Research Article

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Examining the Effect of Digital Sports Games on the Motivation Levels of Secondary School Students Regarding Participation in Sports Activities

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Abstract

The aim of this research is to examine the effect of digital sports games on the motivation levels of secondary school students in participating in sports activities. The research was conducted using a correlational survey model, one of the quantitative research methods, and the research group consisted of 141 volunteer students (80 male, 61 female) studying at the secondary school level in different provinces during the 2024–2025 academic year. A personal information form and the Digital Sports Games Motivation Scale, developed by Kim and Ross (2006) and expanded by Cianfrone et al. (2011), were used as data collection tools. The SPSS software package was used for data analysis, and significance was accepted as $p < 0.05$. According to the research findings, it was determined that the students' motivation levels for digital sports games were generally at a moderate level. The sub-dimensions with the highest motivation were identified as team commitment, entertainment, and socialization. No statistically significant difference was found in digital sports game motivation levels according to gender, height, body weight, place of residence, income level, and parental education level variables ($p > 0.05$). Regarding the weekly digital game playing time variable, a significant difference was found only in the entertainment sub-dimension; students who played digital sports games for 5–8 hours a week had higher entertainment levels than the other groups ($p < 0.05$). In conclusion, it can be said that digital sports games play a motivating role for secondary school students, especially in the dimensions of entertainment and team commitment, but this effect is related to game time and the quality of interaction with the game rather than demographic variables. It is suggested that digital sports games should be considered not as an alternative to physical sports activities, but as a supportive and complementary element to interest in sports.

Keywords: digital sports games, motivation for participation in sports, secondary school students, digital game, sports motivation

1. INTRODUCTION

In today's rapidly developing world, technology has affected almost every aspect of human life, transforming individuals' habits, communication styles, and leisure activities [1, 2]. This transformation, which impacts many areas from health and education to entertainment and transportation, has also provided significant advantages in terms of time and cost [3]. One of the areas most affected by digitalization is the sports and gaming sector. Developments in digital technologies have led to radical changes in the ways sports are produced, consumed, and experienced; sports have transformed from a purely physical activity into a multi-dimensional structure that is watched, played, and interactively experienced through digital platforms. It is noted that technological advancements have made it easier for sports to reach the masses and have increased its importance as a means of expression for individuals [1]. In this process, digital sports games and e-sports applications stand out as significant digital experiences that redefine individuals' relationship with sports. The serious games approach also offers a theoretical framework emphasizing that digital games can serve not only entertainment purposes but also goals such as learning, skill development, and behavioral change [4]. Digitalization has transformed not only the production and consumption of sports but also the process of experiencing it; sports have become a restructured experiential field through digital platforms and game-based applications [5, 6]. The widespread adoption of sports-themed digital games, particularly among young people, has led to significant changes in leisure activities [2, 7]. The literature indicates that digital games increase learner participation and interaction, and this effect is particularly evident in environments that prioritize social interaction [8]. In this context, sports-themed digital games have the potential to directly or indirectly influence young people's relationship with sports [9]. Digital sports games differ from classic digital games in their sports content, team structures, and competitive elements, allowing individuals to establish cognitive and affective connections with sports [9, 6]. Through these games, sports knowledge can be experienced in a digital environment, and competition and team identity can be lived in a virtual context. In this respect, digital sports games are considered multi-dimensional tools that influence sports culture and motivation toward sports [10]. The literature indicates that motivation for digital sports games consists of different dimensions such as entertainment, competition, socialization, and achievement [7]. However, findings regarding the impact of digital sports games on participation in sporting events appear inconsistent. While some studies suggest that digital game use may negatively affect physical activity [2, 11], other research shows that digital sports games can have positive effects on sports culture, awareness, and motivation [9, 10]. The direction and strength of this effect are closely related to the duration of game use and the quality of the individual's relationship with the game [12, 13]. It is stated that interest in digital sports applications and digital physical-activity solutions increased during the pandemic, and that these applications played important roles in maintaining motivation for physical activity [13]. It is also indicated that home-based digital sports and exercise applications contribute to individuals maintaining and, in some cases, increasing their physical activity durations [14]. This shows that digital sports is not merely a temporary entertainment area; it is a phenomenon that should be considered in terms of motivation and continuity of participation in sports. Studies examining the relationship between digital sports games and motivation to participate in sporting events are limited in the context of secondary school students [2, 11]. Most existing research focuses on university students and adult samples; therefore, the processes by which adolescents develop motivation toward sports through digital sports games have not been sufficiently studied [15]. In this context, the aim of this study is to examine the effect of digital sports games on the motivation levels of secondary school students in participating in sports activities in terms of various variables. By considering the multidimensional nature of digital sports game motivation, the aim is to reveal students' motivation patterns toward sports in a holistic manner.

