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ORIGINAL ARTICLE

E-Sports Participation Motivation from the Perspective of Sports Sciences Students

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ABSTRACT

Background. It is well known that the concept of e-sports has undergone significant development today. E-sports is a branch of sport based on online games. As a professional activity, it is equated with competitive activity. **Objectives.** The aim of the study is to determine the motivation of the students of the Faculty of Sports Sciences to participate in e-sports. **Methods.** The research group of the study consists of volunteer students with an average age of 20.15±2.57 years, studying at the sports science faculties of Tokat Gaziosmanpaşa University, Gazi University, Sivas Cumhuriyet University, and Kırıkkale Universities. The participants consist of a total of 265 university students, 105 of whom are female and 160 of whom are male. The E-Sports Participation Motivation Scale (EKMS) developed by Öz and Üstün (2019) was used to collect data. **Results.** As a result of the study, it was found that there was a significant difference in favor of women only in the competence sub-dimension of the gender variable in the motivation to participate in e-sports ($p<0.05$). while the region of residence, monthly income, and ownership of a personal device had no influence on the motivation to participate in e-sports was achieved. **Conclusion.** The number of studies in the field of e-sports is increasing every day. It is inevitable that these studies will contribute to the development and spread of e-sports. The increase of more comprehensive and qualitative research-based approaches in this field will contribute to the popularity of e-sports and the diversity of application areas.

KEYWORDS: ***E-Sport, Participation Motivation, University Students.***

INTRODUCTION

The rapid development in the field of technology, as in all areas, has also had an impact on sports and led to the emergence of the concept of electronic sports (e-sports). As technology became cheaper, arcades began to appear in homes and on television screens. With the development of game consoles, the transition from single-player to multiplayer games took place. It is well known that the concept of e-sports has undergone significant development today. E-sports is a branch of sport based on online games. As a professional activity, it is equated with competitive activity (1). E-sports is one of the terms that have entered our lives in recent years. Although there is no clear definition, Wagner (2) defined e-sports as sporting activities that develop and train people's mental and physical abilities using information and communication technologies. However, nowadays, many researchers continue to debate whether e-sports should be considered a sport or not, According to Hosky and Wibowo (3) the characteristics of e-sports have not yet been accepted as a sport by the general public (4). The most common argument made against e-sports as a sport is the lack of physical activity (5). Güler also stated in her study that e-sports is not yet perceived as a profession (6). In simpler terms, it can be defined as "a sport in which the primary aspects of sport are supported

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by electronic systems" (7). It is stated that e-sports is currently one of the most important elements of the modern digital realm. E-sports involves a game based on voluntary and instinctive motivation. Although it is difficult to handle the rules in e-sports, there are rules such as a certain amount of time, a certain number of people, and there are games/competitions where there is a winning and a losing side.

Motivation in e-sports is just as important a parameter as motivation in sports. A review of the literature reveals many studies on motivation in sports (8-10). However, if we look at the studies on e-sports, there is almost no motivation in e-sports. Motivation also has ramifications among them, and there are many studies in sports under the name of participation motivation (11-13). However, there are very few studies on the motivation to participate in e-sports in our country.

The history of digital games, which in their early days were referred to as computer games or video games, dates back to the 1940s. The first interactive game was called 'Spacewar' and was developed by MIT (Massachusetts Institute of Technology) in 1962. In 1072, 'Pong', the first game that could be connected to a TV, was launched and paved the way for access to digital games for people from all walks of life. In 1992, the first 3D game, 'Wolfenstain', was launched on the gaming market, followed by the game 'Doom', which brought FSP (first-person perspective) games into our lives, and the sales of PCs exploded (14). With the Internet connection and worldwide access to networks, games have become online. As a result, games are no longer just for one player, but for multiple players. The resulting competitive elements and reward platform have led to players coming together in different gaming groups.

E-sports require a high degree of hand-eye coordination. In addition, the teams must develop a better strategy than the opposing teams in order to win the game. Motion manipulation in most games relies on fast and precise movements of the mouse and keyboard. These requirements have enabled the development of specialized equipment for players and created a new sector (15).

E-sports, which is growing very fast worldwide, reaching huge budgets and a large number of followers and having both positive and negative aspects, has started to influence the youth of our country and this effect is gradually increasing. The Turkish Digital Games Association (TUDOF) was established in 2011 by the Ministry of Youth and Sports in our country and continues its activities by joining the Development Sports Association in 2013. Today, many official and private e-sports tournaments are organized at national and international levels, such as the World Cup, the European Cup, the International League, the e-sports amateur league, and the e-sports professional league (1).

