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Examination of college students' technology addiction levels

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Abstract

Digitalization is an unavoidable benefits of modern life Digital transformation and change continue to be experienced in every field. Adolescents have accessed many apps, including those related to their academic life, online in the past year. It is vital for the health of adolescents that researchers identify their Internet addictions and come up with solutions to remedy this. This study is a survey conducted to examine the Technology Addiction Levels of Students at Ege University. The data for the study were collected with the "Personal Information Form" and the "Technology Addiction Scale" developed by Aydın (2017). The sample consisted of 2.170 undergraduate students studying at the Faculty of Pharmacy, Faculty of Humanities and Letters, Faculty of Science, Faculty of Fine Arts, Design, and Architecture, Faculty of Nursing, Faculty of Economics and Administrative Sciences, Faculty of Communication, Faculty of Engineering, Faculty of Health Sciences, Faculty of Sports Sciences, Faculty of Agriculture, and the Ödemiş [district in Izmir city] Faculty of Health Sciences. As a result, it was determined that 63.13% of the students had low levels of technology addiction. Significant results were obtained in favor of girls in the scores by gender. Significant differences were found in the scores by faculty and department. A significant negative difference was observed between physical activity and technology addiction.

Keywords: technology, addiction, technology addiction, technology addiction of college students.

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1. Introduction

1.1. Introduce the problem

Internet addiction has the potential to spread faster, particularly among adolescents (Cengizhan, 2005; Ceyhan, 2008). In a study conducted with adolescents aged 8-18 years, the Kaiser Family Foundation (1999) found that adolescents used technological tools for 6 hours and 20 minutes a day. It determined that the use of technological tools by adolescents in the same age range increased to 10 hours and 45 minutes in 2009. Dïnç (2017) mentioned some risk factors for technology addiction. He stated that user age is a risk factor. The earlier the user starts using the technological product, the more likely he/she will become addicted to it. Another risk factor is gender. Studies have shown that men are more prone to technology addiction than women. Another risk factor is if the user has another mental disorder (Dinç, 2017). One study conducted in Turkey reported that attention deficit and hyperactivity disorder, social phobia, depression, or another addiction increased the likelihood of technology addiction. The user's social incompetence and poor communication skills also increase the likelihood of addiction. Other risk factors are lack of communication in the family, lack of interest if the father is absent, and a negative social circle. The last risk factor mentioned is modeling. The risk of technology addiction is increased when young users witness those around them, their parents, in particular, using technology unhealthily. Risk factors should be considered for the individual not to experience technology addiction but establish a healthy relationship with technological products (Tor and Erden 2004). As their personalities are still developing and they are still maturing psychologically, adolescents are much more at risk from the harmful effects of behaviors such as addictive substances or excessive Internet use than adults (Kaltiala-Heino, Lintonen, & Rimpela, 2004). Ögel (2012) states that adolescents who feel lonely due to such reasons as reduced sharing with the family and poor friendship relations caused by adolescent problems or generation conflict may become more easily addicted to the internet. Plaza-De-La-Hoz (2017) claim that family attitude also so important about this problem.

Davis (2001) explains Internet addiction as a person losing himself/herself in Internet use, not being able to control himself/herself, and thus experiencing problems in his/her psychological, social, and academic life. Beard and Wolf (2001) define problematic Internet use as the use of the Internet in a way that creates psychological, social, school- and work-related problems in one's life. Young (1998) formed the criteria for diagnosing Internet addiction by considering that the diagnostic criteria for gambling disorders are much more appropriate given the pathological nature of Internet use. He states that all kinds of addictions have features such as uncontrollable desire, loss of control, and continued use despite excessive effort and problems related to use.

A review of studies on Internet addiction among adolescents showed that all were conducted before the COVID-19 pandemic. Yet, it can be said that computers have come to occupy even more space in adolescent lives with the pandemic. The researchers found no study on the topic conducted with adolescents studying at college after the COVID-19 pandemic. Therefore, this study will be able to fill the gap in the field.