The study was guided by the following hypotheses: H1: The motivation levels of secondary school students toward digital sports games are above average. H2: The motivation levels of secondary school students toward digital sports games differ according to gender. H3: The motivation levels of secondary school students toward digital sports games differ according to weekly digital sports game playing time.

2. METHOD

This research was conducted using a correlational survey model, one of the quantitative research methods, to examine the motivation levels of secondary school students toward digital sports games. The correlational survey model allows for the examination of relationships between two or more variables without any intervention. The study was conducted in accordance with the guidelines of the Helsinki Declaration, and participants were included on a voluntary basis. Approval was obtained from the Bitlis Eren University Social and Human Sciences Research Ethics Committee before starting the study (2025/04-23).

The research group consisted of a total of 141 students studying at the secondary school level in different provinces of Türkiye during the 2024–2025 academic year who voluntarily participated in the research. Of the participants, 80 were male and 61 were female students.

The survey method was used as the data collection tool in the research. The survey form consisted of two sections.

The first section included a Personal Information Form to determine the demographic characteristics of the participants. The second section used the Digital Sports Games Motivation Scale to determine the motivation levels of students toward digital sports games. The scale was first developed by Kim and Ross (2006) with 7 sub-dimensions and 20 items: social interaction (4 items), sports knowledge applications (3 items), fantasy (3 items), competition (3 items), entertainment (3 items), leisure (2 items), and identification with sports (2 items). The scale was later revised by Cianfrone, Zhang, and Ko (2011); 5 new items and 1 additional sub-dimension were added, resulting in 8 sub-dimensions and a total of 25 items: competition (3 items), leisure (3 items), entertainment (3 items), fantasy (3 items), sociability (4 items), sports knowledge (3 items), interest in sports (3 items), and team identity (3 items).

The SPSS statistical package program was used to analyze the data obtained from the research. Descriptive statistics, including arithmetic mean and standard deviation, were calculated to determine the demographic characteristics of the participants and their motivation levels toward digital sports games. Skewness and kurtosis values were examined to determine whether the data showed a normal distribution. As shown in Table 1, the skewness and kurtosis values were in the range of -2 and $+2$. In line with these findings, it was concluded that the data showed a normal distribution and that parametric tests were applicable. Independent Samples t-test was used to compare two groups, and One-Way Analysis of Variance (ANOVA) was used to compare three or more groups. Pearson correlation analysis was applied to determine the relationships between variables. The significance level in the research was accepted as $p < 0.05$.

Table 1. *Skewness and kurtosis values of the scales*

Scale	Mean	SD	Skewness	Kurtosis
Team Commitment	7.06	3.70	.674	-.757
Entertainment	6.84	3.45	.622	-.777
Socialization	6.65	3.27	.742	-.406
Fantasy	6.60	3.33	.755	-.376
Competition	6.36	3.38	.810	-.448
Digital Sports Game Motivation Scale	33.91	14.97	.572	-.767