E-sports, which is growing very fast worldwide, reaching huge budgets and a large number of followers, with both positive and negative aspects, has started to influence the youth of our country. Despite the great interest in e-sports at recreational, amateur, and professional levels, there seem to be very few scientific studies in this field.

Based on this situation, the aim of the study is to determine the motivation of the students of the Faculty of Sports Sciences to participate in e-sports.

MATERIALS AND METHODS

Participants. The research group of the study consists of a total of 265 university students, 105 girls, and 160 boys, studying at the sports science faculties of Tokat Gaziosmanpaşa University, Gazi University, Sivas Cumhuriyet University, and Kırıkkale Universities, with an average age of 20.15 years, who voluntarily participated in the study.

Data collection tools. The E-Sports Participation Motivation Scale (EKMS) developed by Oz and Ustun (9) was used for data collection. While it is assumed that participants take part in activities labeled as e-sports to achieve individual benefits or for social purposes, the "E-Sports Participation Motivation Scale", which was developed to determine the factors that motivate participation, is suitable for all individuals interested in e-sports, regardless of whether they are active or passive, amateur or professional can be applied. The EKMS consists of 47 items and includes 5 sub-dimensions: taxonomic domain (15 items), competence (11 items), relational self (7 items), competition and success (8 items), and leisure evaluation (6 items). The participants answer the relevant items on a 5-point Likert scale, with the lowest value that can be achieved on the scale being 47 and the highest 235. Higher values on the scale indicate that the relevant sub-dimensions and items have a greater effect on the motivation of the individual.

Analysis of the data. The data were analyzed using the SPSS 25 program. The Kolmogorov-Smirnov test was used to analyze whether the data

corresponded to the normal distribution. As the data did not have a normal distribution, the analyses were carried out using non-parametric tests. For descriptive statistical calculations (frequency, percentage, mean, and standard deviation), the Mann-Whitney U test was used for independent variables with 2 groups and the Kruskall-Wallis H test for variables with 3 or more groups. The significance level was set at $p<0.05$.

RESULTS

The minimum was 18 years, the maximum was 25 years, and the average was 20.15±2.57 years. Weekly hours allocated by participants for e-sports; The minimum was 2 hours, the maximum was 65 hours, and the average was 39.07±18.24 hours (Tables 1, 2, and 3).

In the Mann-Whitney U test results of the E-Sports Participation Motivation Scale scores of the individuals participating in the research according to the gender variable; There is a statistically significant difference ($p<0.05$) in the competence subscale score ($p<0.042$) (Table 4).

There is no statistically significant difference in the results of the Kruskall-Wallis H-test of the E-Sports Participation Motivation Scale of the individuals participating in the research according to the variable of place of residence (Table 5).

There is no statistically significant difference in the Kruskall-Wallis H test results of the E-Sports Participation Motivation Scale scores of the individuals participating in the research according to the income rate variable (Table 6).

There is no statistically significant difference in the Mann-Whitney U-test results of the E-Sports Participation Motivation Scale of the individuals participating in the study depending on the variable of owning a personal device (Table 7).

Table 1. Descriptive data of participants

	min	max	x	sd
Age (years)	18	25	20.15	2.57
Weekly time allocated for e-sports (hours)	2	65	39.07	18.24

Table 2. Demographic data of the students participating in the research

Variable	Parameter	n	%
Gender	Male	160	60.5
	Female	105	39.5
Living place	Eastern Anatolia Region	38	14.34
	Central anatolia region	42	15.85
	Black Sea region	46	17.36
	Mediterranean region	29	10.94
	Aegean region	36	13.58
	Marmara region	50	18.87
	Southeastern Anatolia region	24	9.06
Monthly income level (TL)	0-2500	77	29.06
	2501-5000	80	30.19
	5001-7500	60	22.64
	7501-10000	12	4.53
	10001- over	36	13.58
Personal device ownership	Yes	235	88.68
	No	30	14.34
Preferred digital device	Computer	130	49.05
	Game console	42	15.85
	Mobile phone	93	35.09

Table 3. Descriptive Statistics of Participants' E-Sports Participation Motivation Scale Scores

Extent	n	min	max	x	sd
Taxonomic Field	265	28	60	44.20	5.45
Competence	265	17	46	31.25	4.55
Relational Self	265	10	28	20.00	3.56
Competition and Success	265	14	37	23.40	4.45
Leisure Time	265	12	26	17.90	3.55

Table 4. Mann-Whitney U Test Results of Participants' E-Sports Participation Motivation Scale Scores According to Gender Variable

