

The Relationship Between Gambling Behavior, Self-Esteem and Stress Factors: An On-Site Study

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What are self-esteem and stress factors underlying gambling behavior? Is self-esteem a factor that directly affects the stress factor? Are there sex differences in gambling behavior issues, self-esteem and stress? In this study gambling addiction was thoroughly analyzed, and the answers to the questions above were sought. The sample was conducted in a casino in Batumi, Georgia, and consisted of Turkish citizens - 12 women and 44 men. In order to answer the questions mentioned, demographic information such as participants' ages, career, education and accommodation conditions were collected, among with the answers to the Gambling Risk Screening Scale, Rosenberg Self-Esteem Scale and Perceived Stress Scale - 14. Independent-samples t-test, one-way ANOVA and factor analysis were performed on the collected data. According to the results of the study, participants who exhibited gambling behavior at regular level, had higher self-esteem and were less stressed than others. High self-esteem was associated with perceived stress. Sex was not a factor affecting gambling behavior. Female participants had higher self-esteem, and higher stress levels than male participants. The findings relate to past studies on gambling addiction, self-esteem and stress variables.

Keywords: gambling, problematic gambling, self-esteem, stress, sex differences

Introduction

Gambling disorder, defined by the APA as a disorder in which the basic expectation is to win more than the money invested through various games, is one of the oldest behaviors in human history. According to Eadington (2018), gambling behavior is an action that has been continued since the early days of human history. Many dice have been found in archaeological excavations in Rome, ancient Egypt and Mesopotamia (2008). This finding proves that gambling is an action that has been in our lives since the great civilizations that existed in the past. Gambling, whose popularity dates back to ancient times, continues to exist today, even though it is defined as illegal and banned by many countries. Perhaps this is another reason why it attracts people's attention. However, this is not one of the goals that our study aims to reveal, we hope this may be the subject of our future study. Problematic gambling behavior, which is the subject of attention of many researchers, has been addressed with different methods. Various scales aiming to measure problem gambling, theories and numerous correlations have been created to determine the factors that push individuals to this behavior. We obtained these findings as a result of our literature review and added them to our study. All the findings we obtained helped

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us determine the pathway to be followed in our own research. In the continuation of our study, the findings we obtained are listed starting with the basic theories, and other studies about gambling behavior.

Literature Review

According to normative theory which assumes human rationality (Edwards 1955, Keren 1996, Rapaport 1994, Rogers 1998), a player should accept the bet he/she faces in scenarios where it is unlikely to have negative consequences for it in the long run. The basic function of normative theory is that individuals should always think rationally and act optimally. However, findings from research show that gamblers cannot implement optimal and rational strategies, remain under the control of their emotions in the decision-making process, are exposed to intense stress, and therefore always encounter negative consequences in the long term (Wagenaar 1988). The best example of this case is individuals playing the lottery. Because the probability of winning the lottery is almost 0% (Walker 1992). The most challenging question that the normative model has to face is what is the reason for problem gamblers and non-problem gamblers to play this game even though they constantly lose? Is it the pleasure of pursuing a tiny possibility that they have created in their minds? Or is it just the attraction of the possibility, no matter how low the probability of winning? One thing we are sure of is that making money is not the only reason why individuals want to gamble. We have no doubt about this. Many reasons can be associated with gambling, such as the pleasure or benefit obtained from gambling, chasing excitement, the desire to beat the odds no matter how difficult it is, ego satisfaction, social proof, etc. But what we are sure of is that normative commitments are insufficient to provide adequate explanations for gambling habits, especially the playing of lotteries (Roggers & Webley 1998).

The cognitive theory, on the other hand, emphasizes and acknowledges that the beliefs that gamblers form in line with their fantasies are flawed (Rogers 1998). According to Walker (1992), these beliefs are as follows: (1) the proven reality of making profit through gambling, (2) the belief that the orderly gambler is more experienced than others, (3) the belief that stability will surely be rewarded. The only proposition that can be considered correct for the lottery player is the 1st one. Every year there is news about people winning the lottery from all over the world. But the remaining two propositions are indisputably false. Gained experience and persistence have no pressure on the lottery.

A lot of studies have been conducted on individuals who gamble at a pathological level. Therefore, while there is a sufficient pool of theories about the etiology of gambling, there are also many conflict. Gullickson & Hartman (2001) who conducted studies on this subject, stated that individuals with clinical gambling habits started their gambling habits in their youth times. Chambers et al. (2003) on the other hand, supported Gullickson's theory and added new findings, arguing that the possibility of experiencing gambling problems is significantly higher than that of older individuals because the brains of young people are still in the developing stage.

