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Motivation Sources of E-sports: A Study on University Students

E-spor Oyuncularının Motivasyon Kaynakları: Üniversite Öğrencileri Üzerine Bir Uygulama

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ÖZET

1980'lerden bu yana bilişim teknolojisinin hızlı gelişimiyle bilgisayar oyunları, her yaş grubu birey tarafından yaygın bir şekilde oynanmaktadır. Bu çalışmanın amacı, bilgisayar oyunu oynayan oyuncuların motivasyon kaynaklarının ortaya konulmasıdır. Bu kapsamda Munusturlar ve Munusturlar (2018) tarafından geliştirilen Bilgisayar Oyunları Motivasyon Ölçeği, Bolu Abant İzzet Baysal Üniversitesi ve Düzce Üniversitesi'nde öğrenim gören 213 lisans öğrencisine uygulanmıştır. 17 maddelik ölçek, faktör analizi sonucunda, "haz", "fayda" ve "kaçış" olarak isimlendirilen 3 faktöre indirgenmiştir. Verilere t testi ve Tek Yönlü Varyans Analizi uygulanmıştır. Sonuç olarak katılımcıların bilgisayarda oyun oynama süresi arttıkça haz duyma, gerçek dünyadan kaçış ve fayda konusundaki motivasyonlarının yükseldiği saptanmıştır.

Anahtar Sözcükler: E-spor, Bilgisayar Oyunları, Motivasyon

ABSTRACT

Due to the rapid development of information technology, computer games are played widely by every age group since the 1980's. This study aimed to present the motives for the players who play computer games. In this context, Computer Gaming Motivation Scale developed by Munusturlar and Munusturlar (2018) was applied to 213 undergraduate students attending Bolu Abant Izzet Baysal University and Düzce University. After the factor analysis, the 17-item scale was found to include 3 factors: "entertainment", "benefit" and "escape". T-test and One-Way Variance Analysis (ANOVA) were applied to the data. Results show that that as playing time increased, participants' motivation for entertainment, escaping from the real world and benefit increased.

Keywords: E-sports, Computer Games, Motivation

INTRODUCTION

Today, computer games have become the most important tools around the world to spend free time. Gaming habits that have changed along with technology affected especially the Y and Z generations. Nowadays, computer games, which are becoming more widespread among the younger generation, are played professionally, and started to be classified as a "sports" branch.

Digital games are text or imagery-based software that players can interact with one another via an interface, which can be played by one or more individuals via electronic platforms such as computers or game consoles (Frasca, 2001: 4). A definition can also be made for electronic sports: A form of sports where the primary aspects of the sport are facilitated by electronic systems; the input of players and teams as well as the output of the e-sports system are mediated by human-computer interfaces (Hamari and Sjöblom, 2017).

The question of whether e-sports is considered as a sport is still relevant because it evokes disciplines and sciences already familiar with studying traditional sport, to include e-sports in their field of interest. The lack of clarity on the connection between health and eSport is probably the most serious obstacle in the full inclusion of eSport into fields of scientific interest (Marelic and Vukusic, 2019). Electronic sports, cybersports, gaming, competitive computer gaming, and virtual sports are all synonyms for the term e-sports. Regardless of the term used, e-sports are now becoming more accepted as a sport and gamers are being identified as athletes within society today (Jenny, 2016).

Computer games continue to be popular since the 1970s. With the spread of the internet in the 1990s, the popularity of online computer games increased in direct proportion. Nexus: The Kingdom of Winds (1996), Starcraft (1998), Counter-Strike (1999) are the main popular online games.

It is known that it was named "E-sports" in 1999 by the Online Gamers Association (eurogamer.net, 1999). With the advances in technology and cheaper technology, the

consumption of game consoles has become widespread and popular (Deen, Hammer, Bethencourt, Heroin, 2006, p. 21). With the increase in consumption and globalization, the types of game consoles have started to increase. In the 1980s, players competed to beat the highest score recorded in the game halls. The difference from today's competition is that the opponent was a machine, not an online player. During this period, the United States National Video Game Team was established and toured abroad (Wolf, 2012). This event played an important role in raising e-sports awareness.

