

**THE DETERMINATION OF MOTIVATIONAL FACTORS OF SPORT
GAMBLING UNIVERSITY STUDENTS AND THEIR PERSONALITY
AND PSYCHOLOGICAL DIFFERENCES FROM NON-GAMBLERS**

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ABSTRACT

THE DETERMINATION OF MOTIVATIONAL FACTORS OF SPORT GAMBLING UNIVERSITY STUDENTS AND THEIR PERSONALITY AND PSYCHOLOGICAL DIFFERENCES FROM NON-GAMBLERS

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The purpose of this study was three-fold; to determine the personality and financial risk-taking attitude differences between sports gambling students and non-gambling students, to specify gambling motivations of the sport gambling students and to identify the relationship among personality traits, financial risk-taking attitude and gambling motivations of the students who gamble on sport events.

The subject group of this research was composed of 1109 Middle East Technical University students who were participating in sport gambling activities (n=435) and who had never participated in sport gambling activities (n=674). While males were composing the 63.1% (n=700), females composed 36.9% (n=409) of the total research group. The mean age of the subject group was 21.77 ± 2.12 .

Big Five Personality Inventory (John, Donahue, & Kentle, 1991), Investment Risk Attitude Scale (Nyhus, 1995) and Gambling Motivation Scales (Chantal, Vallerand and Vallieres, 1994) were used in the data collection process of the research.

Results indicated that sport gambling students and non-gambling students showed significant differences in personality ($p < .01$). There was significant differences between sport gambling students and non-gamblers in extraversion, conscientiousness and in openness trait ($p < .002$). Also, results demonstrated that sport gambling students and non-gambling students showed significant differences in financial risk-taking attitudes ($p < .01$).

Personality and gender variables accounted for a significant amount on the financial risk-taking attitude of the non-gambling subjects. Personality, gambling motivations and gender accounted for a significant amount on the financial risk-taking attitude of sport gambling subjects.

Sport gambling students showed no significant difference in their gambling motivations according to their gender ($p > .01$). Sport gambling students were primarily motivated with intrinsic motivating factors of gambling. Personality, financial risk-taking attitude and gambling experience accounted for a significant amount on the gambling motivations of sport gambling students.

Finally, this study pointed that university students who were more extraverted and more open were more prone to gambling on sport events and were more permissive towards financial risk-taking. Additionally, results revealed that enjoyment, amusement and learning were the primary motivating factors that lead university students towards sport gambling.

Keywords: Sport gambling, Personality, Consumer behavior, Financial risk-taking, Gambling motivation.

ÖZ

SPOR BAHİSİ OYNAYAN ÜNİVERSİTE ÖĞRENCİLERİNİN BAHİS OYNAMA GÜDÜLERİ VE BU ÖĞRENCİLERİN SPOR BAHİSİ OYNAMAYAN ÖĞRENCİLERDEN KİŞİSEL VE PSİKOLOJİK FARKLILIKLARININ BELİRLENMESİ

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Bu araştırma üç aşamalı olarak tasarlanmıştır. Birinci aşamada, spor bahisi oynayan üniversite öğrencileri ile spor bahisi oynamayan üniversite öğrencilerinin kişilik özellikleri ve mali risk-alma tutumları arasındaki farklılıkları belirlemek amaçlanmıştır. İkinci aşamada ise, sporda bahis oynayan üniversite öğrencilerinin bahis oynama güdülerini belirlemek hedeflenmiştir ve üçüncü aşamada ise spor bahisi oynayan öğrencilerin bahis oynama güdüsü ile kişilik ve mali risk-alma tutumu arasındaki ilişkiyi tespit etmek amaçlanmıştır.

Araştırmaya, sporda bahis oynayan (n=435) ve sporda bahis oynamamış (n=674) Orta Doğu Teknik Üniversite'sinde öğrenim gören 1109 öğrenci dahil edilmiştir. Araştırmaya katılan deneklerin %63.1'ini erkeler oluştururken (n=700), %36.9'unu bayanlar oluşturmuştur (n=409). Deneklerin yaş ortalaması ise 21.77 ± 2.12 'dir.

Araştırmada veri toplama aracı olarak, "Büyük-Beşli Kişilik Ölçeği" (John, Donahue, & Kentle, 1991), "Yatırım Risk-Alma Tutum Ölçeği" (Nyhus,

1995) ve “Bahis Gdlenme leđi” (Chantal, Vallerand and Vallieres, 1994) kullanılmıřtır.

Arařtırmanın bulguları, spor bahisi oynayan ve oynamayan niversite đrencilerinin kiřilik zelliklerinde farklılık olduđunu ortaya koymuřtur ($p<.01$). Dıřa-dnklk, bilinlilik ve aıklık gibi kiřilik zelliklerinde spor bahisi oynayan ve oynamayan đrenciler arasında anlamlı bir fark olduđu grlmřtır ($p<.002$). Bulgular, mali risk-alma tutumu bakımından spor bahisi oynayan ve oynamayan đrenciler arasında anlamlı bir fark olduđunu ortaya koymuřtur ($p<.01$).

Spor bahisi oynamayan đrencilerin mali risk-alma tutum’larında yalnızca kiřilik ve cinsiyet belirleyici etmen iken, spor bahisi oynayan đrencilerin mali risk- alma tutum’larında kiřilik ve cinsiyet’in yanında bahis oynama gdlerinin de belirleyici olduđu grlmřtır..

Arařtırmanın bulguları spor bahisi oynayan đrencilerin, bahis-oynama gdlerinde cinsiyete gre anlamlı bir farklılık olmadığını gstermiřtir ($p>.01$). Bununla beraber, spor bahisi oynayan đrencilerin, spor bahisi oynamalarında en ok isel-gdlerin etkili olduđu bulunmuřtur. Bahis oynayan đrencilerin, bahis oynama gdlerinde, kiřilik, mali risk-alma tutumu ve bahis oynama sresi belirleyici etken olmuřtur.

Sonuç olarak bu arařtırma, daha dıřa dnk ve dıřa aık đrencilerin spor bahisi oynamaya ve mali risk-almaya daha eđilimli olduđunu iřaret etmektedir. Ayrıca zevk, eđlence ve đrenme, niversite đrencilerini spor bahisine iten bařlıa gdsel etmenler olarak ortaya ıkmıřtır.

Anahtar kelimeler: Spor bahisi, Kiřilik, Tketiciler davranıřı, Mali risk-alma, Bahis oynama gds

To my well-beloved daughter Simay Zeynep KARLI

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TABLE OF CONTENTS

PLAGIARISM.....	iii
ABSTRACT	iv
ÖZ.....	vi
DEDICATION	viii
ACKNOWLEDGMENTS.....	ix
LIST OF TABLES	xiv
LIST OF FIGURES.....	xix
I. INTRODUCTION	1
1.1. Background of the Study.....	1
1.2. Purpose of the Study.....	2
1.3. Significance of the Study	3
1.4. Hypothesis of the Study	5
1.5. Limitations of the Study	6
1.6. Assumptions	6
1.7. Definition of Terms	6
II. REVIEW OF LITERATURE	7
2.1. Marketing	7
2.2. Sport Market and Marketing	8
2.3. Sports Gambling in Sport Market	9
2.4. Consumer Behavior in Marketing	10

2.4.1. Personality	14
2.4.1.1. Personality Theories and Consumer Behavior	15
2.4.1.2. Five Factor Model in Personality Assessment	18
2.4.1.3. Measures of Five Factor Model – The Big Five	21
2.4.1.4. Personality and Risk-Taking	22
2.4.2. Motivation	22
2.4.2.1. Motivation Theories	23
2.4.2.2. Motivation and Consumer Behavior	25
2.5. Related Literature	26
2.5.1. Personality and Risk-Taking Attitude	26
2.5.2. Sports Gambling and Gambling Motivations.....	37
III. METHODOLOGY	43
3.1. Sample of the Study	43
3.2. Data Collection Instruments	44
3.2.1. Big Five Inventory- 44	45
3.2.2. Investment Risk Attitude Scale	46
3.2.2.1. Adaptation of Investment Risk Attitude Scale	46
3.2.3. Gambling Motivation Scale.....	49
3.2.3.1. Adaptation of Gambling Motivation Scale	50
3.2.3.2. The Main Analysis of Gambling Motivation Scale.....	55
3.3. Statistical Analysis	61
IV. RESULTS	63
4.1. Descriptive Data of the Sample.....	63

4.2. Determination of Interaction and Main Effects of Gender and Gambling Behaviors on Personality Traits of Subjects (Factorial MANOVA).....	64
4.3. Determination of Gambling Behavior's and Gender's Effect on Financial Risk-Taking Attitude (Factorial ANOVA).....	72
4.4. Determination of Effects of Gender on Gambling Motivations of Subjects (MANOVA).....	76
4.5. Determination of the Relationship of Personality Traits and Gender with Investment Risk Attitude of Non-Gambler Subjects. (Hierarchical Multiple Regression)	80
4.6. Determination of the Relationship of Personality Traits, Gambling Motivations, and Gender with Investment Risk Attitudes of Sports Gambling Subjects. (Hierarchical Multiple Regression)	85
4.7. Determination of the Relationship of Personality Traits, Investment Risk Attitude, and Sport Gambling Experience with Gambling Motivations (Intrinsic Motivation, Extrinsic Motivation and Amotivation) of Sports Gambling Subjects. (Hierarchical Multiple Regression).....	92
4.7.1. Intrinsic Motivation.....	92
4.7.2. Extrinsic Motivation.....	97
4.7.3. Amotivation.....	103
V. DISCUSSION.....	109

5.1. Personality Differences	109
5.2. Financial Risk Taking	110
5.3. Gambling Motivations.....	114
VI. SUMMARY, CONCLUSIONS & RECOMMENDATIONS	117
6.1. Summary	117
6.1. Conclusions	118
6.2. Recommendations	119
REFERENCES	120
APPENDICES.....	130
APPENDIX A- Büyük Beşli Kişilik Anketi	132
APPENDIX B- Yatırım Riski Tutum Anketi.....	136
APPENDIX C- Bahis Oynama Motivasyonu Anketi.....	138
APPENDIX D- Kişisel Bilgiler.....	143
APPENDIX E- Curriculum Vitae	144
APPENDIX F- Türkçe Özet.....	147

LIST OF TABLES

TABLES

Table 1.	Item- Total Statistics of Adaptation of Investment Risk Attitude Scale.....	47
Table 2.	Item- Total Statistics of the Main Analyses of Investment Risk Attitude Scale.....	48
Table 3.	Inter-Item Correlation for Adaptation of Gambling Motivation Scale.....	51
Table 4.	KMO and Bartlett's Test for Adaptation of Gambling Motivation Scale.....	52
Table 5.	Item Factor Loadings, Communality Scores, Means and Standard Deviations for the 28 Items; Factor Eigenvalues for Adaptation of Gambling Motivation Scale.....	54
Table 6.	Item-Total Statistics of for Adaptation of Gambling Motivation Scale.....	55
Table 7.	Inter-Item Correlation for the Main Analysis of Gambling Motivation Scale.....	56
Table 8.	KMO and Bartlett's Test for the Main Analysis of Gambling Motivation Scale.....	57
Table 9.	Item Factor Loadings, Communality Scores, Means, and Standard Deviations for the 28 Items; Factor Eigenvalues for the Main Analysis of Gambling Motivation Scale.....	59
Table 10.	Item-Total Statistics for the Main Analysis of Gambling Motivation Scale.....	60
Table 11.	Distribution of Sample According to Gender and Gambling Behavior.....	63
Table 12.	The Means and Standard Deviations of Personality Traits of Gamblers and Non-Gamblers According to their Gender.....	65
Table 13.	Normality values of Personality Traits According to Gambling Behavior	66

Table 14.	Normality values of Personality Traits According to Gender...	66
Table 15.	Skewness and Kurtosis Values of Subjects' Personality Trait Scores according to their Gambling Behavior.....	67
Table 16.	Skewness and Kurtosis Values of Subjects' Personality Trait Scores according to their for Gender.....	68
Table 17.	Box's Test of Equality of Covariance Matrices of Subjects' Personality Trait according to Gender and Gambling Behavior.....	68
Table 18.	Levene's Test of Equality of Error Variances of Subjects' Personality Traits according to Gender and Gambling Behavior.....	69
Table 19.	Multivariate Tests of Independent Variables Gambling, Gender and Gambling*Gender.....	70
Table 20.	Analysis of Variance Results for Personality Traits Differences According to Gambling, Gender, and Both Gambling and Gender.....	71
Table 21.	Normality Values of Investment Risk Attitude according to Gender.....	72
Table 22.	Normality Values of Investment Risk Attitude according to Gambling.....	73
Table 23.	Skewness and Kurtosis Values of Risk Attitude Variable for Gender.....	73
Table 24.	Skewness and Kurtosis Values of Risk Attitude Variable for Gambling.....	73
Table 25.	Investment Risk Attitude Mean Scores and Standard Deviations According to the Subjects Gender and Gambling Behavior.....	74
Table 26.	Levene's Test of Equality of Error Variances of Investment Risk Attitude according to Gender and Gambling Behavior	74
Table 27.	Two-way ANOVA results of Investment Risk Attitude According to Gender and Gambling Behavior.....	75

Table 28.	Distribution of Gambling Motivation Mean and Standard Deviation Scores According to Subjects Gender.....	76
Table 29.	Normality Values for Gambling Motivation Dependent Variables according to the Subjects' Gender.....	77
Table 30.	Skewness and Kurtosis Values for Gambling Motivation Dependent Variables according to Gender.....	78
Table 31.	Levene's Test of Equality of Error Variances of Gambling Motivation Dependent Variables according to Gender.....	79
Table 32.	Box's Test of Equality of Covariance Matrices of Gambling Motivation Dependent Variables according to Gender.....	79
Table 33.	Multivariate Analysis of Variance Results of Gambling Motivations According to Gender.....	80
Table 34.	Means, Standard Deviations of the Investment Risk Attitude and Personality Traits of Non-Gambling Subjects.....	80
Table 35.	Bivariate Correlations Among Variables Investment Risk Attitude, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, and Gender.....	81
Table 36.	Summary of Two Models in the Hierarchical Regression Analysis of Investment Risk Attitudes of Non-Gamblers.....	83
Table 37.	Coefficients of Hierarchical Regression Analysis of Investment Risk Attitudes of Non-Gambler Subjects.....	84
Table 38.	Means, Standard Deviations of the Investment Risk Attitude, Personality Traits and Gambling Motivations of Gambling Subjects.....	85
Table 39.	Bivariate Correlations among Variables Investment Risk Attitude, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Intrinsic Motivation, Extrinsic Motivation, and Amotivation.....	86

Table 40.	Summary of Three Models in the Hierarchical Regression Analysis of Investment Risk Attitudes of Non-Gamblers.....	88
Table 41.	Coefficients of Hierarchical Regression Analysis of Investment Risk Attitudes of Gambler Subjects.....	89
Table 42.	Means, Standard Deviation of the Variables Intrinsic Motivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience.....	92
Table 43.	Bivariate Correlations among Variables Intrinsic Motivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience.....	93
Table 44.	Summary of Three Models in the Hierarchical Regression Analysis of Intrinsic Motivations of Gamblers.....	95
Table 45.	Coefficients of Hierarchical Regression Analysis of Intrinsic Motivations of Gambler Subjects.....	97
Table 46.	Means, Standard Deviation of the Variables Extrinsic Motivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience.....	98
Table 47.	Bivariate Correlations among Variables Intrinsic Motivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience.....	98
Table 48.	Summary of Three Models in the Hierarchical Regression Analysis of Extrinsic Motivations of Gamblers.....	101
Table 49.	Coefficients of Hierarchical Regression Analysis of Extrinsic Motivations of Gambler Subjects.....	102

Table 50. Means, Standard Deviation of the Variables Amotivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude and Gambling Experience.....	103
Table 51. Bivariate Correlations among Variables Amotivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience.....	104
Table 52. Summary of Three Models in the Hierarchical Regression Analysis of Amotivations of Gamblers.....	106
Table 53. Coefficients of Hierarchical Regression Analysis of Amotivations of Gambler Subjects.....	108

LIST OF FIGURES

FIGURES

Figure 1. Simplified Model of Consumer Purchase Decision Process.....	11
Figure 2. Influences on the consumer purchase decision.....	13
Figure 3. Motivation and buying behavior.....	26
Figure 4. Scatterplot of Dependent Variable Investment Risk Attitude of Non-Gamblers.....	82
Figure 5. Histogram of the Dependent Variable Investment Risk Attitude of Non-Gamblers.....	82
Figure 6. P-P Plots of the Dependent Variable Investment Risk Attitude of Non-Gamblers.....	83
Figure 7. Scatterplot of Dependent Variable Investment Risk Attitude of Gambling Subjects.....	87
Figure 8. Histogram of the Dependent Variable Investment Risk Attitude of Gambling Subjects.....	87
Figure 9. P-P Plots of the Dependent Variable Investment Risk Attitude of Gambling Subjects.....	88
Figure 10. Scatterplot of Dependent Variable Intrinsic Motivation of Gambling Subjects.....	94
Figure 11. Histogram of the Dependent Variable Intrinsic Motivation of Gambling Subjects.....	94
Figure 12. P-P Plots of the Dependent Variable Intrinsic Motivation of Gambling Subjects.....	95

Figure 13. Scatterplot of Dependent Variable Extrinsic Motivation of Gambling Subjects.....	99
Figure 14. Histogram of the Dependent Variable Extrinsic Motivation of Gambling Subject.....	100
Figure 15. P-P Plots of the Dependent Variable Extrinsic Motivation of Gambling Subjects.....	100
Figure 16. Scatterplot of Dependent Variable Amotivation of Gambling Subjects.....	105
Figure 17. Histogram of the Dependent Variable Amotivation of Gambling Subjects.....	105
Figure 18. P-P Plots of the Dependent Variable Amotivation.....	106

CHAPTER I

INTRODUCTION

1.1. Background of the Study

Sports is arguably one of the most complex industry to be found, as it incorporates the voluntary, public and private sectors and can be broken down into manufacturing, retailing, entertainment and service segments, each containing specialized subfields (Houlihan, 2006). Sport gambling, one of the trendy sector in sport market, including betting on the outcome of various forms of athletic events, is one of the sectors of entertainment segment of this complex sport industry.

The sports betting market, originally developed out of a passion for horse racing, has expanded in recent years to take account of growing demand for the opportunity to gamble on the outcome of wide range of sports events (Houlihan, 2006). In 1998, the worldwide turnover for betting increased nearly 30 percent (Intel, 1999b). In England, about £9.820 million was spent on football bets, horse races, greyhound races and on other betting events (Beech & Chadwick, 2004). Similarly, in United States, people annually bet illegally on professional and college sports over 100 billion dollar (Crist, 1998). Also, in Turkey, from April 2004 up to now the revenue gathered from sports betting reached 6.7 billion YTL (Hürriyet, 2008) .

As mentioned, sport gambling (betting), which is taking financial position, on the result of sport events, became a big sector. While betting on sports has been a part of social life, it also has an important role in construction of modern sport (Masteralexis, Barr, & Hums, 2005). Gambling on sport events in Turkey was legally approved in 1959 and the first legal bets on

sport were organized on 1959-1960 football season. From the beginning up to know sport governing bodies benefited from the revenue gathered from sports gambling in facility construction and in supporting sport clubs (<http://www.sportoto.gov.tr/icerik.php?id=13>).

Even sports gambling sector is an important part of sport industry the intensity of scientific studies on individuals who consume sport via gambling is limited. In the literature there are studies which investigated personality differences between subjects who were gamblers and non-gamblers (Zuckerman & Kuhlman, 2000), the motivating factors that lead subjects participating in gambling (Adebayo,1998; Cotte, 1997; Burger, Dahlgren, and MacDonald, 2006; Chantal, Vallerand, and Valleries,1995), and the risk taking attitude differences between gamblers and non-gamblers (Cross, Basten, Hendrick, Kristofic, & Schaffer, 1998). However, the aforementioned researches were interested in gamblers in the scope of psychology science rather than marketing. On the other hand, even sport gambling is a developing market in sport industry, the literature lacks of studies which specifically focused on sport gamblers as the stakeholders of the market. Analyzing sport gamblers in the scope of consumer behavior would be beneficial, because creating successful marketing decisions require a good and deep understanding of consumer behavior (Hawkins, Best, & Coney, 2004).

Therefore, this study aimed to determine sport gamblers difference from their non-gambler counterparts in scope of personality and financial risk-taking attitudes and the gambling motivations that lead sport gambling individuals towards gambling on sports events.

1.2. Purpose of the Study

The purpose of this study was three-fold; to determine the personality and financial risk-taking attitude differences between sports gambling students

and non-gambling students, to specify gambling motivations of the sport gambling students and to identify the relationship among personality traits, financial risk-taking attitude and gambling motivations of the students who gamble on sport events.

1.3. Significance of the Study

In order to develop successful marketing strategies, marketers must understand how markets are segmented and how consumer behavior differs from one market segment to another. Successful marketing decisions by commercial firms, non-profit organizations, and regulatory agencies require extensive information on consumer behavior. A knowledge of consumer behavior provides the basis for many marketing strategies such as product positioning, market segmentation, new product development, new market applications, global marketing, marketing mix decisions, and marketing actions, by non-profit and profit organizations. Each of these major marketing activities are more effective when based on knowledge of consumer behavior (Hawkins, Best, & Coney, 1989).

As the customers in various service and product sectors in the world who have diversifying motivations in their consumption behavior, also the sport customers have varying motivations which influence them during their consumption process. While some of the sports customers consume sports for affiliation, some perceive it as an opportunity for spending time with family and friends, some are affected from the aesthetics of sports, and while some feel in good condition during sports consuming, the other perceives it as an opportunity to escape from routine and daily problems. There are also sports consumers motivated by betting on the outcome of the sports to get economic revenue. The economical motivations influence such people in their sport consumption behavior (Frey, 1992).

Betting on events and outcomes in sport, especially in team sports, has become a high-growth sector. Sports extract big revenue from betting. The annual revenue of the world sport betting market is \$159.533 billion. The Europe's portion in this market is \$75.807 billion and the money flows in this sector in Turkey in 2003 was \$1.604 billion, in 2004 November this was \$1.653 billion. While the market portion of Spor Toto in 2003 was \$17 million dollar, in 2004 November it reached \$124 million. With a 750% increase, the market portion increased from 1% to 7.5%. This big advance in sports betting market is result of the new betting system "İDAA" in football (Uluç, 2005).

Also, sports betting games, somehow, canalize people's interest towards sports events. As a result of sports betting games, the television broadcast on sports, especially on football leagues increased, alterations occurred in the content of the sports programs on televisions, the coverage of sports in print media increased and also guiding booklets, such as football betting booklets which give information about teams and athletes, emerged in print media.

Even the huge amount of money circulating in sports betting sector, the literature research on the sports betting topic showed that there is not enough scientific research related with the sector or market. There is not adequate information about the consumers of sports betting games in the scope of consumer behavior. Therefore, determining sport gamblers' personality traits, financial risk-taking attitudes and gambling motivations would be beneficial in understanding what common properties do the sport gamblers have that makes them different from non-gamblers, whether they vary in the aspect of personality and financial risk-taking, and what motivational factors stimulate them in engaging gambling on the outcomes of sport events.

From a marketing stand point, the findings of this research would be very beneficial and helpful in the construction of effective sport betting market strategies to gain new gamblers, new customers and to retain the existing ones. Because increase in subjects who engage in sport gambling would mean increase in the demand for broadcast, increase in the coverage of print media which results in increase in the price of broadcasting rights, in the advertisement revenue and increase in sponsorship revenue of football clubs. Also, the results of this study would enlighten and bring vision to the new autonomous sports federations who want to increase their market share, promote their sport branches and increase their popularity (spectator and media interest). Because, sports, in which society interest is less intense, may be made more exciting if spiced up by gambling which makes spectator a stakeholder in the outcome of the event. The existence of a gambling market for the sport may increase attendance demand.

1.4. Hypothesis of the Study

1. There will be no difference in personality between university students according to their gambling behavior and gender.
2. There will be no difference in the level of financial risk-taking attitudes between the university students according to their gambling behavior and gender.
3. There will be no difference in gambling motivation levels of sport gambling subjects according to their gender.
4. The financial risk-taking attitudes of non-gambling university students will not be associated with their personality and gender.
5. The financial risk-taking attitudes of sport gambling university students will not be associated with their personality, gambling motivations, and gender.
6. The gambling motivations of students, who gamble on sport, will not be associated with their personality, financial risk-taking attitudes and gambling experience.

1.5. Limitations of the Study

1. The population of the subjects who were engaged in the sport gambling events and who did not gamble on outcome of sport events was indefinite.
2. The subject group of the study was composed of university students.
3. The subject distribution of the sample according to gender and gambling behavior was unequal.

1.6. Assumptions

The subjects participated to this study were honest and completed the data collection instruments truthfully and unbiased.

1.7. Definition of Terms

Personality: An individual's characteristic response tendencies across similar situations (Hawkins, Best, & Coney, 2004).

Gambling: Established practice of staking money or other valuables on games or events of an uncertain outcome (Binde, 2005).

Financial Risk Taking: A person's tendency to spend money on projects with uncertain financial outcomes (Daghofer, 2007).

CHAPTER II

REVIEW OF LITERATURE

In this chapter, the literature relevant to the purpose of the study is presented. In the beginning of the chapter, initially theoretical information, about what marketing is and the relationship between sport market and marketing is briefly provided. Then information about sport gambling market is introduced. After then, respectively the importance of consumer behavior in marketing is mentioned. And finally general studies on personality, risk taking and gambling motivations are submitted.

2.1. Marketing

The people with the desire and ability to buy a specific product make up a market (Berkowitz et al., 1997). And marketing is a process where a massive network of people and activities competing for taking the attention and money of prospective consumers who make up the market. Therefore, understanding, creating, communicating, and delivering customer value and satisfaction are the most important factors of modern marketing thinking and practice. (Kotler & Armstrong, 2001).

Marketing is the homework of those managers who asses needs, measure their extent and intensity, and determine whether a profitable opportunity exists. Marketing is a continuous process, which continues throughout the product's life, trying to find new customers by improving product appeal and performance, learning from product sales results, and managing repeat performance (Kotler & Armstrong, 2001).

As a continuous process marketing has two facets. First, it is a philosophy, an attitude, a perspective, or a management orientation that stresses the importance of customer satisfaction. Second, marketing is a set of activities

used to bring this philosophy into life (Lamb et al., 1992). In early days of marketing, marketers focused only on selling, attracting new customers and creating communication with them. Old marketing thinking saw marketing as little more than selling or advertising. It viewed marketing as customer acquisition rather than customer care. It emphasized trying to make a profit on each sale rather than trying to profit by managing customer life time value. In today's marketing the traditional approach has evolved to the point where customers and marketers are partners, and the end result of marketing is a relationship that promotes long-term growth for the company and maximum satisfaction for the customer. Besides, in today's marketing environment, however, changing demographic, economic, and competitive factors mean that there are fewer new customers to go around. Thus, although finding new customers remains very important, the emphasis is shifting toward retaining profitable customers and building long-lasting relationships with them. So today, marketers of all kinds are taking advantage of new opportunities for connecting with their customers, their marketing partners, and the world around them (Keegan, Moriarty, & Duncan, 1995; Kotler & Armstrong, 2001).

2.2. Sport Market and Marketing

In the past two decades, as a result of commercialization of sport the managers of sports and organizations in sport industry needed to become concerned with business principles. This commercialization process resulted in significant changes in sports organizations, they become market orientated, pursue operational strategies that maximize profit or revenue, and become responsive to the needs of customers. (Houlihan, 2006). Now, with its fan and spectator spending, sponsorships, media broadcast rights, sporting goods, advertisements, facility construction and operating expenses (payments by teams, leagues) and gambling (Shank, 2005), sport industry became one of the biggest industries in the world.

Sports industry is the market in which the businesses and products offered to its buyers are sport related. These businesses may be related with goods, services, people, places, or ideas. The statistics in USA showed that sport industry is in a growing trend, while the size of industry was 47.3 billion dollars in 1986, in 1987 it was 50.2 billion dollars, and ranked 22nd in 1988 with 63.1 billion dollars, in 1995 the size of the industry increased more than twice with about 152 billion dollars and took its place on 11th rank and with 213 billion dollars the sport sector took its 6th place in 1999 (Pitts & Stotlar, 2002).

Even the core product of marketing differentiates, the basic principles of marketing is also valid for sport sector. Sport marketing, is the marketing of products, such as equipment, apparel, and footwear; services such as skill lessons or club memberships; and entities, such as leagues, teams or individuals (Masteralexis, Barr, & Hums, 2005), and sport marketers' primary goal is to satisfy the consumers' needs and wants of this market. Because satisfying customer needs is very important in any context. The reasons why people buy the product or service have to be satisfied with what the product or service provides for the consumer (Beech, & Chadwick, 2004). A widely accepted definition of what sport marketing is provided by Mullin, Hardy, and Sutton's (2000), "Sport marketing consists of all activities designed to meet the needs and wants of sport consumers through exchange processes. Sport marketing has developed two major thrusts: the marketing of sport products and services directly to consumers of sport, and marketing of the other consumer and industrial products or services through the use of sport promotions" (Mullin, Hardy, & Sutton, 2000).

2.3. Sports Gambling in Sport Market

The sports betting market, originally developed out of a passion for horse racing, has expanded in recent years to take account of growing demand for the opportunity to gamble on the outcome of wide range of sports events

(Houlihan, 2006). In 1998, the worldwide turnover for betting increased nearly 30 percent (Mintel, 1999b). In England the money which was spent on gambling in 2003 was £27.720 million and about £9.820 million was spent on football bets, horse races, and greyhound races and on other betting events (Beech & Chadwick, 2004). Even betting on sports event is declared as an illegal activity by most of the governing bodies, betting on scores of the sports games is ordinary. (Insley, Mok & Swartz, 2004). In United States, people annually bet illegally on professional and college sports over 100 trillion dollar (Crist, 1998). Such sports like horse racing and greyhound races survival depends on their popularity for the media because of the bets played on them. In Australia only the commercial bets played on races caused losses about 1.6 trillion dollar. (Productivity Commission, 1999). Also in Turkey in 2004 November the money circulated in sports betting reached \$124 million (Uluç, 2005).

2.4. Consumer Behavior in Marketing

Understanding why and how consumers behave as they do is very important for marketers. Firms exists to satisfy consumers' needs which can only be satisfied to the extent that marketers understand the people or organizations that will use the products and services they offer, and that they do so better than their competitors. Therefore, knowledge about consumers is incorporated into virtually every facet of a successful marketing plan. Data about consumers help marketers to define the market and to identify the threats and opportunities in their own and other countries that will affect how consumers receive the product (Solomon et al., 2006).

Therefore, many factors must be considered in designing marketing strategies, but none is more important than consumer behavior (Kinnear & Bernhardt, 1983). Knowledge of consumer characteristics plays an extremely important role in many marketing applications, such as defining the market for a product or deciding on the appropriate techniques to

employ when targeting a certain group of consumers (Solomon et al., 2006). To make successful marketing decisions, extensive information on consumer behavior is required by commercial firms, non-profit organizations and regulatory agencies (Hawkins et al., 2004).