Theories regarding the explanation of gambling disorder have focused on behavioral reinforcement, improper beliefs, difficulty dealing with stress, and genetic factors (Turner et al. 2007). We can cite the works of Blaszczynski & Nower (2002) as examples. According to them, there are three unique directions associated with the onset of gambling at the clinical level: (1) psychologically stable people are inclined to this behavior due to erroneous and unhealthy beliefs, which encourage them to gamble, through various sensations that the amount of money earned through gambling is quite large and extremely attractive. (2) Individuals prone to gambling who are unable to manage their emotions try to alleviate their anxiety, stress and anxiety disorders due to the problems they experience in their personal lives, by gambling. (3) Some individuals have an urge to gamble and this urge is supported by pre-existing control disorders such as attention deficit and hyperactivity disorder.

Volberg et al. (2010) reported a number of studies about gambling, problem gambling behavior and self-esteem. In the study conducted in the American state of Georgia in 1996 with a sample size of nearly 1,000 participants, three different groups were created: (1) Problem gamblers. (2) Non-problem gamblers. (3) Individuals who do not gamble. According to study findings individuals who do not gamble are generally women and older, and their education levels and financial income are lower than those who gamble. It has been determined that individuals who problem gambling are male and single, and have significantly lower self-esteem compared to individuals who do not gamble and non-problem gamblers. Therefore It has been suggested that problem gamblers' stress levels differ significantly compared to other 3 groups.

Excitement has always been an effective factor in gambling. Past sensation-seeking measurements prove this assumption (Chambers and Potenza 2003). Cross et al. (2013) stated that male participants had higher sensation seeking scores than female participants in sensation seeking tests. Additionally, in a study conducted by Desai et al. (2005) for thrill seeking, it was revealed that sex differences did not differ in self-reporting in individuals exhibiting excitement-based gambling behavior. The research conducted by Farhat et al. (2021) aims to characterize the excitement seeking in young people with gambling behavior. With a single question they asked to the participants (What drives you to gamble?), they created two different groups: (1) Those who gamble for excitement. (2) Those with problematic gambling behavior. According to the study findings, those who gamble for excitement and entertainment have more tolerance to report their gambling behavior, accept their pathological problems, and therefore receive support from their environment about this problem, compared to problem gamblers. It has been revealed that adolescents who gamble in search of fun and excitement are more likely to have problematic gambling behaviors.

According to the results of the research planned by Lambos and Delfabbro (2007) conducted on high school students, 67% of the participants reported 'excitement' as the reason for gambling. In past studies, thrill seeking has been associated to problematic gambling behavior by Gupta et al. (2006). One of the important findings that attracted our attention in the literature review is that although the scales used and the groups subjected to research have different characteristics, the findings are interconnected.

For instance, fun seeking is associated with alcohol use by Keough et al. (2018), and a triple correlation was created between problematic gambling behavior, sensation seeking, and alcohol use. This triple correlation was associated with anxiety, depression, stress and low self-esteem disorders by Leeman et al. (2014).

Stress, which exists in every aspect of life and that almost everyone has to face, is a factor that has negative impact on individuals health (Schneiderman et al. 2005). Stress has been defined by Lazarus (1996), it the demand put forward by an external factor that the individual faces as an event that occurs when the people perceive or assumes that it is beyond his/her ability to cope. Stress is an emotion experienced by all individuals. Stress is an emotion that can develop, sustain and reach clinical levels (King et al. 2014). In addicts, alcohol, cigarette use, eating disorders are also linked to gambling tendencies (Elman et al. 2010). According to Coman et al.'s (2007) research on the relationship between stress and problem gambling, it was revealed that women gamble to get away from their problems and get rid of their stress, while men's main expectation is to gamble to gain financial gain. Another study examining the relationship between stress and problem gambling in adolescents found that adolescents who were exposed to stressful events in their past tended to become addicted to a substance or gambling (Bergevin et al. 2006).

Excitement and tension are other emotions that cannot be ignored in gambling. Stress is an absolute negative factor that occurs when these emotions are combined or one prevails over the other. In the study conducted by Ronzitti et al. (2018), they examined the relationship between stress and gambling behavior. Two different stress groups, high and low, were created and tests were performed. The results showed that the severity of gambling tendency in the high stress group was higher and increased to a pathological level, and 71% of individuals who gambled with problems were more likely to experience personal stress factors. This finding revealed a considerable distinction between stress-based problematic gambling behavior and stressful life activities. The source of gambling-based stress was suggested by Potenza et al. (2004) to be financial problems. Kausch et al. (2006) stated that 60% of individuals with high-stress-based problems had a personality disorder, while this rate was 40% in the low-stress-based group. Personality disorders were found in another study by Lobo and Kennedy (2009) to increase the likelihood that stress will be linked to other problems, including genetics. Another study by Clarke et al. (2006) revealed a distinctive feature of sex differences in people with problem gambling. According to them, the daily stress level of female gamblers is higher than that of males.