Adolescents have accessed many apps, including those related to their academic life, online in the past year. It is vital for the health of adolescents that researchers identify their Internet addictions and come up with solutions to remedy this. These reasons show how important the need is to examine Internet addiction levels in adolescents. This study selected students at Ege University as the target group to determine Internet addiction levels among adolescents.

To examine the Technology Addiction Levels of Ege University Students, the students at Ege University Faculty of Pharmacy, Faculty of Humanities and Letters, Faculty of Science, Faculty of Fine Arts, Design, and Architecture, Faculty of Nursing, Faculty of Economics and Administrative Sciences, Faculty of Communication, Faculty of Engineering, Faculty of Health Sciences, Faculty of Sports Sciences, Faculty of Agriculture, and the Ödemiş Faculty of Health Sciences were asked to complete the Technology Addiction Scale.

The study investigated:

- Ege University students' levels of technology addiction,
- Whether technology addiction levels differ by gender,
- Whether technology addiction levels differ by faculty attended, and
- Whether technology addiction levels differ by department.

1.2. Describe relevant scholarship

Technology has become an integral part of society with the many opportunities and applications it offers. Access to technology varies depending first on society's budget and then on the family's budget. Technology use is an indispensable part of adolescents' daily lives. According to the results of the Turkish Statistical Institute's research on the use of information technologies, 96.8% of households have mobile phones, 70% have access to the Internet, the rate of individuals using the Internet is 56%, the rate of owning a desktop computer is 25%, and the rate of owning a portable computer is 43%. Technologies offer many benefits to adolescents with their attractive options but there is also the risk that technology will negatively affect the lives of adolescents. For example, the Internet, one of the foremost developing technologies, makes it possible to meet requirements such as communication, communication, education, and banking transactions quickly, regardless of time and location. But it is only when the Internet

becomes the center of life that it becomes a problem because it ceases to be a means to an end; rather, it becomes the end in itself. Individuals may become addicted as a result of excessive and uncontrolled use of the Internet. The problem lies in the excessive use of the Internet and the absolute refusal to give up this behavior. Such cases can lead to problems in interpersonal relations. Adolescents' emotional worlds become increasingly adversely affected as social relations continue to deteriorate. The living spaces of adolescents, including their academic lives, became limited as a result of the COVID-19 pandemic.

The Internet is a technology designed to access information via the quickest and easiest paths available today and to connect anywhere in the world (Erden and Hatun, 2015). Addiction, on the other hand, can be expressed as wanting something too much and exhibiting overly needy behaviors (Dinç, 2015). The Internet performs an indispensable function in many areas today such as education, trade, information acquisition, entertainment, and communication. Like every development that has great benefits when used functionally, it can lead to many problems in academic, financial, professional, physical, and social relations when used excessively with a lack of awareness and for other than its purpose. The fact that this has negative consequences has led to the introduction of the concept of "Internet addiction" and many studies have been conducted on this subject.

It would not be wrong to say that technology occupies an increasingly larger space in life because of the great convenience it provides. Technological tools make many contributions to children and adolescents socially, psychologically, and neurodevelopmentally. The Internet fosters a sense of curiosity and courage in children and contributes to their cognitive development by teaching them to focus their attention. It improves planning and problem-solving skills. It supports communication skills and helps improve hand-eye coordination. Young people may also suffer negative physical, psychological and social consequences as a result of using technological facilities excessively or inappropriately (Dinç, 2017). With long-term computer use, adolescents may experience problems in interpersonal relationships. They can experience loneliness and inadequate social relations, social isolation as a result of computer games replacing their friends, behavioral problems such as aggression, and can lose confidence in themselves. They can also develop physical symptoms such as musculoskeletal diseases, headaches, and dry and tired eyes. Technology addiction, which is accepted as falling within the scope of behavioral addiction, is the term given when these negative states become pathological. The first thing that comes to mind when the word "addiction" is heard is substance abuse. Yet, research has proven that addiction to technological constructs such as the Internet can occur (Yalçın, 2006).