Consumer behavior as concept can be defined as those acts of individuals that involve buying and using products and services, including the decision processes that precede and determine these acts. These acts are comprising a process called *purchase decision process* which is defined as the series of stages consumers go through in making decisions about which product/service to buy. These stages sequentially are; problem recognition, information-seeking, evaluation of alternatives, purchase decision and post-purchase decision (Figure 1), (Kinneer & Bernhardt, 1983).

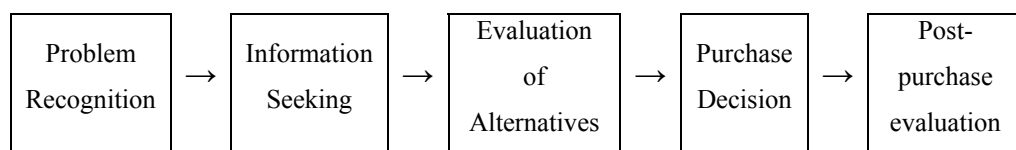


Figure 1. Simplified Model of Consumer Purchase Decision Process (Kinneer & Bernhardt, 1983).

The problem recognition stage occurs when a person perceives a difference between an ideal state of affairs and the actual state at a given moment. In this stage, the consumer sees that there is a problem and is motivated to solve it. Marketing efforts are also important in triggering the problem recognition stage of purchase decision process (advertising, packaging, personal selling can convince potential buyers that they have an unfilled need or want). Motivation and perception can have impact on problem recognition stage of purchase decision process (Kinneer & Bernhardt, 1983).

The second stage of consumer purchase decision is information seeking where the consumers are concentrated on identifying products or services

that are consistent with their needs. The amount and type of information varies depending on the product and the consumer. Information seeking may be extensive, limited, or routine. If consumers lack experience in a particular area, they will usually engage in extensive problem solving, which means a lengthy information search. If they are more experienced, the problem solving process will be more limited because they are familiar with the options (Keegan, Moriarty, & Duncan, 1995).

After the information seeking stage, comes evaluation of alternatives. Information seeking process helps to clarify the various alternatives available to the consumer, and helps evaluate those alternatives. There are several important steps in evaluating the alternatives. In the first step to identify the criteria that the consumer will use in evaluating the various alternatives is important, determination of the importance of each factor used is the second step, and the last step in evaluation process concerns consumer perceptions and values (Kinnear & Bernhardt, 1983).

Subsequent step after evaluation of alternatives stage is purchase decision stage. After the evaluation of alternative product/services, the consumers make their purchase decision (Kinnear & Bernhardt, 1983).

And the final step of purchase decision making process is post-purchase decision. There are two outcomes possible to happen. First, the consumer may be satisfied if the performance is consistent with the consumer's expectations. Second, the consumer may be dissatisfied if the performance is inconsistent with the expectations. If the first one happens, the information about the product would then be stored in the memory to be used the next time the consumer enters to the problem recognition stage of the purchase decision process (Kinnear & Bernhardt, 1983). And also the consumer is likely to make repeat purchases, to become brand loyal, to give positive testimonials about the product (Keegan, Moriarty, & Duncan, 1995).

There are several influences that shape consumer behavior or effect their purchase decision. While some of the marketing literature group them under two heading; external influences (socio-cultural influences); such as culture, values, demographics, social status and reference groups affecting consumer behavior and internal influences (psychological influences); such as perception, personality, motives, information processing, attitudes and emotion that direct the consumers' behavior (Hawkins, Best, & Coney, 1989). Some categorizes the influences affecting consumer behavior under four groups; cultural, social, personal and psychological (Kotler, 1991).

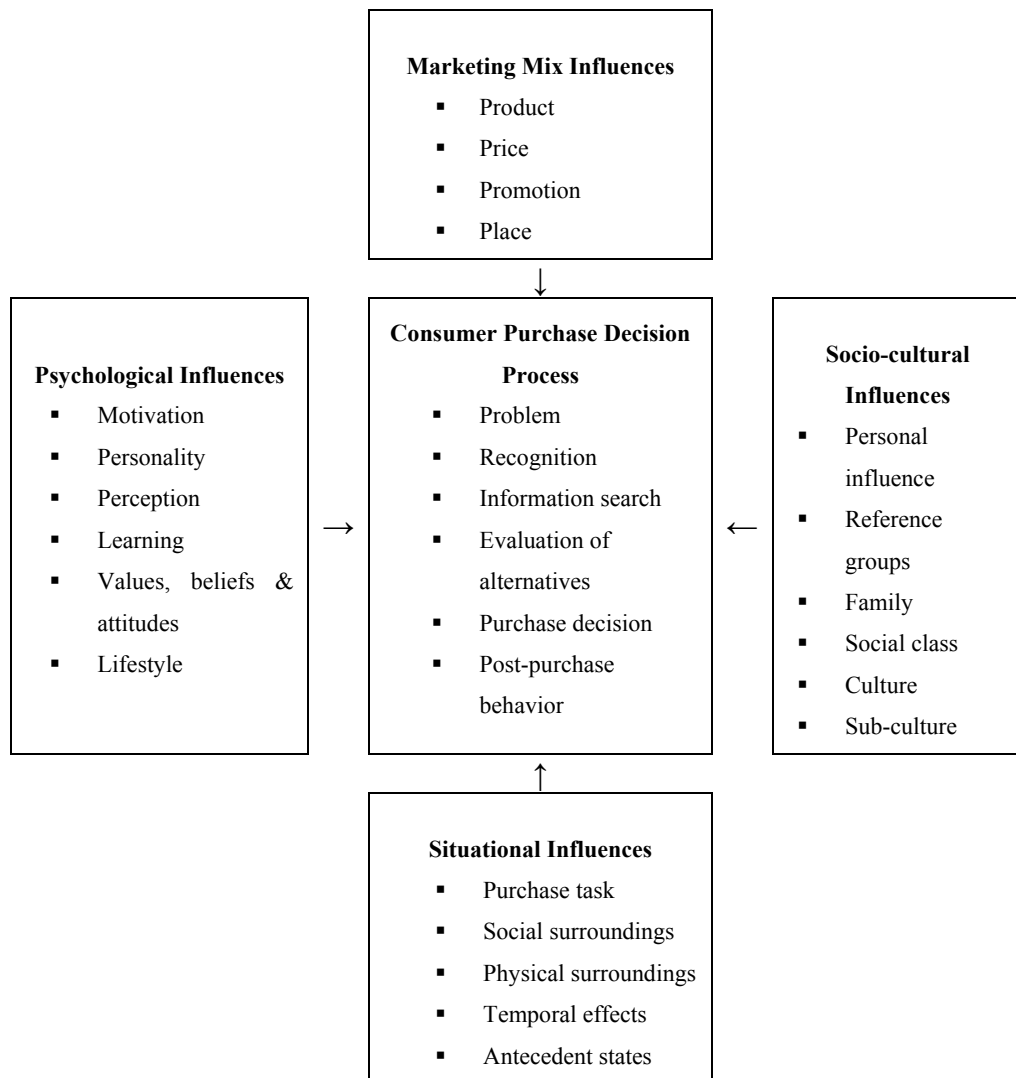


Figure 2. Influences on the consumer purchase decision (Berkowitz et al., 1997)

Although external factors have substantial effect on buying behavior, even more important are internal factors – those most personal aspects of being a unique individual, such as needs and motives, attitudes, beliefs and values, and personality. Concepts such as personality, attitudes and motivation are useful for interpreting buying processes, determining what strategies to use to reach and motivate individuals, and directing marketing efforts.

2.4.1. Personality

The study of personality and its relationship to human behavior can be traced back to the earliest writings of the Europeans, Greeks, Chinese, and Egyptians (Loudon & Della Bitta, 1988). Personality, which provides a consistency of responses based on enduring, inner psychological characteristics, is the particular pattern of organization that makes one individual unique and different from all others (Engel, Blackwell, & Miniard, 1995).

Personality, as a concept, does not have a single, widely accepted definition. It has been defined several times by several researchers. All the definitions emphasize common main points. For instance; according to Kassarian (1971) personality is “consistent responses to the environmental stimuli”. Arnould, Price, and Zinkhan (p.389; 2004) definition of personality was “the distinctive and enduring patterns of thoughts, emotions, and behaviors that characterize each individual’s adaptation to the situations of his or her life”. A more brief but meaningful definition was given by Schiffman and Kanuk (p.120; 2004), “Personality, inner psychological characteristic that both determine and reflect how a person responds to his or her environment”.

According to Lundin (1969), personality, which has a moderator affect on the individuals behavior, is that organization of unique behavior equipment an individual has acquired under the special conditions of his development.

While psychologists' researches are centralized on explaining why people are the way they are, and why they do what they do, also, consumer researchers and marketers are curious about human personality, which may influence consumer or customer buying behavior (Statt, 1997).

Therefore identifying personality can be useful in analyzing consumer behavior for some product, service or brand choices. Each person's distinct personality will influence his or her buying behavior (Kotler & Armstrong, 1991).

Personality enables marketers to categorize consumers into different groups on the basis of one or several traits. An individual's personality tends to be both consistent and enduring. Both qualities are essential if marketers are to explain or predict consumer behavior in terms of personality.

Although marketers cannot change consumers' personalities to conform to their products, if they know which personality characteristics influence specific consumer response, they can attempt to appeal to the relevant traits inherent in their target group of consumers.

2.4.1.1. Personality Theories and Consumer Behavior

Individual differences in personality have long been recognized. The history of psychology is dominated by attempts to understand and explain the human personality. There are many formal theories of personality which can be traced back to Aristotle, Plato and beyond. The theories related with consumer behavior can be grouped under three headings; 1) Freudian Theory, 2) Neo-Freudian Theories, and 3) Trait theory.

According to *Freudian psychoanalytic approach* human personality comprises of three parts; the id, the ego and the superego. Id, composed of powerful drives, raw impulses of sex and aggression that demand to be satisfied immediately is unconscious, people is usually aware of it. Ego is

rational, conscious, thinking part of our personality. And human is aware of it. Ego gets its working energy from id, but when the id impulses are too strong and threaten to take over the ego, it represses them. Superego is usually unconscious like id. This part of the personality deals with right and wrong, with morality, with the correct and proper way to behave, feel and think (Statt, 1997).

It is mentioned that Sigmund Freud's psychoanalytic theory of personality was built on the premise that unconscious needs or drives especially sexual and other biological drives are at the heart of human motivation and personality (Schiffman & Kanuk, 2004).

The importance of Freudian theory is its emphasis on the unconscious nature of the causes of human behavior. Researchers who apply Freud's theory to the study of consumer personality believe that human drives are largely unconscious and that consumers are primarily unaware of their true reasons for buying what they buy.

These researchers tend to see consumer purchases and consumption situations as a reflection and extension of the consumer's own personality. What this means for marketing is that the consumers are often unaware of the needs a product is satisfying beyond the most immediate and obvious ones (Schiffman & Kanuk, 2004; Statt, 1997).

Neo-Freudian theories advocate that social relationship is fundamental to the formation and development of personality. These theories are against the contention that personality is primarily instinctual and sexual in nature.

Alfred Adler as neo-Freudian theorist viewed human beings as seeking to attain various rational goals, which he called style of life. Many marketers use some of these neo-Freudian theories intuitively. For example; marketers position their products or services as providing an opportunity to belong or

to be appreciated by others in a group or social setting (Schiffman & Kanuk, 2004).

Trait and factor theories are the most popular concepts that used in explaining the behavior of consumers (Loudon & Della Bitta, 1988). Personality assessment is concerned with the description of what individuals are like at any given moment in time. It is well recognized that individuals do differ in degree respect to such variables as academic achievement, intelligence, height, weight, and so on. Also, anxiety, motivation to succeed, and aggressiveness may be considered as representing dimensions or aspects of personality in terms of which there are individual differences in degree. Individual differences in variables such as these are commonly referred to as personality traits (Edwards, 1970).

Even though it is impossible to make all personality theorists agree on a single personality definition, personality is a pattern of a relatively permanent traits and unique characteristics that give both consistency and individuality to a person's behavior (Feist & Feist, 2006). Personality theorists define traits as underlying characteristics, qualities, or processes that do exist in persons (Allport, 1937; cited from Mischel, 1968). Personality traits contribute to individual differences in behavior, consistency of behavior over time, and stability of behavior across situations. Traits; maybe unique, common to some group, or shared by entire species, but their pattern is different for each individual (Feist & Feist, 2006). Also, trait has been traditionally explained as some relatively enduring characteristic of behavior which displays itself in a variety of ways. Traits are often signified by dimensions along which people vary in the amount of the trait established. They can be measured by ratings, questionnaires, or observation of individuals in a series of standard situations (Lundin, 1969).

Huge amount of literature exists about researches that analyzed personality through traits (Berings, De Fruyt, & Bowen, 2004; Chioqueta & Stiles, 2005; Zweig & Webster, 2004; Davis, Patte, Tweed & Curtis, 2007). The most popular theorists of trait theory are Raymond B. Cattell, H.J. Eysenck, and Paul T. Costa and Robert Roger McCrae.

2.4.1.2. Five Factor Model in Personality Assessment

Raymond B. Cattell, the leading theorist of trait theory, identified 16 factors (16PF) to obtain personality profile from any subject (Statt, 1997). With the 16 primary factors of personality he sought to explain individual differences individual differences in every area of life from psychometrically measures of ability, motivation, personality and mood (Matthews, Deary, & Whiteman, 2003).

H.J. Eysenck advocated that three factor is appropriate in exploring the personality differences among individuals. His factors were bipolar; extraversion-introversion, neuroticism-stability, and psychoticism/superego (Feist & Feist, 2006). According to Eysenck and Eysenck (1991) a high scorer on the introversion-extraversion scale is as someone who is sociable, craves excitement, takes chances, is fond of practical jokes, is not always reliable, and can at time lose his temper. A typical introvert is someone who is quite and retiring, is fond of books rather than people, is serious, keeps feelings under close control, is reliable and has high ethical standards. The high neuroticism scorer is someone who tends towards anxiety and depression, worries, has bad sleep and psychometric disorders, allows emotions to affect the judgement, and is preoccupied with things that might go wrong. On the contrary, the low neuroticism scorer recovers quickly after an emotionally upsetting experience and is generally calm and unworried. Individuals who had high scores in psychoticism factor are solitary, often troublesome, sometimes cruel, unemphatic, aggressive and has unusual tastes (Eysenck and Eysenck, 1991).

In the late 1970's and early 1980's Costa and McCrae, who preferred using factor analytic techniques to examine the stability and structure of personality, initially focused on two main dimensions of personality. These dimensions were "neuroticism" and "extraversion", (Feist & Feist, 2006). Then, in the development process of NEO Personality Inventory "openness to experience" dimension, which was originated from Cattell's primary factor, was included (John & Srivastava, 1999).

In 1983 Costa and McCrae realized that their NEO Personality Inventory covered only three of the Big Five factors, therefore, they extended their model with preliminary scales measuring "agreeableness" and "conscientiousness" (John & Srivastava, 1999). Then, they published NEO-PI-R, the revised version of NEO Personality Inventory, was composed of 240 items. To provide a shorter version a 60 item NEO-FFI including 12 items for each factor (Costa & McCrae, 1992). The themes of the five traits are given below;

Neuroticism refers to the chronic level of emotional adjustment and instability. High Neuroticism identifies individuals who are prone to psychological distress. People who score high on neuroticism tend to be anxious, temperamental, self-pitying, self-conscious, emotional, and vulnerable to stress related disorders. Neuroticism also includes having unrealistic ideas, excessive cravings or difficulty in tolerating the frustration caused by not acting on one's urges, and maladaptive coping responses. People who score low on neuroticism are usually calm, even-tempered, self-satisfied, and unemotional. Neuroticism includes the facet scales for anxiety, angry hostility, depression, self-consciousness, impulsivity, and vulnerability (Costa & Widiger, 2005; Feist & Feist, 2006).

Extraversion refers to the quantity and intensity of preferred interpersonal interactions, activity level, need for stimulation, and capacity for joy. People who are high in extraversion tend to be sociable, active, talkative, person

oriented, optimistic, fun loving, cheerful, and affectionate; whereas people who are low in extraversion tend to be reserved (but not necessarily unfriendly), sober, aloof, independent, passive, quiet, and lacking the ability to express strong emotion. Introverts are not unhappy or pessimistic people, but they do not experience the exuberant high spirits that characterize extraverts (Costa & Widiger, 2005; Feist & Feist, 2006).

Openness to Experience is much less well known than either neuroticism or extraversion. Openness to experience differs from ability and intelligence and involves the active seeking and appreciation of experiences for their own sake. It distinguishes people who prefer variety from those who have a need for closure and who gain comfort in their association with familiar people and things. People high on openness to experience seek for varied and different experiences. Open individuals are curious, imaginative, and willing to entertain novel ideas and unconventional values; they experience the whole gamut of emotions more vividly than do closed individuals. By contrast, closed individuals (those who are low in Openness) tend to be conventional in their beliefs and attitudes, conservative in their tastes, and dogmatic and rigid in their beliefs; they are behaviorally set in their ways and emotionally unresponsive (Costa & Widiger, 2005; Feist & Feist, 2006).

Agreeableness, like extraversion, is an interpersonal dimension and refers to the kinds of interactions a person prefers along a continuum from compassion to antagonism. People who are high in agreeableness tend to be softhearted, good natured, trusting, acceptant, generous, yielding, helpful, forgiving, and altruistic. Eager to help others, they tend to be responsive and empathic and believe that most others want to and will behave in the same manner. Those who are low in agreeableness (called antagonistic) tend to be cynical, irritable, rude, or even abrasive, suspicious, unfriendly, uncooperative, and irritable and can be manipulative, vengeful, and ruthless (Costa & Widiger, 2005; Feist & Feist, 2006;).

Conscientiousness assesses the degree of organization, persistence, control, and motivation in goal directed behavior. People who are high in conscientiousness tend to be organized, reliable, achievement focused, hard working, self-directed, punctual, scrupulous, ambitious, and preserving, whereas those who are low in conscientiousness tend to be aimless, unreliable, lazy, careless, lax, negligent, and hedonistic (Costa & Widiger, 2005; Feist & Feist, 2006).

2.4.1.3. Measures of Five Factor Model – The Big Five

There are several different measures of Big Five. The most common measures of this theory are the Revised NEO Personality Inventory (NEO-PI-R: Costa & McCrae, 1992), NEO Five-Factor Inventory (NEO-FFI: Costa & McCrae, 1992), Big Five Inventory (BFI: Benet-Martinez & John, 1998; John, Donahue, & Kentle, 1991), and the Personal Style Inventory (PSI: Lounsbury & Gibson, 1998).

Five-Factor Model's measures are the most frequently preferred ones in personality researches (Bagby, Vachon, Bulmash, Toneato, Quilty, & Costa, 2007; Bilalic, McLeod, & Gobet, 2007; De Fruyt, D Wicle, & Herringen, 2000; Komarraju & Karrau, 2005; Laidra, Pullman, & Allik, 2006; O'Connor & Paunonen, 2007; Zhang, 2006). The robustness of the traits may be the reason, because traits of five –factor model have proven their reliability and validity across cultures (Benet & Waller, 1995; McCrae & Costa, 1997; McCrae, Costa, Martin, Oryol, Rukavishnikov, Senin, Hrebickova, & Urbanek, 2004; McCrae, Terracciano, & 79 Members of Personality Profiles of Cultures Project, 2005; Paunonen & Ashton, 1998).

BFI-44, is an instrument common across studies (Furnham, Petrides, Jackson, & Cotter, 2002; Okun, & Finch, 1998; Rammstedt, & John, 2007; Reynolds, & Clark, 2001; Yik, & Russell, 2001) developed by John, Donahue, and Kentle (1991).

2.4.1.4. Personality and Risk-Taking

Risk means a venture undertaken without regard to possible loss or injury or to expose to a chance of loss or damage. The act of implementing a goal directed option qualifies (becomes) as an instance of risk taking whenever two things are true. First, when the behavior in question could lead to more than one outcome and second, when some of these outcomes are undesirable or even dangerous (Furby & Beyth-Marom, 1992). As a behavior, even if it is financial or non financial, risk taking is one component of general concept of impulsivity, which may also comprise a variety of other personality traits. It is an important form of human behavior that can be any behavior which has a significant degree of uncertainty about losses associated with its outcome. The benefits of risk taking behavior generally serve as positive reinforcers. The motivating circumstances that serve to maintain or initiate the risky action are when the subjective or perceived benefits of this behavior override the losses (Burns & Wilde, 1995).

2.4.2. Motivation

Motivation, the reason for behavior, refers to the process or factors (motives) that influence people to act. A motive is a construct representing an unobservable inner force or inner state of humans that stimulates, arouses, channels and compels a behavioral response or sustains behavior and provides specific direction to that response (Hawkins et al., 2004; Zaltman & Wallendorf, 1983). The provided direction of the response can be positive, toward some object or condition, or negative, away from some object or condition as a result of feelings having driving force. Positive drives are referred as needs, wants, or desires and negative drives as fears or aversions (Schiffman & Kanuk, 2004).

Motivation, which is the driving force within individuals that impels them to action, is produced by a state of tension when an unfilled need is aroused

that the individual wishes to satisfy. When a need has been activated, individuals strive both consciously or subconsciously to reduce or eliminate this tension through behavior which they anticipate will fulfill their needs (Schiffman & Kanuk, 2004; Solomon et al., 2006). The specific goals they select and the patterns of action they undertake to achieve their goals are the results of individual thinking and learning (Schiffman & Kanuk, 2004).

2.4.2.1. Motivation Theories

There are numerous theories of motivation and many of them offer useful insights for the marketing manager. There are several theories which would be useful to understanding consumer motivation. One of them is Maslow's need hierarchy which is a macro theory designed to account for most human behavior in general terms. Second one is McGuire's work; a detailed set of motives to account for specific aspects of consumer behavior and third theory is McClelland's learned needs theory.

Maslow's theory, a good guide to general behavior, is based on four basic assumptions. According to him all humans acquire a similar set of motives through genetic endowment and social interaction and the motives are arranged in a hierarchical model. This theory emphasizes that there are motives which are more basic or critical than others and which must be satisfied to a minimum level before other motives are activated. And finally as the basic motives become satisfied, more advanced ones come into play (Maslow, 1970).

Maslow identified the human needs on five basic levels according to their importance level, from lower level (biogenic-physiological) needs to higher level (psychogenic- psychological) needs (Schiffman, & Kanuk, 2004). Physiological needs are the ones composing the base of the needs hierarchy pyramid and the psychological needs such as self-actualization comprises the top of the hierarchy. This theory advocates that in order to satisfy the

psychological needs, firstly human beings have to satisfy their physiological needs, which refer to the need for food, drink, sex, physical protection or shelter and relief from pain. After the satisfaction of physiological needs than comes the safety need which requires physical safety and need to feel in security from the threatening events or surroundings. These are personal needs constructing the broad base of the hierarchy. When the needs of the base satisfied than comes a more complex need that have to be satisfied, the belongingness need (part of a social group, friendship, interaction, affiliation, etc.). The subsequent need Maslow identified is the need for esteem (peer-recognition, self-esteem). On the top of the hierarchy is self-actualization which is the need to fulfill one's self by maximizing the use of abilities, skills and potential (Zaltman & Wallendorf, 1983).

The hierarchy of needs offers a beneficial frame work for marketers trying to develop appropriate advertising appeals for their products or services. It enables marketers to focus their advertising appeals on a need level that is likely to be shared by a large segment of target audience and it facilitates product/service positioning or re-positioning (Schiffman, & Kanuk, 2004).

Different from Maslow, McGuire divides motivation into four main categories; cognitive, affective, preservation oriented and growth. Cognitive motives focus on the person's need for being adaptively oriented toward the environment achieving sense of meaning. Affective motives deal with the need to reach satisfying feeling states and to obtain personal goals. Preservation-oriented motives emphasize the individual as striving to maintain the equilibrium, while growth motives emphasize development. In the further stage, according to the bases of source and objective of the motive, he subdivided these main categories. The third criterion developed by McGuire, distinguishes between motives that are actively or internally aroused versus those that are a more passive response to the circumstances. The final criterion is used to categorize outcomes that are internal to the

individual and those focused on a relationship with the environment (Hawkins, Best, & Coney, 2004).

Another motivational theorist McClelland focuses on environmental or social learning as a factor affecting needs. According to David McClelland, needs are grouped under three categories. These are need for achievement, need for affiliation and need for power. Need for achievement reflects the desire to take the responsibility to solve problems. Need for affiliation reflects the desire to interact with people on social basis. And third category, need for power reflects the desire to obtain and exercise power and authority.

McClelland's main hypothesis in his theory is that the needs mentioned above are learned through the childhood socialization process. In other words, rewarded behavior is found to reoccur more than a behavior not rewarded or punished. Having a different record of past experiences, behaviors, and rewards results unique set of needs and motivations which will shape the future behavior (Zaltman & Wallendorf, 1983).

2.4.2.2. Motivation and Consumer Behavior

A person has many needs at any given time. Some needs are biological, arising from states of tension such as hunger, thirst, or discomfort. Other needs are psychological, arising from the need for recognition, esteem or belonging. Most of these needs will not be strong enough to motivate the person to act at a given point in time. When a need has been activated, a state of tension exist which drives consumer to attempt to reduce or eliminate the need. Consumers' needs are important components in motivation process because a need becomes a motive when it is aroused to a sufficient level of intensity that the consumer wishes to satisfy (Kinnear & Bernhardt, 1983; Kotler & Armstrong, 1991; Solomon, Bamossy, Askegaard, & Hogg, 2006). In this phase the marketers' goal is to create

products or services that will provide the desired benefits and permit the consumer to reduce the tension (Solomon, Bamossy, Askegaard, & Hogg, 2006).

The needs of consumer can be classified under physiological needs and psychological needs. Physiological needs are the ones which are biologically determined and include the needs for food, clothing, and shelter. Psychological needs are the ones generated by one's social environment which includes need for affiliation, belonging, distinctiveness, individualism, personal fulfillment, and status (Kinnear & Bernhardt, 1983).

The buying behavior of a consumer is the result of the three factors multiplication by each other, the ability to buy something, the opportunity to buy it and the motivation (see Figure 2.).

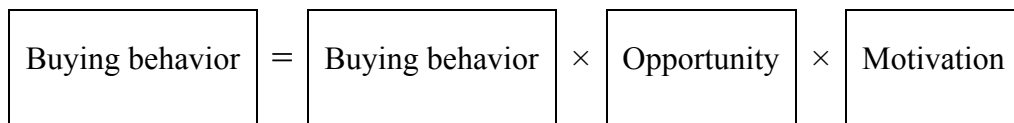


Figure 3. Motivation and buying behavior (Statt, D.A., Understanding the Consumer a Psychological Approach, 1997)

2.5. Related Literature

In this part, published scientific researches on personality, risk-taking attitudes and gambling motivation were reviewed.

2.5.1. Personality and Risk-Taking Attitude

Personality traits and risk-taking as a behavior and as an attitude have been subjected in numerous researches in the literature. Individual differences matter in decision making, also in risk-taking. Here, studies subjected the relationship between risk-taking behavior and personality traits, the relation between demographics (age, gender) and risk-taking, and the relation between financial risk-taking and personality are summarized.

Rosenbloom's (2003) study aimed to provide clearness to the risk evaluation's mediation role between personality and risk taking behavior. According to his research, conducted on fifty-five female and twenty male subjects, high sensation seekers estimated risks lower than did sensation avoiders and high sensation seekers take risks more often than sensation avoiders.

Zuckerman and Kuhlman (2000) in their research aimed to identify the relationship between personality and risk taking behavior in the scope of previously determined six risk taking behavior; smoking, drinking, drugs, sex, driving, and gambling. The study was conducted on 260 college students. A self-report measure of risky behaviors in each of the six areas and Zuckerman-Kuhlman five-factor personality questionnaire were used as instruments in data collection. No significant correlation was mentioned with any of the risk measures and N-Anxiety and activity, but impulsive sensation seeking, aggression and sociability were significantly correlated factors with the risk taking behaviors of the subjects.

Another interesting study on personality and risk taking attitude was the one conducted by Campbell, Goodie, and Foster (2004). The aim of their study was to find out that narcissist people would have high self-confidence and therefore they would be more willing in risk taking. Their research, which was based on three phases, indicated that narcissist subjects were over-confident than non-narcissists and showed more will in taking risk than non-narcissists.

Also, there are differences between individuals' personality according to their risk-taking levels. The high risk taking group had higher risk taking and lower harm-avoidance compared to the low risk group. Additionally, the high risk group scores on affiliation, desirability, dominance, exhibition, and self-esteem were significantly higher than low risk group, but on the

other hand, innovation scores, reflecting creativity and inventiveness scores of low risk taking group was higher than the high risk group (Vavrik, 1997).

In an experimental research, conducted on 120 subjects aged between 16 and 29 years, it was aimed to compare personality constructs of risk-taking behavior. Statistical results displayed that the sensation seeking personality factor and risk taking scores decrease by the increase in age. Also, the results pointed that thrill and adventure seeking subscale was positively correlated with risk-taking behaviors of subjects (Trimpop, Kerr, and Kirkcaldy, 1999).

Nicholson, Soane, O’Creevy and Willman (2005) developed domain-specific risk taking behavior scale which evaluates in what frequencies the subjects take recreational risks, health risks, career risks, financial risks, safety risks and social risks. Also, in their study, Nicholson and his associates, with the help of NEO PI-R (Personality Questionnaire), aimed to display the relation between risk taking propensity and personality traits. Their data, gathered from 2041 subjects, revealed that individuals who scored high risk taking propensity’s scored high in extraversion and openness personality traits and low in neuroticism, agreeableness, and conscientiousness. Besides, this study displayed a significant difference in risk taking in terms of gender and inverse relation with age. Men reported significantly higher risk taking than women and risk taking frequencies of subjects’ decreased with aging.

Additionally, another study aimed to explore personality and motives influences on risky behaviors was conducted by Cooper, Agocha, and Sheldon (2000). Their results reflected that personality and motives accounted for substantial variance in risky behaviors. Neuroticism and extraversion traits of personality were found to promote subjects risk taking behaviors. According to Cooper and colleagues (2000) neurotic individuals were prone to engage in risky behaviors as a way to cope with aversive

mood states, whereas extraverted individuals were more likely to engage in risky behaviors as a way to enhance positive affective experience.

Deakin, Aitken, Robbins, and Sahakian's (2004) research showed parallelism with Nicholson and his/her associates (2005) study, in terms of risk-taking propensity and aging. Also, Deakin and his associates aimed to characterize the behavioral changes in risk taking with age. Their research on 177 healthy adult volunteers aged between 17 and 73 revealed that risk taking behavior decreased with age. According to their research aging was also associated with longer deliberation (thinking) times, older subjects thought for longer before making a choice, poorer decision making and reduced risk taking. Both sexes showed similar patterns of decision making, although male participants showed a greater modulation of risk taking in response to the probability of winning.