Since the birth of psychology as a scientific discipline, the notion of self-esteem has been one of the most studied and examined in psychology and other departments of social sciences. Self-esteem is important for a person's mental health, success, and happiness, according to research and assumptions (Mruk 2008). Since many studies have been directed on self-esteem, different or similar definitions have been made. Self-esteem is one of the concepts that comprise personality, according to Kugle (1983). It is a subjective phenomenon that occurs as a result of a person's self-evaluation. Feltz (1988) defined self-esteem as "rather than being a general characteristic, the individual's belief that he/she will successfully perform a particular activity." Feltz imposed self-esteem from a general opinion to a particular opinion. In other

words, while individuals may have high self-esteem in specific stuffs (action, work, game, competition, sports, etc.), their self-esteem may be low in general. According to Bandura (1977), the concept of self-esteem is the value judgment an individual determines for him/herself and how much she/he feels this judgment. According to Karamoy et al. (2018), self-esteem has a dominant place in individuals life and serves as a driving force for people to behave as they wish. In this way, people with high self-selfesteem levels can determine the course of their lives.

As we mentioned, in many studies based on problematic gambling behavior, the self-esteem factor has been a variable that has not been ignored. Choi and Kim's (2021) study conducted in Korea is an example of these. In their studies, researchers attempt to relate the relationship between self-esteem and impulsivity to the evolution of problematic gambling behavior and faulty gambling beliefs. This study, which aims to examine the reactive results of the relationship between impulsivity, faulty gambling beliefs, problem gambling and self-esteem on sex differences, revealed that there is no significant relationship between self-esteem, problem gambling and faulty gambling beliefs. However, impulsivity, on the contrary, was associated with a high tendency to gamble. In other words, the more impulsive the university students tested in the study, the more impulsive they were, and this rate showed that they had erroneous gambling beliefs and therefore engaged in gambling behavior. The findings differed between male and female participants. This shows that the variables mentioned above give different results in sex differences. According to the findings obtained from female participants, self-esteem, faulty gambling beliefs and problematic gambling were positively related, while this was the opposite in male participants. In other words, it was revealed that male participants had more erroneous gambling beliefs than female participants and were more problematic in gambling behavior than female participants.

Kaare et al. (2009) examined the relationship between problematic gambling behavior and self- self-esteem in a study conducted in Estonia. They tested a group of people who were found to be pathological gamblers and a control group. According to self-esteem values, problem gamblers reported lower self-esteem than the control group. It has been revealed that low level self-esteem is a risk factor in individuals' tendency to exhibit problematic gambling behavior.

In the light of the literature review on gambling disorder, we put forward 6 hypotheses that we expect to be able to relate in the continuation of our study. They are; (1) Participants with a normal level of gambling behavior have higher levels of self-esteem than other participants. (2) Participants with a normal level of gambling had lower stress levels than other participants. (3) Participants with high self-esteem have lower stress levels. (4) Sex difference will not be a variable that makes a significant difference on the gambling behavior. (5) Sex difference will not be a variable that creates a significant difference in the level of self-esteem. (6) Sex difference will not be a variable that creates a significant difference in stress level.

Method

Participants

Our study was carried out in a casino in Batumi, Georgia where gambling is legal in contrast to Turkey where it is illegal. The fact that it is illegal in Turkey may be appealing for Turkish citizens gambling in Georgia. A total of 56 people, all Turkish citizens, who wanted to participate in the research were included in our research. A non probability sampling method was used to choose participants in the gambling area. 12 of the participants were women ($M = 21.4$) and 44 were men ($M = 78.6$). The participants' ages were collected in 4 different groups: 20-35, 35-50, 50-65 and 65+. The value of age groups formed from the participants are 10 ($M = 17.9$), 23 ($M = 41.1$), 18 ($M = 32.1$) and 5 ($M = 8.9$), respectively. While 4 ($M = 7.1$) of the participants stated that they had not received any education, 11 ($M = 19.6$) of them were primary school graduates, 28 ($M = 50.0$) of them were high school graduates and 13 ($M = 23.2$) of them were university graduates. 25 ($M = 44.6$) of the participants are employers by occupational status, 22 ($M = 39.3$) are employees, 8 ($M = 14.3$) are self-employed and 1 ($M = 1.8$) is unemployed. Moreover, while 42 ($M = 75.0$) of the participants stated that they had their own homes, 13 ($M = 23.2$) of them stated that they lived in a rented apart and 1 ($M = 1.8$) of them stated that she lived with her/his family.