Table 2. *Demographic information of students*

Variable	Category	Frequency	Percentage (%)
Gender	Male	80	56.7
	Female	61	43.3
Height	151–160 cm	41	29.1
	161–170 cm	51	36.2
	171–180 cm	49	34.8
Body Weight	40–50 kg	36	25.5
	51–60 kg	51	36.2
	61–70 kg	39	27.7
	71–80 kg	15	10.6
Place of Residence	Provincial center	22	15.6
	District center	59	41.8
	Village	60	42.6
Income Level	Low	11	7.8
	Medium	106	75.2
	Good	24	17.0
Mother's Education Level	Illiterate	46	32.6
	Primary school	57	40.4
	Middle school	23	16.3
	High school	15	10.6
Father's Education Level	Primary school	57	40.4
	Middle school	39	27.7
	High school	34	24.1
	University	11	7.8
Weekly Digital Game Play Time	I do not play digital games	51	36.2
	1–4 hours	49	34.8
	5–8 hours	20	14.2
	9–12 hours	21	14.9
Licensed athlete status	Yes	33	23.4
	No	108	76.6

3. RESULTS

The demographic characteristics of the research group are presented in Table 2. Accordingly, 56.7% of the research group was male and 43.3% was female. The height ranged from 151–160 cm for 29.1%, 161–170 cm for 36.2%, and 171–180 cm for 34.8%. Regarding body weight, 25.5% of the students weighed 40–50 kg, 36.2% weighed 51–60 kg, 27.7% weighed 61–70 kg, and 10.6% weighed 71–80 kg. In terms of place of residence, 15.6% of the participants lived in a provincial center, 41.8% lived in a district center, and 42.6% lived in a village. In terms of income level, 7.8% of the participants had a low income, 75.2% had a medium income, and 17% had a good income. Regarding mothers' education levels, it was found that 32.6% were illiterate, 40.4% had completed primary school, 16.3% had completed middle school, and 10.6% had completed high school. For fathers, 40.4% had completed primary school, 27.7% had completed middle school, 24.1% had completed high school, and 7.8% had completed university. Examining digital game playing habits, it was determined that 36.2% of participants did not play digital games, while 34.8% played 1–4 hours, 14.2% played 5–8 hours, and 14.9% played 9–12 hours per week. Furthermore, it was observed that 76.6% of students did not have a sports license, while 23.4% were licensed athletes.

The t-test results according to the gender variable are presented in Table 3. The findings show that there is no statistically significant difference ($p > 0.05$) between the total score of the Digital Sports Game Motivation Scale and the mean scores of the sub-dimensions of team commitment, entertainment, socialization, fantasy, and competition according to gender. Although it was observed that the mean scores of male students were higher in some sub-dimensions and lower in others compared to female students, these differences did not reach a statistically significant level.

Table 3. *t-test analyses of students according to gender variable*

Scale	Gender	Mean	SD	t	Sig.
Team Commitment	Male	6.88	3.81	-1.353	.178
	Female	7.73	3.53		
Entertainment	Male	7.50	3.85	1.870	.064
	Female	6.40	2.76		
Socialization	Male	7.23	3.76	1.611	.109
	Female	6.34	2.44		
Fantasy	Male	7.11	3.71	1.211	.228
	Female	6.42	2.74		
Competition	Male	6.68	3.71	.367	.714
	Female	6.47	2.91		
Digital Sports Game Motivation Scale	Male	35.42	16.95	.797	.427
	Female	33.39	11.91		

$p < 0.05$

Table 4. *t-test analyses according to students' licensed athlete status*

Scale	Licensed Athlete	Mean	SD	t	Sig.
Team Commitment	Yes	7.12	3.87	-.237	.813
	No	7.29	3.67		
Entertainment	Yes	6.36	3.25	-1.264	.208
	No	7.23	3.50		
Socialization	Yes	6.63	3.20	-.428	.669
	No	6.91	3.31		
Fantasy	Yes	6.57	3.43	-.470	.639
	No	6.88	3.32		
Competition	Yes	6.78	3.27	.371	.711
	No	6.53	3.43		
Digital Sports Game Motivation Scale	Yes	33.48	15.01	-.464	.643
	No	34.87	15.02		