In a comparative study Levenson (1990) tried to determine if risk taking individuals from different social orientations showed variations in terms of personality characteristics. Therefore, the sample of his research was composed of 24 male antisocial risk takers (drug unit residents), 21 prosocial risk takers (heroes; policeman and fireman) and 18 adventurous risk takers (highly skilled rock climbers). He used four different personality assessing scale and 4 different scale measuring social orientation. Findings of study showed that groups differed in personality; drug unit subjects had higher scores than the other two groups on measures psychopathology and an antisocial posture. The rock climbers were higher than the heroes on thrill and adventure seeking and experience seeking.

Lauriola and Levin (2001) decided to examine the relationship between higher level personality traits (the Big Five) and choice behavior in an experimentally controlled risky decision-making task. They examined the relations among personality traits, demographics (age and gender) and risk taking. The risk-taking measures of the subjects were gathered under two

circumstances where they could achieve gains and where they could avoid loss. The results of their study showed that personality traits effects differed both for achieving gains and avoiding loss conditions and the effects differed when the demographics were taken into consideration. Personality factors predicted risk-taking primarily in the domain of gains where high scores on openness to experience were associated with greater risk-taking and high scores on neuroticism were associated with less risk taking. Males were less neurotic, less agreeable and more risk taking than females and younger adults were more extraverted, more open to experience and more risk taking for gains than were older adults and the elderly ones.

In their study Williams & Narendran (1999) aimed to test which individual characteristics influence managerial risk preferences and the degree to which risk preferences determine risk propensity. To assess individual risk attitudes a single item risk preference scale and to assess subjects' risk propensity a risk assessment instrument, composed of 10 business scenarios that manipulated risk outcome magnitude, risk outcome uncertainty, personal exposure, outcome potential, and personal managerial risk-related expectations, was used to test the effects of individual risk preferences on managerial risk propensity among 285 Indian managers in India and Singapore. Also, Locus of Control Scale, Achievement Motivation Scale and Jenkins Activity scale was used in the study to assess the subjects' need for achievement, locus of control and their personality type (type A). Results revealed that male managers, managers in India, with more modern cultural values, working in organizations with higher perceived risk willingness, with a higher need for achievement were significantly more willing to take risks than others.

In their research Soane and Chmiel (2005) considered the influence of personality and decision factors, including risk perception, on domain-specific and cross-domain risk preferences. They considered risk across three domains, work, health and finance, which are important in most

people's lives. Research was conducted on academics, chess players, firefighters, mountaineers and traders in financial markets. The results of the research showed that the participants could be grouped as those who were consistent in their risk preferences in their decisions in work, health and finance and those who were inconsistent in their risk preferences or in other words whose risk preferences differ according to decision domains, grouped domain specific. The consistent group was significantly lower on neuroticism and higher on agreeableness and conscientiousness with less variable approach to weighing up the costs and benefits of taking risks than the inconsistent group. Also, the majority of the consistent group was risk averse.

In their analysis between outcome expectancies and risk taking behavior, Fromme, Katz and Rivet (1997) pointed that outcome expectancies regarding potential positive consequences were positively and reliably associated with participation in risky activities. While results indicated that outcome expectancies were significantly associated with current risk taking, the results were promising that outcome expectancies may also be predictive for future risk taking behavior.

Krueger and Dickson (1994) found that the influence of perceived self-efficacy on risk taking was significant and mediated by perceptions of opportunities and threats. Research implied that an increase in self-efficacy increases perceptions of opportunity and decreases perceptions of threat and that changing opportunity and threat perceptions changes risk taking.

In their meta-analysis of gender's effect on risk taking behavior Byrnes and associates (1999) emphasized that gender difference showed variations in risk taking behavior, but they mentioned that it was related to the context and age level. In their meta-analysis over 150 studies it is mentioned that male participants were more likely to take risks than females. While males were inclined to take risks even when it was clear that it was a bad idea to

take a risk, females seemed to be disinclined to take risks even in fairly innocuous (harmless) situations or even when it was a good idea to take risk.

Gullone and Moore's (2000) research to investigate the links between risk taking and personality was conducted on 459 adolescent students aged between 11-18 years. Their results pointed that younger adolescents and girls reported higher levels of risk and showed less frequency in engaging risky behavior than the older ones and boys. Also, their analysis showed that subjects' personality traits vary according to their gender; while females scored higher than males in neuroticism and agreeableness, males scored higher on conscientiousness.

Donkers, Melenerg, and Van Soest (2001) tried to identify whether the attitudes towards risk were related to some commonly observed individual characteristics and found significant relationship between attitudes towards risk and subjects' age, gender, income and education level. Females and older subjects had more negative attitude towards risk, while income and education level are positively related to an individual's attitude towards risk.

Also, there are studies specifically investigated the variations in risk taking and in financial risk taking behavior related with gender (Schubert, Brown, Gysler, & Brachinger, 1999; Dwyer, Gilkeson, & List, 2002; Jianakoplos, & Bernasek, 1998; Bajtelsmit, & Bernasek, 1996; Jianakoplos, & Bernasek, 1998).

In their study Carducci and Wong (1998) aimed to present the personality factors' relation with the individuals' financial risk-taking behavior. In their study, 305 undergraduate students, whose age was ranging from 18 to 53 year, were conducted two surveys. In the first stage, Carducci and Wong categorized their subject group according to their behavior patterns and then they evaluated their financial risk-taking behavior. The results revealed that

individuals (type A) who are hard-driving and competitive, with an underlying tendency for hostility and aggressiveness took greater financial risks than the others (type B) who do not possess these properties.

Daghofer's research (2007), on a multinational (Austria, Germany, Slovenia) subject group, aimed to examine the impact of gender, age, education, and stake on financial risk taking with respect to gambling at low as well as high stakes in a controlled design in which real money was at stake. The results of the study concluded that age and academic degree had no significant impact on the financial risk-taking behaviors of the subjects.

Hudgens and Fatkin's (1985) study on military personnel aimed to examine the effect of repeated situations' effect on risk taking preference. They mentioned that females showed lower preference for risk than males, when subjects repeated a previously undertaken task. But, they found differences in risk preference only in tasks with low probabilities of success. Also Hudgens and Fatkin pointed that it took males longer to make decisions under risk than females, and subject discussions revealed that males usually looked for numerical information whereas females looked for visual patterns.

In their research, on undergraduates from different fields at the University of Zürich and the Swiss Federal Institute of Technology, Schubert and associates (1999) advocated that under controlled economic conditions female subjects did not generally make less risky financial choices than their male counterparts.

Different from the mentioned studies Gullone, Moore, Moss, and Boyd (2000) focused on adolescents risk perceptions and their risk-taking behavior. The results pointed that age and gender were difference causing factors in risk perceptions and in performing risky behaviors. Older

adolescents and boys reported lower risk perceptions and a higher frequency of risky behaviors than younger adolescent and girls.

Dwyer and her colleagues' (2002) investigated if investor gender was related to risk taking in mutual fund investment decisions by analyzing a data form national survey of nearly 2000 mutual fund investors. Even finding evidence to the claim that women take less risk than men in their mutual fund investments, parallel with the Schubert and associates' (1999) research, when included financial investment knowledge as a control variable it has been observed that the variation in financial risk taking related with gender decreases.

To verify the stated and popularly perceived notion that there are gender differences in risk taking, Jianakoplos and Bernasek (1998) proposed to investigate whether women exhibit greater financial risk aversion than men. They estimated the influence of household wealth and other socioeconomic variables on the proportion of risky assets held if there are gender differences in financial risk taking. They compared single women with single men and married couples. Subjects were asked to choose between statements regarding their risk-return tradeoff, 63% of the single women and 57% of the married women report that they are not willing to accept any financial risk at all (compared to 43% of single men and 41% of married men in the sample). Their results revealed that single women were less risk taking than single men. Gender differences in financial risk taking were also influenced by age, race and number of children.

The relationship between risk taking and personality has been subjected in Zaleskiewicz's (2001) research where it was mentioned that risk taking should be considered under two constructs; stimulating risk taking and instrumental risk taking. Result o f his study revealed that instrumental risk taking was related to risk preference in the investment domain and was determined by personality traits connected with orientation toward the

future, the tendency to think rationally, impulsivity, and sensation seeking. Stimulating risk taking was found to be related to the preference for recreational, ethical, health, and gambling risks and was associated with personality features with paratelic orientation, arousal seeking, impulsivity, and strong sensation seeking. Also, significant gender differences were observed in this research. Male subjects' scores were significantly higher than female ones both in stimulating risk taking and instrumental risk taking.

Coleman's (2007) research, on 67 Australian finance executives, pointed that over half of the subjects were willing to take risks and almost half of the variance in their risk propensity was explained roughly by the subjects' endowment, perception of risk's role on their decisions. Subjects who had lower investments correlated with lower income, less experienced in their employment, and who were younger in age had higher risk propensity than the others.

In their research Powell and Ansic (1997) conducted an experimental analysis based on the hypothesis that females have a lower preference for risk than males when tasks are framed in terms of losses rather gains, when tasks are familiar, and when levels of ambiguity or costs associated with decisions are high; and that these gender differences are associated with a difference in decision strategy. Results of their research revealed that females are less risk seeking than males regardless of familiarity and framing, costs or ambiguity. The results also indicated that males and females adopt different strategies in financial decision making environments but that these strategies have no significant impact on ability to perform.

In another experimental research Fehr-Duda and her colleagues (2006) supposed that gender differences in risk taking may be due to differences in valuations of outcomes or probability in weights. Therefore, from the point that women are more risk averse than men in financial decision making,

they examined whether this proposition reflects gender differences in actual risk-taking behavior by means of a laboratory experiment with monetary incentives. Their results indicated that value functions do not differ significantly between women and men. In probability weighting, women tend to be less sensitive to probability changes; they underestimated large probabilities of gains more strongly than men. As a result, Fehr-Duda and her colleagues concluded that women were more risk averse than men in lotteries with low and medium probabilities.

Rosen and his colleagues (2003) examined variations in risk attitude across major socio-demographic groups. They have conducted their study on 62 subjects, whose mean age was 47.6, where 47% of them were female and 33% of them were African American. The results revealed that significant differences occurred in risk taking attitude across race and educational status. According to the multivariate regression analysis white race and lower education were significant predictors of risk aversion.

Ronay and Kim (2006) investigated if there is difference in risk attitude between male and female subjects. Males were found to have more positive evaluations of risk than females. In addition while males and females were not found to differ in their individual attitudes in hypothetical risk decisions, when measured within group contexts, males advocated a greater tolerance for risk than females.

In another research, Cross and his associates (1998) aimed to find out if any differences existed between subjects who engaged in gambling and subjects who did not according to their attitudes towards risk taking and as a result concluded that gambling students-athletes were more likely towards risk taking behavior than the student-athletes who did not engaged in gambling.

2.5.2. Sports Gambling and Gambling Motivations

Gambling or betting which means making an agreement to risk money on the result of a future event have been subject to several studies. In the international literature there are studies identifying the gambling markets differences from the other financial markets (Levitt, 2004), how the football betting market functions (Levitt, 2002), the economy of betting markets (Sauer, 1998), analyzed betting games statistically, how to develop effective gambling strategies (Jackson, D.A., 1994; Clair & Letscher, 2005). Below, there are studies which subjected gambling from different aspects.

Claussen and Miller (2001) in their qualitative research explored the fast development of American gambling industry, also parallel to this the development of sports betting industry and religious corruption was stated as a factor influencing this development. And, additionally this study mentioned that the money circulates in illegal betting markets exceeds the one in legal markets.

In another qualitative study on sports gambling Ignatin (1984) enlightened who were participating bets on sports events, why people bet on sports games, give some information about sports betting types and about the difficulties identifying the money circulates in illegal betting markets. According to Ignatine mostly males living in urban and having middle level economic status participates in sport betting activities than the others and investment and consumption motives usually drives people in participating these gambling activities.

Oster and Knapp (1998) in their research on university students tried to bring to light that who participates in sports betting activities and in what frequency they participate these activities. On their research on approximately 544 university students (half male, female) they found that 64% of the students participated sports betting activities once in their life

span and they stated that 7% of these subjects participated at least once or more than once a week in sports betting activities. Also Oster and Knapp's study pointed that the percentage of males in the group participating more than once a week in sports betting activities were significantly higher than the females (one female to six male).

The research which Cross and Volano (1999) conducted 758 basketball players coming from NCAA basketball league pointed that 72% of the students somehow participated in gambling activities, 45% of male athlete students involved in sports betting games and emphasized that more than 5% of student athletes participated in bets in which they were involved as a player.

Neighbors and his associates (2002) in their qualitative and quantitative combined study aimed to identify the university students gambling motivations. In their study they evaluated 184 university students who participates betting activities. According to research results money, enjoyment, social reasons, excitement, competing, coherence (friends), risk, skill, interest, escape or overcoming daily problems, struggling, luck and chasing (to get what was lost) were motivating factors which influenced students to participate in betting activities.

Different from the sports bettors Cotte (1997) conducted a study on gamblers motivations and consumption experiences. The results of her investigation showed similarity with the motivations of sports bettors. Learning and evaluating, escape, risk-taking, cognitively categorizing himself/herself, emotional categorization, competition and socialization were the motivations of subjects who were gambling.

In their research on 51 male (13% were sport gamblers) and 43 female gambling subjects Burger, Dahlgren, and MacDonald (2006) aimed to identify if any relationship exists between the competitiveness level and

gambling motivation, and gender and gambling motivation. Results pointed that the subjects who showed high competitiveness also showed high level intrinsic and extrinsic motivations than the ones who showed low level competitiveness properties. Gender differences did not result in any significant difference in subjects' motivations. One more important finding of their study was that the male subjects were more intrinsically motivated towards gambling than their counterparts.

Adebayo (1998) examined gambling participation motivations of rural community college students. He concluded that 80% of the students indicated extrinsic reasons and 65% of the students indicated intrinsic motivational reasons. According to Adebayo students were motivated both extrinsically and intrinsically towards gambling. Also the results of the research pointed that male subjects preferred wagering on skill requiring gambles such as sports betting and horse racing.

How motivation relates with gambling involvement was investigated by Chantal, Vallerand, and Valleries (1995). They conducted their study on a specific gambling group who were betting on horse races. Their results displayed that the subjects who were highly motivated by intrinsic factors were more involved in gambling than the ones whose intrinsic motivation levels were lower. Subjects who were motivated because of the excitement provided by gambling, the sense of accomplishment and who thought gambling as an opportunity to broaden their knowledge were more involved in gambling and more likely to continue gambling than the ones who were motivated by external factors, such as monetary reward.

Another research on determining why people participate in gambling was conducted by Neighbors, Lostutter, Crounce, and Larimer (2002). In their research on college student gamblers they determined 16 distinct motives that lead to gambling participation. Money, enjoyment, excitement, social, occupy time/ boredom, winning, competition, conformity, risk, skill

(develop-learn), interest, coping, challenge, drinking, luck, and chasing (previous losses) were the identified motives. The most accentuated motivating factors were winning money, enjoyment, social (interacting with friends or meeting new friends), excitement and alleviating boredom. Of the 42.7 % students' primary motivation was winning money, 23 % of them ranked enjoying as their primary motivation, 11.2 % of the students put social reasons on the top of the list as their primary motivator, and 7.3 % of the students emphasized excitement as their leading motivation. Escape or coping with problems, chasing or winning the previous losses, testing luck, drinking and challenge motives were the secondary or subsequent motives for college student gamblers.

In an analysis on casino gamblers Lee and Lee (2003) determined four benefits that motivated the casino visitors towards gambling. These were escape/relief, social approval/enjoyment, challenge/monetary and social bond. The research which was conducted by Lee, Lee, Bernhardt, and Yoon (2006) determined similar motivational factors. Socialization/learning, challenge, escape, and winning were the motives which Lee, Lee, Bernhardt, and Yoon (2006) identified in their research on casino gamblers. Their subject group's primary motivation for gambling was winning money or winning the previous losses. The second important motivator was challenge (excitement, being interesting, fun, thrill and achievement). The least important motivating factor for casino gamblers, bound up with the research sample, was socialization/learning which means being with friends, kinship, learning and practicing gambling.

Platz and Millar's (2001) research, on student recreational gamblers and pathological gamblers, aimed to identify if motivational differences exist between these two groups related with their gambling activity. According to their results twenty different motives emerged between recreational gamblers and pathological gamblers. Also, in their analysis Platz and Miller proposed winning, exploration, excitement, being with friends, being with

similar people, and risk as the six primary motivators that lead recreational gamblers. The study showed that there were similarities between the groups primary motivating factors. The pathological gamblers were motivated by winning, risk, and excitement and winning was the rank one motivator, as it was for recreational gamblers. But the level of the similar motivating factors was higher for pathological gamblers, which makes them different from the recreational gamblers.

Entertainment, excitement were also motivating factors for elderly female gamblers. They were also motivated by the people watching the game and by the escape opportunity from the daily routine provided by gambling. The mentioned four factors were the primary motivators for the subjects. Such motives like socialization, sense of belonging, testing ability, winning, and competing were the lowest valued motivating factors (Tarras, Singh, & Moufakkir, 2000).

In her study Cotte (1997) proposed gambling motives under three general typology purpose of action, focus of action, and nature of consumption experience which then divided into eight gambling motives and consumption experiences: (1) gambling as learning and evaluating; (2) gambling as a rush (high and low emotion, excitement); (3) gambling as self-definition (reinforcing self-image); (4) gambling as risk-taking; (5) gambling as cognitive self-classification; (6) gambling as emotional self-classification; (7) gambling as competing; and (8) gambling as communing (interpersonal interactions). Cotte alleges that explaining gambling motives with the understandings of both leisure and experiential consumption would be more sensible rather than the previously hypothesized motives such as; economic motives (winning for money), symbolic motives (risk-taking, symbolic sense of control), and hedonic motives (pleasure-seeking, self-esteem enhancement).

Loroz's (2004) qualitative study on gamblers aged over 55 explored the psychological benefits provided by gambling. To be able to control the game and the self (controlling choices, attempting to influence fate or luck, setting spending limits, reacting stoically to wins/losses), the energy provided by gambling (physical lift); fun, thrill, and excitement (emotional lift); getting away, breaking the routine, social contact, fantasies about winning (escape) were psychological benefits derived from gambling which satisfied the hedonic motivations of subjects.

The pathologic gamblers investigated by Carruthers, Platz, and Busser (2006) experienced high level of amotivation which meant that they questioned what gambling did for them or what they got out of it, and they were motivated by extrinsic reasons than intrinsic motivations, such as reducing tension, distracting themselves from their concerns, to get together with friends (identified regulation), to win or to become rich (external regulation) and to satisfy ego needs (introjected regulation).

Jang and his colleagues' (2000) research tried to explore the underlying meanings that subjects give to gambling. Their research subject group was composed of casino gamblers. The most important personal meaning or motivating factors were pleasure and the importance accruing to individuals.

McNeilly and Burke's (2000) study which was undertaken in order to begin to describe the gambling behaviors and motivations of older adults (+65) concluded that older adults were motivated to gamble as a means to relax, escape, boredom, pass the time, and to get away for the day.

CHAPTER III

METHODOLOGY

3.1. Sample of the Study

The subject group of this research was composed of Middle East Technical University students who were participating in sports gambling activities (students betting on football, basketball, volleyball, horse-races, etc.) and who had never participated in sports gambling activities. The subject group of this research was composed of 1109 participants and 435 of them were sport gamblers who comprised the 39.2% of the total and 674 of them were non-gamblers who comprised the 60.8% of the total subject group. While males were composing the 63.1% (n=700) of the all group, the females were composing 36.9% (n=409) of the research group. In the males group, gambling subjects composed the 46% (n=324) and non-gamblers composed the 54% (n=376) of the total. In the females group, gambling females composed 27% of the whole female subjects and non-gambling females comprised 73% of the whole females. The mean age of the whole subject group was 21.77 ± 2.12 , the mean age of the subjects who were engaged in sports gambling was 21.76 ± 2.32 , and the mean age of the subjects who were non-gamblers was 21.78 ± 1.99 . Males mean age was 22.12 ± 2.24 and females mean age was 21.17 ± 1.73 . The sports gambling experience level of the subjects who were gambling was 32.06 ± 20.51 month.

In the data collection process, because of the indefiniteness of the population of the students who were gambling or not on sport events, purposive sampling method was used. In order to be able to generalize the findings of the study, the sample size was calculated with Cohen's power analysis formula (Cohen & Cohen, 2003).

$$n = L/f^2 + k + 1$$

n: sample size

f²: effect size (0.02)

L: indices which is determined by significance level (α ; .05), the number of independent variable (n= 5) and power (.90).

According to the Cohen's formula, calculations revealed that a sample size of approximately 829 was enough for the generalization of the research.

$$n = 16.47/0.02 + 5 + 1 = 829$$

Places, where student population density was high, were decided as the main data collection districts; such as dormitories, faculty and department canteens, and recreational areas such as sport halls, tennis courts, football stadium, restaurants and cafes. Data were collected from students who accepted voluntary participation. Before the questionnaires were distributed each participant was asked whether they were gambling or not on sport events. Subjects, who declared that they were non-gamblers were given personality questionnaire and investment risk-attitude scale. Personality questionnaire, investment risk-attitude scale, and gambling motivation scale were given to the students who declared that they were gambling on the outcomes of sport events.

3.2. Data Collection Instruments

The aim of the study was to determine the personality traits and investment risk-taking attitudes of both the sports gambling university students and non-gambling university students and also to determine motivations of university students who gamble on sport events. Therefore, in the data collection of this research three questionnaires were used. The Big Five Personality Questionnaire, composed of items dealing with personality traits of subjects (John, Donahue, & Kentle, 1991), the Investment Risk-Attitude

Scale, which was composed of items dealing with subjects' investment risk taking attitudes (Nyhus, 1995), and the Gambling Motivations Scale, which consisted of items dealing with gambling motivations of the sports gambling subjects (Chantal, Vallerand and Vallieres,1994). Also, demographic information part was included (gender, gambling behavior, gambling experience) in each questionnaire form. Prior to the main data collection stage of the present study, pilot studies conducted for the adaptation of Investment Risk Attitude Scale and Gambling Motivation Scale for Turkish population.

3.2.1. Big Five Inventory- 44

BFI-44 is a common instrument used across studies (Furnham, Petrides, Jackson, & Cotter, 2002; Okun, & Finch, 1998; Rammstedt, & John, 2007; Reynolds, & Clark, 2001; Yik, & Russell, 2001).

BFI-44, which was developed by John, Donahue, and Kentle (1991), was applied to the participants of the study to find out their personality structures (see Appendix A). The instrument consisted of 44 items measuring the existence and strength of personality including extraversion, neuroticism, conscientiousness, agreeableness, and open-mindedness. Higher scores obtained in a subscale imply the strength of that personality dimension. In the evaluation of the items a 5-point Likert type scale ranging from 1 (absolutely disagree) to 5 (absolutely agree) was used. The extraversion subscale was composed of eight items (items 1, 6, 11, 16, 21, 26, 31, and 36), the neuroticism subscale was composed of eight items (items 4, 9, 14, 19, 24, 29, 34, and 39), the conscientiousness subscale was consisted of nine items (items 3, 8, 13, 18, 23, 28, 33, 38, and 43), the agreeableness subscale had nine items (items 2, 7, 12, 17, 22, 27, 32, 37, 42) and the open-mindedness subscale included ten items (items 5, 10, 15, 20, 25, 30, 35, 40, 41, and 44). There were also reverse items in each subscale, including items 6, 21 and 31 in extraversion scale, items 2, 12, 27 and 37 in agreeableness

scale, items 8, 18, 23 and 43 in conscientiousness scale, items 9, 24 and 34 in neuroticism scale and items 35 and 41 in open-mindedness scale.

The BFI-44 was adapted to Turkish population by Evinç (2004). The internal consistency (alpha) coefficients for neuroticism was .75, it was .74 for extraversion, .74 for open-mindedness, .66 for conscientiousness and .51 for agreeableness (Evinç, 2004). The Turkish version of BFI-44 was also used to evaluate university students' personality traits by Sözeri, Karli and Koçak (2006). The internal consistency (alpha) coefficients for neuroticism was .77, it was .78 for extraversion, .77 for open-mindedness, .74 for conscientiousness and .65 for agreeableness, all of the factor's internal consistency levels surpass the .70 cutoff point (Sözeri, Karli and Koçak 2006). The internal consistency values were .70 for extraversion, .66 for neuroticism, .62 for conscientiousness, .65 for agreeableness, and .70 for openness scale.

3.2.2. Investment Risk Attitude Scale

In order to assess the risk-taking propensities of the students who were sport gamblers and non-gamblers Investment Risk Attitude Scale (Nyhus, 1995) was used (see Appendix B). It is an index assessing risk propensity in investing based on six attitude statements concerning financially saving (items 1., 2., and 4.; reverse items) and taking risks (items 3., 5., and 6.) . The lowest score that could be gathered from the scale was 6 and the highest score was 30. The higher the total score gathered from the scale mean higher the propensity to take risks. In the original version of the scale seven-point Likert type scale, where 1 indicated 'totally disagree' and 7 indicates 'totally agree', was used in the assessment of the items.

3.2.2.1. Adaptation of Investment Risk Attitude Scale

The adaptation process of the Investment Risk Attitude Scale to Turkish population included several steps. First, the instrument was translated into

Turkish. In the translation of the items both committee method and translation-back translation method was used. After taking expert proof the scale was initially conducted to the twenty students for language clarity. After obtaining and considering the students' feedback, the items were revised and the final form of the scale was constructed. In order to test the reliability of the final form of the Investment Risk Attitude Scale the final form was distributed to a sample of 60 (37 male, 23 female) university students with a mean age of 21.83 ± 1.99 .

Cronbach's Alpha was used to assess the internal consistency of the scale. According to the analysis, the corrected item-total correlation value of each item was higher than .30 (Green, Salkind & Akey, 2000; Hair et al., 1992). None of the items needed to be eliminated when corrected item-total correlation values are taken into consideration (Table 1.).

The Cronbach's alpha value for the 6 items was .79. Furthermore, the "alpha if item deleted" values concluded that none of the items, except the 2. item, tend to increase the alpha level. And, the increase resulted by deleting the item 2 is not significant (Table 1.). Therefore, it was decided that any deletion in the items would be unnecessary and the original form of the scale was preserved.

Table 1. Item- Total Statistics of Adaptation of Investment Risk Attitude Scale

Factors	Items	Corrected Item-Total Correlation	Alpha If Item Deleted	Alpha
Investment Risk-Taking Attitude	1	.626	.730	.786
	2	.317	.803	
	3	.536	.757	
	4	.532	.762	
	5	.674	.718	
	6	.589	.740	

3.2.2.2. The Main Analyses of Investment Risk Attitude Scale

The main and final analysis of the Investment Risk Attitude Scale was conducted on the total data of the research group, composed of 1109 (700 male; 376 non-gambler, 324 gambler, 409 female; 298 non-gambler, 111 gambler) university students. The mean age of the subjects was 21.77 ± 2.12 .

In order to check the internal consistency of the scale Cronbach's Alpha test was conducted to the data. According to the analysis, the corrected item-total correlation values of the items were higher than .30 (Green, Salkind & Akey, 2000; Hair et al., 1992). Once more, none of the item needed to be eliminated when corrected item-total correlation values are taken into consideration (Table 2.).

The total Cronbach's alpha for the 6 items was .77 (Table 2.). Furthermore, when we look at the "alpha if item deleted" values, none of the items tend to increase the alpha level if these items were deleted.

Table 2. Item- Total Statistics of the Main Analyses of Investment Risk Attitude Scale

Factors	Items	Corrected Item-Total Correlation	Alpha If Item Deleted	Alpha
	1	.584	.712	
Investment	2	.467	.747	
Risk	3	.413	.760	
Taking	4	.468	.744	.766
Attitude	5	.633	.698	
	6	.523	.728	

Results of the final analysis, showed that Turkish version of Investment Risk Attitude Scale was highly consistent with the original scale developed by (Nyhus, 1995).

3.2.3. Gambling Motivation Scale

Gambling Motivation Scale (GMS), developed by Chantal, Vallerand and Vallieres (1994), was used to assess of the motivations that influences university students towards sport gambling (see Appendix C). The scale consisted of 28 items and seven sub-scales evaluating six types of motivation, answering the question “Why do subjects gamble?” and evaluating amotivation. The motivation subscales are grouped under intrinsic motivation and extrinsic motivation concepts. Intrinsic motivation has been divided to three sub-scales; intrinsic motivation of knowledge, intrinsic motivation of accomplishment, and intrinsic motivation of stimulation. Also, extrinsic motivation has been divided to three sub-scales; extrinsic motivation of identified regulation, extrinsic motivation of introjected regulation, and extrinsic motivation of external regulation. Intrinsic motivation of knowledge sub-scale is composed of four items (items 10, 15, 18, and 20) dealing with gamblers’ intrinsic motivations like enjoyment of learning about gambling, exploring new games, playing strategies, context, and understanding something new. Intrinsic motivation of accomplishment subscale (items 3, 6, 19, and 24) deals with gamblers’ pleasure and satisfaction caused by the feeling of improving their gambling skills and efficacy while they participate in gambling activities. Intrinsic motivation of experience stimulation subscale (items 1, 12, 14, and 28) questions the subjects’ enjoyment and amusement motives in gambling. Extrinsic motivation to identified regulation sub-scale, consists of items 4, 13, 17, and 23, deals with the outcomes of gambling activities such as relaxation, escape, and spending time with friends. The sub-scale named extrinsic motivation introjected regulation is composed of 2., 9., 16., and 26. items. This subscale evaluates motivations such as feeling powerful, important and social recognition. Extrinsic motivation of external regulation sub-scale composed of 8., 11., 22., and 27. items deals with money winning, getting rich motivations of gamblers. Seventh sub-scale named amotivation

(items 5, 7, 21, and 25) includes items questioning if the subjects, participating in gambling, are doing the activity purposeless or aimless. In the original form of the scale, individuals were asked to respond to each item using a seven-point Likert Type scale, indicating the degree to which each statement corresponds to the reasons why they play their favorite game, ranging from 1 “does not correspond at all” to 7 “corresponds exactly”.

3.2.3.1. Adaptation of Gambling Motivation Scale

In order to be used in Turkish population the Gambling Motivation Scale to Turkish population several steps were followed. First step of the adaptation process was the translation of the instrument into Turkish. In the translation of the items of the instrument both committee method and translation-back translation method was used. After taking expert proof the scale was initially conducted to the twenty students for item language clarity. After obtaining and considering the students critics the items were revised and the final form of the scale was constructed. In the final form, the 7-point likert type evaluation scale was revised into 5-point Likert type scale, where 1 was representing “totally disagree” and 5 representing “totally agree”. Then, in order to test the reliability of the final form of the scale, it was distributed to 250 university students who declared that they were gambling on sport events and 243 truly completed questionnaires were taken into the analysis. The questionnaires were belonging to 214 male and 29 female subjects. The mean age of the subjects participated in the adaptation study was 21.83 ± 1.99 .

Exploratory factor analysis was used to determine the factor–structure of the Gambling Motivation Scale (GMS). In order to control the factorability of the scale, correlation matrix was checked by looking at correlation coefficients of .30 and above. Results revealed that there are bivariate relationships between items (Table 1). These results make it possible to

anticipate factors to explain the data before running factor analysis (Hair et. al., 1998).

