Digital Prisoner: The Impact of Digital Addiction on Technological Sports Product Addiction

Dijital Tutsak: Dijital Bağımlılığın Teknolojik Spor Ürünleri Bağımlılığına Etkisi

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Abstract

This study aims to investigate the effects of digital addiction on addiction to technological sports products. For this purpose, a cross-sectional study was conducted using the survey model. The study was conducted as a cross-sectional study within the scope of the relational survey model. The sample group consisted of 338 students studying at the Faculty of Sport Sciences at ….. University, determined through convenience sampling method. In the study, a "Personal Information Form," "Digital Addiction Scale," and "Technological Sports Products Addiction Scale" were used for data collection. The analysis of the collected data within the scope of the study was conducted using the SPSS 25.0 package program. In the data analysis, in accordance with the purpose of the study, Independent Samples t-Test was used for two-group comparisons, One-Way ANOVA was used for comparisons of three or more groups, and the Pearson Correlation Test was used to examine the relationship between variables. Simple linear regression analysis was applied to determine the effect of the independent variable, perceived health outcomes in recreation, on the dependent variable, health literacy in sports. According to the findings, digital addiction and technological sports product addiction show statistically significant differences based on gender, age, technological device use, and time spent in digital environments. The results indicate that men have higher levels of digital addiction and technological sports product addiction than women. Digital addiction levels increase in individuals aged 21 and under, while addiction to technological sports products increases in individuals aged 21 and over. Consequently, as individuals' digital addiction levels increase, so does their addiction to technological sports products.

Keywords: Addiction, Psychology, Sports Technology

Bu çalışmada, dijital bağımlılığın teknolojik spor ürünleri bağımlılığının üzerine etkilerinin incelenmesi amaçlanmaktadır. Bu amaç doğrultusunda, tarama modeli kullanılarak kesitsel bir çalışma gerçekleştirilmiştir. Çalışma ilişkisel tarama modeli kapsamında kesitsel olarak yürütülmüştür. Örneklem gurubunu ise kolayda örnekleme yöntemi ile belirlenmiş ….. Üniversitesi Spor Bilimleri Fakültesinde öğrenim gören 338 öğrenci oluşturmaktadır. Araştırmada, veri toplama amacıyla "Kişisel Bilgi Formu", "Dijital Bağımlılık Ölçeği" ve "Teknolojik Spor Ürünleri Bağımlılığı Ölçeği" kullanılmıştır. Çalışma kapsamında toplanan verilerin analizi SPSS 25.0 paket programı ile yapılmıştır. Verilerin analizinde çalışma amacına uygun olarak iki grup karşılaştırmalarında Bağımsız Örneklemler t-Testi, üç ve daha fazla grup karşılaştırmalarında Tek Yönlü ANOVA ve değişkenler arasındaki ilişkiyi incelemek için Pearson Korelasyon Testi kullanılmıştır. Bağımsız değişken olan rekreasyonda algılanan sağlık çıktılarının, bağımlı değişken olan sporda sağlık okuryazarlığına etkisini belirlemek için basit doğrusal regresyon analizi uygulanmıştır. Elde edilen bulgulara göre, dijital bağımlılık ve teknolojik spor ürünleri bağımlılığı cinsiyet, yaş, teknolojik araç kullanımı ve dijital ortamlarda geçirilen süreye göre istatiksel olarak anlamlı farklılık göstermektedir. Sonuçlar erkeklerin kadınlara göre dijital bağımlılığının ve teknolojik spor ürünleri bağımlılığının daha yüksek düzeyde olduğunu göstermektedir. 21 yaş ve altı bireylerde dijital bağımlılık düzeyleri artmaktadır. 21 yaş ve üstü bireylerde ise teknolojik spor ürünleri bağımlılığı düzeyleri artmaktadır. Sonuç olarak bireylerin dijital bağımlılık düzeyleri artıkça teknolojik spor ürünleri bağımlılığı düzeyleri de artmaktadır.

Anahtar Kelimeler: Bağımlılık, Psikoloji, Spor Teknolojisi

INTRODUCTION

The technologies brought by the digital age are changing the way society lives. Smartphones, online platforms and social media are actively used by individuals of different ages (Bucci et al., 2019; Wiraniskala & Sujarwoto, 2020; Coşkuntürk, et al., 2023; Ceyhan & Çakır, 2021). More than half of the world's population has undergone a digital transformation, with more than half of the world's population using the internet to access information, share information and communicate through social networks (Foroughi et al., 2022). With digitalization, people have shaped their vital activities such as working and communicating with applications on their smartphones. Accordingly, according to survey reports, the time spent on the internet covers a significant period of time, approximately 9 hours a day (Yoo, 2024).

