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HOW DEPRESSION AND SOCIAL MEDIA PREFERENCES AFFECT FINANCIAL INVESTMENT&GAMBLING RISK TAKING BEHAVIOURS

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ABSTRACT

This study mainly examines the relationship between financial investment and gambling risk-taking tendencies and depression. In addition, how financial investment and gambling risk taking attitudes and depression level change with respect to age, gender and social media preferences are also analyzed in this study. DOSPERT Scale with subscales of financial investment and gambling and Beck Depression Inventory (BDI) are used for evaluating financial investment&gambling risk-taking tendencies and depression level respectively. According to this study, female chooses the less risky financial tool that is female prefers financial investment instead of financial gambling. Moreover, when the subject come to the topic that whether there is a relation between social media preferences and financial risk taking behaviors or not, it is founded that social media users prone to take more financial investment risks with respect to non-users. In this research, it is founded that while depression score is decreasing, financial investment risk taking tendency is increasing. On the contrary, another finding shows us that while depression score is increasing, financial gambling risk taking tendency is also increasing. Analysis also shows us that depression is increasing with age and depression levels are lower in who prefers to use Facebook, Instagram, Snapchat, Swarm and WhatsApp than in who does not prefer.

Keywords: *Financial Risk Taking, Investment, Gambling, DOSPERT, Depression, Social Media.*

JEL Codes: *D81, D91, G4*

1. INTRODUCTION

Risk can be defined as the probability of loss for the decision. Loss is a situation that the total return is lower than the invested one; gain is the quite the opposite of the loss. In the basis of assessing the risk, potential gains and losses are taken in to consideration. During the decision process, people try to evaluate the amount of risk. It is hard to make decision under risky situations. The decision may be on the risk side or on the risk averse side.

In a daily life, risky situations can be experienced in different extents; ethical, investment, gambling, health, safety, recreational and social.

Behavioral factors are more effective than expected and predictable factors in the world of finance; to determine the behavioral factors, functioning mechanisms and evaluation of results about the factors has been entailed in one sense (Hamurcu and Aslanoglu, 2016). Financial investment and gambling risk-taking tendencies under environmental and emotional situations such as social media and depression could be thought in this behavioral factors.

The main purpose of this study is to evaluate relationship between the financial investment and gambling risk-taking tendencies with depression. In addition to this, how the financial investment and gambling risk taking attitudes and depression level change with respect to age, gender and social media preferences are also analyzed.

In this paper, methods used in this study and analysis applied on the obtained data has been outlined firstly, afterwards results of these analysis have been given, discussed and suggestions have been made for the future studies.

2. METHODS

University students still educating in one of the suburban University in Western Black Sea Region in Turkey are chosen for this research. In this study, DOSPERT Scale and Beck Depression Inventory (BDI) Scale are used for evaluating risk-taking tendencies and depression level respectively. Questionnaire form consists of both sociodemographic questions and questionnaires of the scales (DOSPERT and Beck Depression Inventory (BDI)).

In this field study, 220 university students were reached in between June-July 2016. The questionnaire form has been filled out on the web page. The obtained data in this study has been analyzed with statistical software program.

In this study, non-parametric statistical analysis methods are used because all factors has non-normal and an inhomogeneous distribution.

Because of the purpose of this study, only financial/investment (F/I) and financial/gambling (F/G) scores in DOSPERT scale are used. Other risk taking scores may be used in the future study.

Cronbach alpha values for DOSPERT and BDI Scales are .869 and .871 respectively.

Analyzed demographic factors in this study are age and gender and social media preferences are Facebook, Instagram, WhatsApp, Twitter, Snapchat, Swarm, LinkedIn, Periscope, Vine, Tumblr, Pinterest and Tinder.

DOSPERT Scale

The DOSPERT scale consists of 30 questionnaires for assessing the risk taking behavior in six different subscales: ethical (E), financial/investment (F/I), financial/gambling

(F/G), health and safety (HS), recreational (R), and social (S). All answers of these 30 questions has 7- point Likert type choices, from 1 (extremely unlikely) to 7(extremely likely). Scores of each six subscales evaluated separately by summing related questions. The higher score means the higher risk taking behavior for the related domain. This means that if the sub domain score is high, propensity for risk taking is high and if the sub domain score is low, propensity for risk taking is low (Blais& Weber, 2006; Weber, Blais, & Betz: 2002).