Extent	Gender	n	min	max	x	sd	Mean Rank	Sum of Ranks	z	p
Taxonomic Field	Female	105	26	53	43.10	6.30	111.10	3810.00	-1160	0.240
	Male	160	32	62	44.30	5.40	126.60	27540.00		
Competence	Female	105	21	43	35.02	4.73	147.70	5050.00	-2010	0.042*
	Male	160	19	47	32.20	4.44	120.80	26312.00		
Relational Self	Female	105	14	29	22.22	3.67	133.40	4530.00	-712	0.480
	Male	160	10	30	21.95	3.60	124.10	26744.00		
Competition and Success	Female	105	17	38	23.40	4.05	134.80	4598.00	-910	0.374
	Male	160	13	35	22.50	4.07	122.70	26740.00		
Leisure Time	Female	105	11	29	18.10	3.80	119.10	4044.00	-532	0.585
	Male	160	9	29	18.23	3.42	126.40	27238.00		

*: $p<0.05$

Table 5. Kruskall-Wallis H Test Results of Participants' E-Sports Participation Motivation Scale Scores According to the Region Variable

Extent	parameter	n	min	max	x	sd	Mean Rank	df	p
Taxonomic Field	Eastern Anatolia Region	38	28	60	43.05	6.30	111.10	6	0.288
	Central Anatolia Region	42	27	59	44.30	5.40	126.60		
	Black Sea Region	46	36	56	44.15	4.60	120.11		
	The Mediterranean Region	29	37	55	44.35	5.33	121.24		
	Aegean Region	36	33	54	45.88	4.62	143.17		
	Marmara Region	50	34	60	44.90	4.60	121.89		
	Southeastern Anatolia Region	24	36	60	45.50	6.22	150.18		
Competence	Eastern Anatolia Region	38	25	42	32.02	4.73	123.70	6	0.132
	Central Anatolia Region	42	24	43	32.20	4.44	122.80		
	Black Sea Region	46	19	44	31.56	5.45	108.54		
	The Mediterranean Region	29	24	41	33.72	5.22	139.44		
	Aegean Region	36	23	42	34.55	4.58	143.68		
	Marmara Region	50	22	41	32.07	4.73	113.41		
	Southeastern Anatolia Region	24	27	46	34.66	4.07	152.00		
Relational Self	Eastern Anatolia Region	38	13	26	20.12	3.55	123.71	6	0.944
	Central Anatolia Region	42	12	26	20.22	3.67	125.56		
	Black Sea Region	46	15	28	20.95	3.60	124.75		
	The Mediterranean Region	29	12	29	20.00	4.23	111.32		
	Aegean Region	36	11	27	20.54	4.78	125.87		
	Marmara Region	50	13	27	21.15	4.55	133.78		
	Southeastern Anatolia Region	24	14	35	20.76	3.64	124.61		
Competition and Success	Eastern Anatolia Region	38	16	32	21.40	4.05	125.86	6	0.395
	Central Anatolia Region	42	14	34	20.50	4.07	103.70		
	Black Sea Region	46	14	31	23.75	3.51	118.43		
	The Mediterranean Region	29	15	33	22.45	3.98	134.64		
	Aegean Region	36	13	34	23.86	3.57	129.76		
	Marmara Region	50	18	32	23.68	4.23	130.43		
	Southeastern Anatolia Region	24	11	26	24.45	3.78	147.54		
Leisure Time	Eastern Anatolia Region	38	12	28	18.10	3.80	129.43	6	0.670
	Central Anatolia Region	42	11	28	17.23	3.42	117.40		
	Black Sea Region	46	10	27	18.52	3.90	138.56		
	The Mediterranean Region	29	11	22	18.78	4.13	127.54		
	Aegean Region	36	13	26	17.61	3.45	133.56		
	Marmara Region	50	11	28	17.05	3.56	119.56		
	Southeastern Anatolia Region	24	10	22	17.00	2.93	105.54		

DISCUSSION

In this study, which aims to determine the opinions of students in the Faculty of Sports Science about e-sports, there is a significant difference in motivation to participate in e-sports only in the competence sub-dimension of the gender variable ($p<0.05$), while there is a significant difference in favor of females based on

region of residence, amount of monthly income, and personal device. Ownership status was found to have no effect on motivation to participate in e-sports. When similar studies are examined in the literature, it is seen that in many studies, no statistically significant difference was found in e-sports participation motivation depending on the gender variable (16, 17).

