of the total variance of SOGS (see Table 4).

Discussion

The existing literature indicates the prevalence of a various gambling behaviors among university students (Kaya, 2004; Pınarcı, 2014; George et al., 2016; Kam, Wong, So, Un, & Chan, 2017; Williams & Gaming, 2006). This study is in line with the literature, with almost half the students having gambled. However, it also shows the importance of the issues as well as the possible size of likely problems.

In Nowak's (2017) meta-analysis study, the prevalence of pathological gambling among university students was identified as 6.13%. This study shows lower results

in terms of this prevalence, yet it is still higher than Pınarcı's (2014) study, which showed no presence of pathological gambling. This underlines an increase in pathological gambling among university students in Turkey. Despite the prevalence of pathological gambling in Turkey among university students being much lower than the global average, it is quite prevalent among university students in the Northern Cyprus Turkish Republic where many students from Turkey go.

Table 2
Distribution of Scores from the SSS-V by the Characteristics of Gender, Gambling, and Pathological Gambling

	Inability to prevent	Experience seeking	Thrill and adventure seeking	Boredom susceptibility	Total points of thrill seeking
	$\underline{X}$ ± **SD**	$\underline{X}$ ± ***SD***	$\underline{X}$ ± ***SD***	$\underline{X}$ ± ***SD***	$\underline{X}$ ± ***SD***
General (n:339)	2.84 ± 2.23 (min:0-max:10)	4.32 ± 1.85 (min:0-max:10)	6.63 ± 2.34 (min:0-max:10)	3.43 ±1.74 (min:0-max:9)	17.22 ±5.72 (min:0-max:40)
Pathological gambling					
Normal (0-7 score)	2.83 ± 2.24	4.31 ± 1.83	6.63 ± 2.33	3.40 ± 1.73	17.17 ± 5.65
PG (8-12 score)	3.25 ± 1.71	5.25 ± 3.30	7.00 ± 4.08	5.50 ± 1.73	21.00 ± 10.29
p	.71	.31	.75	**.02** $^{d=1.21}$	.18
t* / *df	0.37 / 337	1.01 / 337	0.32 / 337	2.41 / 337	1.33 / 337
Gender					
Female (*n* = 170)	2.31 ± 2.14	4.27 ± 1.81	6.39 ± 2.50	3.26 ± 1.70	16.24 ± 5.76
Male (*n* = 169)	3.37 ± 2.20	4.37 ± 1.90	6.87 ± 2.16	3.60 ± 1.77	18.21 ± 5.51
p	**<.0001** $^{d=0.49}$	.61	.06	.07	**< .001** $^{d=0.35}$
t* / *df	4.47 / 337	0.51 / 337	1.87 / 337	1.79 / 337	3.22 / 337
Gambled in the past month					
Yes (*n* = 73)	3.77 ± 2.25	4.70 ± 1.919	6.59 ± 2.14	4.00 ± 1.89	19.05 ± 6.07
No (*n* = 266)	2.58 ± 2.16	4.22 ± 1.83	6.64 ± 2.40	3.27 ± 1.67	16.71 ± 5.52
p	**< .0001** $^{d=0.54}$	**.049** $^{d=0.26}$	.86	**.001** $^{d=0.41}$	**.002** $^{d=0.40}$
***t* / df**	4.11 / 337	1.97 / 337	0.17 / 337	3.21 / 337	3.14 / 337
Gambled at least once in one's life					
No (*n* = 197)	2.42 ± 2.07	4.11 ± 1.78	6.52 ± 2.38	3.11 ± 1.66	16.16 ± 5.25
Yes (*n* = 139)	3.45 ± 2.33	4.63 ± 1.94	6.75 ± 2.29	3.89 ± 1.77	18.72 ± 6.08
p	**< .0001** $^{d=0.47}$	**.012** $^{d=0.28}$	.38	**< .0001** $^{d=0.45}$	**< .0001** $^{d=0.45}$
t* / *df	4.24 / 334	2.52 / 334	0.89 / 334	4.18 / 334	4.12 / 334
Online gambling					
No (*n* = 287)	2.65 ± 2.18	4.27 ± 1.85	6.60 ± 2.34	3.34 ± 1.73	16.86 ± 5.60
Yes (*n* = 52)	3.87 ± 2.27	4.59 ± 1.85	6.79 ± 2.39	3.92 ± 1.74	19.17 ± 5.98
p	**< .0001** $^{d=0.55}$	0.25	0.60	**0.026** $^{d=0.33}$	**0.007** $^{d=0.40}$
t* / *df	3.67 / 337	1.167 / 337	0.52 / 337	2.24 / 337	2.70 / 337

d = Cohen's *d*.