DOSPERT evaluate the probability for engaging the risk, benefit expectation from engaging the risk and the amount of perceived risk. In other words, with using the DOSPERT Scale, it is possible to understand the basis of people behavior toward risky situations and measure the expected benefits and propensity from the risky decisions.

Beck Depression Inventory (BDI) Scale

Beck Depression Inventory (BDI) is the scale that measures the symptoms in depression physically, emotionally, cognitively and motivationally. This scale consists of 21 items. All items has 4 choices and for each item only one statement can be chosen. Beck Depression Inventory (BDI) score between 0–9 are assumed within the normal range. The higher BDI scores indicate the higher depression (Back, Ward and others, 1961:561-571).

BDI scale is not a diagnostic scale and just has the ability to measure the depression level of the patients.

3. RESULTS AND DISCUSSIONS

Table.1.Demografic Factors

Gender	Male	Female	
	44.5%	55.5%	
Age	16-20	21-25	26-30
	20.0%	72.7%	7.3%

According to Table.1, most of the participant is female; there is 10% difference between female and man and the vast majority is between the age of 21 and 25.

Table.2. Social Media Preferences

Facebook	87.7%
Instagram	84.5%
WhatsApp	76.8%
Twitter	62.3%
Snapchat	55.5%
Swarm	52.3%
LinkedIn	24.1%
Periscope	8.6%
Vine	8.2%
Tumblr	6.8%
Pinterest	5.9%
Tinder	1.8%

Social media preferences are listed on the Table.2. This table shows us that the most preferred social media tool is Facebook. Instagram, WhatsApp, Twitter, Snapchat and Swarm are following Facebook respectively.

Table.3 How Social Media Tools Help People To Socialize

Facebook	getting in touch with friends
Instagram	sharing visual images easily
WhatsApp	messaging instantly
Twitter	ensuing reports, news and trending topics
Snapchat	sharing short instant videos
Swarm	sharing locations
LinkedIn	networking with the business community
Periscope	streaming live videos
Vine	sharing 6 second long videos
Tumblr	posting multimedia to short-form blogs
Pinterest	bookmarking or pining visual files
Tinder	communicating location-based

In order to differentiate each social media tools, some basic properties of each social media tools is written shortly in Table.3.

Table.4. Social Media Preferences and Gender

	Male	Female	Chi-square
Facebook	82.7%	91.8%	0.040
Snapchat	43.9%	64.8%	0.002
Swarm	43.9%	59.0%	0.025
WhatsApp	68.4%	83.6%	0.008
Pinterest	2.0%	9.0%	0.029

In Table.4, both specific social media preferences in males and in females whose chi-square values are significant at levels of .05 and .01 are written separately, non-significant social media and gender relations are not. These significant chi-square values shows that Facebook, Snapchat, Swarm, WhatsApp and Pinterest usage in male and female are different. In other words the usage of these social media tools written in Table.3 are varied with gender. In addition to these, it can be said that female uses Facebook, Snapchat, Swarm, WhatsApp and Pinterest more than male.

Table.5. Social Media Preferences and Age

	16-20 Age	21-25 Age	26-30 Age	Chi-square
Facebook	88.6%	90.6%	56.2%	0.000
Snapchat	68.2%	54.4%	31.2%	0.034
Swarm	72.7%	48.8%	31.2%	0.004
WhatsApp	88.6%	78.8%	25.0%	0.000
LinkedIn	11.4%	28.7%	12.5%	0.031

Statistically related social media preferences and age groups are written separately in Table.5 whose chi-square values are significant at levels of .05 and .01. These significant chi-square values mean that Facebook, Snapchat, Swarm, WhatsApp and LinkedIn usage in age of between 16 and 20, between 21 and 25 and between 26 and 30 are different. In other words usage of these social media tools written in Table.4 are varied with age. It can be inferred from the table that the usage of Facebook, Snapchat, Swarm and WhatsApp in age of 16-20 are greater than in age of 26-30.

According to Table.5, in age of 21-25, LinkedIn is the most preferred among in all three age groups. In all these age groups, it is estimated that until university, average people have an age of 19 years old (start of preliminary school is in 7^{th} age + 12 years of education). According to the values about LinkedIn usage, until age of 26-30, usage of LinkedIn is increasing parabolic while age is increasing; but in age of 26-30 there is a dramatically drop in LinkedIn usage. These could be explained that in the first 5 or 6 years in university life, students have optimistic opinions about the usage of LinkedIn for their carriers, but the value pass over 7 years in university this optimistic opinion is switched by getting a degree, in other words the focus about the carrier is getting ruined.