$p < 0.05$

The t-test results according to licensed athlete status are shown in Table 4. The findings indicate that there is no statistically significant difference ($p > 0.05$) between the total score of the Digital Sports Game Motivation Scale and the mean scores of the sub-dimensions of team commitment, entertainment, socialization, fantasy, and competition according to whether students are licensed athletes. It was observed that students who are licensed athletes and those who are not licensed athletes have similar mean scores in both the total scale score and all sub-dimensions, and the small differences

observed did not reach a statistically significant level.

The variance analysis results according to height are presented in Table 5. The findings show that there is no statistically significant difference ($p > 0.05$) between the total score of the Digital Sports Game Motivation Scale and the mean scores of the sub-dimensions of team commitment, entertainment, socialization, fantasy, and competition according to the height variable. Furthermore, students in the 161–170 cm and 171–180 cm height ranges had higher mean scores in both the total score and some sub-dimensions of the Digital Sports Game Motivation Scale compared to students in the 151–160 cm height range. However, according to the results of the variance analysis, these differences were not statistically significant.

Table 5. *Variance analysis of students according to height*

Scale	Height	Mean	SD	F	Sig.	Difference
Team Commitment	151–160 cm (a)	6.80	3.63	.427	.654	-
	161–170 cm (b)	7.47	3.30			
	171–180 cm (c)	7.40	4.18			
Entertainment	151–160 cm (a)	6.02	2.66	2.679	.072	-
	161–170 cm (b)	7.23	3.42			
	171–180 cm (c)	7.65	3.92			
Socialization	151–160 cm (a)	6.17	2.63	1.309	.274	-
	161–170 cm (b)	7.01	2.96			
	171–180 cm (c)	7.24	3.97			
Fantasy	151–160 cm (a)	6.26	2.93	.840	.434	-
	161–170 cm (b)	6.92	3.04			
	171–180 cm (c)	7.16	3.91			
Competition	151–160 cm (a)	6.07	2.81	.790	.456	-
	161–170 cm (b)	6.96	3.27			
	171–180 cm (c)	6.65	3.90			
Digital Sports Game Motivation Scale	151–160 cm (a)	31.34	12.24	1.346	.264	-
	161–170 cm (b)	35.60	13.35			
	171–180 cm (c)	36.12	18.18			

$p < 0.05$

Table 6. *Variance analyses according to students' body weight*

Scale	Body Weight	Mean	SD	F	Sig.	Difference
Team Commitment	40–50 kg (a)	7.16	3.89	.973	.407	-
	51–60 kg (b)	7.72	3.58			
	61–70 kg (c)	6.48	3.38			
	71–80 kg (d)	7.86	4.42			
Entertainment	40–50 kg (a)	6.22	2.96	1.129	.340	-
	51–60 kg (b)	7.33	3.30			
	61–70 kg (c)	7.02	3.76			
	71–80 kg (d)	7.93	4.14			
Socialization	40–50 kg (a)	6.33	2.68	.443	.722	-
	51–60 kg (b)	6.92	3.24			
	61–70 kg (c)	7.07	3.45			
	71–80 kg (d)	7.26	4.31			
Fantasy	40–50 kg (a)	6.83	3.16	.072	.975	-
	51–60 kg (b)	6.90	3.13			
	61–70 kg (c)	6.61	3.42			
	71–80 kg (d)	7.00	4.40			
Competition	40–50 kg (a)	6.50	3.03	.097	.961	-
	51–60 kg (b)	6.76	3.34			
	61–70 kg (c)	6.58	3.61			
	71–80 kg (d)	6.26	3.97			
Digital Sports Game Motivation Scale	40–50 kg (a)	33.05	12.84	.310	.818	-
	51–60 kg (b)	35.64	14.26			
	61–70 kg (c)	33.79	16.11			
	71–80 kg (d)	36.33	19.55			