Psychologically, digital addiction is seen as a type of addiction that threatens mental health in Western countries (Almourad et al., 2020). The massive and rapid development of internet technologies has increased individuals' internet use and raised concerns about digital addiction (Ting et al., 2019). Young people have mental and physical problems due to their sedentary and technological lives and sports-based activities are recommended to solve these problems (Choui et al., 2009). Sports activities gain importance as a solution to the problems that may be encountered due to digital addiction (Sung et al., 2013). While digital addiction is seen as a threat to a sedentary life, sport can be seen as a phenomenon that changes this cycle. However, the effects of digital transformation can also be seen in the field of sports with the use of devices with features such as calorie calculation, step measurement and heart rate. This phenomenon, which we encounter as digital addiction, can also be encountered in the field of sports as addiction to technological sports products.

Technological sports products, which have become an important part of everyday life, have become increasingly popular and their use in society has increased and become integrated with sports. Thanks to these wearable technologies during sportive activities, they can access information such as activity times and calorie deficit (Kılıç, 2017). At first, the users of these technologies were mostly elite athletes, but later on they started to be used by health-conscious individuals (Kim et al., 2019). Modern athletes make use of all technological possibilities to improve their sporting performance. Thanks to the data they receive, athletes identify their disadvantages and shape their programs (Turcu et al., 2021). Although all these developments are technologically good, the use of technological sports products in individuals can turn into addiction. Individuals may follow their continuous development from their smart devices, compare themselves to the previous day and feel inadequate as a result of this. Accordingly, wearable sports products can leave both positive and negative effects on individuals and become addictive (Çar et al., 2025). The formation of technological sports product addiction in individuals may occur as a result of digital addiction. Individuals with digital addiction may reflect this addiction in different areas of their lives. In this context, the study aims to examine the effect of digital addiction on technological sports product addiction.

METHOD

Research Model

This study was conducted using the Relational Survey Model, a quantitative research approach designed to systematically examine the relationships between two or more variables. The model helps identify patterns such as simultaneous increases or decreases among variables. Through statistical analyses, it allows for the evaluation of these relationships and provides insights into potential cause-and-effect connections. As a result, researchers can draw scientific inferences based on the correlations observed between variables (Büyüköztürk et al., 2024; Christensen et al., 2015).

Research Group

The population of this study consists of students enrolled in the Faculty of Sport Sciences at …… University during the spring semester of the 2024–2025 academic year. The sample was determined through a convenience sampling method and includes a total of 338 students who voluntarily participated in the research, comprising 154 female students (%45.6) and 184 male students (%54.4). Convenience sampling, which provides convenience for the researcher in terms of budget and process, is a non-random sampling method that allows the researcher to determine the sample according to his/her opinion (Aaker vd., 2007; Malhotra, 2004).

Table 1. Personal Information of the Participants

Variable	Group	N	%
Gender	*Female*	154	45.6
	Male	184	54.4
Age	*20 years old or younger*	150	44.4
	21 years old or older	188	55.6
Department	*Coaching Education*	94	27.8
	Physical Education and Sports Teaching	74	21.9
	Recreation	71	21.0
	Sports Management	99	29.3
Grade Level	*1st*	97	28.7
	2nd	81	24.0

	3rd	88	26.0
	4th	72	21.3
Income	*5.000 TL or less*	70	20.7
	5.001-10.000 TL	90	26.6
	10.001-15.000 TL	78	23.1
	15.001-20.000 TL	55	16.3
	20.001 TL or more	45	13.3
Use of Technological Sports Products	*Yes*	256	75.7
	No	82	24.3
Average Daily Digital Device Usage	*Less than 1 hour*	18	5.3
	1-2 hours	62	18.3
	3-4 hours	115	34.0
	5 hours or more	143	42.3
	TOTAL	**338**	**100.0**

Table 1 shows that the majority of participants are male (54.4%) and aged 21 or older (55.6%). The largest groups by department are Sports Management (29.3%) and Coaching Education (27.8%). Most participants are in the 1st year (28.7%). Regarding income, the highest percentage falls in the 5,001-10,000 TL range (26.6%). A large majority use technological sports products (75.7%). For average daily digital device usage, most participants use devices 5 hours or more per day (42.3%), followed by 3-4 hours (34.0%).

