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Relationship Between Emotion Regulation Difficulties and Gambling Tendencies of University Students

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ABSTRACT

Objective: This study aims to examine the relationship between university students' difficulties regulating emotions and their tendency to gamble.

Method: The population of this cross-sectional and correlational study consisted of 69,000 undergraduate level students studying at three state universities in three different provinces in Turkey between February-September 2022. Based on the calculation using the sampling method of the known population, study data were collected face-to-face from 750 students. The data were collected using three tools: a descriptive information form, the South Oaks Gambling Screening Test (SOGS), and the Difficulties in Emotion Regulation Scale-Brief Form (DERS-16). Descriptive statistics, Pearson correlation and Multiple Linear Regression analysis were used to analyze the relationship among the scales' mean scores.

Results: Of the participating university students, 51.6% were female and 48.4% were male. Of these students, 42% stated that they had gambled at least once in their lives and 25.3% of them were still gambling. The mean DERS score was 38.14±14.37, which indicated a moderate difficulty in emotional regulation, and the mean SOGS score was 5.12±3.18. A positive and significant correlation was found between DERS SOGS ($r=0.304$, $p<0.05$). It was determined that university students' tendency to gamble was predicted by the three sub-dimensions of the DERS (Clarity ($\beta=0.258$, $p=0.001$), Purpose ($\beta=0.156$, $p=0.021$) and Non-Acceptance ($\beta=1.768$, $p=0.001$)), being male and gambling status in the family ($p<0.05$).

Conclusion: Emotional regulation difficulties in university students may play an important role in their gambling tendencies.

Keywords: Emotion Regulation, Gambling, Students

INTRODUCTION

Gambling, which has become a common problem worldwide, includes card games and many games of chance and betting that require skill (Calado and Griffiths 2016, González-Roz et al. 2017). The increase in gambling games, which are diversifying and increasing day by day as a result of technological developments, leads to the prevalence of gambling disorder (Calado et al. 2017a). The worldwide prevalence of gambling is reported to be 0.12%-5.8% in adults (Calado and Griffiths 2016) and 0.2%-12.3% (Calado et al. 2017a) in adolescents. Gambling, regarded as a leisure time activity and a means of entertainment in many cultures, can lead to personal and social problems and rise to pathological levels (George et al. 2016). In the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), "Gambling Disorder (GD)" is classified as an addictive disorder (APA 2013). A high frequency of gambling starting at an early age causes problem gambling to emerge in later periods (Winters et al. 2002). Although gambling is not legal in Türkiye, it is seen that online gambling is spreading rapidly with the development of technology (TC Ministry of Finance Financial Crimes Investigation Board Report 2017). University students have been intertwined with technology in order to continue their education in recent years, especially with the COVID-19 pandemic period, which has increased their likelihood of encountering and playing online gambling games. In addition, there is a high risk of developing

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pathological gambling in online gamblers (Azevedo et al. 2023). Studies have shown that individuals with GD have a high risk of suicide, low self-esteem, depression, anxiety, and alcohol/substance use (Çakmak and Tamam 2018, Mills and Nower 2019, Ögel 2010). When the personality characteristics of individuals with GD are examined, they are more likely to be thrill-seeking and easily bored or have attention deficit hyperactivity disorder (Geniş and Aksu 2020). Some studies have shown that individuals may resort to addictive behaviors to escape from their negative emotions, re-regulate their emotions, or alleviate negative moods (Aldao et al. 2010, Tice et al. 2001).

An inability to define negative emotions, control them during events, and change them depending on the situation is defined as emotion dysregulation (Gratz and Roemer 2004). Due to their developmental period, university students often act on their emotions because they have recently separated from the family environment and now struggle with some vital difficulties on their own. Therefore, they can have difficulty managing or regulating their emotions. Individuals with emotion dysregulation may turn to addictive behaviors such as gambling to escape, reorganize or eliminate their negative emotions (Aldao et al. 2010). In studies on the issue, it has been reported that there is a positive relationship between individuals' emotion regulation difficulties and gambling disorder (Estevez et al. 2021, Torrado et al. 2020). In the light of this information, it would not be wrong to say that university students, who are in the transition period from adolescence to adulthood, are among the risk groups in terms of gambling tendency. Therefore, screening and prevention activities for university students should be prioritized. Within the scope of primary prevention, defining the problem and identifying the groups at risk are important responsibilities of psychiatry professionals. In the literature, there are a limited number of studies examining the relationship between gambling tendency and emotion dysregulation in university students (Torrado et al. 2020). The results of the study will have an important contribution to the development and implementation of activities for the prevention of gambling disorder by those working in the field. Within this context, this study aims to determine the online gambling tendency and emotion regulation difficulties of university students and to examine the relationship between these two variables.