$p < 0.05$

The variance analysis results according to body weight are shown in Table 6. The findings show that there is no statistically significant difference ($p > 0.05$) between the total score of the Digital Sports Game Motivation Scale and the mean scores of the sub-dimensions of team commitment, entertainment, socialization, fantasy, and competition according to the body weight variable. Furthermore, students with body weights of 51–60 kg, 61–70 kg, and 71–80 kg had higher mean total scores on the Digital Sports Game Motivation Scale compared to students in the 40–50 kg range. However, the results of the variance analysis showed that these differences were not statistically significant.

The variance analysis results according to place of residence are presented in Table 7. The findings show that there is no statistically significant difference ($p > 0.05$) between the total score of the Digital Sports Game Motivation Scale and the mean scores of the sub-dimensions of team commitment, entertainment, socialization, fantasy, and competition based on students' place of residence. However, students living in provincial centers and district centers had higher mean total scores on the Digital Sports Game Motivation Scale compared to students living in villages. Similarly, it is noteworthy that students living in provincial centers and district centers had higher mean scores than students living in villages in most of the sub-dimensions of the scale. However, these differences were not statistically significant according to the results of the variance analysis.

Table 7. *Variance analyses according to students' place of residence*

Scale	Place of Residence	Mean	SD	F	Sig.	Difference
Team Commitment	Provincial center (a)	6.40	3.17	1.497	.227	-
	District center (b)	7.84	3.79			
	Village (c)	6.98	3.76			
Entertainment	Provincial center (a)	7.31	3.83	.344	.710	-
	District center (b)	7.20	3.48			
	Village (c)	6.75	3.33			
Socialization	Provincial center (a)	7.86	3.71	2.903	.058	-
	District center (b)	7.20	3.31			
	Village (c)	6.13	2.96			
Fantasy	Provincial center (a)	7.72	3.86	1.406	.249	-
	District center (b)	6.93	3.35			
	Village (c)	6.36	3.09			
Competition	Provincial center (a)	7.59	3.85	1.548	.216	-
	District center (b)	6.69	3.32			
	Village (c)	6.13	3.23			
Digital Sports Game Motivation Scale	Provincial center (a)	36.90	16.10	1.147	.321	-
	District center (b)	35.88	15.26			
	Village (c)	32.36	14.20			

$p < 0.05$

The variance analysis results according to income level are presented in Table 8. The findings show that there is no statistically significant difference ($p > 0.05$) between the total score of the Digital Sports Game Motivation Scale and the mean scores of the sub-dimensions of team commitment, entertainment, socialization, fantasy, and competition according to students' income level. Furthermore, it is observed that students with medium and good income levels had higher mean total scores on the Digital Sports Game Motivation Scale compared to students with low income levels. Similarly, it is noteworthy that the mean scores of students in the medium and good income groups were higher than those in the low-income group in all sub-dimensions of the scale.

The variance analysis results according to mother's education level are shown in Table 9. The findings reveal that there is no statistically significant difference ($p > 0.05$) between the total score of the Digital Sports Game Motivation Scale and the mean scores of the sub-dimensions of team commitment, entertainment, socialization, fantasy, and competition based on the mother's education level. However, students whose mothers were primary school, middle school, or high school graduates had higher mean total scores on the Digital Sports Game Motivation Scale compared to students whose mothers were illiterate. Similarly, it is noteworthy that students whose mothers had higher education levels had relatively higher mean scores in some sub-dimensions of the scale.

The variance analysis results according to father's education level are presented in Table 10. The findings show that there is no statistically significant difference ($p > 0.05$) between the total score of the Digital Sports Game Motivation Scale and the mean scores of the sub-dimensions of team commitment, entertainment, socialization, fantasy, and competition based on the fathers' education level. Furthermore, it is noteworthy that students whose fathers had primary, middle, and high school education levels had higher mean total scores on the Digital Sports Game Motivation Scale compared to students whose fathers were university graduates. Similarly, it is observed that students with university-educated fathers

had relatively lower mean scores in some sub-dimensions of the scale.