The increasing popularity of digital games day by day has led to the creation of different types of games. Electronic sports are one of them. In recent years, e-sports has also become a worldwide profession, especially among the 16-22 age group (Çakar and Güler; 2018).
It is a fact that e-sports has turned into a huge economy with a volume of 1.1 billion dollars today. While the revenues of players, teams, and countries increase continuously, especially on a global scale; Many companies and companies, especially technology companies, are trying to take part in this industry with their sponsorship activities (Atalay and Boztepe, 2020).

E-sports and online game publishing have a specific target audience. The increase in digital players has enabled corporate brands that want to reach the audience in this entertainment industry to turn to these platforms. E-sports and online game publishing, which continues to grow every year, has become a sector where serious investments are made. According to Statista (2020) data, it is expected to generate 1.6 billion US dollars of revenue in this sector worldwide by 2023. 49% of all US households own at least one game console, with sales reaching 16.6 billion in 2011 (Seo, 2013).

The market size for the local gaming industry in Turkey is approximately 700 million dollars annually. The gaming industry is growing at an annual average rate of 16 - 18%. As of 2017, nearly 30 million people in Turkey are playing digital games on different platforms and at least 7 million players in Turkey have been involved in electronic sports as players or viewers (Competing in a Digital World, e-sports and Community Management Workshop,

2017: 2). There are also approximately 50 e-sports teams led by football clubs and 250 licensed players in Turkey. In 2013, the Vice Presidency of Digital Games was established under the Ministry of Youth and Sports, affiliated with the Federation of Developing Sports Branches.

E-sports organizations employ the players and have other employees and/or volunteers who take care of the details surrounding sponsors, websites, press contacts, and competitions (Rambusch, 2007). e-sports organizations have a wide operational network in this respect. The players of teams that succeed in e-sports tournaments are as popular as a football or basketball team player, play in commercials, receive sponsorships, and make documentaries about them.

Computer games can be considered a product of the culture industry in the context of popular culture (Özsoy and Sepetçi, 2019). The culture industry has a feature that makes the world uniform. E-sports are an activity that is played and viewed/watched. In online environments such as Twitch.tv, players who are well-known in the field of e-sports can reach wide audiences. The audience donates large amounts of money to these players.

As e-sports gained popularity, they turned into a new form of entertainment and an important event. With the emergence of digital game streaming platforms, the popularity of game publishing has also increased. Twitch is one of the most popular of these platforms. The Twitch platform, established in 2011, includes content such as storytelling, painting, music, art, and food. Although Twitch includes mostly game publishers as a platform, some people produce content on many topics. Twitch, the largest game streaming channel, has 10 million daily active users, and 2.2 million content is produced per month on this platform (Twitch, 2020).

E-sports is seen as a candidate to take its place among traditional sports today. There are debates in the literature about whether computer games can be considered a sports branch. According to some opinions, these are sports, for some not. According to Parry competitive

computer games do not qualify as sports, no matter what 'resemblances' may be claimed. According to this view, computer games lack direct physicality; they fail to use decisive total body control and full-body skills and cannot contribute to the development of the whole human being (Parry, 2018). e-sports is growing around the globe, with more and more individuals being engaged as players or spectators. According to Hallmann and Giel, e-sports lack core physical activity elements and organizational structures. Currently, e-sports are not a sport but there is the potential that e-sports will become a sport (Hallmann and Giel, 2018). It is argued that there are great changes in the way we perceive games and the quality of games, the evaluation of digital games as sports will also turn almost everyone who plays these games into a sportsman, the evaluation of many games as sports and the attempt to scientific the sport under the title of sports sciences is highly controversial (Şenses, 2020).