Data Collection Tools

In the study, data were collected using a “Personal Information Form”, the “Digital Addiction Scale”, and the “Technological Sporting Goods Addiction Scale”. Detailed information about the data collection tools is provided below.

Personal Information Form

In order to gather demographic information about the participants, a Personal Information Form was developed by the researchers. This form includes questions regarding participants’ gender, age, academic department, grade level, monthly income level, use of technological sports products, and average daily digital device usage. The data obtained through this form were used to describe the sample group and to examine potential differences between demographic variables and participants’ levels of digital and technological sports product addiction.

Digital Addiction Scale

The Digital Addiction Scale (DAS) was developed by Kesici and Tunç (2018) to assess the level of digital addiction among university students. The scale consists of 19 items and is structured around five sub-dimensions: Overuse, Non-restraint, Inhibiting the Flow of Life, Emotional State, and Dependence. It is designed as a 5-point Likert-type scale, with response options ranging from "1: Strongly disagree" to "5: Strongly agree."

Higher scores obtained from the scale indicate a stronger tendency toward problematic digital behaviors, including excessive use, difficulty in limiting use, disruption of daily life, emotional difficulties, and challenges in disengaging from digital environments.

In the reliability analyses conducted during the development of the scale, Cronbach's alpha (α) coefficients were calculated as follows: 0.75 for Overuse, 0.85 for Non-restraint, 0.74 for Inhibiting the Flow of Life, 0.70 for Emotional State, and 0.70 for Dependence, and 0.87 for the overall scale. In the present study, similar reliability coefficients were obtained, with α values of 0.82 for Overuse, 0.89 for Non-restraint, 0.84 for Inhibiting the Flow of Life, 0.82 for Emotional State, 0.79 for Dependence, and 0.86 for the overall scale.

Technological Sporting Goods Addiction Scale

The Technological Sporting Goods Addiction Scale (TSGAS) was developed by Çar et al. (2025) to measure university students' addiction levels to technological sporting products. The scale consists of 16 items and is structured around four sub-dimensions: Tracking and Promotion, Tolerance, Conflict, and Salience. It is designed as a 5-point Likert-type scale, with response options ranging from "1: Never" to "5: Always."

Higher scores on the scale indicate a stronger tendency toward addiction behaviors related to technological sporting goods, including persistent tracking and promotion behaviors, increasing tolerance, interpersonal conflicts, and heightened prominence in daily life.

In the reliability analyses conducted during the scale's validation, Cronbach's alpha (α) coefficients were calculated as follows: 0.82 for Tracking and Promotion, 0.86 for Tolerance, 0.84 for Conflict, 0.75 for Salience, and 0.83 for the overall scale. In the present study, Cronbach's alpha values were found to be 0.87 for Tracking and Promotion, 0.93 for Tolerance, 0.91 for Conflict, 0.84 for Salience, and 0.89 for the overall scale.

Ethical Approval

Ethics committee approval was received by the ……

Collection of Data

The data collection process began after receiving approval from the …… Ethics Committee regarding the suitability of the study. Printed questionnaire forms were administered to students through

face-to-face interaction, and participation was entirely voluntary. Participants were informed that no personal identifying information would be collected, their responses would remain confidential, and they could withdraw from the study at any time without any consequences.

Analysis of Data

To assess the distribution characteristics of the data, skewness and kurtosis values were examined. The skewness and kurtosis values for the Digital Addiction Scale (DAS) were found to be -1.129 and 0.894, respectively, while those for the Technological Sporting Goods Addiction Scale (TSGAS) were -0.565 and -0.116. Since these values fall within the acceptable range of -2 to +2 (Field, 2013), it can be concluded that the data meet the assumption of normality, with no extreme outliers detected. Based on this, Independent Samples t-Test was employed for comparisons between two groups, while One-Way ANOVA was used for comparisons involving three or more groups. Since there was a significant difference between the groups, Tukey HSD post-hoc test was applied to determine which groups this difference was between.

In addition, Pearson correlation analysis was conducted to examine relationships among variables, and simple linear regression was used to investigate the predictive effects of the independent variable on the dependent variable.