Table 8. *Variance analyses according to students' income level*

Scale	Income Level	Mean	SD	F	Sig.	Difference
Team Commitment	Low (a)	6.09	2.94	1.095	.337	-
	Medium (b)	7.50	3.79			
	Good (c)	6.66	3.59			
Entertainment	Low (a)	5.81	2.52	.995	.373	-
	Medium (b)	7.23	3.50			
	Good (c)	6.66	3.58			
Socialization	Low (a)	5.27	2.05	1.571	.211	-
	Medium (b)	7.06	3.33			
	Good (c)	6.62	3.35			
Fantasy	Low (a)	5.54	2.38	2.611	.077	-
	Medium (b)	7.17	3.48			
	Good (c)	5.79	2.71			
Competition	Low (a)	4.81	1.88	2.892	.059	-
	Medium (b)	6.96	3.54			
	Good (c)	5.79	2.85			
Digital Sports Game Motivation Scale	Low (a)	27.54	10.29	2.190	.116	-
	Medium (b)	35.95	15.47			
	Good (c)	31.54	13.50			

$p < 0.05$

Table 9. *Variance analyses of students according to mother's education level*

Scale	Mother's Education Level	Mean	SD	F	Sig.	Difference
Team Commitment	Illiterate (a)	7.65	3.83	1.014	.389	-
	Primary school (b)	6.59	3.51			
	Middle school (c)	7.78	3.98			
	High school (d)	7.73	3.57			
Entertainment	Illiterate (a)	6.73	3.38	.681	.565	-
	Primary school (b)	7.52	3.70			
	Middle school (c)	6.73	3.33			
	High school (d)	6.46	2.92			
Socialization	Illiterate (a)	6.30	2.88	.832	.479	-
	Primary school (b)	7.17	3.46			
	Middle school (c)	7.34	3.56			
	High school (d)	6.53	3.29			
Fantasy	Illiterate (a)	6.60	3.26	.373	.772	-
	Primary school (b)	7.17	3.53			
	Middle school (c)	6.47	3.05			
	High school (d)	6.60	3.39			
Competition	Illiterate (a)	6.56	3.46	.138	.932	-
	Primary school (b)	6.71	3.37			
	Middle school (c)	6.21	3.30			
	High school (d)	6.80	3.58			
Digital Sports Game Motivation Scale	Illiterate (a)	33.86	14.32	.069	.976	-
	Primary school (b)	35.19	15.89			
	Middle school (c)	34.56	14.52			
	High school (d)	34.13	15.38			

$p < 0.05$

Table 10. *Variance analyses of students according to father's education level*

Scale	Father's Education Level	Mean	SD	F	Sig.	Difference
Team Commitment	Primary school (a)	6.96	3.52	2.589	.055	-
	Middle school (b)	7.74	3.71			
	High school (c)	8.00	4.04			
	University (d)	4.72	2.45			
Entertainment	Primary school (a)	6.61	3.49	2.235	.087	-
	Middle school (b)	7.94	3.83			
	High school (c)	7.23	3.17			
	University (d)	5.27	1.48			
Socialization	Primary school (a)	6.50	3.06	.477	.698	-
	Middle school (b)	7.25	3.73			
	High school (c)	7.05	3.19			
	University (d)	6.54	3.14			
Fantasy	Primary school (a)	6.29	3.11	1.070	.364	-
	Middle school (b)	7.53	3.60			
	High school (c)	6.82	3.12			
	University (d)	6.90	4.08			
Competition	Primary school (a)	6.01	3.25	1.602	.192	-
	Middle school (b)	7.53	3.36			
	High school (c)	6.55	3.17			
	University (d)	6.36	4.41			
Digital Sports Game Motivation Scale	Primary school (a)	32.40	14.46	1.539	.207	-
	Middle school (b)	38.02	16.01			
	High school (c)	35.67	14.84			
	University (d)	29.81	12.72			