The other remarkable point is that the Snapchat, Swarm and WhatsApp usage is decreasing with age. Funny editing tools for videos and images can explain why Snapchat;

online checking tools can explain why Swarm and one to one and in special group instant messaging can explain why WhatsApp are more common in young adults. Communication needs among young adults might commonly explain these preference levels. Because, friendship relations and dating among young adults come into prominence in that adolescence period.

Table.6. Investment Preferences

Real Estate Property	60.9%
Gold	56.4%
Foreign Currency	42.3%
Stock	28.6%
Bank Deposit	19.5%
Bond	5.5%
Type A Fond	5.5%
Forex	4.5%
Type B Fond	2.7%
Repo	1.4%

In this study, below written question is asked students for finding out their investment tendencies. “Imagine that you have saved money approximately 30.000 USD. Which investment tool do you prefer?” All answers are consolidated in Table.6. In this table, Real Estate Property is the most chosen investment tool; Gold, Foreign Currency, Stock and Bank Deposit come after it.

In literature, the study (Coskun and Umit, 2016) whose title is “Cointegration Analysis Between Stock Exchange and TL/FX Saving Deposits, Gold, Housing Markets in Turkey” shows that in view of risk for each financial investment tools, it is assumed that Real Estate Property and Gold have minimum risky and the safest investment tools in our country. These findings are common evidences with our`s in this study.

Table.7. Social Media and Investment Preferences

Facebook- Real Estate Property	55.9%	0.022
Instagram-Gold	51.4%	0.002
Twitter- Real Estate Property	41.4%	0.031
Instagram-Foreign Currency	38.2%	0.043
Twitter-Foreign Currency	30.0%	0.023
WhatsApp-Real Estate Property	15.5%	0.000

Social environments effect people's decisions. In the study of Gumus, Koc and Agalarova (2013), it is found that social environment and internet usage affects investor decisions. Social media tools provide people some kind of social environment with internet. In that online environment, influences on decisions and people are inevitable.

In our study, it is tired to be explored that whether there are any connections between investment and social media preferences or not. Significant relations at levels of .05 and .01 between social media tools and investment preferences are included in Table.7; non-significant relations are not. According to the table, these can be said that there are significant relations between Facebook and Real Estate Property with the percent of 55.9;Instagram and Gold with the percent of 51.4; Twitter and Real Estate Property with the percent of 41.4; Instagram and Foreign Currency with the percent of 38.2;Twitter and Foreign Currency with the percent of 30.0; WhatsApp and Real Estate Property with the percent of 15.5.

Changes in Financial Investment and Financial Gambling Risk Taking Behavior and Depression with Gender and Social Media Preferences

During financial investment decision process, males are more eager to risky choices than females. This behavior shows itself in carrier choices. In the study (Sapienza, Zingales, Maestripieri, 2009) shows that in 500 MBA students in The University of Chicago, 36% of female choose risky carrier in finance investment banking or trading, on the other hand 56% of male students choose more risky carrier choices. In other words, males are more inclined to risky choices than female.

In the study of Gümüş and his friends (2013) it is founded that male choose more risky investments than female and on the point of self-confidence while investing female behave like walking on a thin ice.

Another study (Cihangir. Sak and Bilgin, 2016) aimed to find out which factors effect investors investment preferences in Osmaniye province shows that gender is one of the effective factors on individuals risk preferences and frequency of risky investment of female is low when compared with male.

In order to find out whether there is difference between the level of financial investment and financial gambling risk taking and depression in respect of gender or not; Mann Whitney U test is applied to the survey data.

Table.8 How Financial Investment and Gambling Risk Taking Behavior and Depression Change According to Gender and Social Media Preferences Mann-Whitney U Analysis