Griffiths (1996) defined technology addiction, which he classified as a subcategory of behavioral addiction, as a type of non-chemical addiction resulting from human-machine

interaction. The criterion for technology abuse, as opposed to substance abuse, is impairment of a person's physical, psychological, social, and intellectual development. Griffiths talked about activities involving human-machine interaction such as television addiction, computer addiction, computer game addiction, and football addiction as being among these technology addictions. The disorder that has been expressed and studied the most under technology addiction is Internet addiction. The technology addiction that accompanies technological advances has led to an increase in both the number of addicts and the time the user spends on the technological product.

2. Method

This part of the study will examine the method, population, sample, study group, tools, and data analysis.

This study is a survey study. Survey studies are conducted to reveal the characteristics of the participants. The data for the study were collected with the "Personal Information Form" and the "Technology Addiction Scale" developed by Aydın (2017). The study used descriptive statistics to examine the participating adolescents' personal information and their technological domain usage habits and frequencies and employed an 18-item Personal Information Form to obtain the data required for the study's goals.

The dependent variable is the variable by which the researcher examines the difference between individuals or groups. The independent variable is the probable cause and the dependent variable is the probable result. This study used a survey model and examined the changes in the dependent variable caused by the independent variable. The population and sample of the study are presented below.

2.1. Participant (Subject) Characteristics

There are a total of 59.925 students studying at Ege University of whom 30.745 are enrolled in the undergraduate program.

2.2. Sampling Procedures

Some 2,170 volunteer students from the undergraduate student body at Ege University were used as the sample.

2.3.1 Sample Size

The study covered 2.170 students studying at Ege University. A letter asking for permission was sent to the faculty deans' offices before the study began and the respective departments gave their permission. The distribution of the participants by gender and faculty is presented in Table 1.

Table 1. Distribution of participants by gender and faculty

		n	%
Gender	Female	1.172	54.01
	Male	998	45.99
	Total	2.170	100.0
Faculty	Faculty of Humanities and Letters	402	18.53
	Faculty of Engineering	325	14.98
	Faculty of Agriculture	221	10.18
	Faculty of Economics and Administrative Sciences	184	8.48
	Faculty of Pharmacy	159	7.33
	Faculty of Sport Sciences	164	7.56
	Faculty of Health Sciences	151	6.96
	Ödemiş Faculty of Health Sciences	146	6.73
	Faculty of Science	143	6.59
	Faculty of Communication	119	5.48
	Faculty of Nursing	102	4.70
	Faculty of Fine Arts, Design, and Architecture	54	2.48
	Total	**2.170**	**100.0**

When Table 1 is examined, it can be seen that 54.01% (n=1,172) of the participants are female and 45.99% (n=998) are male. On examination by faculty it can be seen that 18.53% (n=401) of the participants were studying in the Faculty of Humanities and Letters, 14.98% (n=325) in the Faculty of Engineering, 10.18% (n=221) in the Faculty of Agriculture, 8.48% (n= 184) in the Faculty of Economics and Administrative Sciences, 7.33% (n=159) in the Faculty of Pharmacy, 7.56% (n=164) in the Faculty of Sports Sciences, 6.96% (n=151) in the Faculty of Health Sciences, 6.73% (n=146) in the Ödemiş Faculty of Health Sciences, 6.59% (n=143) in the Faculty of Engineering, 5.48% (n=119) in the Faculty of Communication, 4.70% (n=102) in the Faculty of Education, and 2.49% (n=54) in the Faculty of Fine Arts, Design, and Architecture. The departments where the participants studied are presented in Table 2.

Table 2. Distribution of the participants by department

Department	n	%	Department	n	%
Pharmacy	159	7.33	Electronics and Electrical Engineering	32	1.47
Economics	72	3.32	Food Engineering	22	1.01
Business	67	3.09	Civil Engineering	20	0.92
International Relations	45	2.07	Chemical Engineering	17	0.78
German Language and Literature	45	2.07	Mechanical Engineering	38	1.75
Archaeology	37	1.71	Textile Engineering	56	2.58
Philosophy	43	1.98	Nursing	102	4.70
English Language and Literature	49	2.26	Coaching Education	71	3.27
Translation and Interpreting	54	2.49	Physical Education and Sports	60	2.76
Psychology	102	4.70	Sports Management	33	1.52
History	26	1.20	Nutrition and Dietetics	45	2.07
Turkish Language and Literature	46	2.12	Physiotherapy and Rehabilitation	57	2.63
Journalism	41	1.89	Midwifery	49	2.26
Public Relations and Publicity	38	1.75	Horticulture	29	1.34
Advertising	40	1.84	Crop Protection	31	1.43
Astronomy and Space Sciences	27	1.24	Landscape Architecture	38	1.75
Statistics	36	1.66	Agricultural Economics	32	1.47
Biochemistry	20	0.92	Agricultural Engineering and Technologies	24	1.11
Chemistry	22	1.01	Field Crops	31	1.43
Mathematics	38	1.75	Animal Science	36	1.66
Computer Engineering	61	2.81	Visual Communication Design	54	2.49
Bioengineering	55	2.53	Child Development	146	6.73
Leather Engineering	24	1.11			