Table 3. Inter-Item Correlation for Adaptation of Gambling Motivation Scale

Items	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14
Item 1	1.00													
Item 2	0.11	1.00												
Item 3	0.22	0.40	1.00											
Item 4	0.29	0.50	0.48	1.00										
Item 5	0.13	0.13	0.08	0.15	1.00									
Item 6	0.11	0.24	0.50	0.30	0.16	1.00								
Item 7	0.08	0.10	0.19	0.16	0.51	0.24	1.00							
Item 8	0.16	0.28	0.08	0.23	0.05	0.09	0.13	1.00						
Item 9	-.01	0.46	0.21	0.34	0.04	0.17	0.07	0.24	1.00					
Item 10	0.14	0.05	0.26	0.19	0.06	0.25	0.02	-.010	0.06	1.00				
Item 11	0.12	0.31	0.14	0.24	0.10	0.22	0.15	0.69	0.22	0.00	1.00			
Item 12	0.65	0.08	0.22	0.32	-.002	0.15	-.01	-.02	0.00	0.23	-.001	1.00		
Item 13	0.34	0.35	0.33	0.66	0.10	0.30	0.10	0.23	0.23	0.20	0.23	0.41	1.00	
Item 14	0.45	0.12	0.32	0.33	0.14	0.28	0.10	0.09	0.15	0.44	0.08	0.48	0.39	1.00
Item 15	0.24	0.15	0.37	0.31	0.06	0.28	0.12	0.06	0.23	0.41	0.04	0.34	0.40	0.47
Item 16	-0.03	0.48	0.20	0.28	-.001	0.10	0.06	0.20	0.54	-.04	0.11	-.006	0.17	0.03
Item 17	0.28	0.24	0.35	0.57	0.02	0.29	0.09	0.06	0.25	0.13	0.13	0.34	0.57	0.18
Item 18	0.26	0.00	0.30	0.14	0.03	0.23	0.06	-.006	0.04	0.45	0.01	0.28	0.14	0.37
Item 19	0.35	0.11	0.41	0.24	0.06	0.42	0.10	0.04	0.17	0.32	0.07	0.36	0.25	0.34
Item 20	0.29	0.09	0.31	0.26	0.11	0.25	0.16	0.00	0.20	0.29	-.002	0.31	0.30	0.45
Item 21	0.08	0.24	0.15	0.22	0.41	0.17	0.32	0.24	0.18	0.11	0.24	0.05	0.21	0.21
Item 22	0.16	0.28	0.04	0.19	0.04	0.06	0.03	0.71	0.17	-.020	0.62	0.02	0.17	-.004
Item 23	0.04	0.31	0.22	0.49	0.02	0.13	0.09	0.18	0.30	0.12	0.13	0.11	0.41	0.19
Item 24	0.13	0.26	0.51	0.22	0.09	0.54	0.23	0.05	0.22	0.31	0.14	0.15	0.25	0.30
Item 25	0.14	0.11	0.12	0.13	0.47	0.20	0.64	0.17	0.13	0.05	0.15	0.10	0.20	0.16
Item 26	0.05	0.47	0.27	0.36	0.04	0.22	0.07	0.23	0.40	0.14	0.16	0.08	0.33	0.16
Item 27	0.14	0.28	0.09	0.24	0.06	0.07	0.12	0.82	0.22	-.011	0.66	0.01	0.28	0.07
Item 28	0.53	0.15	0.29	0.37	0.14	0.16	0.13	0.20	0.12	0.21	0.20	0.54	0.44	0.51

Table 3. Inter-Item Correlation for Adaptation of Gambling Motivation Scale (cont.)

Items	Item 15	Item 16	Item 17	Item 18	Item 19	Item 20	Item 21	Item 22	Item 23	Item 24	Item 25	Item 26	Item 27	Item 28
Item 15	1.00													
Item 16	0.16	1.00												
Item 17	0.34	0.21	1.00											
Item 18	0.40	-0.04	0.20	1.00										
Item 19	0.38	0.04	0.24	0.40	1.00									
Item 20	0.49	0.10	0.28	0.35	0.49	1.00								
Item 21	0.07	0.06	0.13	-0.04	0.13	0.21	1.00							
Item 22	-0.03	0.20	0.08	-0.15	0.02	0.00	0.26	1.00						
Item 23	0.27	0.36	0.39	0.04	0.04	0.21	0.17	0.19	1.00					
Item 24	0.39	0.16	0.29	0.35	0.42	0.39	0.08	-0.03	0.26	1.00				
Item 25	0.24	0.00	0.12	0.04	0.20	0.25	0.47	0.08	0.09	0.23	1.00			
Item 26	0.27	0.39	0.22	0.02	0.15	0.20	0.19	0.22	0.39	0.21	0.17	1.00		
Item 27	0.08	0.23	0.15	-0.05	0.04	0.04	0.27	0.71	0.20	0.03	0.13	0.25	1.00	
Item 28	0.29	0.05	0.32	0.33	0.33	0.44	0.15	0.16	0.27	0.21	0.13	0.20	0.23	1.00

Barlett test of sphericity and Kaiser-Meyer-Olkin value were checked before running factor analysis. Bartlett test of sphericity reached statistical significance, supporting the factorability of the correlation matrix (Table 3). The Kaiser-Meyer-Olkin (KMO) value was .84 exceeding the recommended value .60 (Kaiser, 1974).

Table 4. KMO and Bartlett's Test for Adaptation of Gambling Motivation Scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.846
Bartlett's Test of Sphericity	Approx. Chi-Square
	Df
	P
	3150.541
	378
	.000

In order to determine the dimensional factor structure of gambling motivation scale, students' responses were subjected to exploratory factor analysis. Principle Component analysis method was used to extract possible factors, followed by a varimax rotation to identify stable factor loadings for each item. Accordingly, identifiable factors were required to have eigenvalues greater than 1. In interpreting the rotated component matrix, an item was said to load on a given factor if the factor loading was .30 or greater for a potential factor and the item did not cross-load on other factors.

Results of the exploratory factor analysis indicated six factors, scale that accounted for 62.73% of the common variance. Factor loadings, communalities, means and standard deviations of retained items are displayed in Table 9. Except the items of extrinsic motivation of identified and the items of extrinsic motivation of introjected, the Gambling Motivation Scale preserved its original form. The items of extrinsic motivation of identified and the items of extrinsic motivation of introjected were loaded under one factor. The first factor, labeled as "intrinsic motivation to know", accounted for 12.16% of the common variance and contained four items (items 10, 15, 18, and 20). Four items were found to load on the second factor (items 8, 11, 22 and 27), labeled "extrinsic motivation of external regulation", which accounted for 11.54% of the common variance. The third factor, combination of extrinsic motivation of identified and introjected, contained eight items (items 2, 4, 9, 13, 16, 17, 23 and 26) and accounted for 11.32% of the common variance. The fourth factor included four items (items 1, 12, 14 and 28) accounted for 10.87% of the common variance was labeled as "intrinsic motivation to experience stimulation". The fifth factor, labeled as "amotivation", was composed of four items (items 5, 7, 21 and 25) which accounted for 8.99% of the common variance. The sixth factor labeled as intrinsic motivation toward accomplishment were composed of items 3, 6, 19 and 24, and accounted for 7.85% of the common variance (Table 5.).

Table 5. Item Factor Loadings, Communality Scores, Means, and Standard Deviations for the 28 Items; Factor Eigenvalues for Adaptation of Gambling Motivation Scale

	Factors						Com.	M	SD
	1	2	3	4	5	6			
Item 10	.640						.464	3.16	1.24
Item 15	.637						.550	2.91	1.15
Item 18	.665						.528	3.52	1.10
Item 20	.667						.560	3.12	1.13
Item 8		.893					.834	2.79	1.38
Item 11		.820					.739	2.96	1.34
Item 22		.841					.758	3.10	1.34
Item 27		.869					.811	2.94	1.40
Item 2			.628				.559	1.86	0.89
Item 4			.473				.732	2.31	1.12
Item 9			.720				.579	1.79	0.85
Item 13			.336				.665	2.73	1.16
Item 16			.764				.600	1.56	0.77
Item 17			.316				.606	2.70	1.24
Item 23			.625				.496	1.98	1.00
Item 26			.675				.516	2.06	1.05
Item 1				.672			.643	3.90	0.94
Item 12				.727			.697	3.88	0.99
Item 14				.376			.605	3.39	1.13
Item 28				.605			.622	3.42	1.17
Item 5					.782		.619	3.23	1.25
Item 7					.789		.672	3.11	1.22
Item 21					.646		.518	3.40	1.21
Item 25					.821		.710	3.10	1.25
Item 3						.674	.628	2.56	1.17
Item 6						.764	.680	3.09	1.17
Item 19						.370	.530	3.33	1.17
Item 24						.649	.643	2.89	1.21
Eigen value	6.918	3.604	2.244	2.120	1.527	1.150			

In order to determine the internal consistency of each sub-scale Cronbach's alpha reliability analysis was conducted. The internal consistency values of the identified sub-scales were between .72 and .90. Values of the corrected item-total correlations for each factor exceed the needed range (.30). Furthermore, "alpha if item deleted" values displayed that none of the items tend to increase the alpha level if any of them was deleted (Table 6.). Therefore, it can be said that the internal consistency of the scale is very high.

Table 6. Item-Total Statistics of for Adaptation of Gambling Motivation Scale

Factors	Items	Corrected Item-Total Correlation	Alpha If Item Deleted	Alpha
Intrinsic motivation to know	10	.489	.679	.724
	15	.567	.630	
	18	.519	.659	
	20	.479	.682	
Extrinsic motivation – external regulation	8	.840	.856	.904
	11	.721	.899	
	22	.755	.887	
	27	.826	.861	
Extrinsic motivation identified & introjected	2	.571	.807	.828
	4	.707	.785	
	9	.497	.816	
	13	.598	.802	
	16	.478	.818	
	17	.528	.814	
	23	.556	.808	
Intrinsic motivation to experience stimulation	26	.517	.813	.811
	1	.656	.755	
	12	.674	.744	
	14	.570	.794	
Amotivation	28	.639	.761	.781
	5	.575	.733	
	7	.616	.712	
	21	.483	.778	
Intrinsic motivation towards accomplishment	25	.675	.679	.777
	3	.593	.716	
	6	.611	.707	
	19	.504	.761	
	24	.614	.704	

3.2.3.2. The Main Analysis of Gambling Motivation Scale

The main and final analysis of the Gambling Motivation Scale was conducted on the total data of the research group, composed of 435 (324 male gambler, 111 female gambler) university students who were sport gamblers. The mean age of the subjects was 21.77 ± 2.12 .

Exploratory factor analysis was used to determine the factor–structure of the Gambling Motivation Scale (GMS). In order to check the factorability, correlation matrix was checked by looking at correlation coefficients of .30

and above. Results revealed that there are bivariate relationships between items (Table 7). These results make it possible to anticipate factors to explain the data before running factor analysis (Hair et. al., 1998).

Table 7. Inter-Item Correlation for the Main Analysis of Gambling Motivation Scale

Items	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Item 1	1.00													
Item 2	0.16	1.00												
Item 3	0.24	0.36	1.00											
Item 4	0.34	0.43	0.38	1.00										
Item 5	0.16	0.14	0.04	0.14	1.00									
Item 6	0.14	0.30	0.47	0.37	0.20	1.00								
Item 7	0.06	0.11	0.15	0.12	0.49	0.23	1.00							
Item 8	0.08	0.25	0.10	0.19	0.09	0.10	0.17	1.00						
Item 9	0.06	0.42	0.24	0.31	0.08	0.19	0.08	0.24	1.00					
Item 10	0.19	0.14	0.30	0.25	0.09	0.33	0.08	0.05	0.16	1.00				
Item 11	0.09	0.29	0.17	0.18	0.09	0.15	0.21	0.70	0.21	0.03	1.00			
Item 12	0.63	0.12	0.20	0.30	0.13	0.17	0.02	0.02	0.07	0.25	0.20	1.00		
Item 13	0.33	0.30	0.27	0.56	0.11	0.28	0.13	0.17	0.27	0.24	0.17	0.40	1.00	
Item 14	0.42	0.25	0.29	0.39	0.14	0.33	0.13	0.12	0.27	0.45	0.13	0.40	0.45	1.00
Item 15	0.23	0.21	0.37	0.37	0.07	0.35	0.17	0.10	0.32	0.44	0.09	0.30	0.41	0.50
Item 16	0.00	0.42	0.17	0.22	0.03	0.15	0.06	0.23	0.56	0.09	0.15	0.07	0.20	0.14
Item 17	0.26	0.20	0.20	0.45	0.03	0.29	0.05	0.03	0.22	0.21	0.07	0.36	0.53	0.28
Item 18	0.25	0.14	0.33	0.23	0.09	0.34	0.14	0.04	0.14	0.46	0.10	0.31	0.25	0.43
Item 19	0.34	0.26	0.35	0.29	0.05	0.36	0.11	0.05	0.21	0.31	0.07	0.33	0.32	0.42
Item 20	0.23	0.15	0.27	0.28	0.04	0.28	0.16	0.09	0.23	0.32	0.06	0.24	0.31	0.40
Item 21	0.03	0.10	0.09	0.07	0.35	0.10	0.37	0.26	0.11	0.04	0.24	0.06	0.06	0.08
Item 22	0.18	0.22	0.06	0.16	0.12	0.03	0.11	0.69	0.18	0.10	0.65	0.03	0.10	0.03
Item 23	0.04	0.29	0.19	0.33	0.04	0.11	0.09	0.18	0.39	0.11	0.18	0.05	0.35	0.22
Item 24	0.11	0.21	0.42	0.26	0.11	0.53	0.25	0.08	0.24	0.37	0.14	0.13	0.28	0.34
Item 25	0.07	0.13	0.11	0.10	0.49	0.20	0.67	0.22	0.11	0.07	0.21	0.03	0.15	0.16
Item 26	0.13	0.48	0.24	0.35	0.05	0.24	0.09	0.27	0.44	0.17	0.22	0.10	0.28	0.29
Item 27	0.14	0.22	0.11	0.19	0.10	0.04	0.17	0.76	0.22	0.06	0.69	0.04	0.21	0.10
Item 28	0.52	0.22	0.27	0.38	0.15	0.25	0.12	0.18	0.19	0.23	0.15	0.53	0.42	0.45

Table 7. Inter-Item Correlation for the Main Analysis of Gambling Motivation Scale (cont.)

Items	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Item 15	1.00													
Item 16	0.22	1.00												
Item 17	0.35	0.16	1.00											
Item 18	0.44	0.04	0.27	1.00										
Item 19	0.39	0.15	0.33	0.41	1.00									
Item 20	0.49	0.13	0.30	0.40	0.39	1.00								
Item 21	0.01	0.06	0.01	-0.08	0.06	0.12	1.00							
Item 22	0.04	0.18	0.02	-0.02	0.02	0.08	0.28	1.00						
Item 23	0.27	0.42	0.25	0.09	0.08	0.20	0.09	0.17	1.00					
Item 24	0.42	0.18	0.32	0.42	0.34	0.38	0.05	0.01	0.19	1.00				
Item 25	0.19	0.06	0.08	0.09	0.17	0.17	0.45	0.14	0.12	0.23	1.00			
Item 26	0.32	0.43	0.21	0.10	0.26	0.23	0.12	0.24	0.36	0.26	0.12	1.00		
Item 27	0.09	0.21	0.08	-0.01	0.03	0.05	0.25	0.74	0.20	0.04	0.18	0.28	1.00	
Item 28	0.36	0.11	0.34	0.37	0.32	0.33	0.12	0.16	0.20	0.28	0.12	0.28	0.20	1.00

Barlett test of sphericity and Kaiser-Meyer-Olkin value were checked before running factor analysis. Bartlett test of sphericity reached statistical significance, supporting the factorability of the correlation matrix (Table 2). The Kaiser-Meyer-Olkin (KMO) value was .84 exceeding the recommended value .60 (Kaiser, 1974).

Table 8. KMO and Bartlett's Test for the Main Analysis of Gambling Motivation Scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.877
Bartlett's Test of Sphericity	Approx. Chi-Square	5167.148
	Df	378
	p	.000

In order to determine the dimensional factor structure of the gambling motivation scale, responses were subjected to exploratory factor analysis. Principle Component analysis method was used to extract possible factors,

followed by a varimax rotation to identify stable factor loadings for each item. Accordingly, identifiable factors were required to have eigenvalues greater than 1. In interpreting the rotated factor pattern matrix, an item was said to load on a given factor if the factor loading was .30 or greater for a potential factor and the item did not cross-load on other factors.

Results from the exploratory factor analysis indicated the existence of a seven factor, 28-item, scale that accounted for 64.72% of the common variance. Factor loadings, communalities, means and standard deviations of retained items are displayed in Table 9. No items were found to cross-load on multiple factors. Only one item of the sub-scale “intrinsic motivation toward accomplishment” was loaded under the sub-scale “intrinsic motivation to know. The first factor (items 10, 15, 18, 19, and 20), labeled “intrinsic motivation to know”, accounted for 12.06% of the common variance and contained five items. Four items were found to load on the second factor (items 8, 11, 22, 27), labeled “extrinsic motivation of external regulation”, which accounted for 11.47% of the common variance. The third factor (items 2, 9, 16, and 26), “extrinsic motivation of introjected”, contained four items and accounted for 9.66% of the common variance. The fourth factor included four items (items 1, 12, 14 and 28), which was labeled as “intrinsic motivation to experience stimulation” accounted for 8.89% of the common variance. The fifth factor composed of four items (items 5, 7, 21 and 25) was labeled as “amotivation” and accounted for 8.85% of the common variance. The sixth factor’s items were 4, 13, 17 and 23 and accounted for 7.07% of the variance. The sixth sub-scale was labeled as “extrinsic motivation of identified”. Final and the seventh factor consisted three items (items 3, 6 and 24) was labeled as “intrinsic motivation toward accomplishment” and accounted for 6.69% of the common variance.

Table 9. Item Factor Loadings, Communality Scores, Means, and Standard Deviations for the 28 Items; Factor Eigenvalues for the Main Analysis of Gambling Motivation Scale

	Factors							Com.	M	SD
	1	2	3	4	5	6	7			
Item 10	.660							.509	3.04	1.25
Item 15	.688							.621	2.77	1.14
Item 18	.709							.586	3.43	1.13
Item 19	.490							.458	3.28	1.15
Item 20	.684							.546	2.99	1.14
Item 8		.871						.798	2.78	1.40
Item 11		.844						.761	2.94	1.32
Item 22		.854						.770	3.07	1.35
Item 27		.881						.821	2.89	1.41
Item 2			.594					.686	1.77	0.80
Item 9			.755					.636	1.67	0.79
Item 16			.800					.662	1.48	0.67
Item 26			.667					.553	1.95	1.02
Item 1				.843				.753	3.86	0.95
Item 12				.780				.706	3.87	0.98
Item 14				.441				.583	3.06	1.20
Item 28				.627				.587	3.37	1.20
Item 5					.764			.626	3.24	1.17
Item 7					.806			.709	3.17	1.19
Item 21					.641			.495	3.35	1.17
Item 25					.832			.737	3.13	1.21
Item 4						.570		.657	2.20	1.04
Item 13						.713		.706	2.57	1.14
Item 17						.752		.670	2.70	1.24
Item 23						.448		.576	1.81	0.86
Item 3							.681	.603	2.36	1.14
Item 6							.704	.681	2.95	1.17
Item 24							.449	.622	2.77	1.21
Eigenvalues	7.085	3.407	2.206	1.931	1.415	1.064	1.012			

For the internal consistency analysis, the Cronbach's alpha test was computed to each of the sub-scales. The internal consistency levels of the identified sub-scales were between .73 and .91. When looked at the corrected item-total correlation for each factor, values exceed the needed range (.30). Furthermore, when we look at the "alpha if item deleted" values, none of the items tend to increase the alpha level if any of them was deleted (Table 10.). Therefore, it can be said that the internal consistency of the scale is very high.

Table 10. Item-Total Statistics for the Main Analysis of Gambling Motivation Scale

Factors	Items	Corrected Item-Total Correlation	Alpha If Item Deleted	Alpha
Intrinsic motivation to know	10	.510	.743	.772
	15	.601	.711	
	18	.578	.719	
	19	.498	.746	
	20	.536	.733	
Extrinsic motivation – external regulation	8	.805	.872	.906
	11	.754	.890	
	22	.770	.885	
	27	.825	.865	
Extrinsic motivation introjected	2	.549	.708	.760
	9	.586	.690	
	16	.585	.700	
	26	.560	.719	
Intrinsic motivation to experience stimulation	1	.648	.712	.785
	12	.635	.715	
	14	.507	.782	
	28	.614	.723	
Amotivation	5	.543	.749	.781
	7	.647	.695	
	21	.470	.784	
	25	.691	.671	
Extrinsic motivation identified	4	.592	.646	.739
	13	.648	.607	
	17	.535	.684	
Intrinsic motivation towards accomplishment	23	.374	.756	.728
	3	.506	.693	
	6	.356	.587	
	24	.317	.639	

Results of the final analysis showed that Turkish version of Gambling Motivation were highly consistent with the original scale developed by Chantal, Vallerand and Vallieres (1994).

3.3. Statistical Analysis

Prior to analysis, outlier analyses conducted as part of the data screening process. Prior to the outlier analysis the sample of the study was 1239 and after the data screening process 120 subjects were deleted previously to the major analysis. The level of significance of the statistical analysis was set as $p < .05$.

Statistical analysis process of this research was comprised of descriptive statistics, including frequencies, means and standard deviations, and inferential statistics, including Factorial MANOVA, Factorial ANOVA, MANOVA and Hierarchical Multiple Linear Regression.

A 2x2 Factorial MANOVA was conducted to determine the effect of gender (male, female) and gambling behavior (sport gambling and non-gambling) on the university students' personalities. In the analysis, subjects' personality trait scores were set as dependent variables and gender and gambling behavior were set as independent variables.

A 2x2 Factorial ANOVA was conducted to determine the effect of gender (male, female) and gambling behavior (sport gambling and non-gambling) on the university students' financial risk-taking attitudes. In the analysis, subjects' investment risk taking attitude scores are set as dependent variable and gender and gambling behavior of were set as independent variables.

MANOVA was conducted to determine the effect of gender on the university students' gambling motivations; intrinsic motivation to know, intrinsic motivation toward accomplishment, intrinsic motivation to experience stimulation, extrinsic motivation-identified, extrinsic motivation-

introjected, extrinsic motivation-external regulation, and amotivation. In this analysis, gambling motivation variables were set as dependent variables and gender was set as independent variable.

Hierarchical Multiple Regression analyses were conducted to determine: 1) How personality traits and gender predicted the financial risk-taking attitudes of non-gambling subjects. In this analysis, investment risk attitude was treated as dependent variable and personality traits and gender as independent variables. 2) How personality traits, gambling motivations and gender predicted the financial risk-taking attitudes of gambling subjects. Investment risk attitude was treated as dependent variable and personality traits, gambling motivations and gender as independent variables.

In the determination of the relationship of Personality Traits, Investment Risk Attitudes, and Sport Gambling Experience with Gambling Motivations (Intrinsic Motivation, Extrinsic Motivation and Amotivation) of sports gambling subjects hierarchical multiple regression was conducted. Before conducting this analysis the three sub-scales of extrinsic motivation were summed under one group as extrinsic motivation sub-scale and the same was applied to the three intrinsic motivation sub-scales and named intrinsic motivation sub-scale.

CHAPTER IV

RESULTS

In this chapter, initially, descriptive information about the research sample is presented and then parallel to the stated hypothesis the inferential statistics results are displayed.

4.1. Descriptive Data of the Sample

The subject group of this research was composed of 1109 participants. Four hundred thirty five of them were sport gamblers, who comprised the 39.2% of the total subject group, and 674 of them were non-gamblers, who comprised the 60.8% of the total sample. Male subjects composed 63.1% ($n=700$) and females composed 36.9% ($n=409$) of the study group. In terms of sports gambling, 46% ($n=324$) of the males and 27% ($n=111$) of the females were sport gamblers and 54% ($n=376$) of the males and 73% ($n=298$) of the females were non-gamblers (Table 11).

Table 11. Distribution of Sample According to Gender and Gambling Behavior

Gender	Gambling Behavior		Total
	Sport Gambling	Non-Gambling	
Male	324	376	700
Female	111	298	409
Total	435	674	1109

4.2. Determination of Interaction and Main Effects of Gender and Gambling Behaviors on Personality Traits of Subjects (Factorial MANOVA)

The sample of this analysis was composed of 1109 university students. Males were composed of 324 sport gamblers and 376 non-gamblers with a total number of 700. Female subjects included in this analysis were consisted of 409 subjects and 298 of them were non-gamblers and 111 of them were gambling on the results of sport events.

The mean scores and standard deviations of university students' personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness) as a function of gender and gambling behavior were presented in Table 12. The sport gambling subjects' mean score on extraversion trait was ($M=4.00$, $SD=.55$) and non-gambling subjects' mean score on extraversion trait was ($M=3.64$, $SD=.48$). Non-gamblers' mean score on conscientiousness trait was ($M=3.72$, $SD=.42$) and the sport gambling subjects' mean score was ($M=3.52$, $SD=.52$). The sport gambling students' mean score on openness trait was ($M=3.95$, $SD=.45$) and the non-gambling students' mean score was ($M=3.59$, $SD=.40$). The non-gamblers' agreeableness trait mean score was ($M=3.65$, $SD=.48$) and the gamblers' was ($MD=3.58$, $SD=.48$). The neuroticism trait mean score of non-gamblers was ($MD=3.08$, $SD=.64$) and the gamblers' was ($MD=3.02$, $SD=.49$), (Table 12).

Table 12. Means and Standard Deviations of Subjects' Personality Traits according to their Gambling Behavior and Gender

Personality	Gambling	Gender	<i>M</i>	<i>SD</i>	<i>N</i>
Extraversion	Non-gamblers	Male	3.61	.48	376
		Female	3.68	.49	298
		Total	3.64	.48	674
	Gamblers	Male	3.97	.55	324
		Female	4.09	.55	111
		Total	4.00	.55	435
	Total	Male	3.78	.54	700
		Female	3.79	.54	409
		Total	3.78	.54	1109
Agreeableness	Non-gamblers	Male	3.62	.49	376
		Female	3.68	.47	298
		Total	3.65	.48	674
	Gamblers	Male	3.57	.48	324
		Female	3.61	.47	111
		Total	3.58	.48	435
	Total	Male	3.60	.49	700
		Female	3.66	.47	409
		Total	3.62	.48	1109
Conscientiousness	Non-gamblers	Male	3.69	.45	376
		Female	3.76	.38	298
		Total	3.72	.42	674
	Gamblers	Male	3.49	.54	324
		Female	3.59	.45	111
		Total	3.52	.52	435
	Total	Male	3.60	.50	700
		Female	3.72	.41	409
		Total	3.64	.47	1109
Neuroticism	Non-gamblers	Male	3.10	.66	376
		Female	3.06	.62	298
		Total	3.08	.64	674
	Gamblers	Male	3.00	.48	324
		Female	3.08	.50	111
		Total	3.02	.49	435
	Total	Male	3.05	.58	700
		Female	3.06	.59	409
		Total	3.06	.58	1109
Openness	Non-gamblers	Male	3.57	.43	376
		Female	3.61	.37	298
		Total	3.59	.40	674
	Gamblers	Male	3.93	.41	324
		Female	4.03	.52	111
		Total	3.95	.45	435
	Total	Male	3.73	.46	700
		Female	3.72	.45	409
		Total	3.73	.46	1109

Prior to analysis, univariate (z scores ± 3.29) and multivariate outlier analyses (Cook's Distance and Leverage values) were conducted. There existed no multivariate or univariate outliers on dependent variables.

Multivariate normality assumption for the distribution of scores for each of the groups in the design was checked. According to results of Kolmogorov-Smirnov and Shapiro-Wilks normality tests, the normality assumption was violated in all dependent variables for both gamblers and non-gamblers (Table 13) and gender (Table 14).

Table 13. Normality Values of Personality Traits According to Gambling Behavior

	Gender	Kolmogorov-Smirnov		Shapiro-Wilks	
		Statistic	p	Statistic	p
Extraversion	Non-gamblers	.082	.000	.972	.000
	Gamblers	.170	.000	.865	.000
Agreeableness	Non-gamblers	.079	.000	.966	.000
	Gamblers	.090	.000	.968	.000
Conscientiousness	Non-gamblers	.073	.000	.963	.000
	Gamblers	.113	.000	.967	.000
Neuroticism	Non-gamblers	.070	.000	.987	.000
	Gamblers	.088	.000	.987	.001
Openness	Non-gamblers	.074	.000	.983	.000
	Gamblers	.107	.000	.921	.000

Table 14. Normality of Personality Traits According to Gender

	Gender	Kolmogorov-Smirnov		Shapiro-Wilks	
		Statistic	Sig.	Statistic	Sig.
Extraversion	Male	.090	.000	.962	.000
	Female	.075	.000	.968	.000
Agreeableness	Male	.089	.000	.962	.000
	Female	.066	.000	.974	.000
Conscientiousness	Male	.104	.000	.963	.000
	Female	.087	.000	.969	.000
Neuroticism	Male	.055	.000	.994	.004
	Female	.067	.000	.991	.010
Openness	Male	.080	.000	.979	.000
	Female	.094	.000	.977	.000

Skewness and kurtosis values of personality traits were close to zero according to gambling behavior (between ± 3), only openness personality trait for gamblers was exception (Table 15). According to results the dependent variables were distributed normally, and were acceptable.

Table 15. Skewness and Kurtosis Values of Subjects' Personality Trait Scores according to their Gambling Behavior

	Gambling		<i>Statistic</i>	<i>SE</i>
Extraversion	Non-gamblers	Skewness	-.392	.094
		Kurtosis	1.481	.188
	Gamblers	Skewness	-1.593	.117
		Kurtosis	2.362	.234
Agreeableness	Non-gamblers	Skewness	-.549	.094
		Kurtosis	1.517	.188
	Gamblers	Skewness	-.561	.117
		Kurtosis	.980	.234
Conscientiousness	Non-gamblers	Skewness	-.478	.094
		Kurtosis	2.277	.188
	Gamblers	Skewness	-.662	.117
		Kurtosis	1.061	.234
Neuroticism	Non-gamblers	Skewness	-.192	.094
		Kurtosis	-.537	.188
	Gamblers	Skewness	.118	.117
		Kurtosis	.776	.234
Openness	Non-gamblers	Skewness	-.208	.094
		Kurtosis	1.363	.188
	Gamblers	Skewness	-1.078	.117
		Kurtosis	3.546	.234

Table 16. Skewness and Kurtosis Values of Subjects' Personality Trait Scores according to their Gender

	Gender		<i>Statistic</i>	<i>SE</i>
Extraversion	Male	Skewness	-.748	.092
		Kurtosis	1.248	.185
	Female	Skewness	-.621	.121
		Kurtosis	.994	.241
Agreeableness	Male	Skewness	-.657	.092
		Kurtosis	1.234	.185
	Female	Skewness	-.330	.121
		Kurtosis	1.302	.241
Conscientiousness	Male	Skewness	-.688	.092
		Kurtosis	1.616	.185
	Female	Skewness	-.438	.121
		Kurtosis	1.677	.241
Neuroticism	Male	Skewness	-.092	.092
		Kurtosis	-.096	.185
	Female	Skewness	-.087	.121
		Kurtosis	-.290	.241
Openness	Male	Skewness	-.513	.092
		Kurtosis	1.234	.185
	Female	Skewness	-.076	.121
		Kurtosis	.939	.241

Box's *M* test of equality of covariance matrix for dependent variables resulted in a significant result, $p < .05$, indicating violation of the assumption of homogeneity of population covariance matrix for dependent variables (Table 17.).