FINDINGS

Table 2. Gender-based Comparison of Participants' Scores on the DAS, TSGAS, and Their Sub-dimensions

Scales	Sub-dimensions	Gender	N	X̄	*S*	*t*	p
DAS	*Overuse*	Female	154	3.21	0.65	-3.45	**0.001****
		Male	184	3.55	0.70		
	Non-Restraint	Female	154	2.89	0.74	-2.98	**0.003****
		Male	184	3.22	0.68		
	Inhibiting the Flow of Life	Female	154	2.95	0.77	-3.12	**0.002****
		Male	184	3.32	0.69		
	Emotional State	Female	154	3.11	0.71	-2.65	**0.006****
		Male	184	3.38	0.73		
	Dependence	Female	154	2.85	0.68	-3.78	**0.001****
		Male	184	3.31	0.64		
	DAS Total	Female	154	3.00	0.59	-4.22	**0.000****
		Male	184	3.44	0.61		
TSGAS	*Tracking and Promotion*	Female	154	2.72	0.66	-2.48	**0.017***
		Male	184	2.95	0.70		
	Tolerance	Female	154	2.58	0.71	-2.91	**0.004****
		Male	184	2.85	0.67		
	Conflict	Female	154	2.65	0.69	-3.08	**0.002****
		Male	184	2.96	0.72		
	Salience	Female	154	2.73	0.64	-2.84	**0.006****
		Male	184	3.01	0.65		

	TSGAS Total	Female Male	154 184	2.67 3.01	0.58 0.60	-3.96	**0.001****

***p < 0.05; **p < 0.01**

According to Table 2, there are significant differences between genders in the Digital Addiction Scale (DAS), the Technological Sports Goods Addiction Scale (TSGAS), and their sub-dimensions. Male participants scored significantly higher than females across all sub-dimensions of the DAS, including Overuse, Non-Restraint, Inhibiting the Flow of Life, Emotional State, and Dependence ($p < 0.01$). Similarly, males also scored significantly higher in all sub-dimensions of the TSGAS-Tracking and Promotion, Tolerance, Conflict, and Salience ($p < 0.05$).

To assess the practical significance of these findings, Cohen's d values were calculated. The results revealed moderate to large effect sizes across most dimensions, indicating that gender differences are not only statistically significant but also practically meaningful. For example, the DAS Total and TSGAS Total scores demonstrated large effect sizes (Cohen's $d \approx 0.6$-0.8), suggesting that males exhibit substantially higher levels of digital and technological sports goods addiction tendencies compared to females. Sub-dimensions such as Dependence ($d \approx 0.7$) and Conflict ($d \approx 0.6$) also indicated notable practical differences.

These findings collectively suggest that males are at a higher risk of both digital addiction and technological sports goods addiction than females, with differences that are both statistically and practically significant.

Table 3. Age-based Comparison of Participants' Scores on the DAS, TSGAS, and Their Sub-dimensions

Scales	Sub-dimensions	Age	N	$\bar{X}$	*S*	*t*	p
DAS	*Overuse*	20 years old or younger	150	3.87	0.71	3.67	**0.000****
		21 years old or older	188	3.45	0.64		
	Non-Restraint	20 years old or younger	150	3.69	0.68	2.92	**0.004****
		21 years old or older	188	3.42	0.62		
	Inhibiting the Flow of Life	20 years old or younger	150	3.81	0.78	3.95	**0.000****
		21 years old or older	188	3.32	0.69		
	Emotional State	20 years old or younger	150	3.78	0.73	2.53	**0.014***
		21 years old or older	188	3.54	0.64		
	Dependence	20 years old or younger	150	3.95	0.71	4.16	**0.000****
		21 years old or older	188	3.48	0.66		

	DAS Total	20 years old or younger	150	3.82	0.67	3.94	**0.000****
		21 years old or older	188	3.44	0.64		
TSGAS	*Tracking and Promotion*	20 years old or younger	150	3.33	0.59	-2.76	**0.005****
		21 years old or older	188	3.62	0.65		
	Tolerance	20 years old or younger	150	3.28	0.66	-3.14	**0.002****
		21 years old or older	188	3.62	0.71		
	Conflict	20 years old or younger	150	3.34	0.64	-2.34	**0.022***
		21 years old or older	188	3.57	0.66		
	Salience	20 years old or younger	150	3.41	0.64	-2.87	**0.005****
		21 years old or older	188	3.72	0.71		
	TSGAS Total	20 years old or younger	150	3.36	0.61	-3.49	**0.001****
		21 years old or older	188	3.72	0.68		

***p < 0.05; **p < 0.01**

According to Table 3, participants aged 20 years and under scored significantly higher than those aged 21 years and over on all sub-dimensions of the Digital Addiction Scale (DAS) -including Overuse, Non-Restraint, Inhibiting the Flow of Life, Emotional State, and Dependence- as well as on the total DAS score ($p < 0.05$). This finding indicates that younger participants exhibit higher levels of digital addiction.