METHOD

This study was prepared in a cross-sectional and correlational research design. The data were collected face-to-face using questionnaire forms after obtaining ethics committee approval (24.03.2022, No: 0143) and permission from the rectorates of the three universities where the study was conducted. The study population included 69.000 undergraduate students studying at three state universities in three different provinces in Türkiye from February 2022 to September 2022. Based on the calculation using the sampling method of a known population, the needed study sample number was 626. Considering the possible loss of data, 20% more students were contacted from each university than the planned quantity. While collecting the data, each university was divided into three strata: sciences, health sciences, and social sciences, and students were randomly selected. While forming the strata, the study of Şiran (2022) was taken as a reference and accordingly, 236 students from a university in one province, 272 from a university in the second province, and 118 from a university in the third province were targeted. Finally, data analysis was conducted based on the questionnaires of a total of 750 students (142, 282, and 326 students from each university). Students studying at the universities where the research was conducted between February-September 2022 and who volunteered to participate in the research were included in the study and the data were collected face-to-face by the researchers (Figure 1. Flow Chart).

Data Collection Tool

The study data were collected using an introductory information form, the South Oaks Gambling Screening Test (SOGS), and the Difficulties in Emotion Regulation Scale-Brief Form (DERS-16).

Introductory Information Form

This form was developed by the researchers as a result of reviewing the relevant literature and included 20 open-ended and closed-ended questions on the sociodemographic characteristics of the participants and gambling addiction.

The South Oaks Gambling Screen (SOGS)

The SOGS was developed by Lesieur and Blume (1987). The Turkish adaptation study of the scale was conducted by Duvarcı and Varan (2001). The SOGS includes items that measure the severity of gambling. Those who score 5 or more out of 20 on the scale are classified as pathological gamblers. In the adaptation study of the SOGS into Turkish, two culturally relevant items replaced three ineffective items, and it was proposed to classify those who scored 8 and above out of a total of 19 points as pathological gamblers. The Cronbach's alpha internal consistency coefficient of the Turkish form was 0.88 and the test-retest correlation coefficient was 0.95 (Duvarcı and Varan 2001). The Cronbach's alpha reliability coefficient for this sample group was 0.94.