Table 17. Box's Test of Equality of Covariance Matrices of Subjects' Personality Traits according to Gender and Gambling Behavior

Box's M	189.279
F	4.163
df1	45
df2	716449.997
Sig.	.000

Levene's test for homogeneity of error variance resulted in $p < .05$, which suggests that there were unequal error variances among groups for three dependent variables "conscientiousness, neuroticism and openness" (Table 18.).

Table 18. Levene's Test of Equality of Error Variances of Subjects' Personality Traits according to Gender and Gambling Behavior

	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
Extraversion	.468	3	1105	.705
Agreeableness	.107	3	1105	.956
Conscientiousness	7.719	3	1105	.000
Neuroticism	18.234	3	1105	.000
Openness	6.806	3	1105	.000

According to analyses, multivariate normality and homogeneity of covariance assumptions were not met. Pillai's criterion was used to evaluate multivariate significance, and a more stringent alpha level was set ($p=.01$).

The results of multivariate analysis of variance revealed no significant interaction effect of gender and gambling, Pillai's Trace = .004, $F(5, 1101) = .89$, $p>.01$, a significant multivariate main effect for gambling, Pillai's Trace = .24, $F(5, 1101) = 70.51$, $p<.01$, and no multivariate main effect for gender, Pillai's Trace = .01, $F(5, 1101) = 2.88$, $p>.01$. According to results, gambling has a significant effect on personality types (extraversion, agreeableness, conscientiousness, neuroticism, and openness). The partial eta square value (.24) revealed quite large effect (Table 19.).

Table 19. Multivariate Tests of Independent Variables Gambling, Gender and Gambling*Gender

Effect		<i>Value</i>	<i>F</i>	<i>df</i>	<i>Error df</i>	<i>p</i>	η^2
Gambling	Pillai's Trace	.243	70.51	5.00	1101	.000	.243
	Wilks' Lambda	.757	70.51	5.00	1101	.000	.243
	Hotelling's Trace	.320	70.51	5.00	1101	.000	.243
	Roy's Largest Root	.320	70.51	5.00	1101	.000	.243
Gender	Pillai's Trace	.013	2.88	5.00	1101	.014	.013
	Wilks' Lambda	.987	2.88	5.00	1101	.014	.013
	Hotelling's Trace	.013	2.88	5.00	1101	.014	.013
	Roy's Largest Root	.013	2.88	5.00	1101	.014	.013
Gambling *Gender	Pillai's Trace	.004	.89	5.00	1101	.486	.004
	Wilks' Lambda	.996	.89	5.00	1101	.486	.004
	Hotelling's Trace	.004	.89	5.00	1101	.486	.004
	Roy's Largest Root	.004	.89	5.00	1101	.486	.004

p<.01

In order to identify in which dependent variables gamblers and non-gamblers differed the Bonferroni adjustment was used. The original alpha level of .01 was divided by the number of dependent variables and the alpha level was set as .002. Results indicated that there was a significant difference between subjects' extraversion trait scores according to their gambling behavior, $F(1, 1105) = 127.83, p < .002$. This result revealed that gamblers mean score on extraversion trait ($M=4.00, SD=.55$) was significantly higher than non-gamblers ($M=3.64, SD=.48$). There was a significant difference between subjects' conscientiousness trait according to their gambling behavior, $F(1, 1105) = 35.26, p < .002$, non-gamblers' conscientiousness trait mean score ($M=3.72, SD=.42$) was significantly higher than gamblers' ($M=3.52, SD=.52$). There was a significant difference between subjects' openness trait according to their gambling behavior, $F(1, 1105) = 188.75, p < .002$, gamblers' openness trait mean score ($M=3.95, SD=.45$) was significantly higher than non-gamblers' ($M=3.59, SD=.40$), (Table 12; Table 20.).

Table 20. Analysis of Variance Results for Personality Traits Differences According to Gambling, Gender, and Gambling*Gender

Source	Dependent Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	<i>r</i> ²
Gambling	Extraversion	33.078	1	33.078	127.832	.000	.104
	Agreeableness	.726	1	.726	3.136	.077	.003
	Conscientiousness	7.529	1	7.529	35.256	.000	.031
	Neuroticism	.324	1	.324	.950	.330	.001
	Openness	33.350	1	33.350	188.753	.000	.146
Gender	Extraversion	2.031	1	2.031	7.849	.005	.007
	Agreeableness	.621	1	.621	2.684	.102	.002
	Conscientiousness	1.772	1	1.772	8.299	.004	.007
	Neuroticism	.057	1	.057	.166	.684	.000
	Openness	1.125	1	1.125	6.365	.012	.006
Gambling *Gender	Extraversion	.230	1	.230	.888	.346	.001
	Agreeableness	.032	1	.032	.140	.708	.000
	Conscientiousness	.043	1	.043	.202	.653	.000
	Neuroticism	.731	1	.731	2.144	.143	.002
	Openness	.224	1	.224	1.268	.260	.001
Error	Extraversion	285.930	1105	.259			
	Agreeableness	255.779	1105	.231			
	Conscientiousness	235.975	1105	.214			
	Neuroticism	376.677	1105	.341			
	Openness	195.240	1105	.177			

p<.002

4.3. Determination of Gambling Behavior's and Gender's Effect on Financial Risk-Taking Attitude (Factorial ANOVA)

In this analysis, males composed the 63% (n=700) of the total subject group, and 53% of them (n=376) were non-gamblers and 47% of them (n=324) were sports gamblers. Females composed 37% (n=409) of the total subject group, and 72% of them (n=298) were non-gamblers and 28% of them (n=111) were sports gamblers.

Prior to analysis, univariate outlier analyses (z score ± 3.29) conducted and it was concluded that there existed no univariate outliers on dependent variable.

Normality assumption for the distribution of scores for each of the groups in the design was checked by examining univariate normality. For univariate normality; Kolmogorov-Smirnov and Shapiro-Wilk normality tests, and skewness and kurtosis coefficients for each group were examined. According to results of Kolmogorov-Smirnov and Shapiro-Wilk normality tests, the normality assumption was violated in the dependent variable for both gender and gambling behavior (Table 21.; Table 22.).

Table 21. Normality Values of Investment Risk Attitude according to Gender

	Gender	Kolmogorov-Smirnov		Shapiro-Wilk	
		<i>Statistic</i>	<i>p</i>	<i>Statistic</i>	<i>P</i>
Investment Risk Attitude	Male	.090	.000	.984	.000
	Female	.072	.000	.986	.000

Table 22. Normality Values of Investment Risk Attitude according to Gambling Behavior

	Gambling	Kolmogorov-Smirnov		Shapiro-Wilk	
		<i>Statistic</i>	<i>P</i>	<i>Statistic</i>	<i>p</i>
Investment Risk Attitude	Non-gamblers	.077	.000	.984	.000
	Gamblers	.071	.000	.988	.001

Skewness and kurtosis values (between ± 3), the dependent variables were distributed normally and were acceptable (Table 23.; Table 24.).

Table 23. Skewness and Kurtosis Values of Investment Risk Attitude Variable for Gender

	Gender		<i>Statistic</i>	<i>SE</i>
Investment Risk Attitude	Male	Skewness	.375	.092
		Kurtosis	-.008	.185
	Female	Skewness	.200	.121
		Kurtosis	-.280	.241

Table 24. Skewness and Kurtosis Values of Investment Risk Attitude Variable for Gambling Behavior

	Gambling		<i>Statistic</i>	<i>SE</i>
Investment Risk Attitude	Non-gamblers	Skewness	.367	.094
		Kurtosis	.272	.188
	Gamblers	Skewness	.219	.117
		Kurtosis	-.259	.234

The data represents that male non-gamblers ($M=2.50$, $SD= .69$) investment risk attitude mean scores is higher than the non-gambler females ($M=2.25$, $SD=.64$). Male sports gamblers ($M=2.81$, $SD=.79$) investment risk attitude mean score is higher than female sports gamblers ($M=2.46$, $SD=.71$) and also higher than the non-gambler males. The total mean score of sport gamblers investment risk attitudes ($M=2.72$, $SD=.79$) is higher than the non-gamblers' ($M=2.39$, $SD=.68$), (Table 25).

Table 25. Investment Risk-Attitude Mean Scores and Standard Deviations According to the Subjects Gender and Gambling Behavior.

Gambling	Gender	<i>M</i>	<i>SD</i>	<i>N</i>
Non- Gamblers	Male	2.50	.69	376
	Female	2.25	.64	298
	Total	2.39	.68	674
Gamblers	Male	2.81	.79	324
	Female	2.46	.71	111
	Total	2.72	.79	435
Total	Male	2.65	.76	700
	Female	2.31	.67	409
	Total	2.52	.74	1109

Levene's test for homogeneity of error variance was significant ($p < .05$), (Table 26). Univariate normality assumption was not met for this data set with unequal group size for each cell; therefore, .01 alpha level was used.

Table 26. Levene's Test of Equality of Error Variances of Investment Risk Attitude according to Gender and Gambling Behavior

<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
5.723	3	1105	.001

Results revealed that there was a significant difference in financial risk-taking attitudes of subjects according to their gambling behavior, $F(1, 1105) = 29.39, p < .01$. Results also revealed that there was a significant difference in financial risk-taking attitudes of subjects according to their gender, $F(1, 1105) = 39.75, p < .01$. However, the results pointed that there was not a significant interaction effect of gambling behaviors and gender on the subjects risk attitudes, $F(1, 1105) = 1.173, p > .01$ (Table 27).

Table 27. Two-way ANOVA results of Investment Risk Attitude According to Gender and Gambling Behavior

Source	Type III SS	Df	MS	F	Sig.	η^2
Corrected Model	49.851	3	16.617	32.804	.000	.082
Intercept	5550.546	1	5550.546	10957.219	.000	.908
Gambling	14.889	1	14.889	29.392	.000	.026
Gender	20.137	1	20.137	39.753	.000	.035
Gambling*Gender	.594	1	.594	1.173	.279	.001
Error	559.755	1105	.507			
Total	7659.694	1109				

p<0.01

This result revealed that sports gamblers investment risk attitude mean scores ($M=2.72$, $SD=.79$) were significantly higher than the non-gamblers ($M=2.39$, $SD=.68$). Additionally, results revealed that males' investment risk attitude mean scores ($M=2.65$, $SD=.76$) were significantly higher than female subjects' ($M=2.31$, $SD=.67$), (Table 25.).

4.4. Determination of Effects of Gender on Gambling Motivations of Subjects (MANOVA)

Analysis is conducted on 435 university students who were gambling on sport events (324 male and 111 female), (Table 28.).

Table 28. Distribution of Gambling Motivation Mean and Standard Deviation Scores According to Subjects Gender

	Gender	<i>M</i>	<i>SD</i>	<i>N</i>
Intrinsic motivation to know	Male	3.11	.84	324
	Female	3.06	.83	111
	Total	3.10	.84	435
Intrinsic motivation toward accomplishment	Male	2.72	.94	324
	Female	2.63	.96	111
	Total	2.70	.94	435
Intrinsic motivation to experience stimulation	Male	3.57	.83	324
	Female	3.46	.90	111
	Total	3.54	.85	435
Extrinsic motivation identified	Male	2.35	.81	324
	Female	2.22	.79	111
	Total	2.32	.81	435
Extrinsic motivation introjected	Male	1.74	.64	324
	Female	1.67	.60	111
	Total	1.72	.63	435
Extrinsic motivation external regulation	Male	2.93	1.23	324
	Female	2.91	1.16	111
	Total	2.92	1.21	435
Amotivation	Male	3.26	.91	324
	Female	3.09	.94	111
	Total	3.22	.92	435

The descriptive data represents that male university students' gambling motivation mean scores are higher in terms of all intrinsic, extrinsic motivating factors and amotivation than females who gamble on sport events, (Table 28).

Prior to analysis, univariate (z score ± 3.29) and multivariate outlier analyses (Cook's Distance and Leverage values) were examined as part of the data screening process. It was concluded that there existed no multivariate or univariate outliers on dependent variables.

Multivariate normality assumption for the distribution of scores for each of the groups was checked by examining for univariate and bivariate normality. For univariate normality Kolmogorov-Smirnov and Shapiro-Wilks normality tests were conducted and skewness and kurtosis coefficients were examined. According to results of Kolmogorov-Smirnov and Shapiro-Wilks normality tests, the normality assumption was violated in all dependent variables for both genders (Table 29).

Table 29. Normality Values for Gambling Motivation Dependent Variables according to the Subjects' Gender

	Gender	Kolmogorov-Smirnov		Shapiro-Wilks	
		<i>Statistic</i>	<i>p</i>	<i>Statistic</i>	<i>p</i>
Intrinsic motivation to know	Male	.087	.000	.982	.000
	Female	.116	.001	.963	.003
Extrinsic motivation to external regulation	Male	.100	.000	.946	.000
	Female	.106	.004	.949	.000
Extrinsic motivation to introjected	Male	.137	.000	.910	.000
	Female	.156	.000	.899	.000
Intrinsic motivation to experience stimulation	Male	.147	.000	.946	.000
	Female	.175	.000	.898	.000
Amotivation	Male	.118	.000	.968	.000
	Female	.172	.000	.901	.000
Extrinsic motivation to identified	Male	.097	.000	.971	.000
	Female	.125	.000	.956	.001
Intrinsic motivation to accomplishment	Male	.093	.000	.966	.000
	Female	.125	.000	.962	.003

Skewness and kurtosis values were close to zero for all levels (between ± 3) for all dependent variables; intrinsic motivation to know, intrinsic motivation to experience stimulation, intrinsic motivation to accomplishment, extrinsic motivation to external regulation, extrinsic motivation to introjected, extrinsic motivation to identified, and amotivation (Table 30). The dependent variables were distributed normally and were acceptable.

Table 30. Skewness and Kurtosis Values for Gambling Motivation Dependent Variables

	Gender		Statistic	SE
Intrinsic motivation to know	Male	Skewness	-.342	.135
		Kurtosis	-.231	.270
	Female	Skewness	-.495	.229
		Kurtosis	-.412	.455
Extrinsic motivation to external regulation	Male	Skewness	.055	.135
		Kurtosis	-1.174	.270
	Female	Skewness	-.143	.229
		Kurtosis	-.996	.455
Extrinsic motivation to introjected	Male	Skewness	.740	.135
		Kurtosis	-.128	.270
	Female	Skewness	.477	.229
		Kurtosis	-.881	.455
Intrinsic motivation to experience stimulation	Male	Skewness	-.821	.135
		Kurtosis	.764	.270
	Female	Skewness	-1.035	.229
		Kurtosis	.478	.455
Amotivation	Male	Skewness	-.451	.135
		Kurtosis	-.254	.270
	Female	Skewness	-.603	.229
		Kurtosis	-.857	.455
Extrinsic motivation to identified	Male	Skewness	.303	.135
		Kurtosis	-.546	.270
	Female	Skewness	.442	.229
		Kurtosis	-.237	.455
Intrinsic motivation to accomplishment	Male	Skewness	-.015	.135
		Kurtosis	-.841	.270
	Female	Skewness	.155	.229
		Kurtosis	-.871	.455

Levene's test for homogeneity of error variance was not significant ($p > .05$), which suggests that homogeneity variance assumption has been met (Table 31.).

Table 31. Levene's Test of Equality of Error Variances of Gambling Motivation Dependent Variables according to Gender

	<i>F</i>	<i>df1</i>	<i>df2</i>	<i>p</i>
Intrinsic motivation to know	.001	1	433	.973
Extrinsic motivation to external regulation	2.003	1	433	.158
Extrinsic motivation to introjected	.096	1	433	.757
Intrinsic motivation to experience stimulation	.857	1	433	.355
Amotivation	1.333	1	433	.249
Extrinsic motivation to identified	.978	1	433	.323
Intrinsic motivation to accomplishment	.184	1	433	.669

The Box's test was significant for dependent variables ($p < .05$), indicating violation of the assumption of homogeneity of population covariance matrix for dependent variables (Table 32.). Therefore, Pillai's criterion was used and alpha level was set as ($p < .01$).

Table 32. Box's Test of Equality of Covariance Matrices of Gambling Motivation Dependent Variables according to Gender

Box's M	58.142
F	2.026
df1	28
df2	155884.760
Sig.	.001

Results of multivariate analysis revealed that there was not any significant difference in the subjects' gambling motivations related with their gender, Pillai's = .013, $F(7, 427) = 800$, $p > .01$, (Table 33.).

Table 33. Multivariate Analysis of Variance Results of Gambling Motivations According to Gender

Effect		<i>Value</i>	<i>F</i>	<i>Hypothesis df</i>	<i>Error Df</i>	<i>p</i>	<i>η²</i>
Gender	Pillai's Trace	.013	.800	7	427	.587	.013
	Wilks' Lambda	.987	.800	7	427	.587	.013
	Hotelling's Trace	.013	.800	7	427	.587	.013
	Roy's Largest Root	.013	.800	7	427	.587	.013

P<.01

4.5. Determination of the Relationship of Personality Traits and Gender with Investment Risk Attitude of Non-Gambler Subjects. (Hierarchical Multiple Regression)

In this analysis 674 university students' data, who were non-gamblers, was taken into consideration. The mean scores of the dependent variable investment risk taking attitude and the personality traits which were independent variables were presented in table 34.

Table 34. Means and Standard Deviations of the Investment Risk Attitude and Personality Traits of Non-Gambling Subjects

	<i>M</i>	<i>SD</i>	<i>N</i>
Investment Risk attitude	2.39	.68	674
Extraversion	3.64	.48	674
Agreeableness	3.65	.48	674
Conscientiousness	3.72	.42	674
Neuroticism	3.08	.64	674
Openness	3.59	.40	674

Bivariate correlation was calculated by using Pearson Product Moments Correlation Coefficient. The result of the bivariate correlation among six variables namely; dependent variable risk taking attitude and independent variable which were Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness are presented in Table 35. The strongest correlations were found between openness and extraversion ($r = .41$), conscientiousness and agreeableness ($r = .33$), and there was low negative

correlation between conscientiousness and risk attitude ($r = -.14$).

Table 35. Bivariate Correlations among Variables Investment Risk Attitude, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, and Gender

*	1	2	3	4	5	6	7
1	1.000						
2	.032	1.000					
3	-.023	.247	1.000				
4	-.144	.235	.332	1.000			
5	.060	.061	.122	.079	1.000		
6	.021	.409	.215	.302	.086	1.000	
7	.183	-.066	-.067	-.089	.032	-.049	1.000

*: 1: Investment Risk Attitude, 2: Extraversion, 3: Agreeableness, 4: Conscientiousness, 5: Neuroticism, 6: Openness, 7: Gender

Durbin and Watson coefficient test which uses standardized residuals was conducted and result showed that the residuals in the model are independent and this assumption was not violated (1.91).

The scatterplot of dependent variable investment risk attitude revealed that the assumptions of linearity and homoscedasticity have been met (Figure 4.).

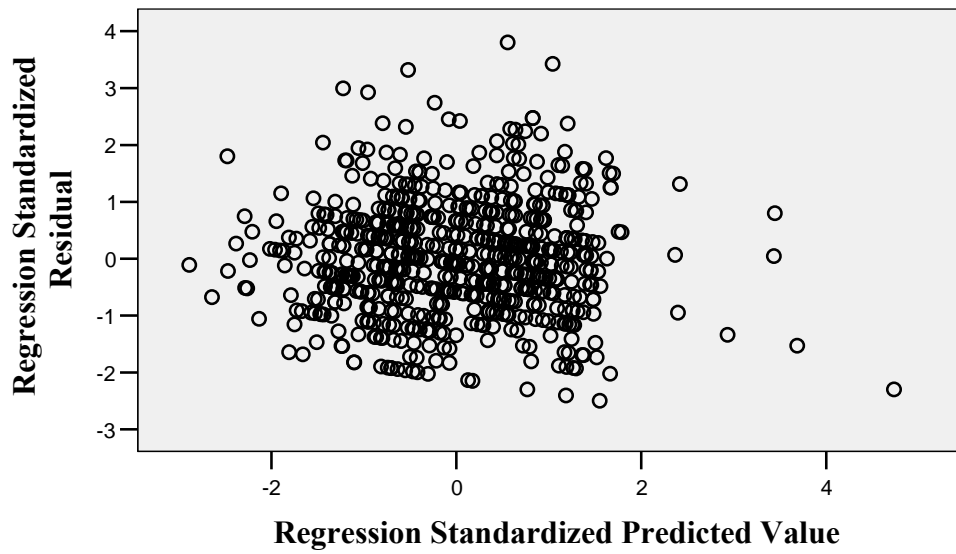


Figure 4. Scatter plot of the Dependent Variable Investment Risk Attitude of Non-Gamblers.

The histogram (Figure 5.) and the normal probability plot (Figure 6.) of the data showed that the data is normally distributed.

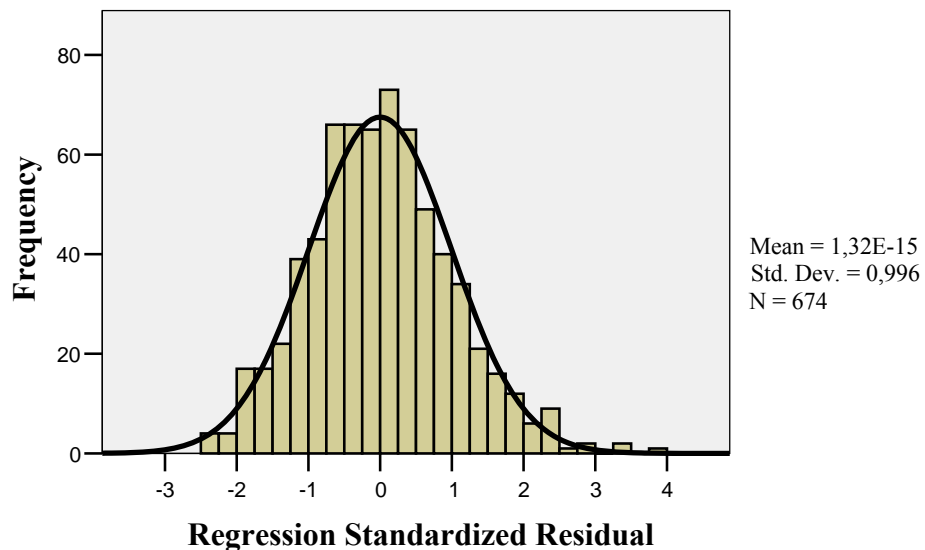


Figure 5. Histogram of the Dependent Variable Investment Risk Attitude of Non-Gamblers

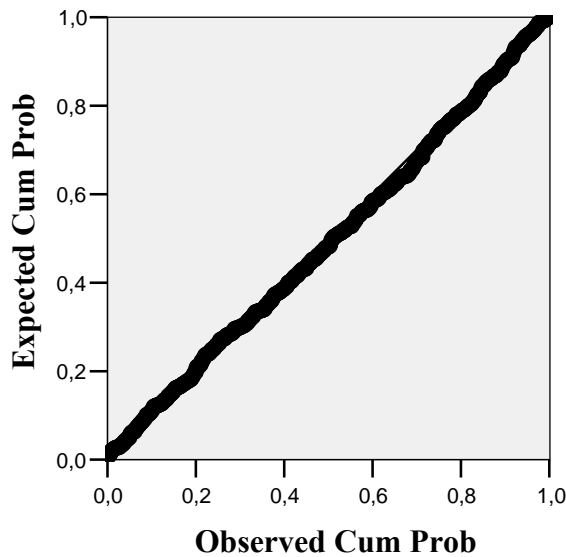


Figure 6. P-P Plots of the Dependent Variable Risk Attitude of Non-Gamblers

For the multicollinearity the correlation among the independent variables, tolerance values and VIF were examined. None of the correlation values among independent variables exceeded .90 (Table 35.) and tolerance values was not less than .20 and VIF did not exceeded 4. The results revealed that multicollinearity assumption was met.

Table 36. Summary of Two Models in the Hierarchical Regression Analysis of Investment Risk Attitudes of Non-Gamblers

Model	<i>R</i>	<i>R</i> ²	<i>Adj. R</i> ²	<i>SEE</i>	<i>R</i> ² Change	Change Statistics			<i>Sig. F Change</i>
						<i>F Change</i>	<i>df1</i>	<i>df2</i>	
1	.178(a)	.032	.024	.67	.032	4.37	5	668	.001
2	.247(b)	.061	.053	.66	.030	20.99	1	667	.000

p<.05

a Predictors: (Constant), Openness, Neuroticism, Agreeableness, Conscientiousness, Extraversion

b Predictors: (Constant), Openness, Neuroticism, Agreeableness, Conscientiousness, Extraversion, Gender

c Dependent Variable: Investment Risk Attitude

Table 37. Coefficients of Hierarchical Regression Analysis of Investment Risk Attitudes of Non-Gambler Subjects

	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>P</i>	<i>Zero order r</i>	<i>Part</i>	<i>Partial r</i>
Model 1								
(Constant)	2.67	0.33		8.22	.000	-		-
Extraversion	0.07	0.06	.05	1.14	.256	.032	.043	.044
Agreeableness	0.01	0.06	.01	.139	.890	-.023	.005	.005
Conscientiousness	-0.29	0.07	-.18	-4.22	.000	-.144	-.161	-.161
Neuroticism	0.07	0.04	.07	1.72	.085	.060	.066	.066
Openness	0.08	0.07	.05	1.10	.273	.021	.042	.042
Model 2								
(Constant)	2.418	.325		7.43	.000			
Extraversion	.078	.059	.06	1.32	.188	.032	.049	.051
Agreeableness	.017	.057	.01	.30	.761	-.023	.011	.012
Conscientiousness	-.266	.067	-.17	-3.98	.000	-.144	-.149	-.152
Neuroticism	.062	.040	.06	1.54	.124	.060	.058	.059
Openness	.081	.071	.05	1.14	.254	.021	.043	.044
Gender	.237	.052	.17	4.58	.000	.183	.172	.175

P<.05

Personality variables accounted for a significant amount on the investment risk attitude of the non-gambling subjects, $R^2 = .03$, $F_{(5, 668)} = 4.37$, $p < .05$, indicating that 3% of the investment risk attitude could be predicted by personality traits; extraversion, agreeableness, conscientiousness, neuroticism and openness (Table 36).

Within the personality variables, conscientiousness significantly contributed to the prediction of the investment risk attitude scores of the non-gambler subjects. Conscientiousness accounted approximately 2.5 % of investment risk attitude scores. According to the standardized coefficients (β) conscientiousness personality trait has the highest impact on risk taking attitudes of the subjects ($\beta = -.18$), (Table 37).

The second model's analysis results pointed that gender accounted for a significant proportion of investment risk attitude, $R^2 = .06$, $F_{(1, 667)} = 20.99$, $p < .05$. Results indicated that 3% of the investment risk attitude could be predicted by gender (Table 36).

4.6. Determination of the Relationship of Personality Traits, Gambling Motivations, and Gender with Investment Risk Attitudes of Sports Gambling Subjects. (Hierarchical Multiple Regression)

In this analysis 435 university students' data, who were gamblers, was taken into consideration. Descriptive statistics were performed to get overall information about the data. The mean scores of the dependent variable investment risk taking attitude and the independent variables personality traits and gambling motivations which were independent variables were displayed in table 38.

Table 38. Means and Standard Deviations of the Investment Risk Attitude, Personality Traits and Gambling Motivations of Gambling Subjects

	<i>M</i>	<i>SD</i>	<i>N</i>
Investment risk attitude	2.72	.79	435
Extraversion	4.00	.55	435
Agreeableness	3.58	.48	435
Conscientiousness	3.52	.52	435
Neuroticism	3.02	.49	435
Openness	3.95	.45	435
Intrinsic motivation	3.11	.72	435
Extrinsic motivation	2.32	.66	435
Amotivation	3.22	.92	435

Bivariate correlation was calculated by using Pearson Product Moments Correlation Coefficient. The result of the bivariate correlation among six variables namely; dependent variable risk taking attitude and independent variable which were Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness are presented in table 40. The strongest correlations were found between openness and extraversion ($r = .46$), openness and agreeableness ($r = .27$), and there was low negative correlation between conscientiousness and risk attitude ($r = -.09$), (Table 39.).

Table 39. Bivariate Correlations among Variables Investment Risk Attitude, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Intrinsic Motivation, Extrinsic Motivation, and Amotivation

*	1	2	3	4	5	6	7	8	9
1	1.000								
2	.076	1.000							
3	.003	.253	1.000						
4	-.091	.259	.260	1.000					
5	.030	-.175	-.034	-.054	1.000				
6	.109	.459	.271	.193	-.086	1.000			
7	.174	.032	-.006	.002	.122	-.005	1.000		
8	.248	-.075	-.055	.027	.160	-.178	.446	1.000	
9	-.069	-.066	.107	.093	.034	-.029	.227	.266	1.000
10	.196	-.101	-.037	-.086	-.066	-.101	.049	.045	.082

*: 1: Investment Risk attitude, 2: Extraversion, 3: Agreeableness, 4: Conscientiousness, 5: Neuroticism, 6: Openness, 7: Intrinsic motivation, 8: Extrinsic motivation, 9: Amotivation, 10: Gender

Durbin and Watson coefficient test which uses standardized residuals was conducted and result showed that the residuals in the model are independent and this assumption was not violated (1.90). The scatterplot of dependent variable risk attitude revealed that the assumptions of linearity and homoscedasticity have been met (Figure 7.).

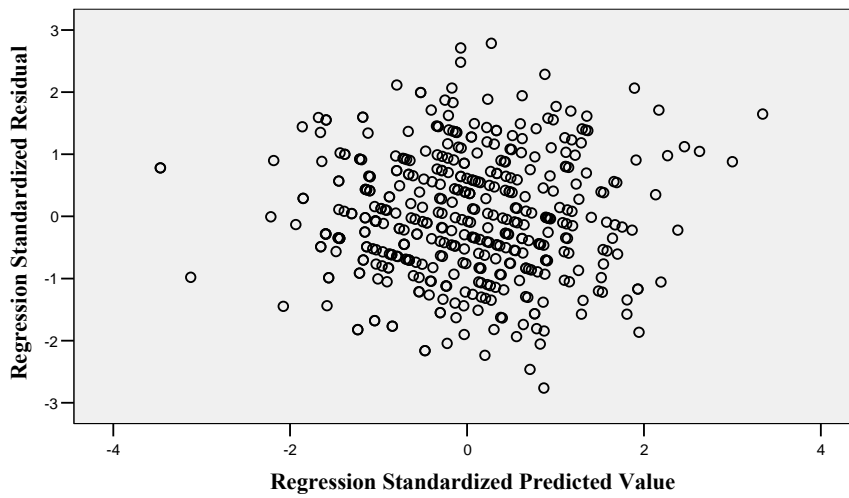


Figure 7. Scatterplot of Dependent Variable Investment Risk Attitude of Gambling Subjects

The histogram (Figure 8.) and the normal probability plot (Figure 9.) of the data showed that the data is normally distributed.