Materials

In our study based on gambling behavior, we aimed to associate this variable with self-esteem and stress factors, and we used 3 different measurement scale for this. The measurement tools we use are: The Gambling Risk Screening Scale (GRSS-KURT), Rosenberg Self-Esteem Scale and Perceived Stress Scale (PSS-14). In the survey we created, 5 different demographic information was collected in addition to the above measurements such as their age, education level (Non-educated – Primary School – High School – University) , professional status (Runs his/her own business - Work for someone else's business - Self-employment – Unemployed) and accommodation status (Homeowner – Apartment for rent – Other).

The Gambling Risk Screening Scale (GRSS-KURT)

The fact that the South Oaks Gambling Screen Scale (SOGS) has been the most popular and single measurement tool used in studies measuring gambling addiction for many years has been one of the main motivations for the development of other valid and reliable scales that can measure gambling addiction (Williams & Volberg 2010). Gambling Risk Screening Scare (GRSS) is one of them. The fact that the South Oaks Gambling Screen test is a 20-item test (Lesieur & Blume 1987), which requires a long time in its application, and the emergence of debates regarding its suitability for the Turkish society, led Turkish psychologists to create the Gambling Risk Screening Scale (Tekin et al. 2020). Gambling Risk Screening Scale, consisting of 10 questions, is a 3-point Likert-Type self-report scale with answers such as

never, sometimes and almost always. The scores measured according to the answers given are 0, 1 and 2, respectively. According to the test, participants who scored 9.5 points and above were defined as 'High risk of gambling', and participants who scored below 9.5 points were defined as 'Low risk of gambling' (Tekin et al. 2020). The validity and reliability tests of the scale were correlated with the South Oaks Gambling Screen Scale test by the developers of the scale, and a statistically significant relationship was found ($r=0.46$, $p<0.05$). The Cronbach alpha reliability coefficient of the scale is stated as 0.84 (Tekin et al. 2020). This scale we used in our study received a score of 0.66 from Cronbach's Alpha reliability test, while its internal consistency coefficient was determined as 0.65. The Cronbach's Alpha score of the GRSS from previous studies is 0.84, while the internal consistency coefficient is 0.81 (Tekin et al. 2020). Therefore, we restructured the 8th item of the test, 'Have you ever regretted gambling after gambling?', as a reverse item because it showed a negative correlation with other 6 items in the Inter-Item Correlation Matrix table (see Table 1).

Table 1. *Inter-Item Correlation Matrix Table*

Items	Inter-Item Correlation Matrix KGambits8	Cronbach's Alpha if Item Deleted
KGambits1	-.122	.549
KGambits2	.030	.553
KGambits3	-.220	.589
KGambits4	-.175	.538
KGambits5	-.033	.523
KGambits6	-.242	.523
KGambits7	.079	.541
KGambits8	1.000	.665
KGambits9	-.196	.558
KGambits10	.006	.579

Rosenberg Self-Esteem Scale

Rosenberg Self-Esteem Scale was developed by Rosenberg (1965) to determine individuals' self-esteem levels. The Rosenberg Self-Esteem Scale has ten subtests. The first subtest of the scale is used to measure self-esteem. Five items of this test, which consists of ten items in total, consist of positive expressions, while 5 items consist of negative expressions. This subtest of the scale, which measures self-esteem, was used in this study. The scale was prepared as a four-point Likert type, the minimum score obtained from the scale is 0 and the highest score is 30. A high total score from the scale indicates a high level of self-esteem of the individual. In our study, three different categories were created according to the scores the participants reached as a result of this test. 15 points and below are defined as low self-esteem, 15-25 points as normal range, and 25 and above as high self-esteem. While this test we used received a score of 0.66 from the Cronbach's Alpha reliability test, the internal consistency coefficient was found to be 0.66. The Cronbach's Alpha score of the RSS from previous studies is 0.85, while the internal consistency coefficient is 0.92 (Rosenberg 1979).