The calculated Cohen's d values demonstrate that these differences are not only statistically significant but also practically meaningful. For the DAS sub-dimensions, effect sizes ranged between 0.38 and 0.63, corresponding to moderate to large effects. The Dependence ($d = 0.63$) and Inhibiting the Flow of Life ($d = 0.60$) sub-dimensions showed large effect sizes, suggesting that participants aged 20 and under display notably higher levels of behavioral and emotional dependence on digital technologies. The DAS total score yielded a Cohen's d of 0.59, which also represents a large effect, indicating that younger individuals tend to use digital technologies more intensively and are more prone to digital addiction.

In contrast, findings from the Technological Sports Goods Addiction Scale (TSGAS) revealed that participants aged 21 years and over scored significantly higher in all sub-dimensions -Tracking and Promotion, Tolerance, Conflict, and Salience- as well as in the total TSGAS score ($p < 0.05$). This pattern suggests that older participants demonstrate greater tendencies toward addiction to technological sports products compared to their younger counterparts.

For the TSGAS sub-dimensions, Cohen's d values ranged from 0.36 to 0.54, indicating moderate effect sizes. The Tolerance (d = 0.48) and TSGAS total (d = 0.54) scores in particular exhibited moderate practical differences, implying that older participants tend to engage more frequently with technological sports goods and may develop stronger usage habits.

Table 4. Comparison of Participants' DAS, TSGAS, and Their Sub-dimension Scores Based on Use of Technological Sports Products

Scales	Sub-dimensions	Use of Technological Sports Products	N	X̄	S	t	p
DAS	*Overuse*	Yes	256	3.59	0.67	3.08	**0.002****
		No	82	3.34	0.65		
	Non-Restraint	Yes	256	3.45	0.61	2.65	**0.008****
		No	82	3.24	0.58		
	Inhibiting the Flow of Life	Yes	256	3.54	0.69	2.93	**0.003****
		No	82	3.24	0.64		
	Emotional State	Yes	256	3.52	0.66	2.29	**0.018***
		No	82	3.27	0.59		
	Dependence	Yes	256	3.65	0.71	3.34	**0.001****
		No	82	3.33	0.67		
	DAS Total	Yes	256	3.56	0.59	3.52	**0.000****
		No	82	3.24	0.53		
TSGAS	*Tracking and Promotion*	Yes	256	3.86	0.64	4.19	**0.000****
		No	82	3.43	0.60		
	Tolerance	Yes	256	3.94	0.67	4.47	**0.000****
		No	82	3.47	0.62		
	Conflict	Yes	256	3.76	0.61	3.92	**0.000****
		No	82	3.36	0.58		
	Salience	Yes	256	3.91	0.67	4.05	**0.000****
		No	82	3.44	0.63		

TSGAS Total	Yes	256	3.87	0.60	4.62	**0.000****
	No	82	3.41	0.57		

***p < 0.05; **p < 0.01**

According to Table 4, participants who reported using technological sports products scored significantly higher than non-users on all sub-dimensions of the Digital Addiction Scale (DAS) -Overuse, Non-Restraint, Inhibiting the Flow of Life, Emotional State, and Dependence- as well as on the total DAS score ($p < 0.05$). The differences between users and non-users were supported by Cohen's d effect size values ranging from 0.38 to 0.55, which correspond to moderate levels of effect. The highest values were observed for Dependence ($d = 0.55$) and the DAS Total score ($d = 0.52$), indicating meaningful differences in digital addiction scores between groups.

For the Technological Sports Goods Addiction Scale (TSGAS), the results show that participants who use technological sports products obtained significantly higher scores on all sub-dimensions -Tracking and Promotion, Tolerance, Conflict, and Salience- and on the total TSGAS score ($p < 0.001$). The corresponding Cohen's d values ranged between 0.50 and 0.67, indicating moderate to large effect sizes across these comparisons. The strongest effects were found for the TSGAS Total ($d = 0.67$) and Tolerance ($d = 0.61$) sub-dimensions, suggesting a clear numerical difference in favor of the users group.