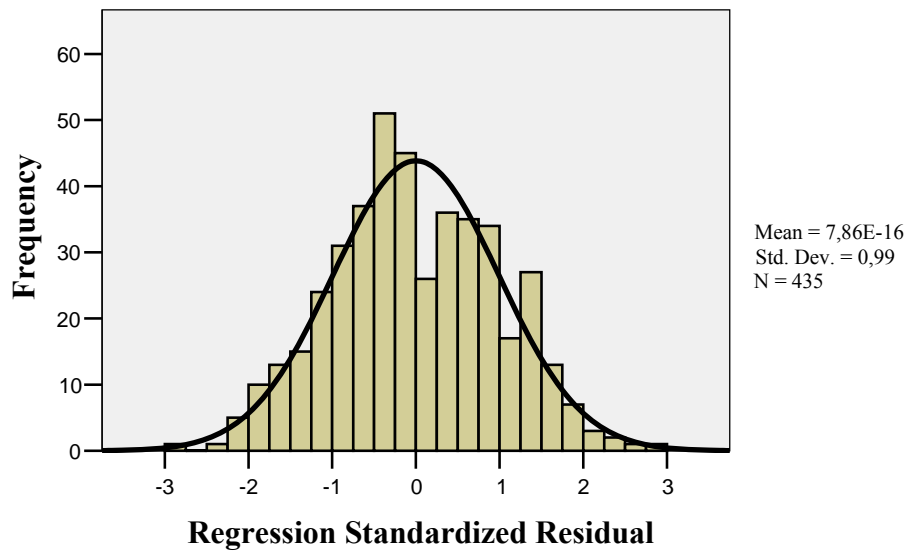


Figure 8. Histogram of the Dependent Variable Investment Risk Attitude of Gambling Subjects

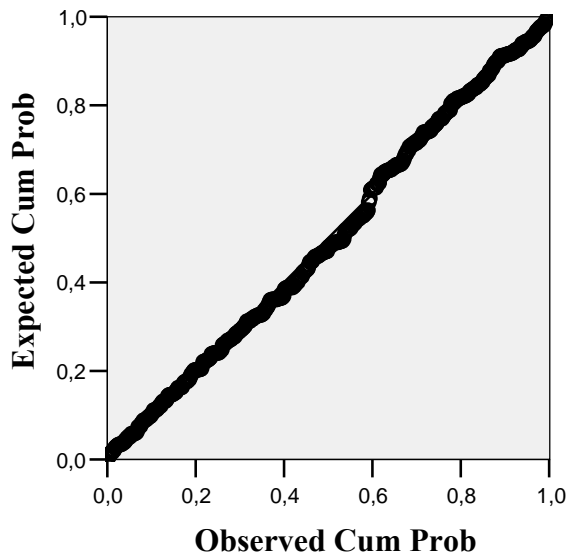


Figure 9. P-P Plots of the Dependent Variable Investment Risk Attitude of Gambling Subjects

For the multicollinearity the correlation among the independent variables, tolerance values and VIF were examined. None of the correlation values among independent variables exceeded .90 (Table 39) and tolerance values was not less than .20 and VIF did not exceeded 4. The results revealed that multicollinearity assumption was met.

Table 40. Summary of Three Models in the Hierarchical Regression Analysis of Investment Risk Attitudes of Gamblers

Model	<i>R</i>	<i>R</i> ²	<i>Adj.R</i> ²	<i>SEE</i>	<i>Change Statistics</i>				
					<i>R</i> ² <i>Change</i>	<i>F Change</i>	<i>df1</i>	<i>df2</i>	<i>Sig. F Change</i>
1	.172(a)	.030	.018	.78	.030	2.613	5	429	.024
2	.357(b)	.128	.111	.74	.098	15.951	3	426	.000
3	.411(c)	.169	.151	.73	.041	21.180	1	425	.000

p<0.05

a Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion

b Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion, Intrinsic motivation, Amotivation, Extrinsic motivation

c Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion, Intrinsic Motivation, Amotivation, Extrinsic Motivation, Gender

d Dependent Variable: Investment Risk Attitude

Table 41. Coefficients of Hierarchical Regression Analysis of Investment Risk-Attitudes of Gambler Subjects

	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>P</i>	<i>Zero order r</i>	<i>Partial r</i>	<i>Part</i>
Model 1								
(Constant)	2.076	.512	-	4.055	.000	-	-	-
Extraversion	.099	.079	.07	1.244	.214	.076	.060	.059
Agreeableness	-.016	.084	-.01	-.192	.848	.003	-.009	-.009
Conscientiousness	-.187	.076	-.12	-2.467	.014	-.091	-.118	-.117
Neuroticism	.072	.078	.04	.911	.363	.030	.044	.043
Openness	.190	.096	.11	1.978	.049	.109	.095	.094
Model 2								
(Constant)	1.352	.516	-	2.631	.009	-	-	-
Extraversion	.060	.076	.042	.787	.431	.076	.038	.036
Agreeableness	.025	.080	.016	.317	.751	.003	.015	.014
Conscientiousness	-.197	.073	-.131	-2.707	.007	-.091	-.130	-.123
Neuroticism	-.011	.076	-.007	-.147	.883	.030	-.007	-.007
Openness	.278	.093	.158	2.995	.003	.109	.144	.136
Intrinsic motivation	.087	.056	.080	1.551	.122	.174	.075	.070
Extrinsic motivation	.344	.063	.288	5.443	.000	.248	.255	.246
Amotivation	-.125	.041	-.146	-3.035	.003	-.069	-.145	-.137
Model 3								
(Constant)	.811	.516		1.572	.117			
Extraversion	.080	.074	.056	1.078	.282	.076	.052	.048
Agreeableness	.024	.079	.015	.304	.761	.003	.015	.013
Conscientiousness	-.175	.071	-.116	-2.458	.014	-.091	-.118	-.109
Neuroticism	.021	.074	.013	.285	.776	.030	.014	.013
Openness	.301	.091	.170	3.308	.001	.109	.158	.146
Intrinsic motivation	.077	.055	.071	1.409	.160	.174	.068	.062
Extrinsic motivation	.342	.062	.286	5.538	.000	.248	.259	.245
Amotivation	-.138	.040	.161	-3.419	.001	-.069	-.164	-.151
Gender	.374	.081	.207	4.602	.000	.196	.218	.204

p<.05

The regression analysis results of model 1 showed that personality variables accounted for a significant amount on the investment risk taking attitude of the subjects, $R^2 = .03$, $F_{(5, 429)} = 2.613$, $p < .05$, indicating that 3% of the risk taking attitude could be predicted by personality traits; extraversion, agreeableness, conscientiousness, neuroticism and openness (Table 40).

Within the personality variables, conscientiousness and openness significantly contributed to the prediction of the investment risk attitude scores of the gambler subjects. Conscientiousness accounted approximately 2.5 % of and openness accounted approximately 1% of investment risk attitude scores. According to the standardized coefficients (β) conscientiousness personality trait has the highest impact on risk taking attitudes of the subjects ($\beta = -.12$), (Table 41).

The regression analysis results of model 2 pointed that both personality variables and gambling motivation variables accounted for a significant amount on the investment risk attitude of subjects, $R^2 = .13$, $F_{(3, 426)} = 15.95$, $p < .05$, indicating that 13% of the investment risk attitude could be predicted by personality traits and gambling motivations. This result suggested that 10% of investment risk attitude could be predicted by gambling motivation variables, when personality variables were controlled (Table 40).

Within the personality variables, conscientiousness and openness significantly contributed to the prediction of the investment risk attitude scores of the gambler subjects. Conscientiousness accounted approximately 1.5% and openness accounted approximately 1.8% of investment risk attitude scores. According to the standardized coefficients (β) openness personality trait has the highest impact on risk taking attitudes of the subjects ($\beta = .16$), (Table 41.). Additionally, within the gambling motivation variables extrinsic motivation and amotivation significantly contributed to the prediction of investment risk attitude of the gambler subjects. Extrinsic

motivation accounted approximately 6% and amotivation accounted approximately 1.8% of investment risk attitude scores. According to the standardized coefficients (β) extrinsic motivation has the highest impact on investment risk attitudes of the subjects ($\beta = .29$), (Table 41).

The regression analysis results of the third model pointed that personality variables, gambling motivation variables and gender accounted for a significant amount on the investment risk attitude of subjects, $R^2 = .17$, $F_{(1, 425)} = 21.18$, $p < .05$, indicating that 17% of the investment risk attitude could be predicted by personality traits, gambling motivations, and gender. This result suggested that 4% of investment risk attitude could be predicted by gender, when personality variables and gambling motivation variables were controlled (Table 40).

Within the personality variables, conscientiousness and openness significantly contributed to the prediction of the investment risk attitude scores of the gambler subjects. Conscientiousness accounted approximately 1.2% and openness accounted approximately 2% of investment risk attitude scores. According to the standardized coefficients (β) openness personality trait has the highest impact on risk taking attitudes of the subjects ($\beta = .17$), (Table 41). Additionally, within the gambling motivation variables extrinsic motivation and amotivation significantly contributed to the prediction of investment risk attitude of the gambler subjects. Extrinsic motivation accounted approximately 6% and amotivation accounted approximately 2.3% of investment risk attitude scores. According to the standardized coefficients (β) extrinsic motivation has the highest impact on investment risk attitudes of the subjects ($\beta = .29$). As the last variable of the third model, gender accounted 4% of investment risk attitude scores (Table 41).

4.7. Determination of the Relationship of Personality Traits, Investment Risk Attitude, and Sport Gambling Experience with Gambling Motivations (Intrinsic Motivation, Extrinsic Motivation and Amotivation) of Sports Gambling Subjects. (Hierarchical Multiple Regression)

4.7.1. Intrinsic Motivation

In this analysis 435 university students' data, who were gamblers, was taken into consideration. Descriptive statistics were performed to get overall information about the data. The mean scores of dependent variable intrinsic motivation, and independent variables personality traits, investment risk taking attitude and gambling experience of sport gambling subjects were presented in table 42.

Table 42. Means and Standard Deviations of the Variables Intrinsic Motivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience

	<i>M</i>	<i>SD</i>	<i>N</i>
Intrinsic motivation	3.11	.72	435
Extraversion	3.99	.55	435
Agreeableness	3.58	.48	435
Conscientiousness	3.52	.52	435
Neuroticism	3.02	.49	435
Openness	3.95	.45	435
Investment Risk Attitude	2.72	.79	435
Gambling Experience	32.06	20.51	435

Bivariate correlation was calculated by using Pearson Product Moments Correlation Coefficient. The result of the bivariate correlation among six variables namely; dependent variable risk taking attitude and independent variable which were Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness are presented in table 44. The strongest

correlations were found between openness and extraversion ($r = .46$), openness and agreeableness ($r = .27$), and there was low negative correlation between conscientiousness and investment risk attitude ($r = -.09$) mean scores (Table 43).

Table 43. Bivariate Correlations among Variables Intrinsic Motivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience

*	1	2	3	4	5	6	7	8
1	1.000							
2	.032	1.000						
3	-.006	.253	1.000					
4	.002	.259	.260	1.000				
5	.122	-.175	-.034	-.054	1.000			
6	-.005	.459	.271	.193	-.086	1.000		
7	.174	.076	.003	-.091	.030	.109	1.000	
8	.056	.015	.021	-.078	-.033	-.001	.257	1.000

*: 1: Intrinsic motivation, 2: Extraversion, 3: Agreeableness, 4: Conscientiousness, 5: Neuroticism, 6: Openness, 7: Investment Risk attitude, 8: Gambling Experience

Durbin and Watson coefficient test which uses standardized residuals was conducted and results showed that the residuals in the model are independent and this assumption was not violated (1.88).

The scatterplot of dependent variable risk attitude revealed that the assumptions of linearity and homoscedasticity have been met (Figure 10).

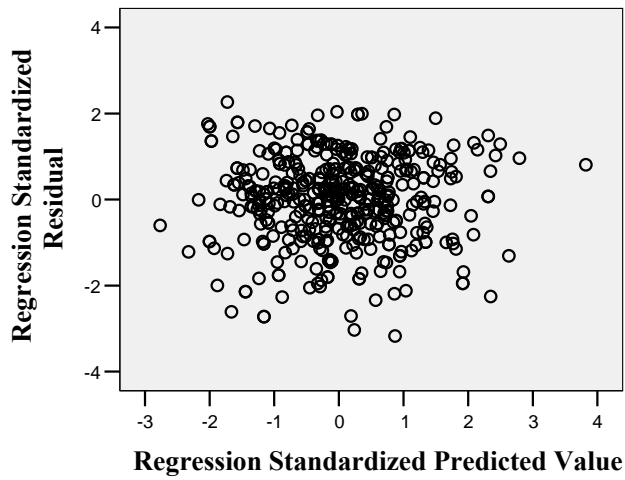


Figure 10. Scatterplot of Dependent Variable Intrinsic Motivation of Gambling Subjects

The histogram (Figure 11.) and the normal probability plot (Figure 12.) of the data showed that the data is normally distributed.

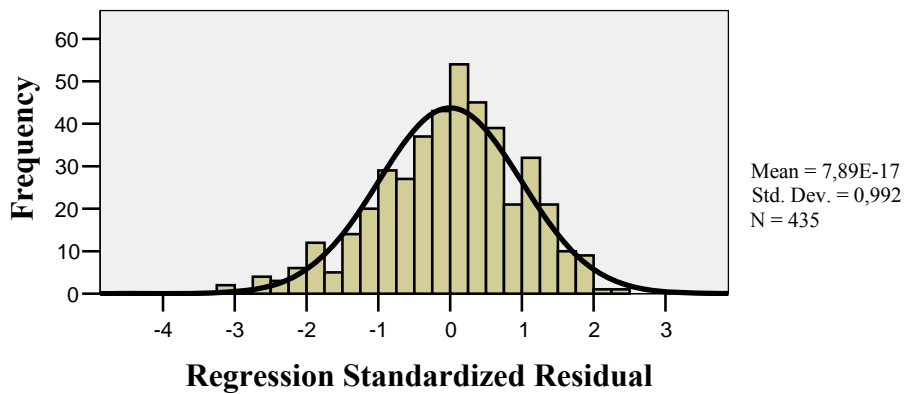


Figure 11. Histogram of the Dependent Variable Intrinsic Motivation of Gambling Subjects

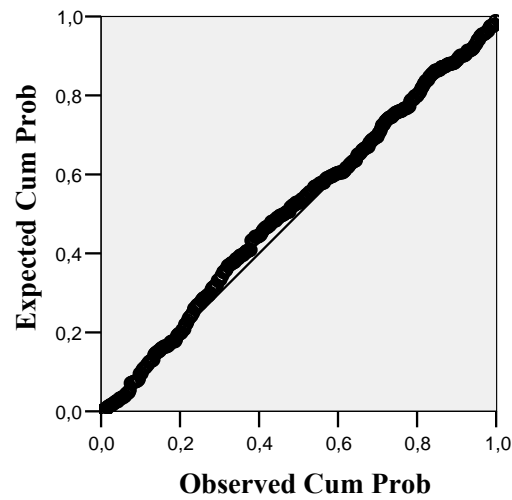


Figure 12. P-P Plots of the Dependent Variable Intrinsic Motivation of Gambling Subjects

For the multicollinearity the correlation among the independent variables, tolerance values and VIF were examined. None of the correlation values among independent variables exceeded .90 (Table 43) and tolerance values was not less than .20 and VIF did not exceeded 4. The results revealed that multicollinearity assumption was met.

Table 44. Summary of Three Models in the Hierarchical Regression Analysis of Intrinsic Motivations of Gambler

Model	<i>R</i>	<i>R</i> ²	<i>Adj. R</i> ²	<i>SEE</i>	<i>Chang Statistics</i>				
					<i>R</i> ² <i>Change</i>	Model	<i>R</i>	<i>R</i> ²	<i>Adj. R</i> ²
1	.136(a)	.018	.007	.72	.018	1.616	5	.429	.154
2	.218(b)	.047	.034	.71	.029	13.020	1	.428	.000
3	.219(c)	.048	.032	.71	.000	.133	1	.427	.716

p<0.05

a Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion

b Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion, Investment risk attitude

c Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion, Investment risk attitude, Gambling experience

d Dependent Variable: Intrinsic motivation

The regression analysis results of model 1 showed that personality variables did not account for a significant amount on the intrinsic motivation of the sport gambling subjects, $R^2 = .02$, $F_{(5, 429)} = 1.616$, $p > .05$, (Table 44).

The regression analysis results of model 2 pointed that investment risk taking accounted for a significant amount on the intrinsic motivation of sport gambling subjects, R^2 change = $.03$, $F_{(1, 428)} = 13.02$, $p < .05$, indicating that 3% of the intrinsic motivation could be predicted by investment risk attitude of subjects (Table 44).

The regression analysis results of the third model pointed that gambling experiences of the subjects did not have a significant predictive effect on the intrinsic motivations of the sport gambling subjects, R^2 change = $.00$, $F_{(1, 427)} = .133$, $p > .05$, (Table 44).

Table 45. Coefficients of Hierarchical Regression Analysis of Intrinsic Motivations of Gambler Subjects

	<i>B</i>	<i>SE</i>	β	<i>T</i>	<i>Sig.</i>	<i>Zero-order</i>	<i>Partial</i>	<i>Part</i>
Model 1								
(Constant)	2.375	.471		5.040	.000			
Extraversion	.089	.073	.068	1.223	.222	.032	.059	.058
Agreeableness	-.019	.077	-.013	-.248	.805	-.006	-.012	-.012
Conscientiousness	-.001	.070	-.001	-.018	.986	.002	-.001	-.001
Neuroticism	.196	.072	.132	2.714	.007	.122	.130	.130
Openness	-.035	.089	-.022	-.397	.691	-.005	-.019	-.019
Model 2								
(Constant)	2.047	.474		4.321	.000			
Extraversion	.074	.072	.056	1.021	.308	.032	.049	.048
Agreeableness	-.017	.076	-.011	-.217	.828	-.006	-.011	-.010
Conscientiousness	.028	.069	.021	.409	.683	.002	.020	.019
Neuroticism	.185	.071	.124	2.590	.010	.122	.124	.122
Openness	-.065	.088	-.040	-.744	.457	-.005	-.036	-.035
Investment Risk Attitude	.158	.044	.173	3.608	.000	.174	.172	.170
Model 3								
(Constant)	2.030	.476		4.261	.000			
Extraversion	.073	.072	.056	1.017	.310	.032	.049	.048
Agreeableness	-.018	.076	-.012	-.232	.817	-.006	-.011	-.011
Conscientiousness	2.030	.070	.022	.430	.667	.002	.021	.020
Neuroticism	.186	.071	.125	2.601	.010	.122	.125	.123
Openness	-.064	.088	-.040	-.730	.465	-.005	-.035	-.034
Investment Risk Attitude	.154	.045	.168	3.395	.001	.174	.162	.160
Gambling Experience	.001	.002	.018	.364	.716	.056	.018	.017

4.7.2. Extrinsic Motivation

In this analysis 435 university students' data, who were gamblers, was taken into consideration. Descriptive statistics were performed to get overall information about the data. The mean scores of dependent variable extrinsic motivation, and independent variables personality traits, investment risk taking attitude and gambling experience were presented in table 46.

Table 46. Means and Standard Deviations of the Variables Extrinsic Motivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience.

	<i>M</i>	<i>SD</i>	<i>N</i>
Extrinsic Motivation	2.32	.66	435
Extraversion	3.99	.55	435
Agreeableness	3.58	.48	435
Conscientiousness	3.52	.52	435
Neuroticism	3.02	.49	435
Openness	3.95	.45	435
Investment Risk Attitude	2.72	.79	435
Gambling Experience	32.06	20.51	435

Bivariate correlation was calculated by using Pearson Product Moments Correlation Coefficient. The result of the bivariate correlation among six variables namely; dependent variable risk taking attitude and independent variable which were extraversion, agreeableness, conscientiousness, neuroticism, and openness are presented in table 48. The strongest correlations were found between openness and extraversion ($r = .46$), openness and agreeableness ($r = .27$). Also, there was a positive correlation between extrinsic motivation and risk attitude ($r = .25$), (Table 47).

Table 47. Bivariate Correlations among Variables Extrinsic Motivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience

*	1	2	3	4	5	6	7	8
1	1.000							
2	-.075	1.000						
3	-.055	.253	1.000					
4	.027	.259	.260	1.000				
5	.160	-.175	-.034	-.054	1.000			
6	-.178	.459	.271	.193	-.086	1.000		
7	.248	.076	.003	-.091	.030	.109	1.000	
8	.055	.015	.021	-.078	-.033	-.001	.257	1.000

*: 1: Extrinsic motivation, 2: Extraversion, 3: Agreeableness, 4: Conscientiousness, 5: Neuroticism, 6: Openness, 7: Investment Risk attitude, 8: Gambling Experience

Durbin and Watson coefficient test which uses standardized residuals was conducted. According to Stevens (2002) the Durbin–Watson statistics should be between 1.5 and 2.5 for independent observation. In this regard the Durbin-Watson test of independence result showed that the residuals in the model are independent and this assumption was not violated (1.97). The scatter plot of dependent variable risk attitude revealed that the assumptions of linearity and homoscedasticity have been met (Figure 13).

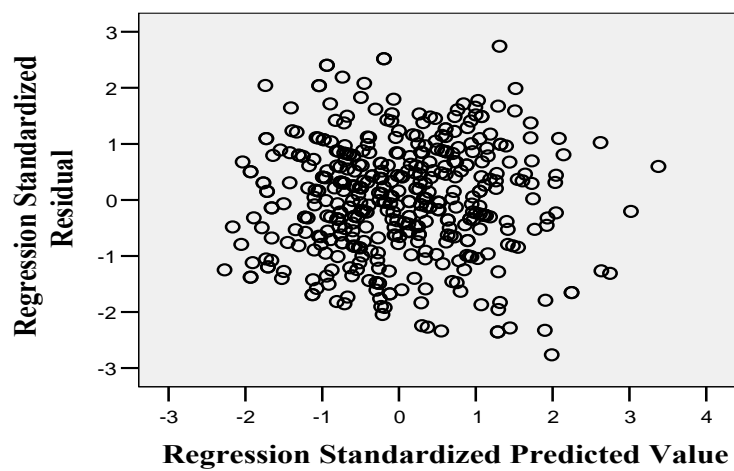


Figure 13. Scatterplot of Dependent Variable Extrinsic Motivation of Gambling Subjects

The histogram (Figure 14.) and the normal probability plot (Figure 15) of the data showed that the data is normally distributed.

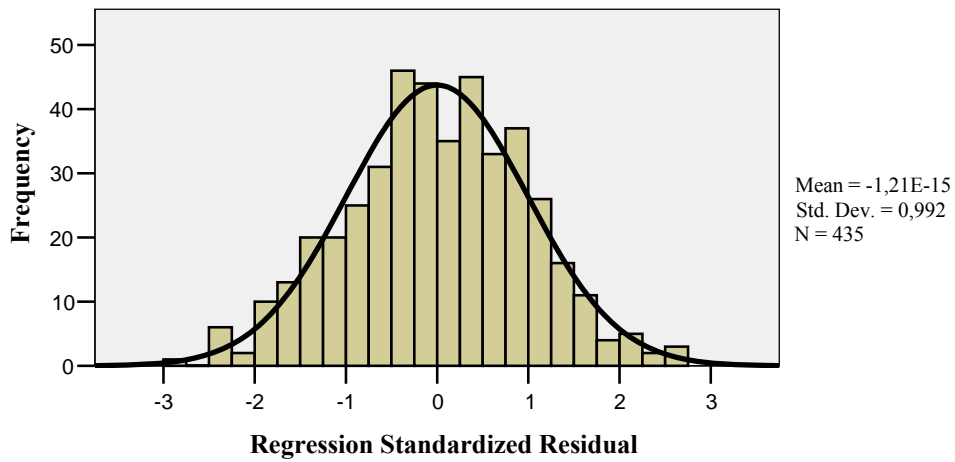


Figure 14. Histogram of the Dependent Variable Extrinsic Motivation of Gambling Subjects

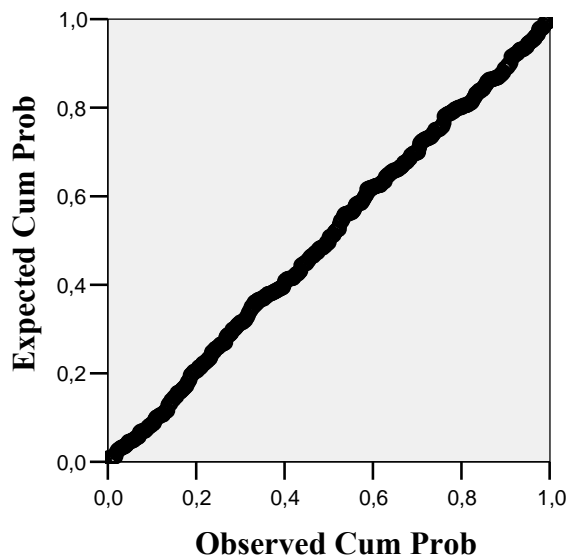


Figure 15. P-P Plots of the Dependent Variable Extrinsic Motivation of Gambling Subjects

For the multicollinearity the correlation among the independent variables, tolerance values and VIF were examined. None of the correlation values among independent variables exceeded .90 (Table 46) and tolerance values was not less than .20 and VIF did not exceeded 4. The results revealed that multicollinearity assumption was met.

Table 48. Summary of Three Models in the Hierarchical Regression Analysis of Extrinsic Motivations of Gamblers

Model	<i>R</i>	<i>R</i> ²	<i>Adj.R</i> ²	<i>SEE</i>	<i>Change Statistics</i>				
					<i>R</i> ² Change	Model	<i>R</i>	<i>R</i> ²	<i>Adj.R</i> ²
1	.241(a)	.058	.047	.64	.058	5.306	5	.429	.000
2	.364(b)	.132	.120	.62	.074	36.581	1	.428	.000
3	.364(c)	.132	.118	.62	.000	.007	1	.427	.935

P<0.05

a Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion

b Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion, Investment risk attitude

c Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion, Investment Risk Attitude, Gambling Experience

d Dependent Variable: Extrinsic Motivation

The regression analysis results of model 1 showed that personality variables accounted for a significant amount on the extrinsic motivation of the sport gambling subjects, $R^2 = .06$, $F_{(5, 429)} = 5.306$, $p > .05$, (Table 48). Within the personality variables, neuroticism and openness significantly contributed to the prediction of the extrinsic motivations of sport gambling subjects. Neuroticism accounted approximately 2% and openness accounted approximately 2.5% of extrinsic motivation scores. According to the standardized coefficients (β) openness personality trait has the highest impact on extrinsic motivations of the subjects ($\beta = -.18$), (Table 49).

The regression analysis results of model 2 pointed that personality variables and investment risk attitude variables accounted for a significant amount on the extrinsic motivation of sport gambling subjects, R^2 change = .07, $F_{(1, 428)} = 36.58$, $p < .05$, indicating that, when personality variables are controlled, 7% of the extrinsic motivation could be predicted by investment risk attitude of subjects (Table 48).

Table 49. Coefficients of Hierarchical Regression Analysis of Extrinsic Motivations of Gambler Subjects

	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>Zero-order</i>	<i>Partial</i>	<i>Part</i>
Model 1								
(Constant)	2.460	.423		5.821	.000			
Extraversion	.028	.065	.023	.425	.671	-.075	.021	.020
Agreeableness	-.034	.069	-.025	-.494	.622	-.055	-.024	-.023
Conscientiousness	.089	.063	.071	1.424	.155	.027	.069	.067
Neuroticism	.206	.065	.151	3.182	.002	.160	.152	.149
Openness	-.270	.079	-.182	-3.398	.001	-.178	-.162	-.159
Model 2								
(Constant)	1.979	.414		4.782	.000			
Extraversion	.005	.063	.004	.079	.937	-.075	.004	.004
Agreeableness	-.030	.066	-.022	-.458	.647	-.055	-.022	-.021
Conscientiousness	.133	.061	.105	2.187	.029	.027	.105	.098
Neuroticism	.190	.062	.139	3.042	.002	.160	.145	.137
Openness	-.314	.077	-.212	-4.095	.000	-.178	-.194	-.184
Investment Risk Attitude	.232	.038	.276	6.048	.000	.248	.281	.272
Model 3								
(Constant)	1.983	.416		4.762	.000			
Extraversion	.005	.063	.004	.080	.937	-.075	.004	.004
Agreeableness	-.030	.067	-.022	-.454	.650	-.055	-.022	-.020
Conscientiousness	.132	.061	.105	2.175	.030	.027	.105	.098
Neuroticism	.189	.062	.139	3.032	.003	.160	.145	.137
Openness	-.314	.077	-.212	-4.091	.000	-.178	-.194	-.184
Investment Risk Attitude	.232	.040	.277	5.864	.000	.248	.273	.264
Gambling Experience	.000	.002	-.004	-.081	.935	.055	-.004	-.004

The analysis in the model two pointed that additionally to openness and neuroticism, it was indicated that conscientiousness trait occurred as a third predicting variable which accounted approximately 1% of extrinsic motivation scores (Table 49).

The regression analysis results of the third model pointed that gambling experiences of the subjects did not have a significant predictive effect on the extrinsic motivations of the sport gambling subjects, R^2 change = .00, $F_{(1, 427)} = .133$, $p > .05$, (Table 48).

4.7.3. Amotivation

In this analysis 435 university students' data, who were gamblers, was taken into consideration. Descriptive statistics were performed to get overall information about the data. The mean scores of dependent variable amotivation, and independent variables personality traits, investment risk taking attitude and gambling experience were given in table 50.

Table 50. Means and Standard Deviations of the Variables Amotivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience

	<i>M</i>	<i>SD</i>	<i>N</i>
Amotivation	3.22	.92	435
Extraversion	3.99	.55	435
Agreeableness	3.58	.48	435
Conscientiousness	3.52	.52	435
Neuroticism	3.02	.49	435
Openness	3.95	.45	435
Risk attitude	2.72	.79	435
Gambling experience	32.06	20.51	435

Bivariate correlation was calculated by using Pearson Product Moments Correlation Coefficient. The result of the bivariate correlation among six

variables namely; dependent variable risk taking attitude and independent variable which were Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness are presented in Table 51. The strongest correlations were found between openness and extraversion ($r = .46$), openness and agreeableness ($r = .27$). Also, there was a positive correlation between extrinsic motivation and investment risk attitude ($r = .25$), (Table 51).