Table 6. Kruskall-Wallis H Test Results of Participants' E-Sports Participation Motivation Scale score According to Monthly Income rate Variable

Extent	Parameter (TL)	n	min	max	x	sd	Mean Rank	df	p
Taxonomic Field	0-2500	77	28	60	44.33	6.30	134.10	5	0.635
	2501-5000	80	27	59	44.18	5.40	118.35		
	5001-7500	60	34	60	44.30	5.35	120.10		
	7501-10000	12	38	51	44.55	4.85	122.35		
	10001- over	36	41	49	45.40	2.26	139.44		
Competence	0-2500	77	18	44	33.10	4.73	128.36	5	0.950
	2501-5000	80	22	46	32.45	4.44	122.24		
	5001-7500	60	23	41	32.40	4.90	120.57		
	7501-10000	12	22	41	33.10	4.58	128.00		
	10001- over	36	28	39	33.05	3.25	131.47		
Relational Self	0-2500	77	10	29	20.53	5.33	122.29	5	0.065
	2501-5000	80	11	29	21.84	3.67	128.97		
	5001-7500	60	14	27	20.66	3.60	125.61		
	7501-10000	12	18	29	20.05	4.68	145.67		
	10001- over	36	11	24	17.55	2.80	61.90		
Competition and Success	0-2500	77	17	35	24.10	4.05	126.66	5	0.349
	2501-5000	80	16	33	25.15	4.07	128.53		
	5001-7500	60	16	32	23.12	3.55	114.43		
	7501-10000	12	17	32	23.36	4.52	116.72		
	10001- over	36	16	32	25.78	3.78	164.23		
Leisure Time	0-2500	77	11	25	18.30	3.80	131.86	5	0.630
	2501-5000	80	11	27	17.80	3.42	121.60		
	5001-7500	60	11	27	18.20	4.64	128.97		
	7501-10000	12	11	27	18.46	3.45	132.40		
	10001- over	36	14	19	16.00	2.89	94.35		

Table 7. Mann-Whitney U Test Results of Participants' E-Sports Participation Motivation Scale Scores According to Personal Device Ownership Variable

Extent	Gender	n	min	max	X	sd	Mean Rank	Sum of Ranks	z	p
Taxonomic Field	Yes	235	27	59	44.10	6.30	124.10	27329.00	-0.410	0.678
	No	30	32	61	45.30	5.40	130.60	4044.00		
Competence	Yes	235	20	44	32.02	4.73	125.70	27533.00	-125	0.896
	No	30	18	47	20.20	4.44	123.80	3843.50		
Relational Self	Yes	235	13	29	20.22	3.67	135.40	27450.00	-054	0.954
	No	30	15	28	23.95	3.60	126.10	3912.50		
Competition and Success	Yes	235	14	38	23.40	4.05	127.80	3432.50	-1.215	0.223
	No	30	13	35	19.50	4.07	110.70	26845.00		
Leisure Time	Yes	235	11	29	0.10	3.80	122.10	4520.00	-1.694	0.090
	No	30	12	29	18.23	3.42	146.40	27238.00		

Although all eSports are video games, not every video game should be classified as a sport. Video games must have a structure (e.g. standard rules), organization (e.g. adherence to rules) and competition (e.g. clear winners and losers) to be considered a sport. In addition, the criterion of institutionalization must also be met in order for a game to be considered a sport. Institutionalization means that an activity is regulated and has official bodies that standardize this activity (18). E-sports has evolved from a marginal phenomenon to a popular sports entertainment product. Organized e-sports events began in 1980 with Atari's Space Invaders Championship, the first major video game competition that drew more than 10,000 participants. E-sports events have grown in size, such as the 2016 League of Legends World

Finals, which took place in front of 20,000 spectators at the sold-out Staples Center in Los Angeles and was watched by 43 million more viewers online (19).

It can be stated that esports challenges traditional sports and to a certain extent initiates a change of paradigm in sports, which has been predicted by scholars of various fields of research (20).

In their work, Argan et al., (2006) reported that the preference for e-sports is the first motivating factor that leads people who are interested in e-sports to play such games, while the passion for gaming is in second place and the goal of earning money is in last place (1).

When examining the sub-dimensions of participants' e-sports participation motivation, 15 items within the taxonomic domain sub-dimension, which is one of the sub-dimensions of e-sports participation motivation, define cognitive, affective, and psychomotor characteristics and are limited to items that can measure behaviors that contain these classifications (9). The average taxonomic domain scores of the participants in the study were high. The competence sub-dimension of the people participating in the study consists of 11 items and the overall judgments that the person makes about themselves. The competence subscale has the highest value in the participation motivation scale. The Relationship Self subscale consists of 8 items and indicates how much a person identifies with their close relationships (9). Looking at the research results, this is the sub-dimension with the lowest average score. The competition and success sub-dimension consists of 8 items, such as the relational self, and these items can be summarized with the trilogy "excitability, belligerence, self-interest". It can be said that the competition and success sub-dimension has a lower value than the taxonomic domain and competence sub-dimensions.