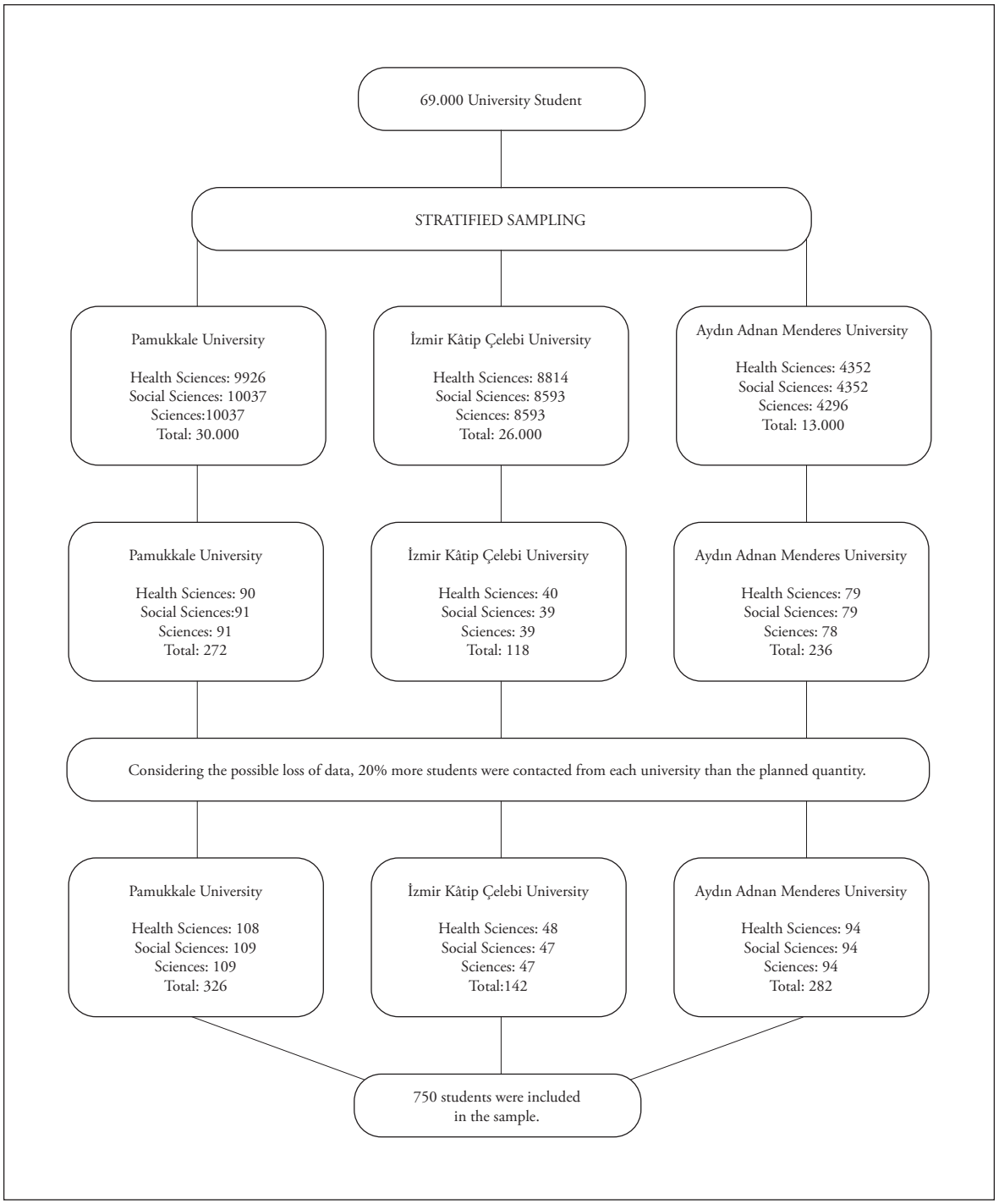

Figure 1. Flow chart showing that students selected by the stratified sampling method are included in the sample.

Difficulties in Emotion Regulation Scale-Brief Form (DERS-16)

The scale developed by Bjureberg (2016) to determine the level of difficulties in emotion regulation (Bjureberg et al. 2016) was adapted into Turkish by Yiğit and Yiğit (2016) (Yiğit and Guzey Yiğit 2019). This five-point Likert-type scale includes 16 items and five subdimensions. The scale does not have a cut-off score. A high score on the scale indicates difficulty in emotion regulation. As a result of the reliability analysis, Cronbach's alpha coefficient was 0.94. For this sample group, Cronbach's alpha reliability coefficient was 0.95.

Data Analysis

The study data were analyzed using the IBM SPSS Statistics 25.0 package software. Descriptive statistics (number-percentage distribution), Pearson correlation analysis and multiple linear regression were used to examine the relationship between the scales' mean scores. Prior to the

regression analysis, all demographic data were tested for differences and those that were statistically significant were included in the regression model.

RESULTS

Of the university students who participated in the study, 51.6% were female, 48.4% were male, and 1.6% were married. Among them, 51.7% reported that their income was equal to their expenses and 49.5% reported that their source of income was their family. In addition, 42.5% of the students lived in metropolitan cities (Table 1).

When the participating students were analyzed in terms of their gambling history, 42% reported that they had gambled at least once in their lives and 25.3% reported that they were still gambling. Of the students who were still gambling, 15.8% stated that they gambled 1–3 times a week, 6% 4–6 times a week, and 3.8% more than six times a week. Moreover, 24.4% of the students reported that they started gambling for the first time due to their friends, 14.5% reported that they played online, and 8.7% reported that there was someone in their family who gambled (Table 2).

The mean total DERS score of the students was 38.14±14.37 and the subscale scores were 4.75±2.04 for clarity, 8.86±3.28 for goal, 6.26±3.16 for impulse, 11.65±5.19 for strategy, and 6.59±3.19 for non-acceptance. The mean total SOGS score of the students was 1.73±2.85; the mean SOGS total score of students with gambling persistence was 5.12±3.18 (Table 3).

When the relationship between university students' emotion regulation difficulties and gambling disorder tendencies was examined, it was determined that as the score averages of the total and all sub-dimensions (Clarity, Goal, Impulse Strategy, and Non-acceptance) of emotion regulation difficulty increased, the tendency for gambling disorder also increased ($p<0.05$) (Table 4).