Table 51. Bivariate Correlations among Variables Amotivation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness, Investment Risk Attitude, and Gambling Experience

*	1	2	3	4	5	6	7	8
1	1.000							
2	-.066	1.000						
3	.107	.253	1.000					
4	.093	.259	.260	1.000				
5	.034	-.175	-.034	-.054	1.000			
6	-.029	.459	.271	.193	-.086	1.000		
7	-.069	.076	.003	-.091	.030	.109	1.000	
8	-.073	.015	.021	-.078	-.033	-.001	.257	1.000

*: 1: Amotivation, 2: Extraversion, 3: Agreeableness, 4: Conscientiousness, 5: Neuroticism, 6: Openness, 7: Investment Risk Attitude, 8: Gambling Experience

Durbin and Watson coefficient test which uses standardized residuals was conducted and this assumption was not violated (1.96). The scatter plot of dependent variable risk attitude revealed that the assumptions of linearity and homoscedasticity have been met (Figure 16).

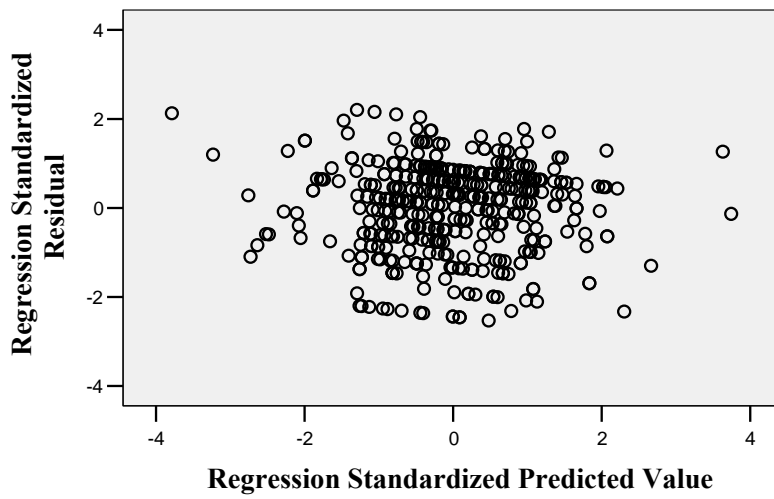


Figure 16. Scatter plot of Dependent Variable Amotivation of Gambling Subjects

The histogram (Figure 17.) and the normal probability plot (Figure 18.) of the data showed that the data is normally distributed.

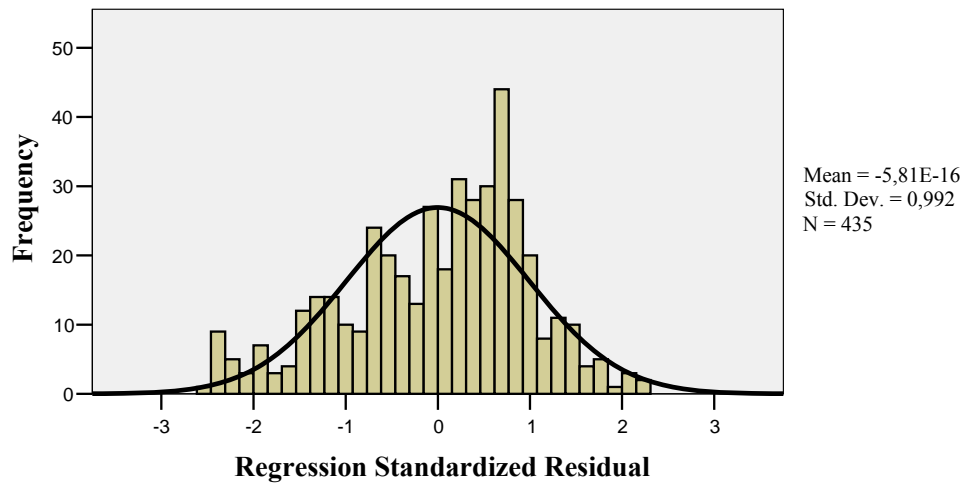


Figure 17. Histogram of the Dependent Variable Amotivation of Gambling Subjects

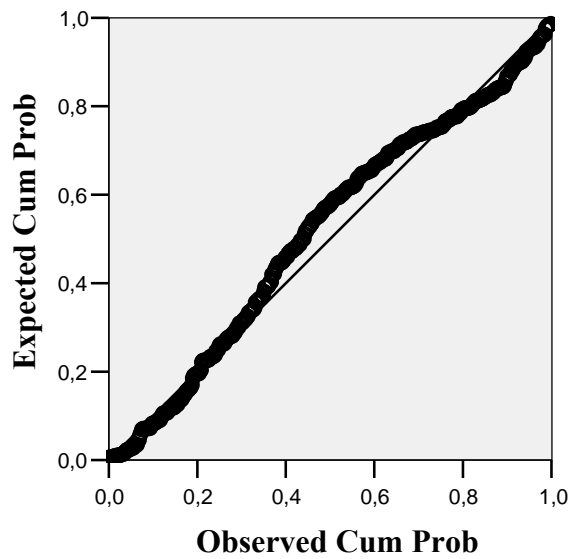


Figure 18. P-P Plots of the Dependent Variable Amotivation

For the multicollinearity the correlation among the independent variables, tolerance values and VIF were examined. None of the correlation values among independent variables exceeded .90 (Table 51) and tolerance values was not less than .20 and VIF did not exceeded 4. The results revealed that multicollinearity assumption was met.

Table 52. Summary of Three Models in the Hierarchical Regression Analysis of Amotivations of Gamblers

Model	<i>R</i>	<i>R</i> ²	<i>Adj.R</i> ²	<i>SEE</i>	<i>R</i> ² Change	<i>Chang Statistics</i>			
						Model	<i>R</i>	<i>R</i> ²	<i>Adj.R</i> ²
1	.173(a)	.030	.019	.91	.030	2.652	5	429	.022
2	.181(b)	.033	.019	.91	.003	1.155	1	428	.283
3	.189(c)	.036	.020	.91	.003	1.327	1	427	.250

P<0.05

a Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion

b Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion, Investment risk attitude

c Predictors: (Constant), Openness, Neuroticism, Conscientiousness, Agreeableness, Extraversion, Investment Risk Attitude, Gambling Experience

d Dependent Variable: Amotivation

The regression analysis results of model 1 showed that personality variables accounted for a significant amount on the amotivation of the sport gambling subjects, $R^2 = .03$, $F_{(5, 429)} = 2.652$, $p > .05$, indicating that 3% of the amotivation could be predicted by personality variables (Table 52).

Within the personality variables, only agreeableness significantly contributed to the prediction of the amotivation of sport gambling subjects. Agreeableness accounted approximately 1% of amotivation scores. According to the standardized coefficients (β) agreeableness personality trait has the highest impact on amotivations of the subjects ($\beta = .12$), (Table 53).

The regression analysis results of the second and third model pointed that investment risk attitude R^2 change = .00, $F_{(1, 428)} = .1155$, $p > .05$ and gambling experiences variables, R^2 change = .00, $F_{(1, 427)} = .1327$, $p > .05$, did not have a significant predictive effect on the amotivation of the sport gambling subjects (Table 52).

Table 53. Coefficients of Hierarchical Regression Analysis of Sport Gambling Subjects' Amotivations

	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>	<i>Zero-order</i>	<i>Partial</i>	<i>Part</i>
Model 1								
(Constant)	2.627	.597		4.398	.000			
Extraversion	-.171	.093	-.103	-1.854	.064	-.066	-.089	-.088
Agreeableness	.225	.098	.117	2.305	.022	.107	.111	.110
Conscientiousness	.169	.089	.096	1.904	.058	.093	.092	.091
Neuroticism	.042	.092	.022	.461	.645	.034	.022	.022
Openness	-.063	.112	-.030	-.558	.577	-.029	-.027	-.027
Model 2								
(Constant)	2.753	.608		4.524	.000			
Extraversion	-.166	.093	-.099	-1.786	.075	-.066	-.086	-.085
Agreeableness	.224	.098	.117	2.295	.022	.107	.110	.109
Conscientiousness	.157	.089	.090	1.764	.078	.093	.085	.084
Neuroticism	.047	.092	.025	.508	.612	.034	.025	.024
Openness	-.051	.113	-.025	-.454	.650	-.029	-.022	-.022
Investment Risk Attitude	-.061	.056	-.052	-1.075	.283	-.069	-.052	-.051
Model 3								
(Constant)	2.821	.611		4.616	.000			
Extraversion	-.164	.093	-.099	-1.775	.077	-.066	-.086	-.084
Agreeableness	.229	.098	.119	2.342	.020	.107	.113	.111
Conscientiousness	.151	.089	.086	1.690	.092	.093	.082	.080
Neuroticism	.042	.092	.022	.455	.649	.034	.022	.022
Openness	-.056	.113	-.027	-.493	.623	-.029	-.024	-.023
Investment Risk Attitude	-.044	.058	-.037	-.748	.455	-.069	-.036	-.036
Gambling Experience	-.003	.002	-.057	-1.152	.250	-.073	-.056	-.055

CHAPTER V

DISCUSSION

Identifying the factors affecting the consumer purchase behavior is one of the most important requirements that the market decision makers have to take into consideration. Personality, attitude and motivation are the important internal factors that have effect on consumer purchase behavior. That's why, in this research it was aimed to identify some of the internal factors that may influence the sport gamblers' gambling behavior.

5.1. Personality Differences

In the determination of personality differences between students who were gambling on sport events and who were non-gamblers, the five factor model, which is the dominant approach for representing the human trait today, was used.

According to the literature gambling behavior is categorized under risky behaviors and the literature which subjected personality types of risk-taking individuals, emphasizes that risk-prone and risk-averse individuals differ in personality (Zuckerman & Kuhlman, 2000). The results of this study pointed that subjects gambling on sport events and who did not gamble on sport events showed variations in personality. The findings of this research showed parallelism with Nicholson and colleagues' (2005) study findings, sport gambling students had high extraversion and openness personality properties than non-gambling university students. Zuckerman and Kuhlman's (2000) study, in which it is mentioned that individuals risky behaviors were significantly correlated with their sensation seeking and sociability personality properties present alike results to our findings, because sensation seeking and sociability are personality characteristics

which are covered by extraversion personality trait. Also, Levin and Lauriola (2001) emphasized that high risk-takers had high openness levels than the risk-avoiders. The findings also pointed that sport gambling students conscientiousness level was low than non-gambling students conscientiousness level. Soane and Chmiel's (2005) research results, which stated that risk-averse subjects were higher in conscientiousness, was supporting the findings of the present study.

Even the results of this study showed congruency with the literature and even the analysis showed that sport gambling students and non-gambling students significantly differed; interestingly the mean statistics showed that the total research group was extraverted, conscientious and open. The characteristics of the subject group maybe the reason for this result. All subjects were university students, and new friendships, sharing new experiences, being in a new living condition, caring self, projects, science, participating social and recreational activities are consequences of university life which develops and adds new features to individuals self-development. Also people in university years are in ages in which they are more curious and interested about life, they are open to experiences.

As a conclusion, the sport gambling students were more social, active, talkative, more curious, imaginative and willing to entertain ideas. On the other hand, non-gambling students were more organized, reliable, hard-working, and punctual when compared with the students who were gambling on sport. This means that extraverted and open individuals are more prone to sport gambling and conscientious individuals are not.

5.2. Financial Risk Taking

Gambling is one of the two facets of financial risk-taking. The other type of financial risk-taking facet is investment risk-taking. In order to determine the financial risk attitude differences of students who gamble on sport

events and who do not gamble, their risk taking attitudes regarding investments was evaluated.

When the statistical analysis is considered, the results demonstrate that the subjects who gamble on sport events and who do not, differ in their attitudes towards financial risk-taking. This result is also supported with Cross and colleagues (1998) study which was conducted on student-athletes who were gambling and who were not. The university students gambling on sport events had more inclined attitudes to financial risk-taking than the ones who did not gamble on sport. The permissiveness of sport gamblers to financial risk-taking might be result of their personality properties. Extraverted subjects take risks more often than the introverts who have low sensation seeking characteristics (Rosenbloom, 2003; Trimpop, Kerr, & Kirkcaldy, 1999). Also, sport gamblers might be more prone to financial risk taking because extraverted individuals might be more likely to engage in risky behaviors as a way to enhance positive affective experience (Cooper et al., 2000)

But, even the sport gambling subjects' had higher financial risk-taking attitudes than non-gamblers, which was expected as a result of being gambler, the mean statistics revealed that actually both of the subject groups' financial risk-taking attitude scores were as low as they could be categorized as risk-averse individuals. Gambling and risk-averseness might be seen ironic, but the structure of the games they gamble might be the reason why individuals with low financial risk-taking attitudes participate in sport gambling events.

Even having low financial risk-taking attitudes, why do the subjects participate in sport gambling events? Because gambling on sport events is different from the lottery gambles. In lotteries individuals have no opportunity to affect the results. On the other hand, sport gambling requires previous information about the field where the event will be organized, the

referee, teams or athletes, and even about the weather, before investing money on the game. According to sport gamblers, gathering all this information and making an analysis before making decision might lessen the risk ratio of winning the reward. Also, the amount of the money put under risk might be one of the other reasons why students participate in sport gambles. Therefore, the people participating in sport gambling events might be risk-averse but less risk-averse individuals than the ones who do not gamble.

Additionally to the gamblers and non-gamblers difference in financial risk-taking attitudes, results revealed that gender, regardless from gambling behavior, caused differences between the male and female students. Male subjects were more permissive towards financial risk-taking than females. The presented findings are consistent with the literature on genders effect on risk-taking and financial risk-taking (Bajtelmit & Bernasek, 1996; Daghofer, 2000; Donkers, Melenberg, & Soest, 2001; Dwyer, Gilkeson, & List, 2002).

Literature based on gender differences in financial risk-taking emphasizes various reasons for females' averseness towards financial risk-taking. Schubert and colleagues (1999) advocated that females aversive attitude toward financial risk-taking is caused by the economic conditions which provides advantage to males. They supposed that controlling economic conditions lessens the difference between males and females financial risk-taking attitudes. Another reason for why women were more risk-averse than men in their financial decisions was the wealth level of women (Jianakoplis & Bernasek, 1998). In an experimental study, Powell and Ansic (1997) linked the women's less risk-seeking attitude with the difference in decision-making strategy of male and females which might be arose from the underlying differences in their motivations. Fehr-Duda and colleagues (2006) grounded, why females had less permissive attitudes towards

financial risk taking, to their intense reactions to feelings of disappointment and elation.

The reason why the female subjects of this study were had low financial risk-taking attitudes than males might be explained with knowledge inequality in economical and financial matters. We suppose that individuals poorly equipped on financial matters would be more risk-averse than others.

When non-gambling students financial risk-attitudes regressed, to determine if personality and gender correlates with their financial risk-taking attitude, the analysis displayed that conscientiousness and gender had a significant predictive effect on financial risk-taking attitudes of non-gambling student. Conscientiousness was negatively correlated with the financial risk-taking attitudes. Lower the financial risk-taking attitude level, the higher the conscientiousness level was observed from the results. This result is consistent with the meaning of conscientiousness personality traits which accentuates that a conscientious person tend to be organized, achievement focused, hard working, self-directed, punctual, scrupulous, ambitious, and preserving, whereas those who are low in conscientiousness tend to be aimless, lazy, careless, lax, negligent, and hedonistic. Gambling as a hedonistic, in other words pleasure seeking behavior is much more close to persons who are low in conscientiousness.

Personality and gender were also predictive variables in gambling students' financial risk-taking attitudes. In this group additionally to conscientiousness, openness personality trait was also having a predictive role. Similar to the non-gambling subject group the conscientiousness personality trait was negatively correlated and openness was positively correlated with the financial risk-taking attitudes. Besides personality and gender, the factors that motivated the subjects extrinsically and their amotivations were significantly affecting the financial risk-taking attitudes of the subjects. Extrinsic motivating factors, relaxation, escape, and

spending time with friends, feeling powerful, important and social recognition, money winning, getting rich were positively correlated and amotivation level of subjects was negatively correlated with their financial risk-taking attitudes. Extrinsic motivation factors are that drive subjects for the outcome of the gambling similar with the outcomes of financial risk-taking.

5.3. Gambling Motivations

Identifying the gambling motivations of the students who were gambling on sport was one of the main purposes of this research. The results revealed that gender did not have a significant effect on individuals gambling motivations. This result was contradictory with the findings of Chantal and colleagues (1994) and Burger and colleagues (2006). In Chantal and colleagues research (1994) except intrinsic motivation to know, the male subjects had significantly higher motivation levels towards gambling than their female counterparts. In Burger and colleagues (2006) study the results pointed that males intrinsic motivations were significantly higher than females, which was correlated with males competitive structure.

The underlying reason for why the subjects of the present study did not varied in their gambling motivations according to their gender might be resulted from the inequality of subjects' group sizes. The sample size of females who participate in sports gambling was lower than males. Equal group sizes would be useful in reaching much more statistically meaningful results. The limitation in the sample size of sport gambling females might be resulted from two reasons; the conceptual meaning of gambling in the minds of people in Turkey and females interest towards sport. Gambling with its various types, such as dicing, playing cards, and also sport gambling can mostly be categorized under male activities rather than female activities, in Turkey. Also, females' low interest level towards sport might be the other reason why it is hard to find sport gambling females.

The most important motivating factor that drove university students to sport gambling was enjoyment and amusement and the lowest ranked motivation was external motivation of introjected which means feeling powerful, important and socially recognized. This result showed similarities with Chantal and colleagues' (1994) and Jang and colleagues' (2008) studies. Even the age group and the gambling activities was a different, McNeilly and Burke's (2000) casino gamblers aged above 65 also explored that they were motivated with the fun of gambling. Risking money regardless its amount and waiting for the game results maybe exciting and thrilling for them.

Another important thing that the results pointed was that, however the students were highly motivated with the enjoyment of sport gambling, they also were uncertain whether gambling provided any benefit to them or to continue gambling was meaningful or not anymore. There may be several underlying reason why the subjects were undecided in their gambling behavior. Financial losses during gambling might be one of the causes. Even the amount of money they lost maybe unimportant, losing maybe a demotivating factor. The other reason that causes hesitation in subjects' participation to sport gambling activities might be the cultural structure of the Turkish society. In spite of the fact that Turkey is a developing and modernizing country the conservative cultural structure still has its guiding impact on individuals' behaviors and this may lead subjects questioning their gambling activity.

Also, the priority or importance level of motivations towards gambling was showing consistencies with the sport gambling subjects' personality properties. The enjoyment and amusement of gambling and learning about gambling, exploring new games and playing strategies were motivations which displayed parallelism with extraversion and openness personality trait.

On the other hand, results of this research were contradictory with the findings of Lee and colleagues (2006) and Neighbors and colleagues (2002). While monetary gain of gambling was less important for the subjects of our study, their researches concluded that the money which will be gained as a result of gambling had the highest priority in the motivations that lead their subjects towards gambling. The result why monetary gain was less important to the sport gambling students maybe explained with the view point of subjects towards gambling. While some subjects view gambling as recreational activity and the other may be looking it as money earning activity. Most probably the amount of money spent in gambling might be another reason. Because the research subjects Lee and colleagues (2006) studied on were casino gamblers, who may risk huge amount of money compared to the amount of money students put in risk in sport gambling.

The analysis, in order to identify which of the variables, such as personality traits, financial risk-taking attitude and gambling experience, were having predictive effects on gambling motivations of students put forward interesting results.

While intrinsic motivations that drove students towards gambling on sport were predicted only by their financial risk-taking attitudes, extrinsic motivations were predicted by personality variables and financial risk-taking attitudes of subjects. Conscientiousness, neuroticism and openness traits and financial risk-taking attitudes of students had significant impact on their extrinsic motivations towards gambling. Also amotivations of the subjects was predicted with the personality and only agreeableness personality trait significantly contributed to the prediction of the amotivation.

CHAPTER VI

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

6.1. Summary

Our main purpose in this study was to determine the personality traits, financial risk-taking attitudes differences of sport gambling and non-gambling students, to identify gambling motivations of the university students who participate in sport gambling activities and then, to identify the relationship between gambling motivations and personality traits and financial risk-taking attitudes.

On the light of this purpose we conducted a survey research on the purposively selected subject group of the study.

The result of the study indicated that sport gambling and non-gambling university students differed in their personality traits. Parallel with the literature, even non-gamblers were extraverted and open; sport gamblers were more extraverted and had more open personalities when compared with non-gamblers. Besides, the conscientiousness level sport gamblers were lower than the non-gambling students.

The financial risk-taking attitudes of subjects displayed variances related with the gambling behavior of subjects. Results indicated that sport gambling students were significantly more permissive to financial risk-taking in financial matters than the non-gamblers. The analysis also pointed that the variables predicting the financial risk-taking attitudes of students showed differences regarding their gambling behavior. While the financial risk-taking attitude of the non-gamblers were correlated only with the gender and negatively correlated with conscientiousness personality trait, the financial risk-taking attitudes of sport gamblers were correlated with

openness, conscientiousness, amotivation and extrinsic motivating factors of gambling.

The analysis of gambling motivations of sport gamblers revealed that they were highly motivated with the enjoyment and amusement of gambling and the less important motivating factor was the extrinsic motivation to introjected, which means the power, significance, and social acceptance provided by gambling. Also, results pointed that the motivations of subjects were correlated with personality traits and financial risk-taking attitudes of subjects. While the intrinsic motivations was correlated with only the financial risk-taking attitude of subjects, the extrinsic motivations were correlated with conscientiousness, neuroticism and openness traits and financial risk-taking attitudes of students had significant predictive impact on their extrinsic motivations towards gambling. Only agreeableness significantly contributed to the prediction of the amotivation of sport gambling subjects.

6.1. Conclusions

The results of this study concluded that the gambling students were more social, active, talkative, more curious, imaginative and willing to entertain novel ideas. On the other hand, non-gambling students were more organized, reliable, hard-working, and punctual when compared with the students who were gambling on sport. Sport gambling students attitudes were significantly more positive towards financial risk-taking when compared with the subjects who never gambled. Additionally, the sport gambling students were mostly motivated with the enjoyment and pleasure of gambling, and social acceptance and power was the lowest motivating factor identified by sport gambling students.

Also, this study concludes that students who are more extraverted, open and less conscientious and who are more inclined towards risky behaviors

display higher probability in engaging in sport gambling activities than the ones who are not.

6.2. Recommendations for Further Studies

Because of its big financial monetary gains, sport gambling as a popular activity, attracts wide range of populations. Therefore, further researches on this topic should be conducted on various populations of different age, gender, education and income groups.

Also, as a further research a study designed qualitatively based specifically on the motivations of subjects towards sports gambling would be fruitful in gathering deep information about motivations that direct them towards gambling.

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APPENDICES

Appendix A- Büyük Beşli Kişilik Anketi

KİŞİLİK ANKETİ

Açıklama: Aşağıdaki ifadelerin her birisi insan davranış ve tutumları ile ilgilidir. Bunların arasında size uyabilecek ya da uymayacak ifadeler bulunmaktadır. Bu ifadelerin her biri “kendimi biri olarak görüyorum” cümlesinin boşluk kısmını doldurmaktadır. **Lütfen** yazılı olan bu ifadeleri sizi en iyi biçimde yansıtan rakamın üstüne (X) işareti koyarak değerlendiriniz.

	KENDİMİ BİRİ OLARAK GÖRÜYORUM	Kesinlikle katılmıyorum	Katılmıyorum	Ne katılıyor ne katılmıyorum	Katılıyorum	Kesinlikle katılıyorum
1	Konuşkan	1	2	3	4	5
2	Başkalarında hata bulmaya eğilimli	1	2	3	4	5
3	Bir işi titiz yapan	1	2	3	4	5
4	Depresyonda, hüzünlü	1	2	3	4	5
5	Yeni, orijinal fikirler üreten	1	2	3	4	5
6	Sosyal ilişkilerinde yakınlaşmaktan kaçınan	1	2	3	4	5
7	Yardımsever ve diğerlerine karşı bencil olmayan	1	2	3	4	5
8	Bazen dikkatsiz olabilen	1	2	3	4	5
9	Rahat ve stresle başa çıkabilen	1	2	3	4	5
10	Birçok farklı konuya meraklı	1	2	3	4	5
11	Enerji dolu	1	2	3	4	5
12	Başkalarıyla kavga başlatan (kavgacı)	1	2	3	4	5
13	Çalışkan	1	2	3	4	5
14	Gergin	1	2	3	4	5
15	Zeki, derin düşünen	1	2	3	4	5
16	Çevresine coşku yayan	1	2	3	4	5
17	Bağışlayıcı, affedici bir yapıya sahip	1	2	3	4	5
18	Dağınık olmaya eğilimli	1	2	3	4	5

	KENDİMİ BİRİ OLARAK GÖRÜYORUM	Kesinlikle katılmıyorum	Katılmıyorum	Ne katılıyor ne katılmıyorum	Katılıyorum	Kesinlikle katılıyorum
19	Endişeli	1	2	3	4	5
20	Canlı bir hayal gücü olan	1	2	3	4	5
21	Kolaylıkla sessizleşebilen	1	2	3	4	5
22	Genellikle güvenilir	1	2	3	4	5
23	Tembelliğe eğilimli	1	2	3	4	5
24	Duygusal olarak çabuk değişmeyen, kolay üzülmeyen	1	2	3	4	5
25	Yaratıcı	1	2	3	4	5
26	Kendini kabul ettiren, güçlü bir kişiliğe sahip	1	2	3	4	5
27	Soğuk ve mesafeli olabilen	1	2	3	4	5
28	Başladığı işi azimle, bitirene kadar sürdüren	1	2	3	4	5
29	Birden bire canı sıkılabilen	1	2	3	4	5
30	Sanatsal ve estetik deneyimlere değer veren	1	2	3	4	5
31	Bazen utangaç ve duygularını pek dışa vurmeyen	1	2	3	4	5
32	Hemen herkese karşı düşünceli ve nazik	1	2	3	4	5
33	İşleri etkin bir biçimde yapan	1	2	3	4	5
34	Gergin durumlarda sakin kalabilen	1	2	3	4	5
35	Rutin işleri tercih eden	1	2	3	4	5
36	Cana yakın, sosyal	1	2	3	4	5
37	Başkalarına karşı bazen kaba	1	2	3	4	5
38	Planlar yapan ve onlara uyan	1	2	3	4	5
39	Kolayca gerginleşen	1	2	3	4	5
40	Fikir yürüten ve fikirlerini açıklamayı seven	1	2	3	4	5
41	Sanata ilgisi az olan	1	2	3	4	5
42	Başkaları ile işbirliği yapmayı seven	1	2	3	4	5
43	Dikkati kolay dağılabilen	1	2	3	4	5
44	Sanat, müzik ve edebiyatla ilgili	1	2	3	4	5

Original Version: The Big Five Inventory (BFI)

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

	I see myself as someone who...	Disagree strongly	Disagree	Neither agree nor disagree	Agree a little	Agree strongly
1	Is talkative.	1	2	3	4	5
2	Tends to find fault in others	1	2	3	4	5
3	Does a thorough job.	1	2	3	4	5
4	Is depressed, blue	1	2	3	4	5
5	Is original, comes up with new ideas.	1	2	3	4	5
6	Is reserved.	1	2	3	4	5
7	Is helpful and unselfish with others.	1	2	3	4	5
8	Can be somewhat careless.	1	2	3	4	5
9	Is relaxed, handles stress well.	1	2	3	4	5
10	Is curious about many different things.	1	2	3	4	5
11	Is full of energy	1	2	3	4	5
12	Starts quarrels with others	1	2	3	4	5
13	Is a reliable worker	1	2	3	4	5
14	Can be tense.	1	2	3	4	5
15	Is ingenious, a deep thinker.	1	2	3	4	5
16	Generates a lot of enthusiasm.	1	2	3	4	5
17	Has a forgiving nature.	1	2	3	4	5
18	Tends to be disorganized	1	2	3	4	5
19	Worries a lot	1	2	3	4	5
20	Has an active imagination.	1	2	3	4	5

	I see myself as someone who...	Disagree strongly	Disagree	Neither agree nor disagree	Agree a little	Agree strongly
21	Tends to be quiet.	1	2	3	4	5
22	Is generally trusting.	1	2	3	4	5
23	Tends to be lazy.	1	2	3	4	5
24	Is emotionally stable, not easily upset	1	2	3	4	5
25	Is inventive	1	2	3	4	5
26	Has an assertive personality	1	2	3	4	5
27	Can be cold and aloof	1	2	3	4	5
28	Perseveres until the task is finished	1	2	3	4	5
29	Can be moody	1	2	3	4	5
30	Values artistic, aesthetic experiences	1	2	3	4	5
31	Is sometimes shy, inhibited	1	2	3	4	5
32	Is considerate and kind to almost everyone	1	2	3	4	5
33	Does things efficiently	1	2	3	4	5
34	Remains calm in tense situations	1	2	3	4	5
35	Prefers work that is routine	1	2	3	4	5
36	Is outgoing, sociable	1	2	3	4	5
37	Is sometimes rude to others.	1	2	3	4	5
38	Makes plans and follows through with them	1	2	3	4	5
39	Gets nervous easily	1	2	3	4	5
40	Likes to reflect, play with ideas.	1	2	3	4	5
41	Has few artistic interests	1	2	3	4	5
42	Likes to cooperate with others	1	2	3	4	5
43	Is easily distracted	1	2	3	4	5
44	Is sophisticated in art, music, literature	1	2	3	4	5

Appendix B-Yatırım Riski Tutum Anketi

YATIRIM RİSKİ TUTUM ANKETİ

Açıklama: Sizlerin parasal risk alma tutumlarınız ölçmek amaçlı hazırlanmış olan bu anketteki ifadeleri **lütfen** dikkatlice okuyun ve her bir ifadenin sizin için uygunluk derecesine göre sağ taraftaki kutucuklardan bir rakamı (X) koyarak işaretleyiniz.

		Kesinlikle katılmıyorum	Katılmıyorum	Ne katılıyor ne katılmıyorum	Katılıyorum	Kesinlikle katılıyorum
1.	Bence, güvenilir yatırımlara ve garantili kazançlara sahip olmak, yüksek kazançlar elde etmek ihtimali uğruna risk almaktan daha önemlidir.	1	2	3	4	5
2.	Hisse senetleri (borsa) üzerine yatırımları asla düşünmem, çünkü bunu oldukça riskli buluyorum.	1	2	3	4	5
3.	Eğer bir yatırımın karlı olacağını düşünürsem, bu yatırımı yapmak için borç para almaya hazırım.	1	2	3	4	5
4.	Yatırımlarımın güvenli olduğundan emin olmak isterim	1	2	3	4	5
5.	Mali durumumu geliştirmek için daha büyük finansal (mali) riskler almam gerektiğine gittikçe daha fazla inanıyorum.	1	2	3	4	5
6.	Para kazanmak için ufak bir şans olduğunda para kaybetme riskini almaya hazırım.	1	2	3	4	5

Original Version: Investment Risk Attitude Scale

The following statements concern saving and taking risks. Please indicate for each statement to what extent you agree or disagree. Please indicate on a scale from 1 to 7 to what extent you agree with the following statements, where 1 indicates 'totally disagree' and 7 indicates 'totally agree'.