In the case of e-sports, the gameplay is structured also by fans, e-sports organizations, and leagues in a process of increasing professionalization that can be compared with similar processes in other sports (e.g. the Olympics and world championships) (Rambusch et al. 2007).

There are niche features of e-sports and online game publishing because of technological developments. Virtuality is at the top of these features. For digital games played on a virtual platform to be considered as e-sports, they must contain competition and be played within a professional game league (Seo, 2013: 1550).

E-sports seem not only to be about playing computer games but can also serve to satisfy the need to belong. They do this by creating friendly relationships through membership in-game teams and participation in LAN parties or satisfying the need for power by upholding a position of a game team leader and determining its course of action (Martončik, 2008). Many studies have been carried out to determine the motivational sources of e-sports.

In a study conducted to develop the "E-sports Participation Motivation Scale" to determine the factors that motivate esports activities and competitions, 5 factors were obtained. These factors are named as 'taxonomic domain', 'competence', 'competitiveness and success, relational self and 'leisure time. (Öz and Üstün, 2019).

In a study examining the motivation to participate in e-sports and their attitudes towards learning of licensed athletes in the e-sports branch, semantic differences were found in the e-sports motivation scale and learning attitude scales of the e-sports players participating. Besides, it has been observed that there is a positive relationship between e-sports players' attitudes towards learning and e-sports participation motivation levels (Ayaş, 2020).

In a study conducted by Yıldız et al. (2020), the motivation levels of licensed e-sports participants were examined. According to this study, younger participants are more excited when participating in e-sports than those who are older, also their participation in e-sports with computer and mobile devices does not affect their motivation in participating in these games, and that participants do not work in any job, and it has been determined that it does not affect their sports motivation levels in any way.

In another study conducted by Gül et al. (2019), a participation motivation scale for e-sports was developed. According to this scale, 3 factors were determined, and they were named as “Intrinsic Motivation for Knowing and Achieving”, “Extrinsic Regulation”, “Identification”.

This study aims to determine what motivates the players who play computer games through the Computer Gaming Motivation Scale developed by Munusturlar and Munusturlar (2018).

METHOD

The Computer Gaming Motivation Scale developed by Munusturlar and Munusturlar (2018) was given to 213 undergraduate students attending Bolu Abant Izzet Baysal University and Düzce University. The participants were asked to rate their views as “I completely agree”

(5 points), “I agree” (4 points), “Neither agree nor disagree” (3 points), “I disagree” (2 points) “I completely disagree” (1 point). The data collection tool was filled by students in their classrooms. The obtained data were analyzed by frequency analysis, t-test, and ANOVA test. Accordingly, it was seen that the highest average was in entertainment and socialization factors. As a result, it was determined that the motivation of the participants in the factors of entertainment, escape, socialization, learning, and concentration increased as the duration of playing games on the computer increased.

RESULTS

70% of the participants were male and 30% were female. Age distribution for the group was as follows: 38% in the 21-22 age range, 38% in the 19-20 age range of and 15% in the 23-24 age range. 42% of the participants were first-year students, 23% were third-year students, 19% were second-year students and 11% were fourth-year students.

56% of the participants were found to play computer games for 5 years or more. The percentage of the participants who played computer games for 4-5 years was 16%. 15% of the participants stated that they played computer games for less than a year. The percentage of the participants who played computer games for 1-3 years was 11%.

The average monthly income for 30% of the participants was calculated to be 1501-2250 TL (approx. $ 350) and the average monthly income for 30% of the participants was over 3000 TL (approx. $ 550). 42% of the participants stated that they played less than 1 hour of computer games per day. The percentage of the participants who started playing computer games for 1-2 hours a day was 32%. The percentage of the participants who played computer games for more than 4 hours was 6%.