When a multiple regression model was created to determine the factors affecting students' gambling disorder tendencies, it was observed that "Clarity" ($t=4.398$; $p<0.05$), "Purpose" ($t=1.474$, $p<0.05$) and "Non-Acceptance" ($t=2.753$, $p<0.05$), which are sub-dimensions of the DERS, had a statistically significant positive effect on gambling disorder. In addition, in the model, it was determined that being of male gender and having a gambling family member had an effect on gambling disorder. Accordingly, females have -1.988 units lower gambling disorder scores than males ($\beta=-1.988$). The scores of the students who stated that there was a gambler in their family were 1.768 points higher than the scores of the students who stated that there was no gambler in their family ($\beta=1.768$). University students' difficulties in emotion regulation (Clarity, non-acceptance and goal), being of male gender and having a gambling family member predicted their tendency to gamble ($R^2=0.290$) (Table 5).

Table 1. Distribution of University Students by Sociodemographic Characteristics

Sociodemographic Characteristics	Number	Percent (%)
Age (Mean±sd)	21.51±2.36	
Sex		
Female	387	51.6
Male	363	48.4
Marital Status		
Single	738	98.4
Married	12	1.6
Income Level		
Income less than expenses	273	36.4
Income equals expenses	388	51.7
Income greater than expenses	89	11.9
Source of income		
Working a paid job	60	8.0
Receiving scholarship	205	27.3
Supported by their families	371	49.5
Receiving learning credit	114	15.2
The place where the participants lived the longest		
Metropolis	319	42.5
City	145	19.3
District	199	26.5
Village	85	11.3
Abroad	2	0.3

Sd: Standard deviation.

Table 2. Distribution of University Students According to Their Gambling History

Sociodemographic Characteristics	Number	Percent (%)
State of gambling		
Did Not Gamble	435	58.0
Gambled	315	42.0
Initial reason for gambling		
Never gambled	435	58.0
Started due to family	32	4.3
Started due to friends	183	24.4
Started due to the media	82	10.9
Other	18	2.3
State of continuing to gamble		
Did not continue	560	74.7
Continued	190	25.3
-Problematic gambling (receiving less than 8 scores on SOGS)	138	18.4
-Pathological gambling (receiving 8 and higher scores on SOGS)	52	6.9
Duration of gambling		
Did not continue	560	74.7
Continued	190	25.3
- 1–3 times a week	116	15.5
- 4–6 times a week	45	6.0
- More than 6 times a week.	29	3.8
The environment where gambled		
Never gambled	560	74.7
Continued	65	8.7
-Betting shop and Iddaa shop	109	14.5
-Internet	16	2.1
-Other (coffee house, house, circle of friends)		
Gambling type		
Did not continue	560	74.7
Continued	190	25.3
* Iddaa-horse race	65	8.7
* Card games	183	24.4
* Rummikub	82	10.9
* Online bets	109	14.5
* Stock market	60	8.0
* Fortune games	70	9.33
History of gambling in the family		
History of gambling in the family	65	8.7
No history of gambling in the family	685	91.3

*n multiplied. SOGS: The South Oaks Gambling Screen, DERS-16: Difficulties in Emotion Regulation Scale-Brief Form.
Those who score 8 and higher scores from the scale are classified as pathological gambling.

Table 3. University Students' Mean Total and Subscale Scores of SOGS and DERS-16

Scale Name/Subdimension	(Mean±sd)	Min-Max
DERS-16 TOTAL	38.14±14.37	16–80
-Clarity	4.75±2.04	2–10
- Goal	8.86±3.28	3–15
- Impulse	6.26±3.16	3–15
- Strategy	11.65±5.19	5–25
- Non-acceptance	6.59±3.19	3–15
SOGS General Total Score	1.73±2.85	0–12
SOGS Total Score of those who gamble	5.12±3.18	0–12

SOGS: The South Oaks Gambling Screen, DERS-16: Difficulties in Emotion Regulation Scale-brief form, Sd: Standard deviation.