Table 3
Correlation between the SOGS Test and the SSS-V

	SOGS total	2	3	4	5	6
1. SOGS total score	1	-	-	-	-	-
2. Inability to prevent	.288*	1	-	-	-	-
3. Experience seeking	.200*	.482*	1	-	-	-
4. Thrill and adventure seeking	.090	.239*	.315*	1	-	-
5. Boredom susceptibility	.171*	.437*	.399*	.061	1	-
6. SSS-V total score	.271*	.778*	.764*	.624*	.630*	1

* $p < .01$.

Table 4
Multiple Regression Analysis Results for SOGS Test Scores

Dependent variable: SOGS total score	*B*	Standard Error *B*	*B*	*T*	*P*
Independent variables					
Gambling at least once in a lifetime	0.722	0.226	0.193	3.194	0.002
Gambling at last month	0.742	0.283	0.167	2.625	0.009
Online gambling	0.686	0.293	0.135	2.342	0.020
Substance abuse	1.780	0.654	0.130	2.721	0.007
Male	0.462	0.188	0.126	2.459	0.014
Inability to prevent	0.083	0.040	0.102	2.084	0.038

$R = 0.554$, $R^2 = 0.306$, Corrected R^2: 0.294; $f = 23.783$, $p < 0.001$
Durbin Watson = 2.25, $VIF < 1.89$

Bilgin's (2015) study, conducted in the Northern Cyprus Turkish Republic with 470 students, reported 57.9% of the students to have pathological gambling behaviors; another study conducted by Fırat (2015) with 299 students reported 24.1% to have pathological gambling behavior. The prevalence of gambling has been reported to be relevant to the ease of access and legal status of gambling (Calado et al., 2017). The high prevalence of pathological gambling behavior in the Northern Cyprus Turkish Republic may be related to gambling being legal and the presence of casinos and gambling houses. Although gambling is officially prohibited in Turkey, the state-run lotteries and games of chance may be related to the prevalence of gambling and high rates of pathological gambling behavior. Most games of chance played by university students are state-run games.

The majority of studies have disclosed the prevalence of gambling to be higher among men than women (Fırat, 2015; Kam et al., 2017; Nowak & Aloe, 2014; Pınarcı, 2014). They have also indicated gambling to be related to other risk behaviors (Engwall, Hunter, & Steinberg, 2004; Grant et al., 2018; Pınarcı, 2014). The findings of this study are in line with those found in the literature.

The relationship between the behaviors of pathological gambling and sensation seeking has been discussed. Some studies have evaluated pathological gambling behavior together with the SSS-V while in others these have been evaluated separately through their sub-dimensions with different findings being revealed in terms of the relationship of pathological gambling behavior with the SSS-V's sub-dimensions. The study conducted by Müller, Dreier, Beutel, and Wölfling (2016) disclosed that people with pathological gambling behavior have higher experience seeking scores than control groups, and men with pathological gambling behavior have higher scores than the control group for both the sub-dimensions of experience seeking and disinhibition. Another study carried out by Fortune and Goodie (2010) showed a difference to exist in the scores of the interviewees with or without pathological gambling behaviors in the SSS-V's total score and sub-dimensions of experience seeking , disinhibition , and boredom susceptibility where those who gamble and

have pathological gambling behavior have higher scores. In this study, the revealed numbers fall in line with Fortune and Goodie's (2010) study regarding the score differences of the SSS-V and its sub-dimensions for interviewees with gambling experience. However, the difference is limited to the boredom susceptibility sub-dimension scores for interviewees with pathological gambling behaviors. The only sub-dimension predicting SOGS score is disinhibition. The difference between this study and the average figures in the existing literature may be related to low pathological gambling scores.

As a result, despite the fact that the prevalence of pathological gambling behaviors in the study is significantly lower than the literature, almost half of the students were disclosed to have experienced gambling. Furthermore, the most prevalent gambling games were run by the state. These two factors contribute to the foresight that gambling will continue to increase.

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