23% of the participants played first-person shooter (FPS) games such as Call of Duty, Counterstrike, Ghost Recon, FarCry, etc. 20% of the participants stated that they played sports games (such as FIFASoccer, Pro Evolution Soccer, Ski Challenge, etc.). 13% of the

respondents liked action/adventure games (games with more action and adventure than first-person shooter games, target shooting, etc.) and 9% preferred racing games (such as Trackmania, Speed Racer, or Need for Speed, based on using fast cars, etc.). 8% of the respondents were found to play games such as Age of Empires and Age of Mythology which require strategic planning.

63% of respondents were found to prefer to play multi-player games while 34% preferred single-player games. Only 65% of the participants stated that they only played computer games. In addition to playing computer games, 26% of the participants were found to watch game broadcasts. When they were asked "whether they have ever earned money from computer games", 25% of the participants replied in the affirmative while 74% of the participants stated they had not.

Table 1. Frequency analysis table of items according to means by five factors

Items	N	Mean	Std. Deviation
Entertainment	**213**	**3,7367**	**1,00966**
I find playing computer games to be fun.	212	4,0094	1,05754
I find it exciting to play computer games.	212	3,8774	1,05492
I enjoy playing computer games very much.	212	3,6509	1,15642
I am very interested in playing computer games.	212	3,4575	1,21721
Socialization	**213**	**3,2793**	**1,18983**
I communicate with other people when I play computer games.	213	3,4272	1,24408
Playing computer games allows me to talk to other people.	212	3,1368	1,31169
Learning	**213**	**2,9464**	**1,11253**
Playing computer games provides me with new knowledge and skills.	212	3,0755	1,19793
I believe I learn new things by playing computer games.	213	2,9437	1,29826
Playing a computer game leads me to think.	213	2,9155	1,34318
I improve myself by playing computer games.	213	2,8545	1,22568
Escape	**213**	**2,7527**	**1,08709**
There is no better option than playing computer games when I am bored.	213	2,5822	1,27718
I think computer games are the best tools to pass the time when I am alone.	213	2,9484	1,28201
I unwind and relax at the end of the day by playing a computer game.	212	2,7358	1,26792
Concentration	**213**	**2,5884**	**1,09527**
When I play computer games, I forget the tasks that I am supposed to do.	213	2,6761	1,32225
When I play computer games, I don't hear the sounds around me.	213	2,6338	1,28386
When I play computer games, I do not think of anything else.	212	2,5708	1,34893
When I play computer games, I am unaware of what is going on around me.	213	2,4789	1,32315

The Computer Games Motivation Scale, developed by Munusturlar and Munusturlar, has 5 factors. These are named by the developers of the scale as Entertainment, Socialization, Learning, Escape, and Concentration. In the frequency analysis performed in this study, the

averages of the factors are listed as follows: Entertainment (x=3.7367), Socialization (x=3.2793), Learning (x=2.9464) Escape (x=2.7527), Concentration (x= 2,5884) (Table 1).

Table 2. Results of *t*-test analysis of factors according to gender variable

		Levene's Test for Equality of Variances		*t*-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Concentration	Equal variances assumed	1,75	,187	-2,86	210	,005	-,45657	,160	-,771	-,142
	Equal variances not assumed			-3,02	140,21	,003	-,45657	,151	-,755	-,158
Entertainment	Equal variances assumed	4,20	,041	-5,44	210	,000	-,76727	,141	-1,045	-,489
	Equal variances not assumed			-5,05	103,95	,000	-,76727	,152	-1,069	-,466
Escape	Equal variances assumed	,38	,537	-3,69	210	,000	-,57931	,157	-,888	-,270
	Equal variances not assumed			-3,73	125,83	,000	-,57931	,155	-,886	-,272
Learning	Equal variances assumed	,52	,472	-6,03	210	,000	-,92661	,154	-1,229	-,623
	Equal variances not assumed			-6,22	132,03	,000	-,92661	,149	-1,221	-,632
Socialization	Equal variances assumed	,59	,443	-6,05	210	,000	-,99021	,163	-1,312	-,668
	Equal variances not assumed			-5,94	117,48	,000	-,99021	,167	-1,320	-,660

According to the independent samples *t*-test results, it was found that the mean Entertainment factor of males (x=3,9, SD=3,9) was significantly higher than females (x=3.9, SD=3.1), $t(103)=-5.05$, $p<0.05$. There was no statistically significant difference between genders in other factors (Table 2).