The leisure evaluation sub-dimension consists of a total of 6 items, and an attempt was made to explain the leisure evaluation items with postmodern leisure approaches (9). Looking at the statistical data of the leisure evaluation sub-dimension, it is found that although it does not have as high scores as the taxonomy and competence sub-dimensions, it has a higher average score than the relationship self and competition and success sub-dimensions. One study that demonstrably supports these findings is the work of Yıldız, Kırtepe, and Baydili (21). Yıldız et al., used the Participation Motivation Scale in their study, and the results are similar to those of the present study. However, this similarity shows more similarities in the areas of taxonomy, competence, and relational self-dimensions of the male participants in the study. The mean scores of the male participants in the sub-dimensions of competition, success, and leisure evaluation are higher than in our study (21). Since e-sports is a new field of research and the Participation Motivation Scale appears to be a new scale, there are no studies comparing the Participation Motivation Scale with other studies.

When examining the gender variable, it was found that the factors motivating participation in e-sports were lower among female participants than among male participants. In the study conducted by Akın (2015), it was found that the popularity of Internet cafes, which are thought to be conducive to the development of e-sports, was very high when they emerged, that not everyone has access to these technologies at home, and that the audience they reach consists mainly of male participants. The result in favor of male participants can be interpreted in terms of development (22).

When examining the monthly income variable, there is no correlation between the factors that motivate participation in e-sports. However, some studies in the literature have shown that people with a monthly income of 2500 TL and less have a higher motivation to participate in e-sports. According to some research results, people's interest in computer games decreases with increasing age and income level (23). While sports used to be a fun game played to pass the time, it has evolved into a large industry over time. Sports games that were played by amateurs in the early days have evolved into an industry where players have become richer over time and are dominated by wealthy individuals. From this point of view, it can be said that esports could go through a similar process. Esports, which is an important product for marketing with its specific audience, is also undergoing a significant change as players no longer play as amateurs but earn high salaries. Many studies conducted today have shown that the path to becoming a professional esports player is similar to becoming a professional athlete in any sport.

In this age where technology is developing rapidly, the number of computers and

smartphones in households is known to be increasing at the same rate. As a result of the research, it has been determined that people can easily access electronic games through their phones, tablets, and computers and use their limited free time in this way (24). It can be said that there is no significant difference between the devices that participants associate with e-sports and their motivation level.

CONCLUSION

In the study, a significant difference in favor of women was only found in the competence sub-dimension of the gender variable in the motivation to participate in e-sports ($p<0.05$), while it was concluded that the region of residence, the amount of monthly income and the possession of a personal device have no influence on the motivation to participate in e-sports was achieved.

Future studies on this topic can focus more on the impact of digital games on young people, investigate whether digital games increase the habit of gaming, and examine the relationship between current consumer behavior and digital games.

These results show that e-sports attract the attention of people from all walks of life. Regardless of gender (with the exception of the competence sub-dimension), place of residence, monthly income, personal device ownership, preferred digital device and preferred, participants from all walks of life are interested in e-sports, and it can be said that participants have a similar level of motivation. Therefore, it is predicted that e-sports, in which people from all walks of life can participate without being discriminated against, could become an inclusive force in the near future.

The number of studies in the field of e-sports is increasing every day. It is inevitable that these studies will contribute to the development and spread of e-sports. The increase of more comprehensive and qualitative research-based approaches in this field will contribute to the popularity of e-sports and the diversity of application areas.

APPLICABLE REMARKS

- When examining the gender variable, it was found that the factors motivating participation in e-sports were lower among female participants than among male participants.

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AUTHORS' CONTRIBUTIONS

Study concept and design: Yasin Arslan. Acquisition of data: Yasin Arslan. Analysis and interpretation of data: Yasin Arslan, Ceren Suveren. Drafting the manuscript: Tebessüm Ayyildiz Durhan. Critical revision of the manuscript for important intellectual content: Ceren Suveren, Tebessüm Ayyildiz Durhan. Statistical analysis: Yasin Arslan. Administrative, technical, and material support: Yasin Arslan. Study supervision: Yasin Arslan, Ceren Suveren, Tebessüm Ayyildiz Durhan.

CONFLICT OF INTEREST

The research has no conflict of interest.

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