		Financial Investment		Financial Gambling		Depression	
		Mean Rank	Asymp. Sig. (2-tailed)	Mean Rank	Asymp. Sig. (2-tailed)	Mean Rank	Asymp. Sig. (2-tailed)
Gender	Male	98.89	0.015	113.54	0.522	111.05	0.909
	Female	119.83		108.06		110.06	
Facebook	No	51.20	0.000	112.91	0.832	146.96	0.001
	Yes	118.80		110.16		105.40	
Instagram	No	64.41	0.000	115.84	0.591	143.68	0.001
	Yes	118.92		109.52		104.44	
Snapchat	No	86.56	0.000	111.59	0.818	129.77	0.000
	Yes	129.73		109,62		95.02	
Swarm	No	89.96	0.000	120.90	0.019	128.13	0.000
	Yes	129.25		101.00		94.40	
WhatsApp	No	45.11	0.000	118.29	0.313	148.24	0.000
	Yes	130.23		108.15		99.11	
Tumblr	No	107.51	0.010	110.33	0.885	109.12	0.233
	Yes	151.40		112.77		129.40	
LınkedIn	No	98.71	0.000	111.73	0.606	113.70	0.186
	Yes	147.66		106.61		100.42	
Periscope	No	106.57	0.003	111.37	0.506	110.77	0.836
	Yes	152.11		101.32		107.61	

The Table.8 shows that, with the significance value of <0.01, there is a relation between financial investment risk taking behaviorand gender. In other words financial investment risk taking behavior in female is higher than in male. In our study, according to Table.8, female choose the less risky financial tool that is females prefer financial investment instead of financial gambling.

When the subject come to the topic that whether there is any relation between social media preferences and risk taking behaviors or not, it is founded that social media users prone to take more financial investment risks with respect to non-users. This result could be explained that during the investment decision making process people could have used social media more for getting information.

According to Table.8, it is also founded that as social media preferences, Facebook, Instagram, Snapchat, Swarm, WhatsApp, Tumblr, LinkedIn and Periscope user's financial risk taking behaviors are higher than non-user's. These relations is meaningful at the significance level <0.01.

In addition to the above stated explanation, Financial Gambling risk taking behavior has a relation only with Swarm usage according to the Table.8. It can be said that financial risk taking behavior is lower among Swarm users than non-Swarm users. This result could be commented that financial gambling risk takers do not want their locations to be known by others.

Moreover, the other indication in Table.8 is that there are relations between the depression and social media preferences, whose significance levels are <0.01. Analysis results in this table shows us that depression levels are lower only in who prefers Facebook, Instagram, Snapchat, Swarm and WhatsApp than in who does not prefer using Facebook, Instagram, Snapchat, Swarm and WhatsApp.

Changes in Financial Investment and Financial Gambling Risk Taking Behavior and Depression with Age

In decision making process financial investment or gambling, not only the financial data and analysis but also other factors such as experiences, personal characteristics, age, emotional state and social factors come into play. In this irrational decision making process, it can be thought that depression is an effective factor as an emotional.

Kruskal Wallis test was applied in order to find out whether there was difference between financial investment, financial gambling risk taking behaviors and depression level in respect of age.

Table.9 How Financial Investment, Financial Gambling Risk Taking Behavior, and Depression Change According to Age Kruskal-Wallis Analysis

		Financial/Investment		Financial/Gambling		Depression	
		Mean Rank	Asymp. Sig.	Mean Rank	Asymp. Sig.	Mean Rank	Asymp. Sig.
Age	16-20	110.27	0.002	101.76	0.387	91.05	0.001
	21-25	115.99		111.31		110.78	
	26-30	56.19		126.47		161.25	

The table shows that, there are relations between financial investment and age and depression and age with the significance values of 0.002 and 0.001 respectively. In addition, it can be said that there is not any significant relations between financial gambling and age.

It can be inferred from the Table.9, the least financial investment risk-taking tendency is founded in age of 26-30 in all age groups. On the other hand, depression level is founded the highest in age of 26-30 among all three age group. Moreover, analysis result in Table.8 shows us that depression is increasing with age.

Other explanations about Table.9 are as follows: in the first 5 or 6 years in university life, students have optimistic opinions about their carriers and future, for this reason their financial investment risk taking behavior increase. But the value pass over 7 years in university life, their preference about getting a good carrier and future changes thorough getting a degree only.

In age group of 26-30, depression values are getting greater and financial investment risk taking behaviors are getting lower than others. These remind us that depressive indications could be a reason for decreasing in financial investment risk taking behaviors.

Output of the analysis process in Table.9 manifest itself that, financial investment risk taking is the highest in age of 21-25 and the lowest in age of 26-30. In addition to these, depression score is the highest in age of 26-30 and the lowest in age of 16-20; in other words depression score is increasing with age. Furthermore, the other indication founded here is that there is not any significant relation between financial gambling and age.