Perceived Stress Scale – 14

The Perceived Stress Scale (PSS) was developed by Cohen et al. (1983). PSS, consisting of a total of 14 items, is designed to measure how stressful some situations in a person's life are perceived. Participants evaluate each item on a 5-point Likert-type scale ranging from "Never (0)" to "Very often (4)". 7 of the items containing positive expressions are scored reversely. In addition to the long form of 14 items, the ASQ has two other forms: 10 and 4 items. However, PSS-14 was used in this study. PSS-14 scores range from 0-56. In this study, we divided the test scores of the participants into 3 groups. Participants with a score of 0-18 were defined as 'Low Stress', participants with a score of 19-37 were defined as 'Moderate Stress', and participants with a score of 38-56 were defined as 'High Stress'. The PSS-14 test we used in our study received 0.71 points from the Cronbach's Alpha reliability test, while the internal consistency coefficient was found to be 0.71. The Cronbach's Alpha score of the PSS-14 from previous studies is 0.66 (Eskin 2013).

Procedures

The research was conducted by the researcher at the casino. Participants were selected from individuals who came to the casino to play games. The purpose of the study was explained to the participants in detail and they were asked whether they were willing to participate in the research. Afterwards, surveys were given to the participants. Demographic informations, Gambling Risk Screening Scale, Rosenberg Self-Esteem Scale and Perceived Stress Scale-14 were given in the survey, respectively.

Results

While collecting data, we encountered a situation on the GRSS, to the question 'Have you ever had any relationship problems in your family because of your gambling?', which is the 3rd item of the test, many participants responded with 'My family does not know that I gamble, so I do not know which option to choose', and in this scenario, the answer to this question was 'Never' they were directed.

Descriptive statistics for RGambits reveal an overall mean score of 10.98 (SD = 3.382). This shows that the participants' average level of gambling is high. Rgambits10 had the highest average value, indicating that participants had been gambling for more than 1 month. Overall mean score of RSelf is 20.27 (SD = 4.202). This indicates that participants' average self-esteem levels were within the normal range. Rself1 had the highest average value, indicating that participants show that they consider themselves as valuable as other people. Therefore, overall mean score of Stress is 27,04 (SD = 7.544). This demonstrates that participants' average stress levels were moderate. Stress11 had the highest average value, indicating that participants were angry about events beyond their control in the past month (see Table 2).

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Risk of Gambling	56	3	19	10,98	3.382
Self-Esteem	56	8	30	20.27	4.202
Percieved Stress	56	11	46	27.04	7.544

Before running t-test and anova on our data, we ran a normality test to find out whether our data is normally distributed or not. The value of the skewness and kurtosis of risk of gambling, self-esteem and percieved stress supported the assumption of a normal distribution of the data (see Table 3); the absolute value of skewness was less than -1.50, and the absolute value of kurtosis was less than 1.50 (Tabachnick & Fidell 2013).

Table 3. Normality Test of the Main Variables (n male = 44, n female = 12)

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Risk of Gambling	56	10.98	3.382	-.154	.319	.302	.628
Self-Esteem	56	20.27	4.202	-.608	.319	1.090	.628
Percieved Stress	56	27.04	7.544	-.210	.319	-.221	.628

We used the One Way Anova Test to test whether the participants' age groups, educational level, professional status and accommodation status are factors that may have an impact on the risk of gambling. According to the results of the analysis, the demographic information of the participants mentioned above did not show a significant difference on the risk of gambling [Age groups ($F=0.796$; $p>0.05$), educational level ($F=0.957$; $p>0.05$), professional status ($F=0.664$; $p>0.05$), accommodation status ($F=0.764$; $p>0.05$)].

We used the One Way Anova Test to test whether the age groups, educational level, professional status and accommodation status of the participants are factors that can have an impact on self-esteem. According to the results of the analysis, the demographic information of the participants mentioned above did not show a significant difference on self-esteem [Age groups ($F=0.734$; $p>0.05$), educational level ($F=0.669$; $p>0.05$), professional status ($F=1.126$; $p>0.05$), accommodation status ($F=1.380$; $p>0.05$)].

We used the One Way Anova Test to test whether the participants' age groups, educational level, professional status and accommodation status are factors that may have an impact on stress. According to the results of the analysis, the demographic information of the participants mentioned above did not show a significant difference on stress [Age groups ($F=0.771$; $p>0.05$), educational level ($F=0.772$; $p>0.05$), professional status ($F=0.818$; $p>0.05$), accommodation status ($F=1.566$; $p>0.05$)].

We used independent sample T-Test to check whether there was any difference in the self-esteem variable of the participants whose gambling risk levels were found to be high risk and normal risk. When the results are examined, the self-esteem levels of the participants show a significant difference according to the gambling risk ($t[54]=-2.935$; $p<0.05$). The self-esteem level of participants with normal risk gambling behavior ($X=23.08$) was higher than that of participants with high risk gambling behavior ($X=19.42$) (see Table 4).