Table 3. Results of ANOVA test of factors by age variable

Factors		Sum of Squares	df	Mean Square	F	Sig.
Concentration	Between Groups	14,325	4	3,581	3,131	,016
	Within Groups	235,641	206	1,144		
	Total	249,966	210			
Entertainment	Between Groups	3,648	4	,912	,918	,455
	Within Groups	204,689	206	,994		
	Total	208,336	210			
Escape	Between Groups	11,768	4	2,942	2,594	,038
	Within Groups	233,631	206	1,134		
	Total	245,399	210			
Learning	Between Groups	5,083	4	1,271	1,041	,387
	Within Groups	251,377	206	1,220		
	Total	256,460	210			
Socialization	Between Groups	12,960	4	3,240	2,364	,054
	Within Groups	282,322	206	1,370		
	Total	295,282	210			

According to the ANOVA (Analysis of Variance test) results, a statistically significant difference was found in the Concentration and Escape factors according to the age variable ($p<0.05$). Tukey's test to find out between which groups there was a significant difference showed that participants aged 18 years and younger averaged less than participants aged 25

and over in the Concentration factor. Similarly, participants aged 18 and younger have a lower mean on the Escape factor than participants aged 25 and over (Table 3).
According to the other ANOVA test result, there was no significant difference between the 5 groups in the analysis made according to the income status of the families ($p<0.05$).

Table 4. Results of ANOVA test of factors by "average years of computer game playing" variable

		Sum of Squares	df	Mean Square	F	Sig.
Concentration	Between Groups	17,065	4	4,266	3,818	,005
	Within Groups	226,809	203	1,117		
	Total	243,873	207			
Entertainment	Between Groups	44,928	4	11,232	15,286	,000
	Within Groups	149,167	203	,735		
	Total	194,095	207			
Escape	Between Groups	29,600	4	7,400	7,257	,000
	Within Groups	207,002	203	1,020		
	Total	236,602	207			
Learning	Between Groups	34,598	4	8,649	8,242	,000
	Within Groups	213,043	203	1,049		
	Total	247,641	207			
Socialization	Between Groups	32,209	4	8,052	6,476	,000
	Within Groups	252,415	203	1,243		
	Total	284,624	207			

In the analysis made according to how many years the participants have been playing on the computer, it was seen that the participants who played games for less than 1 year had a lower average in all 5 factors than the other groups ($p<0.05$) (Table 4).

Accordingly Tukey tests, those who play computer games for less than 1 year in the concentration factor have a lower average than those who play for 5 years or more. In the Entertainment factor, those who played less than 1-year average less than all other groups. In the Escape factor, those who play video games for less than 1 year have a lower average

than those who play for 5 years or more. In the learning factor, those who play video games for less than 1 year have a lower average than those who play games for 4-5 years and more than 5 years. In the Socialization factor, those who play video games for less than 1 year have a lower average than those who play computer games for 5 years or more.