Table 4. The Relationship Between University Students' SOGS Total Scores and the Total and Subscale Scores of the DERS-16

		DERS Total-16	Clarity	Goal	Impulse	Strategy	Non-acceptance
SOGS TOTAL	r	0.304	0.283	0.166	0.250	0.287	0.304
	p	**0.001***	**0.001***	**0.001***	**0.001***	**0.001***	**0.001***

SOGS: The South Oaks Gambling Screen, DERS-16: Difficulties in Emotion Regulation Scale-brief form, Pearson Correlation Analysis, *statistical significance p<0.05.

Table 5. Multiple Regression Analysis of Factors Affecting University Students' Gambling Tendency

Dependent Variable	Independent variable	β	SD	Beta	t	p	F	p	R^2
SOGS	Constant	0.249	0.308		0.811	**0.015***	39.197	0.001*	0.290
	Clarity	0.258	0.059	0.185	4.398	**0.001***			
	Goal	0.156	0.038	0.065	1.474	**0.021***			
	Impulse	0.024	0.041	0.027	0.593	0.553			
	Strategy	0.028	0.035	0.052	0.822	0.411			
	Non-acceptance	0.122	0.044	0.137	2.753	**0.006***			
	Gender								
	Male (reference)								
	Female	-1.988	0.180	-0.348	-11.070	0.001*			
	Gambling in the family								
	No (reference)								
	Yes	1.768	0.315	0.174	5.610	0.001*			

β: Standard beta, SD: Standard Deviation, t: Test statistic, F: Model statistics, R^2: Explained variance ratio, *statistical significance p<0.05.

DISCUSSION

GD is common, especially among the young adult population (Secades-Villa et al. 2016, Nowak 2017). Being more intertwined with the internet during the distant education process, which was used more intensively due to the COVID-19 pandemic, has increased the tendency of university students to gamble online (Oksanen 2022). Based on this information, this study, which was conducted to examine the relationship between gambling tendencies and emotion dysregulation difficulties of university students, was conducted through face-to-face interviews with students at three different state universities located in three different provinces in Türkiye. The 750 participating students were in young adulthood with similar rates in terms of gender and average age (21.51±2.36), and therefore, they were in a group at risk for GD. Studies have reported that male gender, high duration and frequency of gambling at an early age, and the presence of gambling in the family may lead to problematic gambling in the future (Grant and Chamberlain 2020, Kam et al. 2017, Nowak and Aloe 2014, Sharman et al. 2019). As a matter of fact, the regression analysis shows that being male increases the tendency to gamble, and the presence of a gambling family member also increases the tendency to gamble. Similar to the previous studies in the literature (Engwall et al. 2004, Nowak 2018, Petry and Weinstock 2007), approximately half of the students in this study stated that they had gambled at least once in their lives and a quarter of them continued to gamble. In fact, gambling and helping people gamble is illegal in Türkiye. However, along with the developing technology and increasing use of the internet, it is understood that online gambling, which is difficult to control and supervise, is spreading rapidly. In this study, approximately one-sixth of the students (15.5%) stated that they gambled online 1–3 times a week. A study on the subject drew attention to the fact that online gamblers may have a high tendency toward pathological gambling (Gainsbury 2015). As the number of gambling sites continues to increase, in other words, as individuals' access to gambling sites becomes easier, pathological gambling behaviors may increase in university students who are in close contact with this environment. Nowak (2018) found that the rate of pathological gambling in university students was 10.23% in a study conducted in the USA (Nowak 2018). In the present study, according to the mean SOGS score, 25.3% of university students gambled (SOGS less than 8 scores) and 6.9% gambled at a pathological level (SOGS 8 points and and higher scores). Due to the restrictions during the pandemic period, most of the students had to stay at home and be online for a long time to attend classes, which may have been a reason for this result.

University students scored below average on the strategy, acceptance, and impulse subscales of the DERS, but close to average on the goal subscale. Thus, the study determined that students were able to understand and accept emotional reactions to events and could access compatible emotion regulation strategies, but had a higher tendency to have difficulty in goal-oriented behavior when experiencing negative emotions. In addition, a strong

positive relationship was found between the goal subscale of emotion dysregulation and gambling tendencies ($p<0.001$). Based on these results, one-fourth of the students who continued to gamble and 6.9% of the students who gambled at a pathological level may have continued to gamble due to their difficulties in goal-oriented behavior when they experienced negative emotions. It is recommended that this should be investigated in more detail in future studies and interventions should be designed for students with a high tendency to gamble to improve their goal-oriented behavior skills in the face of negative emotions.