1. I think it is more important to have safe investments and guaranteed returns, than to take a risk to have a chance to get the highest possible returns.
2. I would never consider investments in shares because I find this too risky.
3. If I think an investment will be profitable, I am prepared to borrow money to make this investment.
4. I want to be certain that my investments are safe.
5. I get more and more convinced that I should take greater financial risks to improve my financial position.
6. I am prepared to take the risk to lose money, when there is also a chance to gain money.

Appendix C- Bahis Oynama Motivasyonu Anketi

BAHİS OYNAMA MOTİVASYONU ANKETİ

Açıklama: Bu bölümde sizlerin spor bahis oyunlarına katılmanızda sizi motive eden nedenleri tespit etmek amaçlı hazırlanmış ifadeleri dikkatlice okumanızı ve her bir ifadenin sizin için uygunluk derecesini belirleyerek ifadelerin sağ tarafındaki kutucuklardaki uygun rakamı (X) koyarak işaretleyiniz.

		Kesinlikle katılmıyorum	Katılmıyorum	Ne katılıyor ne katılmıyorum	Katılıyorum	Kesinlikle katılıyorum
1.	Bahis oynuyorum çünkü bahis oynamak heyecan vericidir.	1	2	3	4	5
2.	Bahis oynuyorum çünkü kendimi önemli birisi gibi hissetmemi sağlıyor.	1	2	3	4	5
3.	Sevdiğim spor ile ilgili bahis oynadığımda kendimi yararlı hissediyorum. (oynanan kuponlardan yapılan kesintilerin spora aktarılması)	1	2	3	4	5
4.	Tam olarak rahatlayabilmemi sağlayan en iyi yol olduğu için bahis oynuyorum.	1	2	3	4	5
5.	Bahis oynuyorum ama bazen kendime bahis oynamaya devam etmemin gerekip gerekmediğini soruyorum.	1	2	3	4	5
6.	Bahis oynamaya ayırmam gereken para miktarı ile ilgili aldığım kararlar kendimi kontrol edebilme kapasitemi ölçmemi sağlıyor.	1	2	3	4	5
7.	Bahis oynuyorum ancak bazen kendime bahis oynuyor olmamın bana ne kazandırdığını soruyorum.	1	2	3	4	5
8.	Zengin olmak için bahis oynuyorum.	1	2	3	4	5
9.	Aktif bir kişi olduğumu başkalarına göstermek için bahis oynuyorum.	1	2	3	4	5
10.	Bahis oynadığım spor ile ilgili bilgilerimi geliştirme ve iyileştirme duygusundan aldığım zevk için bahis oynuyorum.	1	2	3	4	5
11.	Düşlediğim bir şeyi satın almak için bahis oynuyorum.	1	2	3	4	5
12.	Bahis oynuyorum çünkü stresli ve gergin anlarımda beni çok rahatlatıyor.	1	2	3	4	5
13.	Stresten kurtulmak için başvurabileceğim en iyi yöntem olduğu için bahis oynuyorum.	1	2	3	4	5
14.	Sevdiğim spor üzerine bahis oynadığımda ortaya çıkan güçlü duyguları hissetmek için bahis oynuyorum.	1	2	3	4	5
15.	Sevdiğim spor da bahis oynarken yeni yöntemler öğrenmenin verdiği haz için bahis oynuyorum.	1	2	3	4	5
16.	Başkalarının bana özenmesi için bahis oynuyorum.	1	2	3	4	5
17.	Kafamı dinlendirmek ve zaman geçirmede iyi bir yöntem olduğu için bahis oynuyorum.	1	2	3	4	5

		Kesinlikle katılmıyorum	Katılmıyorum	Ne katılıyor ne katılmıyorum	Katılıyorum	Kesinlikle katılıyorum
18.	Üzerine bahis oynadığım sporla ilgili, analiz yapabilme, maç/yarış okuyabilme, sonucunu doğru tahmin edebilme gibi yeteneklerimi öğrenmenin verdiği haz için bahis oynuyorum.	1	2	3	4	5
19.	Üzerine bahis oynadığım spor müsabakasını kontrol (televizyondan izlemek, internetten takip etmek vb.) edebildiğim zaman ki tatmini hissetmek için bahis oynuyorum.	1	2	3	4	5
20.	Üzerine bahis oynadığım spor müsabakası esnasında ortaya çıkabilecek durumları öğrenme merakı için bahis oynuyorum.	1	2	3	4	5
21.	Bahis oynuyorum ama zaman zaman bahisten fazla bir şey kazanmadığım duygusuna kapılıyorum.	1	2	3	4	5
22.	Kolay ve hızlı bir şekilde para kazanmak için bahis oynuyorum.	1	2	3	4	5
23.	Bahis oynamak arkadaşlarımla bir araya gelebilmek için bildiğim en iyi yol olduğu için bahis oynuyorum.	1	2	3	4	5
24.	Kazandığımda veya kaybettiğimde bana hissettirmiş olduğu kontrol duygusu için bahis oynuyorum.	1	2	3	4	5
25.	Bahis oynuyorum ama zaman zaman kendime bunun benim için iyi olup olmadığını soruyorum.	1	2	3	4	5
26.	Bahis oynuyorum çünkü kazandığım zaman kendimi önemli birisi olarak hissediyorum.	1	2	3	4	5
27.	Bahis oynuyorum çünkü vurgun (bir defada büyük paralar kazanmak) yapmak istiyorum.	1	2	3	4	5
28.	Hissettiği güçlü duygular ve heyecan için bahis oynuyorum.	1	2	3	4	5

Original Version: Gambling Motivation Scale

For each of the following items, please circle the number that best represents the extent to which the item corresponds to the reasons why you play your favorite gambling game. For example, if the item doesn't correspond at all, circle number 1; if it corresponds moderately, circle number 4; if it corresponds exactly, circle number 7.

Indicate your favorite gambling game (cards, slot machines, loteries, etc.): _____

Does not correspond at all	Corresponds at all	Corresponds moderately	Corresponds a lot	Corresponds exactly		
1	2	3	4	5	6	7

WHY DO YOU PLAY FOR MONEY (BET) AT YOUR FAVORITE GAME ?

1. Because it is exciting to play for money. 1 2 3 4 5 6 7
2. Because it makes me feel like somebody important. 1 2 3 4 5 6 7
3. For the feeling of efficacy that I get when I play my favorite game. 1 2 3 4 5 6 7
4. Because, for me, it is the best way to relax completely. 1 2 3 4 5 6 7
5. I play for money, but sometimes I ask myself if I should continue to play my favorite game. 1 2 3 4 5 6 7
6. Because playing for money allows me to test my capacity to control myself. 1 2 3 4 5 6 7
7. I play for money, but sometimes I ask myself what I get out of it. 1 2 3 4 5 6 7
8. To get rich. 1 2 3 4 5 6 7
9. To show others that I am a dynamic person. 1 2 3 4 5 6 7

10. For the pleasure I get at improving my knowledge of the game. 1 2 3 4 5 6 7
11. To buy something that I dream of. 1 2 3 4 5 6 7
12. Because it allows me to enjoy myself enormously. 1 2 3 4 5 6 7
13. Because it is the best way I know of to eliminate tension. 1 2 3 4 5 6 7
14. For the strong sensations I feel when I play my favorite game. 1 2 3 4 5 6 7
15. For the satisfaction of learning new ways of playing my favorite game. 1 2 3 4 5 6 7
16. To be envied by others. 1 2 3 4 5 6 7
17. Because it is the hobby I have chosen to clear my mind. 1 2 3 4 5 6 7
18. For the pleasure of knowing my abilities at this game. 1 2 3 4 5 6 7
19. For the satisfaction I feel when I can control the game. 1 2 3 4 5 6 7
20. For the curiosity of knowing what can happen in the game. 1 2 3 4 5 6 7
21. I play for money but sometimes I feel I am not getting a lot out of it. 1 2 3 4 5 6 7
22. To make money quickly and easily. 1 2 3 4 5 6 7
23. Because it's the best way I know of to meet my friends. 1 2 3 4 5 6 7
24. For the feeling of control it gives me. 1 2 3 4 5 6 7
25. I play for money but I sometimes ask myself if it is good for me. 1 2 3 4 5 6 7
26. Because when I win, I feel like someone important. 1 2 3 4 5 6 7

Appendix D- Kişisel Bilgiler

Kişisel Bilgiler :

Yaş: _____

Cinsiyet: Erkek Bayan

Spor Bahis Oyunlarına katılıyor musunuz ? Evet Hayır

Cevabınız Evet ise Hangi sporların bahis oyunlarına katılıyorsunuz? (Lütfen sizin için uygun olan seçeneğe (X) işareti koyunuz. Bu soruda birden fazla seçenek işaretleyebilirsiniz.)

At yarışları Boks Futbol Basketbol Tenis Motor sporları diğer belirtiniz _____

Ne kadar zamandır spor müsabakaları üzerine bahis oynuyorsunuz? Yaklaşık olarak belirtiniz.

____ Yıl ____Ay

Appendix E- Curriculum Vitae

PERSONAL DETAILS

Name: Ünal Karlı
Date of Birth: 15/04/1974
Place Of Birth: Dortmund/Germany
Current Occupation: Research Assistant

CONTACT DETAILS

Telephone: +90 505 767 11 69
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EDUCATIONAL DETAILS

Secondary Education: Ankara Yenimahalle Alparslan
Lisesi, 1992
Tertiary Education: B.S. 1992-1998 METU - Physical
Education & Sports Department
M.Sc. 199-2001 METU - Physical
Education & Sports Department

EMPLOYEMENT

2000 (September) – Present METU, Research Assistant
1999 August – 2000 September Niğde University, Research Assistant

RESEARCH INTERESTS

- Sport Management
- Sport Marketing
- Consumer Behavior

PUBLICATIONS

National Publications:

Polat, E., **Karlı, Ü.**, Koçak, M.S., & Karaküçük, S. (2008). Marka Tutum Ölçeği (MTÖ) Geçerlilik ve Güvenilirlik Çalışması. **Gazi Beden Eğitim ve Spor Bilimleri Dergisi** (2008/4 Baskıda).

Yılmaz, B., **Karlı, Ü.**, & Yetim, A.A. (2006). Sporda Sosyal Bütünleşme Ölçeği Geçerlilik ve Güvenilirlik Çalışması. **Gazi Beden Eğitim ve Spor Bilimleri Dergisi**, 11(4), 3-10.

Karlı, Ü., & Koçak, S. (2004). Türkiye'deki Özel Sağlık ve Spor Merkezlerinde Çalışan Personelin İş Tatmin Seviyeleri. **Spor Bilimleri Dergisi**, 15 (3), 125-136.

Koçak, S., **Karlı, Ü.**, & Kutlu, D. (2002). Ankara'daki Üniversitelerde Okul İçi Spor ve Sosyal Aktivite Programlarının Kendi Mensupları Tarafından Değerlendirilmesi. **Gazi Beden Eğitim ve Spor Bilimleri Dergisi**, 7(1), 29-39.

International Congress and Presentations:

Koçak, S., **Karlı, Ü.**, & Sözeri, B. (2007). Five-factor model of personality and psychological health of differently identified soccer fans. **VIth World Congress on Science and Football, January 15-20, Antalya, Turkey.**

Sözeri, B., **Karlı, Ü.**, & Koçak, S. (2007). Soccer team identification levels of university students; gender and supported soccer team differences. **VIth World Congress on Science and Football, January 15-20, Antalya, Turkey.**

Öcal, K. & **Karlı, Ü.** (2006). Gambling Perception of University Students. **4th International Scientific Congress: Sport, Stress, and Adaptation, 17-18 November, Sofia /Bulgaria.**

Yılmaz, B., **Karlı, Ü.**, & Yetim, A.A. (2006). Sporda Sosyal Bütünleşme Ölçeği (SSBÖ) Geçerlilik Güvenilirlik Çalışması. **9. Uluslararası Spor Bilimleri Kongresi, 3-5 Kasım, Muğla, Türkiye.**

Karlı, Ü., Polat, E., & Koçak, S. (2006). The Turkish Athletes Attitudes towards Doping. Why Do They Use? **11th Annual Congress of the European College of Sport Science, 05-08 July, Lousanne, Swiss.**

Karli, Ü., Sözeri, B., & Koçak, M.S. (2005). Relationship between Sport Consumption and Motivational Factors Affecting Volunteerism in Big Sporting Events among Turkish University Students. **The 46th ICHPER-SD, Anniversary World Congress, November 9-13, İstanbul, Turkey.**

Alay, S., Koçak, S., Sözeri, B., & **Karli, Ü.** (2004). Motivational Factors Affecting Olympic Volunteerism among Turkish University Students. **4th International Conference on Sports, May 31-June 2, Athens, Greece.**

Karli, Ü. & Koçak, S. (2004). Job Satisfaction Levels of the Personnel among the Selected Private Health Care and Fitness Centers in Turkey. **4th International Conference on Sports, May 31-June 2, Athens, Greece.**

Appendix F- Türkçe Özet

SPOR BAHİSİ OYNAYAN ÜNİVERSİTE ÖĞRENCİLERİNİN BAHİS OYNAMA GÜDÜLERİ VE BU ÖĞRENCİLERİN SPOR BAHİSİ OYNAMAYAN ÖĞRENCİLERDEN KİŞİSEL VE PSİKOLOJİK FARKLILIKLARININ BELİRLENMESİ

GİRİŞ

Spor; gönüllü, kamu ve özel kuruluşları tek bir çatı altında birleştiren ve üretim, satış, eğlence ve hizmet gibi özel alt birimler içeren en karmaşık endüstrilerden birisidir (Houlihan, 2006). Spor pazarında hızlı çıkış gösteren ve spor müsabakalarının sonuçları üzerine bahis oynamayı içeren spor bahis sektörü de karmaşık spor endüstrisini oluşturan eğlence sektörünün bir parçasıdır.

İlk başlarda at yarışlarıyla başlayarak gelişen spor bahis pazarı son zamanlarda çok çeşitli spor müsabakalarının sonuçları için bahis oynama talebinin artışıyla büyümüştür (Houlihan, 2006).

Dünya genelinde spor bahis oyunlarından elde edilen gelir 1998 yılında yaklaşık %30 artış göstermiştir. İngiltere de futbol, at yarışları, tazi yarışları ve diğer spor müsabakalarının bahis oyunlarında harcanan para yaklaşık 9.820 milyon pound'u bulmuştur (Beech & Chadwick, 2004). Benzer bir şekilde, Amerika Birleşik Devletleri'nde insanlar profesyonel lig müsabakaları ve kolej lig müsabakaları için oynatılan yasadışı bahis oyunlarında 100 trilyon doların üzerinde para harcamaktadırlar (Crist, 1998). Aynı şekilde Türkiye'de de 2004 yılında spor bahis oyunlarında harcanan para 124 milyon dolara ulaşmıştır (Uluç, 2005; <http://www.sabah.com.tr/yaz02-10-129.html>).

Türkiye de spor müsabakalarında müşterek bahis oynanması yasal olarak 1959 yılında onaylanmıştır ve ilk yasal bahisler 1959-1960 futbol sezonunda

düzenlenmiştir. Bahis oyunlarının ilk oynandığı zamandan bugüne kadar sporu yöneten kurumlar spor bahislerinden elde edilen gelirlerden tesis yapımı ve spor kulüplerini desteklemek bakımından faydalanmışlardır (<http://www.sportoto.gov.tr/icerik.php?id=13>).

Spor bahis sektörü spor endüstrisinin önemli bir parçası olmasına rağmen sporu bahis oynayarak tüketen bireylerle ilgili bilimsel çalışmalar sınırlı kalmıştır. Literatüre bakıldığında bahis oynayan ve oynamayan bireylerin kişilik özelliklerini incelemiş (Zuckerman & Kuhlman, 2000), bahis ve kumar oynayan kişilerin bahis oynama güdülerini araştırmış (Adebayo,1998; Cotte, 1997; Burger, Dahlgren, and MacDonald, 2006; Chantal, Vallerand, and Valleries,1995) ve bahis oynayan ve oynamayan bireylerin risk alma tutumlarını ele almış bilimsel çalışmalara rastlamak mümkündür (Cross, Basten, Hendrick, Kristofic, & Schaffer, 1998). Ancak bahsedilen bu çalışmalar bahis oynayan bireylerle pazarlama boyutundan çok psikolojik boyutuyla ilgilenmiştir. Diğer taraftan, spor bahis oyunları spor endüstrisinde büyüyen bir pazar olmasına karşın, literatürde spor bahisi oynayan bireyleri pazarın paydaşları olarak ele almış yeterli sayıda bilimsel çalışma yoktur. Spor bahis oyunlarına iştirak eden bireyleri tüketici davranışları bağlamında incelemek yararlı olacaktır, çünkü başarılı pazarlama kararları alabilmek iyi ve derin tüketici davranışı bilinci gerektirir (Hawkins, Best, & Coney, 2004).

Bu nedenle , bu araştırma da, spor bahisi oynayan bireylerle spor bahisi oynamayan bireylerin kişilik ve mali risk alma tutumları bakımından farklılıklarını tespit etmek, spor bahisi oynayan bireylerin bahis oynama güdülerini belirlemek ve bahis oynama güdüsü, kişilik ve mali risk alma tutumları arasındaki ilişkiyi araştırmak amaçlanmıştır.

MATERYAL VE METOD

Örneklem

Araştırmaya, sporda bahis oynayan ve sporda bahis oynamamış Orta Doğu Teknik Üniversite'sinde öğrenim gören öğrenciler dahil edilmiştir. Toplam 1109 denek bu araştırmaya katılmıştır. 435 denek sporda bahis oynarken, 674'ü hiçbir zaman spor bahisi oynamamıştır. Araştırmaya katılan deneklerin %63.1'ini erkeler oluştururken (n=700), %36.9'unu bayanlar oluşturmuştur (n=409). Deneklerin yaş ortalaması 21.77 ± 2.12 'dir. Spor bahis oynayan deneklerin bahis oynama süreleri ortalaması 32.06 ± 20.51 aydır.

Bahis oynayan ve oynamayan üniversite öğrencilerinin evreni belirsiz olduğundan araştırmanın örneklem gurubu oluşturulurken amaca yönelik örneklem seçme yöntemi uygulanmıştır. Katılımcılardan gönüllülük esasına bağlı kalınarak veri toplanmıştır. Çalışma sonuçlarının genellenebilmesi için evreni belirli olmayan araştırmaların örneklem guruplarında yeterli sayıyı belirlemek amacıyla Cohen tarafından geliştirilmiş olan "Cohen's power analysis formula" formülünden faydalanılmıştır (Cohen & Cohen, 2003).

Veri Toplama Araçları

Bu araştırmada veri toplama aracı olarak, bireylerin kişilik özelliklerini değerlendiren 44 maddeden oluşan "Büyük-Beşli Kişilik Ölçeği" (John, Donahue, & Kentle, 1991), mali risk alma tutumlarını değerlendiren 6 maddeden oluşan "Yatırım Risk-Alma Tutum Ölçeği" (Nyhus, 1995) ve bahis oynama güdülerini değerlendiren 28 maddeden oluşan "Bahis Güdülenme Ölçeği" (Chantal, Vallerand and Vallieres, 1994) kullanılmıştır. Anket maddelerinin değerlendirilmesinde 5'li Likert tipi ölçekten faydalanılmıştır (1= hiç katılmıyorum, 5= tamamen katılıyorum).

Verilerin Analizi

Verilerin istatistiksel analizinde betimsel istatistiklerle birlikte iki faktörlü MANOVA, iki faktörlü ANOVA, MANOVA and hiyerarşik çoklu doğrusal regresyon analizleri uygulanmıştır.

BULGULAR

Bulgular spor bahisi oynayan öğrencilerin spor bahisi oynamayanlarla kişilik özellikleri bakımından karşılaştırıldığında farklılık gösterdiğini ortaya koymuştur (Pillai's Trace = .24, $F(5, 1101) = 70.51, p < .01$). Spor bahisi oynayanlar ile spor bahisi oynamayan bireylerin arasında dışa dönüklük ($F(1, 1105) = 127.83, p < .002$), bilinçlilik ($F(1, 1105) = 35.26, p < .002$) ve açıklık ($F(1, 1105) = 188.75, p < .002$) kişilik özelliklerinde spor anlamlı farklılık olduğu görülmüştür. Spor bahisi oynayanların ($M=4.00, SD=.55$) dışa dönüklük ve açıklık ($M=3.95, SD=.45$) kişilik özellikleri ortalama değerleri spor bahisi oynamayanların dışa dönüklük ($M=3.64, SD=.48$) ve açıklık ($M=3.59, SD=.40$) ortalama değerlerinden anlamlı bir şekilde yüksek çıkarken spor bahisi oynamayanların bilinçlilik kişilik özelliği ($M=3.72, SD=.42$) ortalama değerleri de spor bahisi oynayan öğrencilerin bilinçlilik değerlerinden ($M=3.52, SD=.52$) anlamlı bir şekilde yüksek çıkmıştır.

Bulgulara bakıldığında spor bahis oyunlarına katılan öğrencilerle spor bahisi oynamayan öğrenciler arasında mali risk alma tutumları açısından anlamlı farklılık olduğu görülmektedir ($F(1, 1105) = 29.39, p < .01$). Aynı zamanda, bulgular, cinsiyet farklılığına göre de araştırmaya katılan bireyler arasında mali risk alma tutumu bakımında anlamlı farklılıklar olduğunu ortaya koyarken ($F(1, 1105) = 39.75, p < .01$), bahis oynama davranışı ve cinsiyet değişkenlerinin birlikte bireylerin mali risk alma tutumlarında anlamlı farklılığa neden olmadığını göstermiştir ($F(1, 1105) = 1.173, p > .01$). Sonuçlar spor bahisi oynayanların ($M=2.72, SD=.79$) ve erkeklerin

($M=2.65$, $SD=.76$) mali risk alma tutumu ortalama deęerlerinin spor bahisi oynamayanlardan ($M=2.39$, $SD=.68$) ve bayanlardan ($M=2.31$, $SD=.67$) anlamlı bir şekilde daha yüksek olduęunu ortaya koymuřtur.

Arařtırmanın bulguları, spor bahisi oynayan öğrencilerin, spor bahisi oynamalarında en çok içsel-güdülerin etkili olduęu bulunmuřtur. Ancak spor bahisi oynayan bireylerin bahis oynama güdülerinde cinsiyetlerine baęlı anlamlı bir farklılık tespit edilememiřtir (Pillai's = .013, $F(7, 427) = 800$, $p > .01$).

Spor bahisi oynamayan öğrencilerin mali risk-ama tutum'larında yalnızca kiřilik ($R^2 = .03$, $F_{(5, 668)} = 4.37$, $p < .05$) ve cinsiyet belirleyici etmen iken ($R^2 = .06$, $F_{(1, 667)} = 20.99$, $p < .05$), spor bahisi oynayan öğrencilerin mali risk-alma tutum'larında kiřilik ($R^2 = .03$, $F_{(5, 429)} = 2.613$, $p < .05$) ve cinsiyet'in ($R^2 = .17$, $F_{(1, 425)} = 21.18$, $p < .05$) yanında bahis oynama güdüleri de ($R^2 = .13$, $F_{(3, 426)} = 15.95$, $p < .05$) belirleyici olmuřtur.

Bahis oynayan öğrencilerin, içsel bahis oynama güdülerinde mali risk-alma tutumları (R^2 change = .03, $F_{(1, 428)} = 13.02$, $p < .05$), dıřsal bahis oynama güdülerinde kiřilik özellikleri ($R^2 = .06$, $F_{(5, 429)} = 5.306$, $p > .05$) ve mali risk-alma tutumları (R^2 change = .07, $F_{(1, 428)} = 36.58$, $p < .05$) ve amotivasyonlarında da kiřilik özellikleri ($R^2 = .03$, $F_{(5, 429)} = 2.652$, $p > .05$) belirleyici etken olmuřtur.

TARTIřMA VE ÖNERİLER

Tüketici satın alma davranıřını etkileyen etmenleri belirlemek pazarlamadan sorumlu karar alıcıların dikkatle üzerinde durmaları gereken en önemli konulardan birisidir. Bu nedenle bu arařtırmada sport tüketicisi olan spor bahisçilerinin bahis oynama davranıřlarını etkileyen içsel (bireysel) etmenleri belirlemek amaçlanmıřtır.

Bu araştırma sonunda elde edilen bulgular spor bahis oyunlarına katılan üniversite öğrencileriyle bahis oynamayan üniversite öğrencilerinin kişilik yapılarının farklı olduğunu ortaya koymuştur. Literatürdeki çalışmalarla paralellik gösteren sonuçlar, spor bahis oyunu oynayan üniversite öğrencilerinin bahis oynamayanlara oranla daha dışa dönük ve açık kişilik yapılarına sahip olduklarını ve bahis oynamayanlara oranla bilinçlilik düzeylerinin düşük olduğunu göstermektedir (Nicholson ve ark., 2005; Soane ve Chmiel, 2005; Levin ve Lauriola, 2001). Zuckerman ve Kuhlman'ın (2000) araştırmalarında bireylerin riskli davranışlarının dışa dönüklük kişilik yapısında kapsadığı heyecan arayan sosyal veya girişken kişilik yapılarıyla ilişkili olduğunu vurgulamışlardır.

Buna sonuçlara göre spor bahis oyunlarına katılan üniversite öğrencilere bahis oynamayanlara göre daha sosyal, aktif, konuşkan, meraklı, hayal gücü yüksek ve yeni fikirlere açıktır. Ancak bu, spor bahis oyunlarına katılmayanların bunun tam tersi bir kişilik yapısına sahip olduklarına anlamına gelmemektedir. Çünkü analizler spor bahisi oynayan ile oynamayan guruplar arasında kişilik özelliklerine göre çıkan farklılıkların anlamlı olduğunu gösterse de, bulgulara bakıldığında bahis oynamayan gurubun da aslında dışa dönük ve açık bir kişilik yapısına sahip olduğunu görüyoruz. Dışa dönüklük ve dışa açıklık kişilik özelliklerinde görülen farklılıkların yanında öğrenciler arasında bilinçlilik kişilik özelliği açısından da farklılık görülmüştür. Bahis oynamayan öğrencilerin oynayanlara oranla daha planlı, güvenilir, çalışkan ve işlerini zamanında yapan bireyler olduğu ortaya konmuştur.

Literature bakıldığında mali risk alma'nın iki alt boyutu olduğunu görmekteyiz. Bunlardan birisi bahis oynamak diğeri ise yatırım riski almaktır. Spor bahisi oynayan ve oynamayan üniversite öğrencilerinin mali risk alma tutumları arasındaki farklılığı tespit etmek için bireylerin yatırım riski alma tutumları incelenmiştir.

Bu araştırma, 1998 de Cross ve arkadaşlarının genel anlamda bahis veya kumar oynayan sporcu üniversite öğrencileri üzerinde yaptıkları çalışmayla örtüşmektedir. Cross ve arkadaşları bireylerin genel risk alma tutum farklılıklarına bakarken bu araştırma da bireylerin mali risk alma tutumları incelenmiştir. Her iki çalışmada riskli davranışlar sergilemekte olan bireylerin risk alma tutumlarının risk almayan gurublara göre daha yüksek olduğunu görülmektedir. Spor bahisi oynayan üniversite öğrencileri mali risk almaya bahis oynamayanlara oranla daha eğilimli olmuşlardır. Bunun nedeni olarak dışa dönük kişilik yapısına sahip bireylerin daha çok heyecan arayan bir yapıya sahip olmaları gösterilebilir (Rosenbloom, 2003; Trimpop, Kerr, & Kirkcaldy, 1999).

Üniversite öğrencilerinin mali risk alma tutumlarında cinsiyete bağlı olarak farklılık olmuştur. Literatürle tutarlılık gösteren bu bulgu erkek öğrencilerin mali risk alma tutumlarının bayanların tutumlarından daha yüksek olduğunu belirtmektedir (Bajtelsmit & Bernasek, 1996; Daghofer, 2000; Donkers, Melenberg, & Soest, 2001; Dwyer, Gilkeson, & List, 2002).

Mali risk alma ve cinsiyet farklılıkları ile ilgili literature bakıldığında bayanların risk almamaya yönelik tutumları birçok değişik nedene bağlanmıştır. Bayanların ekonomik konum ve durumları (Schubert ve ark., 1999), kadının erkeğe oranla daha az zengin olması (Jianakoplis ve Bernasek, 1998) ve bayanların karar almadaki strateji farklılıkları (Powell ve Ansic, 1997) gibi nedenler bunlardan bazılarıdır. Bu çalışmadaki bayanların mali risk alma eğilimlerinin erkeklere oranla düşük olması bayanların ekonomik ve mali konularda erkeklere oranla bilgi bakımından daha az donanımlı ve bu konularla daha az ilgili olmalarıyla açıklanabilir (Dwyer ve ark., 2002).

Spor bahis oyunlarına katılan üniversite öğrencilerini bahis oynamaya iten güdülerin tespit edildiği bu araştırma Chantal ve arkadaşlarının (1994), Burger ve arkadaşlarının (2006) bulgularıyla örtüşmemiştir. Bu araştırmanın

bulguları bireylerin spor bahisi oynama güdülerinde cinsiyete göre bir farklılık olmadığını vurgularken Chantal ve arkadaşları (1994) ve Burger ve arkadaşları (2006) çalışmalarında erkeklerin bahis oynama güdülerinin bayanlarınkine göre anlamlı bir şekilde yüksek olduğunu vurgulamaktadırlar. Bu araştırmada cinsiyete bağlı bir farklılık çıkmamasının nedeni olarak bu çalışmada ki gurubun katıldığı bahis oyunuyla literatürde bahsi geçen bahis oyunlarının yapısal farklılığı ve oyun içinde harcanan para miktarlarındaki farklılık gösterilebilir.

Öğrencileri spor bahis oyunlarına katılmaya iten en önemli güdü eğlenme ve zevk alma ve en önemsiz güdü de güçlü ve önemli hissetmek ve sosyal farkındalık olarak tespit edilmiştir. Bu bulgular bir kısım literatürle örtüşürken (Chantal ve ark., 1994; Cotte, 1997; Jang ve ark., 2008), bazılarıyla paralellik göstermemektedir (Lee ve ark., 2006; Neighbors ve ark., 2002). Lee ve arkadaşlarının (2006) ve Neighbors ve arkadaşlarının (2002) araştırmalarında ödül ve para kazanma bireyleri bahis oynamaya iten birincil güdüleyici unsur olarak bulunmuştur. Bu araştırmada birincil güdünün eğlenme ve zevk olması spor bahis oyunlarına katılan öğrencilerin bunu bir tür rekreatif aktivite olarak görüyor olmalarından kaynaklanabilir ve yine para ve ödülün birincil güdüleyici sebep olmamasında bu oyunlara çok düşük paralarla katılabilmesi gerekçe gösterilebilir.

Bireylerin spor bahisi oynama güdeleri ile kişilik özellikleri, mali risk alma tutumları ve bahis oynama sürelerinin ilişkisine bakıldığında mali risk alma tutumları içsel bahis oynama güdülerinde, kişilik özellikleri ve mali risk alma tutumları dışsal bahis oynama güdülerinde ve sadece kişilik özellikleri bireylerin bahis oynamalarında olumsuz güdülenmelerinde belirleyici etmenler olmuştur.