Table 5. Results of ANOVA test of factors by "average computer game playing time per day" variable

		Sum of Squares	df	Mean Square	F	Sig.
Concentration	Between Groups	30,377	4	7,594	7,217	,000
	Within Groups	213,623	203	1,052		
	Total	244,000	207			
Entertainment	Between Groups	40,848	4	10,212	13,530	,000
	Within Groups	153,216	203	,755		
	Total	194,064	207			
Escape	Between Groups	42,484	4	10,621	10,918	,000
	Within Groups	197,480	203	,973		
	Total	239,964	207			
Learning	Between Groups	42,207	4	10,552	10,427	,000
	Within Groups	205,433	203	1,012		
	Total	247,641	207			
Socialization	Between Groups	63,740	4	15,935	14,649	,000
	Within Groups	220,817	203	1,088		
	Total	284,558	207			

In the analysis made according to the participants' average computer game playing time per day, it was seen that as the game time played per day increased, they had a higher average in five factors compared to the other groups ($p<0.05$) (Table 5). Tukey's test to find out between which groups there was a difference showed that participants who played video games for less than 1 hour a day had a lower average in the Concentration factor than those who played video games for 3-4 hours and more than 4 hours. In the Entertainment factor, participants who played video games for less than 1 hour a day averaged less than all other groups. In the Escape, Learning, and Socialization factors; participants who played video games for less than 1 hour a day averaged less than other groups who played more games.

DISCUSSION

This study investigated university students' motives for playing computer games. The participants stated that they played games because they were entertained and socialized when they played computer games. In the frequency analysis performed in this study, entertainment and socialization factors were determined as the factors with the highest average. University students participating in this study consider entertainment and socialization as the greatest source of motivation. Other factors learning, escape, concentration had a lower average. The results obtained in the study are like other studies. According to a study across multiple competitive virtual worlds within the e-sports context, competition, challenge, and escapism positively affect e-sports use (Weiss and Schiele, 2013).

In another study, it was determined that the motivation of individuals to play video games was gathered in six factors: Intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, motivation. The intrinsically motivated individual plays the game for the pleasure of exploring the game world, improving their skill level, and the sense of excitement and power the game provides (Akın et al., 2015).

Externally motivated individuals, on the other hand, aim to win rare items, virtual money, experience points, in-game rewards or to gain the admiration of other players in the game. According to the results of the research, the averages of male students in the "entertainment" factor were found to be statistically significant compared to female students. Accordingly, male students prefer e-sports more intensely than female students. The gender-related results of the study are similar to other studies. According to the study conducted by Yıldız et al. (2020), it can be said that male participants playing e-sports are more excited and more excited when playing these games than females, and they also enjoy it more.

Today, entertainment has become one of the most important sources of motivation in many areas. Active sports do not provide the same entertainment value when compared to e-sports style computer games**.**

When the results of the study are examined, it is seen that the entertainment preferences of university students are in the direction of computer games. Participants find computer games most attractive in terms of entertainment and socializing by communicating through games. One of the products of popular culture, computer games which are extensively played by boys starting from early ages, are trying to be legitimized in society in the name of sports. Capitalist pressures and profitability in the sector will further expand the e-sports market in the future. It is difficult to associate computer games with the concept of movement-based active sports since computer games create addictions and lead to inactivity when played uncontrolled since they make the participants desk-bound for long periods. In our age, inactivity and the diseases related to sedentary lifestyles are among the factors that threaten public health the most. In the same vein, what is promised by e-sports is also a sedentary generation for the future. Ensuring that e-sports obtain a more movement-based character and developing the concept of e-sports with the help of wearable technologies in the future can be suggested as solutions to the problem of the sedentary generation.

In a study examining the body compositions of athletes engaged in e-sports, it was determined that the athletes were included in the fat group and their daily physical activity

steps were low. In addition, according to the results of the research, it is thought that e-sports have negative effects on physical health (Bayrakdar et al., 2020). It can be foreseen that electronic sports will become more widespread in new digital environments such as Metaverse. Soon, it can be said that especially the young generation will turn to electronic sports more. As seen in this study, the need for entertainment and socialization of young people is mostly met in digital environments. However, young people who do not move enough and have an almost sedentary nature should be more active.

Today's movement-based sports concept is rapidly leaving its place in computer-based games. In this context, academic units should be established to investigate e-sports in various aspects.

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