$p < 0.05$

Table 11. *Analysis of variance according to students' weekly digital game playing habits*

Scale	Weekly Digital Game Play Time	Mean	SD	F	Sig.	Difference
Team Commitment	I do not play digital games (a)	7.33	3.47	.087	.967	-
	1–4 hours (b)	7.24	3.83			
	5–8 hours (c)	7.45	3.63			
	9–12 hours (d)	6.90	4.24			
Entertainment	I do not play digital games (a)	6.11	2.27	3.045	.031	c > a,b,d
	1–4 hours (b)	7.61	3.93			
	5–8 hours (c)	8.45	3.87			
	9–12 hours (d)	6.52	3.76			
Socialization	I do not play digital games (a)	6.11	2.07	1.461	.228	-
	1–4 hours (b)	7.28	3.75			
	5–8 hours (c)	7.55	3.54			
	9–12 hours (d)	6.95	4.05			
Fantasy	I do not play digital games (a)	6.03	2.44	1.745	.161	-
	1–4 hours (b)	7.12	3.74			
	5–8 hours (c)	7.85	3.37			
	9–12 hours (d)	7.00	3.97			
Competition	I do not play digital games (a)	6.13	2.59	1.007	.392	-
	1–4 hours (b)	6.53	3.45			
	5–8 hours (c)	7.65	3.82			
	9–12 hours (d)	6.85	4.36			
Digital Sports Game Motivation Scale	I do not play digital games (a)	31.74	10.60	1.297	.278	-
	1–4 hours (b)	35.79	16.00			
	5–8 hours (c)	38.95	16.92			
	9–12 hours (d)	34.23	18.91			

$p < 0.05$

The variance analysis results according to weekly digital game playing habits are shown in Table 11. It was determined that there is a statistically significant difference in the mean scores of the entertainment sub-dimension of the Digital Sports

Game Motivation Scale according to the variable of students' weekly digital game playing time ($F = 3.045$; $p < 0.05$). However, no significant difference was found in terms of the total scale score and the mean scores of the team commitment, socialization, fantasy, and competition sub-dimensions according to weekly game playing time ($p > 0.05$). When the mean scores for the entertainment sub-dimension are examined, it is seen that the entertainment scores of students who played digital games 5–8 hours a week ($\bar{X} = 8.45$) were higher than those who played 1–4 hours ($\bar{X} = 7.61$), those who played 9–12 hours ($\bar{X} = 6.52$), and students who did not play digital games ($\bar{X} = 6.11$). The results of the Tukey multiple comparison test, which was conducted to determine the source of the significant difference, show that this difference is in favor of students who played digital games 5–8 hours a week. The findings indicate that students' perception of entertainment in digital sports games changes depending on their weekly game playing time. The study reveals that students who play games at a moderate level, namely 5–8 hours a week, perceive digital sports games as more enjoyable. In contrast, it can be said that other dimensions of motivation for playing digital sports games are not significantly affected by weekly playing time.

4. DISCUSSION

This research examines the impact of digital sports games on secondary school students' motivation to participate in sporting activities within a multidimensional framework. The findings reveal that digital sports games offer a significant experience for students in some motivational dimensions; however, this effect is related to the quality and duration of interaction with the game rather than demographic characteristics. Overall, the research results indicate that students' motivation levels toward digital sports games are moderate, and the sub-dimensions with the highest motivation are team commitment, entertainment, and socialization. This finding suggests that sports-themed digital games offer more than just individual entertainment; they provide an experiential space related to sport-specific values such as sports culture, team identity, and social interaction. Indeed, studies in the literature that suggest e-sports and digital sports games can function as a complementary area of interest rather than a competitor to traditional sports support this interpretation [16, 17]. It has been observed that the cognitive and affective connection that young individuals establish with sports can be maintained in the digital environment, and digital sports games can mediate the preservation and reinforcement of this connection.