A significant, moderate, positive relationship was found between the DERS and SOGS mean total and subscale scores of university students'. In other words, as the students' emotional dysregulation increased, their tendency toward GD also increased. As included in many psychopathology models, it has been suggested that individuals with emotion dysregulation often engage in maladaptive behaviors to escape from their emotions or to reduce the severity of the (negative) emotion felt, which poses a risk for a range of disordered behavior patterns such as pathological gambling (Jauregui et al., 2016; Sancho et al., 2019). Shead et al. (2008) argue that GD is directly related to the expectation of changing one's mood, that is, alleviating negative emotional states and obtaining positive effects (Shead et al. 2008). Considering that the reward mechanism is activated in the brain due to addictive behavior, students tend to engage in more easily accessible gambling behavior to alleviate any negative emotional state they experience.

The literature also includes studies showing that pathological gamblers have more emotion regulation difficulties than non-gamblers (Estévez et al. 2021, Rogierve Velotti 2018). The studies conducted with adolescents, which are few in number, are similar to the results of the current study (Marchica et al. 2019). Moreover, the fact that students who have difficulty in goal-oriented behavior when experiencing negative emotions show this tendency will make this inference understandable. A positive correlation was found between students' emotion dysregulation difficulty goal sub-dimension and their tendency to gamble. In the regression analysis, difficulty in goal-oriented behavior was determined as a variable affecting the tendency to gamble. University students may have difficulty in focusing on goals due to their developmental characteristics (such as identity confusion, separation from family, establishing a relationship with the opposite sex) and therefore may have difficulty in regulating their emotions (Calado et al. 2017b). Research has shown that adolescents are 2 to 4 times more likely to have gambling problems compared to adults (Rahman 2012, Volberg 2010).

It is seen that there is a relationship between the "Clarity" and "Non-Acceptance" sub-dimension scores of the DERS and the total score of gambling disorder. Clarity is defined as the inability to understand and make sense of emotional reactions, while Unacceptance is defined as the inability to accept emotional reactions (Yiğit and Guzey Yiğit 2019). In the regression analysis, students' lack of understanding and acceptance of their emotional reactions were identified as important variables affecting the tendency to develop gambling disorder. In a study conducted by Toneatto et al. (2009) with individuals who gamble, it was similarly reported that individuals who gamble at a pathological level have difficulty in recognizing and making sense of their emotions (Toneatto et al. 2009). According to this result, university students' difficulty in recognizing and accepting their emotions can be shown as an important reason underlying gambling behavior.

Previous studies have revealed that young people have difficulty managing their negative emotions, are unable to control their behavior when experiencing negative emotional states, and tend to gamble impulsively as a way to alleviate negative emotions (Ciccarelli et al. 2020, Marchica et al. 2020). In this study, a highly significant relationship was found between the impulse subscale of the DERS and the tendency to gamble, which supports the abovementioned information. The impulse subscale of DERS shows the difficulty in impulse control when experiencing negative emotions (Rugancı and Gençöz 2010). Accordingly, when students have difficulty using adaptive emotion regulation strategies in the face of negative emotions, their tendency to gamble increases. Although it was thought that the tendency to gamble increased when students had difficulty in using adaptive emotion regulation strategies in the face of negative emotions, the regression analysis showed that impulsive behavior and inability to access strategies were not a variable affecting the tendency to gamble. Furthermore, the negative emotional states that students will experience may support the initiation and maintenance of pathological gambling behavior, resulting in the individual exhibiting and maintaining more stable and severe gambling behaviors (Atkinson et al. 2012, Estevez et al. 2022, Wong et al. 2018). The results of the regression analysis in this study showed that students' difficulties in emotion regulation (Clarity, non-acceptance and goal), being of male gender and having a gambling family member predicted their tendency to gamble. Finally, according to the findings of the study, it is important to develop prevention programs focusing on emotion identification and management for university students, who are a high-risk group for GD.

CONCLUSION

The results obtained from the study show that the tendency to gamble is at a risky level among university students. In

addition, as the difficulty in emotion regulation increases, the tendency to gamble also increases. It is recommended to conduct studies evaluating gambling tendencies in different populations, raise awareness about GD in students, and perform regular screenings, evaluations, and prevention activities. In addition, to reduce the tendency toward risky behaviors such as gambling, training programs on recognizing and regulating emotions, developing individual coping skills and quality leisure time activities, especially for young adults, should be planned and carried out regularly. Finally, safe environments should be created on and off campus where university students can gain new experiences.

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