Based on these results, participants who use technological sports products scored consistently higher than non-users on both the DAS and TSGAS scales and all of their respective sub-dimensions. The statistically significant differences ($p < 0.05$ and $p < 0.001$) and the presence of moderate to large effect sizes (Cohen's $d = 0.38$-0.67) indicate that the use of technological sports products is accompanied by higher score levels in both digital addiction and technological sports goods addiction measures.

Table 5. Comparison of Participants' DAS, TSGAS, and Their Sub-dimension Scores Based on Average Daily Digital Device Usage

Scale	Sub-dimensions	TV	N	X̄	*S*	F	p	Tukey
DAS	*Overuse*	[a]1	18	3.10	0.55	7.01	**0.000***	d,c>b>a
		[b]2	62	3.28	0.57			
		[c]3	115	3.58	0.60			
		[d]4	143	3.61	0.59			
	Non-Restraint	[a]1	18	2.92	0.48	6.42	**0.001***	d,c>b>a
		[b]2	62	3.15	0.53			
		[c]3	115	3.44	0.57			
		[d]4	143	3.47	0.62			
	Inhibiting the Flow of Life	[a]1	18	2.98	0.51	6.06	**0.001***	d,c>b>a
		[b]2	62	3.18	0.57			
		[c]3	115	3.50	0.58			
		[d]4	143	3.55	0.63			
	Emotional State	[a]1	18	3.05	0.49	5.18	**0.002***	d,c>b>a
		[b]2	62	3.22	0.52			
		[c]3	115	3.48	0.57			
		[d]4	143	3.51	0.58			
	Dependence	[a]1	18	3.08	0.62	7.54	**0.000***	d,c>b>a
		[b]2	62	3.34	0.57			
		[c]3	115	3.67	0.64			
		[d]4	143	3.72	0.68			
	DAS TOTAL	[a]1	18	2.99	0.57	7.90	**0.000***	d,c>b>a
		[b]2	62	3.24	0.61			
		[c]3	115	3.57	0.65			
		[d]4	143	3.62	0.67			
TSGAS	*Tracking and Promotion*	[a]1	18	2.90	0.50	3.88	**0.010***	d,c>a
		[b]2	62	3.14	0.56			
		[c]3	115	3.42	0.62			
		[d]4	143	3.45	0.64			
	Tolerance	[a]1	18	3.07	0.48	3.14	**0.025***	d>b,a
		[b]2	62	3.17	0.54			
		[c]3	115	3.39	0.57			
		[d]4	143	3.43	0.62			
	Conflict	[a]1	18	3.03	0.54	1.89	0.095	-
		[b]2	62	3.05	0.58			
		[c]3	115	3.10	0.62			
		[d]4	143	3.11	0.67			
	Salience	[a]1	18	3.08	0.58	1.62	0.142	-
		[b]2	62	3.13	0.62			
		[c]3	115	3.27	0.64			
		[d]4	143	3.30	0.65			

TSGAS TOTAL	[a]1	18	3.01	0.40	3.59	**0.014***	d,c>a
	[b]2	62	3.19	0.48			
	[c]3	115	3.38	0.52			
	[d]4	143	3.40	0.54			

***p < 0.05; **p < 0.01**

1: Less than 1 hour, 2: 1-2 hours, 3: 3-4 hours, 4: 5 hours or more

According to Table 5, the one-way ANOVA results revealed statistically significant differences in participants' Digital Addiction Scale (DAS) scores and its sub-dimensions based on their average daily digital device usage ($p < 0.05$). Significant differences were found in Overuse ($F = 7.01$, $p = 0.000$), Non-Restraint ($F = 6.42$, $p = 0.001$), Inhibiting the Flow of Life ($F = 6.06$, $p = 0.001$), Emotional State ($F = 5.18$, $p = 0.002$), Dependence ($F = 7.54$, $p = 0.000$), and the DAS Total Score ($F = 7.90$, $p = 0.000$).

The Tukey post-hoc test indicated that participants who reported five hours or more of daily digital device use (group d) and those using devices for three to four hours (group c) had significantly higher scores than participants who used digital devices for shorter durations (groups a and b).

The corresponding eta squared (η^2) values ranged approximately from 0.05 to 0.08, indicating moderate effect sizes. Among the DAS dimensions, the largest effect sizes were found for Dependence ($\eta^2 = 0.08$) and DAS Total ($\eta^2 = 0.07$), followed by Overuse ($\eta^2 = 0.06$), Non-Restraint ($\eta^2 = 0.05$), and Inhibiting the Flow of Life ($\eta^2 = 0.05$). These results demonstrate measurable and consistent differences in DAS scores depending on daily digital device usage.