Table 4. *T-Test Results of Stress Level According to Self-Esteem Levels*

Variable	Groups	N	X	SD	T-Test		
					t	df	p
Self-Esteem	GHighRisk	43	19.42	4.06	-2.935	54	0.005
	GModerateRisk	13	23.08	3.47	0.005		

We used independent sample T-Test to measure the stress levels of participants with high and normal risk gambling behavior. According to the results of the analysis, the stress level of the participants differed significantly according to their gambling risk ($t[54]=2.878$; $p<0.05$). The stress level of participants with normal risk gambling behavior ($X=22.08$) was lower than that of participants with high risk gambling behavior ($X=28.53$) (see Table 5).

Table 5. *T-Test Results of Stress Level According to Gambling Risk Levels*

Variable	Groups	N	X	SD	T-Test		
					t	df	p
Perceived Stress	GHighRisk	43	28.53	7.22	2.878	54	0.006
	GModerateRisk	13	22.08	6.58	0.006		

We ran a One Way Anova test to see the relationship between participants' self-esteem scores and stress levels. According to the results, we found that the variance of our data was homogeneously distributed ($p=0.418$) (see Table 6).

Table 6. *ANOVA Results of Self-Esteem Scores According to Stress Level*

Self-Esteem	N	X	SD	Source of Variance	SS	df	MS	F	P	Significance
LowS (1)	6	35.50	5.683	B. Groups	1188.959	2	594.479			
Mod.S(2)	44	27.41	6.244	W.Groups	1940.970	53	36.622			
HighS (3)	6	15.83	4.535	Total	3129.929	55		16.233	0.000	1-2; 1-3; 2-3
Total	56	27.04	7.544							

When the table is analyzed, it is seen that there is a significant difference between the self-esteem scores of the participants according to the stress level ($F=16.233$; $p<0.05$). We used the Post Hoc test to determine between which stress level dimensions the participants showed significant differences according to their self-esteem scores. Since there were high differences between the sample numbers in the groups in the

Posh Hoc test, we used Hochberg's GT2 test. According to the results of the Hochberg's GT2 test, it was seen that there was a significant difference between the participants with low self-esteem and the participants with moderate and high self-esteem, and there was a significant difference between high self-esteem and moderate self-esteem. This analysis shows that the higher the self-esteem of the participants, the less stress they perceive (see Table 7).

Table 7. *Post-Hoc Results of Self-Esteem Scores According to Stress Level*

Variable	(I) Self-Esteem1	(J) Self-Esteem2	Mean Difference (I-J)	Std. Error	Sig.
Percieved	1	2	8.091*	2.634	.010
Stress		3	19.667*	3.494	.000
	2	1	-8.091*	2.634	.010
		3	11.576*	2.634	.000
	3	1	-19.667*	3.494	.000
		2	-11.576*	2.634	.000

We used independent sample T-Test to test whether the sex difference of the participants was a significant difference in risky gambling behavior. In other words, we wanted to find out whether male and female participants showed a tendency to gambling addiction only because of sex differences. In the light of the data analysis we found that sex difference did not show a significant difference in terms of gambling risk ($t[54]=0.983$; $p>0.05$), in other words, sex difference was not a factor that could increase or decrease the risk of gambling behavior (see Table 8).

Table 8. *T-Test Results of Gambling Risk by Sex*

Variable	Groups	N	X	SD	T-Test		
					t	df	p
Risk of Gambling	Male	44	10.75	3.73	0.983	54	
	Female	12	11.83	1.33	0.030		

We used independent sample T-Test to test whether sex difference would show a significant difference on self-esteem. According to the data analysis, we found that sex difference showed a significant difference in the self-esteem dimension ($t[54]=-2.229$; $p<0.05$), and the self-esteem of male participants ($X=20.80$) was higher than the self-esteem of female participants ($X=18.33$) (see Table 9).

Table 9. *T-Test Results of Self-Esteem According to Sex*

Variable	Groups	N	X	SD	T-Test		
					t	df	p
Self-Esteem	Male	44	20.80	4.33	-2.229	54	
	Female	12	18.33	3.08	0.035		

We used independent sample T-Test to test whether sex difference is a variable that will show a significant difference on stress level. According to the results of the data analysis test we encountered, we found that sex difference showed a significant

difference on stress ($t[54]=-2.685$; $p<0.05$) and that the stress levels of female participants ($X=30.83$) were higher than male participants ($X=26.00$) (see Table 10).