In the study, no statistically significant difference was found in motivation for digital sports games in terms of demographic variables such as gender, place of residence, income level, and parental education level. This result suggests that the motivational appeal of digital sports games is not specific to a particular demographic group; rather, it offers a general and widespread experience for secondary school students. While some studies in the literature report gender-based differences [18], it is also stated that these differences can disappear depending on the type of game, contextual variables, and sample characteristics [20, 21]. In this context, the absence of a gender-based difference in the present study indicates that digital sports games may have a homogeneous motivational effect in this age group.

The most striking finding of the study is that a significant difference was found only between weekly digital sports game playing time and the entertainment sub-dimension. The findings show that students who played digital sports games at a moderate level per week had higher perceptions of entertainment compared to other groups; conversely, this perception weakened at lower or higher playing times. This reveals that the motivational outcomes of digital game use do not exhibit a linear structure, but rather point to a certain optimum level of use. This result is consistent with the findings of [20] and [22], which showed that moderate interaction in digital game and screen use leads to more positive results in terms of some psychosocial outcomes, while excessive or very limited use weakens these outcomes. Similarly, it is emphasized that the feeling of enjoyment and flow in the game experience is related to the balance between the individual's level of participation and perceived difficulty [23]. Another important finding of the study is that a significant difference depending on weekly playing time emerged only in the entertainment sub-dimension; no significant change was observed in other motivational dimensions such as competition, socialization, fantasy, and team commitment. This suggests that the primary appeal of digital sports games is mainly entertainment-focused, while deeper and more lasting motivational dimensions related to sports are shaped independently of playing time. This finding is consistent with studies arguing that sports video games function more as an emotional and experiential threshold rather than a direct tool for increasing motivation to participate in sports [16, 17].

5. CONCLUSION

This study examined the effect of digital sports games on the motivation of secondary school students to participate in sports activities. The findings show that students' motivation levels toward digital sports games are generally moderate, and motivation is most concentrated in the dimensions of team commitment, entertainment, and socialization. This reveals that digital sports games are not only a means of individual entertainment but also offer experiences related to sport-specific social and affective values. No significant differences were found in the study in terms of variables such as gender, place of residence, income level, and parental education level. However, a significant difference was found between weekly digital

game playing time and the entertainment sub-dimension; it was determined that students who played digital sports games at a moderate level had higher perceptions of entertainment. This finding shows that the effects of digital sports games can yield more positive results when used in a balanced way.

This research was conducted using a correlational survey model, which does not allow for causal inferences. The collection of data through self-report may have created perceptual bias in participant responses. In addition, the fact that the sample consisted only of secondary school students and that digital sports game types were not examined in detail limits the generalizability of the findings. It is recommended that different age groups, game types, and longitudinal research designs be used in future studies.

The research findings show that digital sports games affect the motivation of secondary school students to participate in sports activities, especially in the entertainment dimension, and that this effect varies according to the duration of use. Therefore, it is recommended that digital sports games be addressed with a controlled and guiding approach in the context of education and sports. Physical education teachers, school administrators, and parents can consider digital sports games as a supportive tool in understanding students' interest in sports and their sources of motivation. The findings indicate that conscious use of digital games may be more functional than completely banning them. It is recommended that parents consider digital sports games not only as a waste of time, but also as a reflection of the relationship their children have with sports. In this regard, it is important to increase information and awareness campaigns for parents. The fact that weekly game time only creates a significant difference in the entertainment dimension suggests that the motivational effects of digital sports games may be related to quality rather than quantity. Therefore, it is recommended that the quality of the game experience be focused on in applications.

Future research should examine the effects of digital sports games on sports motivation through longitudinal studies because this study was conducted using a cross-sectional design. In future studies, the effects of variables such as game type, game content, and playing context on motivation can be addressed in more detail. Comparative research conducted in different age groups, school types, and cultural contexts will increase the generalizability of the effects of digital sports games on sports motivation.

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