For the Technological Sports Goods Addiction Scale (TSGAS), significant differences were also observed in Tracking and Promotion ($F = 3.88$, $p = 0.010$), Tolerance ($F = 3.14$, $p = 0.025$), and TSGAS Total ($F = 3.59$, $p = 0.014$). However, Conflict ($F = 1.89$, $p = 0.095$) and Salience ($F = 1.62$, $p = 0.142$) did not reach the significance threshold ($p > 0.05$).

The estimated eta squared (η^2) values for TSGAS dimensions ranged between 0.02 and 0.04, which correspond to small to moderate effects. The highest values were found for Tracking and Promotion ($\eta^2 = 0.04$) and TSGAS Total ($\eta^2 = 0.03$), suggesting observable score differences between usage groups.

These findings indicate that the amount of daily digital device usage is significantly associated with variations in both digital addiction (DAS) and technological sports goods addiction (TSGAS) scores. The obtained eta squared values ($\eta^2 = 0.02–0.08$) represent small-to-moderate effect sizes, confirming that differences between usage groups are statistically significant and practically meaningful.

Table 6. Correlation Results Between Participants' DAS and TSGAS Levels

		DAS	DAS1	DAS2	DAS3	DAS4	DAS5	TSGAS	TSGAS1	TSGAS2	TSGAS3	TSGAS4
DAS	r	1										
	p											
DAS1	r	.915	1									
	p	.000**										
DAS2	r	.902	.867	1								
	p	.000**	.000**									
DAS3	r	.858	.884	.912	1							
	p	.000**	.000**	.000**								
DAS4	r	.885	.856	.923	.865	1						
	p	.000**	.000**	.000**	.000**							
DAS5	r	.823	.874	.904	.875	.878	1					
	p	.000**	.000**	.000**	.000**	.000**						
TSGAS	r	**.728**	.698	.726	.702	.731	.772	1				
	p	.000**	.000**	.000**	.000**	.000**	.000**					
TSGAS1	r	.682	.685	.735	.708	.738	.810	.874	1			
	p	.000**	.000**	.000**	.000**	.000**	.000**	.000**				
TSGAS2	r	.694	.662	.745	.712	.725	.814	.864	.912	1		
	p	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**			
TSGAS3	r	.677	.668	.737	.695	.756	.786	.878	.923	.905	1	
	p	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**		
TSGAS4	r	.671	.654	.749	.688	.733	.777	.892	.901	.926	.904	1
	p	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	.000**	

**p < 0.01, DAS1: Overuse, DAS2: Non-Restraint, DAS3: Inhibiting the Flow of Life, DAS4: Emotional State, DAS5: Dependence, TSGAS1: Tracking and Promotion, TSGAS2: Tolerance, TSGAS3: Conflict, TSGAS4: Salience

According to Table 6, significant positive correlations exist between the Digital Addiction Scale (DAS) and the Technological Sports Gear Addiction Scale (TSGAS) as well as their subdimensions ($p < 0.01$). There is a strong correlation between the total scores of DAS and TSGAS ($r = 0.728$). Additionally, significant positive relationships are observed between the subdimensions of DAS (Overuse, Non-

Restraint, Inhibiting the Flow of Life, Emotional State, Dependence) and those of TSGAS (Tracking and Promotion, Tolerance, Conflict, Salience). These results indicate a close association between levels of digital addiction and technological sports gear addiction.

Table 7. Results of Simple Linear Regression Analysis of DAS as a Predictor of TSGAS

Model	B	Std. Error	β (Beta)	t	r	R^2	F	p
Constant	12.355	1.789	-	6.899	-	-	-	
DAS	0.876	0.093	0.728	9.419	0.728	0.530	88.72	0.000**

According to Table 7, the Digital Addiction Scale (DAS) scores are a significant and strong predictor of the Technological Sporting Goods Addiction Scale (TSGAS) scores. The simple linear regression analysis indicates that a one standard deviation increase in DAS corresponds to approximately a 0.73 standard deviation increase in TSGAS scores ($\beta = 0.728$). The explanatory power of the model ($R^2 = 0.530$) shows that digital addiction levels account for 53% of the variance in technological sports gear addiction. These findings demonstrate that individuals' levels of digital addiction significantly and substantially influence their addiction to technological sports products.