Regression and Correlation Analysis

Regression analysis is a statistical method that explores the cause effect relation and correlation analysis is another statistical method in order to find both the direction and the magnitude of relations between variables. In this research paper, both regression and correlation analyses are used to explore relations between depression level and financial investment, financial gambling risk-taking behavior.

Table.10 Depression- Financial Investment and Gambling Risk Taking Regression Analysis Anova and Coefficients Table

Anova[a]	Financial Investment Risk Taking		Financial Gambling Risk Taking	
	Unstandardized Coefficients B	Sig.	Unstandardized Coefficients B	Sig.
	8.722 (Constant)	.002[b]	2.955 (Constant)	.024[b]
Depression	-0.084		0.065	

a Dependent Variable: Financial Investment and Gambling Risk Taking

b Predictors: (Constant), Depression

Table.11 Depression- Financial Investment and Financial Gambling Risk Taking Behavior Correlation Analysis Table

		Financial Investment Risk Taking	Financial Gambling Risk Taking
Depression	Correlation Coefficient	-.180**	.193**
	Sig. (2-tailed)	0.008	0.004
	N	220	220

** Correlation is significant at the 0.01 level (2-tailed).

The result of regression analysis shows that according to the Table.10, there is a negative cause effect relation between depression and financial investment risk taking behavior with the unstandardized coefficient B value -0.084.

This negative relation is also found in Table.11 by correlation analysis. In other words, while depression increases financial investment risk taking behavior decreases and vice versa. Table.11 shows that the magnitude of this relation is -0.180.

The other result of the regression analysis inferred from Table.10 is that there is a relation between depression and financial gambling risk taking behavior. This relation is positive and can be expressed that while depression increases financial gambling risk taking behavior also increases and vice versa. In order to find the magnitude of this relation, correlation analysis is applied to the variables. As a resultof this analysis, the magnitude of the relation between depression and financial investment risk taking behavior is + 0.193.

Yasar (2010) found that people who felt ambiguous, anxious and losing control especially in crisis time had a tendency to gambling. In our study, it is explored that while depression score is increasing, financial gambling risk taking behavior is also increasing.

4. CONCLUSIONS AND RECOMMENDATIONS

This paper has the feature of being a significant study for providing an insight for future studies and literature in terms of the findings obtained. It is thought that this is the first study tries to investigate relations between depression and financial investment&gambling risk taking behaviors. If it is known the nature of financial risk taking, this would give some opportunities about predicting and taking precautions about society.

In this research, it is founded that while depression score is decreasing, financial investment risk taking tendency is increasing; this finding may bring to mind that people with have low depression score prefer long term returned financial investment tools. On the contrary, another finding shows us that while depression score is increasing, financial gambling risk taking tendency is also increasing. To put it differently, people who have depressive sings prefer short term returned financial gambling which has high probability of loss.

When financial investment is compared with financial gambling, it is clearly seen that financial investment is less risky than gambling. In other words, financial investing is on the safe side with regard to risk.

It could also be thought that financial gambling is an investment tool that evokes some thoughts return in short time interval. On the other hand, people who have some depressive sings could gamble because of recovering from depression unconsciously or harming themselves unintentionally. Gambling can be thought like a game. When it is looked at this scope, during game period, it could be thought that the gamer might feel free because they could do something that they could not do easily or legally in a real world (Yasar, 2010). People could feel reluctant, weak and hard to begin something new in a daily life when they have any sings of depression. It can be said that financial gambling could be chosen easily because the gambler probably does not encounter any struggle or any acceptance test for the game. These can be an answer of why there is a positive cause effect relation between depression and financial gambling risk taking behavior in our study.

It is thought that if community mental health has some depressive signs, these depressive signs can cause both boosting in financial gambling and falling in financial investments. This situation could affect both national and global financial equalization.

According to this study, female chooses the less risky financial tool that is female prefers financial investment instead of financial gambling.

Moreover, when the subject come to the topic that whether there is a relation between social media preferences and financial risk taking behaviors or not, it is founded that social media users prone to take more financial investment risks with respect to non-users. This result could be explained that during the investment decision making process people could have used social media more for getting information.

Analysis results also shows us that depression levels are lower only in who prefers Facebook, Instagram, Snapchat, Swarm and WhatsApp than in who does not prefer using Facebook, Instagram, Snapchat, Swarm and WhatsApp.

It is considered that the greater the number of research studies that measure the financial risk tolerance and burnout relations the greater the comprehensibility of the cross effects and results will be. Therefore, it is proposed to increase the number of studies and the number of participants in the field study.

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