Table 10. *T-Test Results of Perceived Stress Variable According to Sex*

Variable	Groups	N	X	SD	T-Test		
					t	df	p
Perceived Stress	Male	44	26.00	7.87	2.685	54	
	Female	12	30.83	4.68	0.012		

Factor analysis was performed to determine the sub-dimensions of The Gambling Risk Screening scale we used. The reason is the fact that the tests were developed in Western settings, so we need to run factor analysis to make sure that the results are equivalently meaningful for Turkish subjects. Factor analysis using the principal components method showed that The Gambling Risk Screening Scale consists of three factors with eigenvalues above 1. The first of the three factors obtained by this principal components factor analysis technique using varimax transformation was named as economic dimension, the second as special relationship problems and the third as addiction dimension. These 3 factors explained 55.0% of the total variance (see Table 11).

Table 11. *Factor Structure of The Gambling Risk Screening Scale*

The Gambling Risk Screening Scale	Factor Load
Factor 1: Economic Dimension (Eigenvalue = 2.54; variance % 25.80; $\alpha=0.58$)	
Borrowing money for gambling purposes	0.74
Gambling to escape or forget problems in life and relationships	0.71
Experiencing financial problems due to gambling	0.71
Gambling more than intended	0.51
Factor 2: Trouble in Private Relationships (Eigenvalue = 1.75; variance % 17.49; $\alpha=0.55$)	
Criticism from family for gambling	0.87
Having problems with family due to gambling	0.76
Regret felt after gambling	0.47
Factor 3: Addiction Phase (Eigenvalue = 1.20; variance % 12.03; $\alpha=0.53$)	
Lying about the amount of money won and lost	0.79
Gambling again to regain money lost in gambling	0.77
Gambling behavior continues for more than 1 month	0.53

We performed factor analysis to determine the sub-dimensions of the Rosenberg Self-Esteem scale we used. Factor analysis using the principal components method showed that the Rosenberg Self-Esteem scale consists of four factors with eigenvalues above 1. The first of the four factors obtained with this principal components factor analysis technique using varimax transformation was named as feeling inferiority, the second as optimistic approach, the third as self conflict and the fourth as wishing well. These 4 factors explain 63.67% of the total variance (see Table 12).

Table 12. *Factor Structure of Rosenberg Self-Esteem Scale*

Rosenberg Self-Esteem Scale	Factor Load
Factor 1: Feeling Inferiority (Eigenvalue = 2.70; variance % 25.96; $\alpha=0.60$)	
Finding yourself at least as valuable as other people	0.59
Feeling useless	0.71
Feeling non sufficient person	0.79
Factor 2: Optimistic Approach (Eigenvalue = 1.56; variance % 15.63; $\alpha=0.59$)	
Feeling like you have positive characteristics	0.83
Tendency to view oneself as a failure	0.67
Factor 3: Self Conflict (Eigenvalue = 1.09; variance % 10.82; $\alpha=0.58$)	
Being able to do things that most other people can do	0.35
Not being able to find anything to be proud of in yourself	0.69
Positive attitude towards self	0.65
Factor 4: Wishing Well (Eigenvalue = 1.03; variance % 10.26; $\alpha=0.56$)	
Wanting to have more self-respect	0.70
Self-satisfaction	0.74

We performed factor analysis to determine the sub-dimensions of the Perceived Stress Scale - 14 we used. Factor analysis using principal components method showed that the Perceived Stress Scale - 14 consists of 4 factors with eigenvalues above 1. The first factor was named as perception of stress/discomfort, the second as insufficient sense of self-efficacy, the third as perception of burnout and the fourth as burst of anger. These 5 factors explain 67.51% of the total variance (see Table 13).

Table 13. *Factor Structure of Perceived Stress Scale - 14*

PSS-14	Factor Load
Factor 1: Perception of stress/discomfort (Eigenvalue 3.35; variance % 23.93; $\alpha=0.57$)	
Ability to cope effectively with significant changes in life	0.74
Confidence in the ability to handle personal problems	0.69
Frequency of being able to control life's difficulties	0.78
Feeling like you've overcome everything	0.66
Factor 2: Insufficient sense of self-efficacy (Eigenvalue = 1.77; variance % 12.69; $\alpha=0.57$)	
Feeling uncomfortable due to unexpected things happening	0.75
Inability to deal with the things we have to do	0.82
Factor 3: Perception of burnout (Eigenvalue = 1.70; variance % 12.18; $\alpha=0.56$)	
Not being able to control important things	0.49
Feeling angry and stressed	0.69
Feeling like everything is going well	0.65
Overthinking about the things we have to achieve	0.65