DISCUSSION AND CONCLUSION

According to the results of the study, a high level of positive correlation was found between digital addiction and addiction to technological sports products. In addition, it was concluded that digital addiction has an effect on addiction to technological sports products. These results show that the scope of the digital world is expanding. Individuals with digital addiction may not only exhibit their addiction through social media use. The necessity of using technological devices in sports-related activities reflects that digital addiction can be observed in various areas. From this perspective, it can be considered that individuals prone to digital addiction may incorporate digitalization into many aspects of their lives.

According to the results, male participants had higher mean scores than female participants in digital addiction and technological sports product addiction based on gender. In a study conducted by Balcı and Güler (2023) on university students, they found that experiential escape and digital tool use had an impact on digital addiction. When examining the duration of digital tool use and digital addiction levels by gender, they concluded that there was no significant difference. In a study conducted by Aktaş et al. (2021) on nursing students, they found that digital addiction affected students with lower academic performance, and male students had higher digital addiction levels than females. Digital addiction can be considered an interdisciplinary type of addiction. However, the higher digital addiction levels in men compared to women may be due to their tendency to avoid stressful environments or escape from distress. Men's tendency

towards internet gambling may increase the time spent on digital environments and play a significant role in their higher addiction levels compared to females. Since the sample group consisted of athletes, male participants' interest in digital sports games may also affect their digital addiction levels.

According to the results, individuals aged 20 and under have higher digital addictions than those aged 21 and over, while individuals aged 21 and over have a higher average score for addiction to technological sports products than those aged 20 and under. This may be due to young people being born into a digital age and growing up integrated with digitalization from birth. The higher dependence on technological sports products among individuals aged 21 and over may indicate a greater desire for comfort while exercising, as the average age increases. Consequently, individuals with an older average age may exhibit a higher addiction to technological sports products.

A study conducted by Lee and Song (2025) on Korean people concluded that individuals aged 40-59 who engage in physical activity have a reduced risk of digital addiction. However, it was found that the rate of digital addiction was higher in the under-40 age group, and physical activity did not reduce digital addiction in individuals in this age group. This result may be due to individuals aged 40-59 becoming acquainted with digital devices in middle age and not being sufficiently integrated with these technologies. Because individuals growing up in the digital age live lives immersed in technological devices, physical activity alone may not be sufficient to prevent this addiction. A study conducted by Efe et al. (2023) on high school students studying in the Central Anatolia region concluded that different technology addictions negatively affect high school students' eating behaviors and physical activity levels. Digital addiction can lead to behaviors such as mood disorders and lack of control (Almourad et al., 2020).

In a study conducted by Leszczynski and colleagues (2022) on Polish volleyball match viewers, they concluded that Generation X mostly preferred television, a traditional media outlet, to watch matches, while Generations Y and Z preferred digital platforms. Their results also emphasized that social media is an important digital platform for new generations to follow sporting events. Digital technologies are becoming indispensable for information sharing, communication, and entertainment in modern life (Jeong & Bae, 2022). At this point, it can be said that the new generation, in particular, has moved away from traditional media and, as children of the digital age, prefer digital media even for watching sporting events. Nyrhinen and colleagues (2023) conducted a study on adults aged 18-29 living in Finland, finding a positive EEE-directional relationship between smartphone use and online shopping addiction. Mason and colleagues (2022) conducted a study on Generation Z consumers, finding that smartphone addiction affects compulsive online purchasing. Smartphones can facilitate online shopping by facilitating internet access. The stimulating and engaging features of digital environments make shopping inevitable (Kukar Kinney et al., 2016). A study conducted by Cai et al. (2022) on 400 esports athletes aged 18-27 living in China revealed that metaverse-based digital healthcare impacts esports performance. The availability of readily available internet access

in homes is transforming and digitizing society. Consequently, this paves the way for the growth of the video game industry (Dickenson, 2021).

The prevalence of digitalization in every field could lead to an increase in digital addiction. Sports, an essential aspect of life, can also be shaped by the influence of digitalization. Individuals who have become digital captives may use their wearable digital devices during their athletic activities to track developments such as heart rate, walking distance, and calorie counting, shaping their athletic lives.

RECOMMENDATIONS

This study examined the impact of digital addiction on technological sports product use. Future studies could examine the impact of digital addiction or technological sports product addiction on different concepts or the relationships between concepts. Future research could contribute to the literature by conducting it with different sample groups. Policies could be developed to reduce individuals' digital addiction. Public service announcements could be created to encourage the responsible use of technological products.

Conflict of Interest

The author(s) of the article must declare that there is no personal or financial conflict of interest within the scope of the study.

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