Discussion

During data collection, during my communication with people who wanted to participate in the research and those who did not, it was observed that the majority of them regretted their gambling behavior and were aware of the addiction they were in, so they wanted to get rid of it. However, it was found that they did not make any

extra effort to get rid of this situation and just accepted it. Some gamblers have admitted that they have adopted this addiction as a lifestyle and continue their lives through gambling. However, it would not be a correct approach to consider gambling behavior only as an urge to gain financial gain. It would not be right to ignore that the feeling of winning is a factor that ignites the tendency to gamble and the risk of gambling. This finding is supported by the fact that players naturally want to win all the time and continue playing to win back what they lost even in a losing scenario. From this it can be assumed that the feeling of winning is stronger than the feeling of losing. Winning in gambling is more dangerous than losing, because the feeling of winning and the ego satisfaction it brings direct people to continue gambling behavior. While the winners aim to get this feeling again, the losers continue to play to be on the winning side and experience that feeling even once or again. Because players are forced to stop gambling only when they have nothing left.

The sample we used in our research made us extremely happy in terms of measuring the details and psychological dimensions of the subject, because we tried to make sense of the psychology of gambling in a place where gambling comes to life. The fact that the age groups we have created and the distribution of participants belonging to these groups are not close to each other may have been an obstacle to the prominence of some potential findings. Because, especially the approach of participants over the age of +65 to gambling, their self-esteem and stress levels during the data collection phase gave a very positive feeling compared to participants in other age groups, but this finding did not show a mathematically significant difference. This may be due to the fact that the number of participants in this age group is less compared to others. As a result of all these findings and observations, it is one of our goals to conduct our future research in the same sample, but with the same characteristics, where there is a higher number of participants, a wider diversity of sex and age.

Conclusion

The aim of this study is to find out the motives that drive individuals to gamble and the factors that increase their gambling level. In addition, it aimed to try to correlate gambling level with self-esteem and stress variables and to reveal whether sex difference is a factor that can make a significant difference on our 3 main variables mentioned before. The research findings were collected and correlated with the participants through questionnaires containing 3 different scales and demographic information. The most important factor that distinguishes our study from other studies on this subject is the sample group we used. In order to obtain healthier data on gambling, we went directly to the place where gambling continues to exist and reached individuals who seriously experience this problem in their lives. Of the 6 hypotheses we put forward before conducting our research, 4 were confirmed and 2 were not confirmed.

Our first hypothesis is on the self-esteem levels of participants who exhibit gambling behavior. Our analysis revealed that participants with normal gambling behavior had higher levels of self-esteem than participants with high gambling

behavior. In addition to the mathematical analysis, a short conversation we had with a participant during the data collection phase also supports this hypothesis. While answering the self-esteem test, the participant said that 'Look around you, this is not a place for unsuccessful people, gambling is a luxury hobby and naturally not everyone can afford it. Therefore, the majority of the people you see here are social-economically superior and have high self-esteem.' As we have shown in our study, a low level of self-esteem is a factor that increases the behavior of gambling and is in line with the findings of Kaare et al. (2009). The same assumption is valid for our second hypothesis, the gambling-stress relationship. Increased level of gambling is a factor that increases stress levels. The results we obtained from our study regarding the stress-gambling relationship overlap with the results of Ronzitti et al.'s (2018) study on the same subject.

As we have seen in previous studies, the level of self-esteem is a critical factor that reduces the behavior of gambling and the level of stress. Therefore, the fact that individuals frequently experience stress and similar negative emotions indicates that they are associated with low levels of self-esteem. By taking this attitude into consideration, we put forward our 3rd hypothesis and we formed and confirmed our hypothesis by predicting that participants with high self-esteem would have lower stress levels than others. Next, we evaluated these 3 different variables in terms of sex differences. We assumed that gambling is not only a behavior that men are interested in, but also a behavior that women can be interested in as well as men, and we put forward our 4th hypothesis in this direction. In the light of the results of our analysis, we confirmed this hypothesis. However, we observed that there were more men than women in the gambling areas, but this distribution did not statistically affect the result. The last two hypotheses we put forward about sex differences are about self-esteem and stress. Our last two hypotheses are that sex difference is not a factor that can show a significant difference on self-esteem and stress level, but our analysis did not support this hypothesis. According to the results of the analysis, it was seen that male participants had higher self-esteem than female participants, and male participants had lower stress levels than female participants. This difference may be due to the fact that men and women are two different sexes in terms of dealing with elements such as the world, thoughts, ideas and behaviors. Although it is hard to detect this sex difference in gambling behavior, this can even be attributed to the patriarchal societal structure (cf. Farias et al. 2023, Sowon 2023, Sultana 2010, Yildirim-Hamurcu & Terzioğlu 2023) which is quite beyond this research on gambling.

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