According to Table 2, 7.33% of the students are in the Pharmacy Department, 3.32% in Economics, 3.09% in Business, 2.07% in International Relations, German language and Literature, 1.71% in Archeology, 1.98% in Philosophy, 2.26% in English Language and Literature, 2.49% in Translation and Interpreting, 4.70% in Psychology, 1.20% in History, 2.12% in Turkish Language and Literature, 1.89% in Journalism, 1.75% in Public Relations and Publicity, Mechanical Engineering, and Landscape Architecture, 1.84% in Advertising, 1.24% in Astronomy and Apace Sciences, 1.66% in Animal Science, 0.92% in Biochemistry, 1.01% in Chemistry, 1.75% in Mathematics, 2.81% in Computer Engineering, 1.47% in Electronics and Electrical Engineering, 1.01% in Food Engineering, 0.92% in Civil Engineering, 0.78% in Chemical Engineering, 2.58% in Textile Engineering, 4.70% in Nursing, 3.27% in Coaching Education, 2.76% in Physical Education and sports, 1.52% in Sports Management, 2.07% in Nutrition and Dietetics, 2.63% in Physiotherapy and Rehabilitation, 2.26% in Midwifery, 1.34% in Horticulture,

1.43% in Crop Protection and Field Crops, 1.47% in Agricultural Economics and Agricultural Engineering and Technologies, 2.53% in Bioengineering, 1.11% in Leather Engineering, and 6.73% in Pediatric Development.

Descriptive statistics for the socio-economic levels of the students' families are given in Table 3.

Table 3. Descriptive Statistics for the Socio-Economic Levels of Students' Families

Socio-economic level	**n**	**%**
Low	372	17.1
Moderate	1.734	79.9
High	63	2.9
Total	**2.170**	**100.0**

Table 3 shows that 79.9% of the students have a moderate socio-economic level, 17.1% have a low socio-economic level, and 2.9% have a high socio-economic level.

2.3.2 Measures and Covariates

The Personal Information Form contains questions to determine the demographic characteristics of the participants such as faculty, department, gender, and age. There are questions aimed at determining whether the participants have a smartphone, desktop computer, or laptop computer, and their socio-economic level. In addition, there are questions about the device used when going online, whether they subscribe to social networking sites, which social networking sites are subscribed to, the time spent on social networking sites, which instant messaging programs are used, how long instant messaging programs are used, the types of online games played, how long online games are played, the types of websites visited, how long they are surfing websites, and how much time is spent on technology applications in total during the day; also questions aimed at determining the participants' habits and frequency with respect to using technology domains. The Technology Addiction Scale is a 5-point Likert-type scale consisting of 24 items. The scale has four six-item subscales: "Social Network Addiction," "Instant Messaging Addiction," "Online Game Addiction," and "Websites Addiction." The validity-reliability study of the scale was conducted with 463 students studying at three universities in Ankara. As a result of the analyses, it was concluded that the Technology Addiction Scale is a valid and reliable tool that can be used by college students (Aydın, 2017).

2.3.3 Data Analysis

The study used frequency and percentage statistics to examine the technology use status and technology addiction levels of students at Ege University. To decide on the appropriate method in examining the differentiation of scale scores based on the gender,

faculty, and department variables, the normal distribution of the scale scores at the different variable levels was examined first. Skewness and kurtosis figures were used to examine the assumption of normal distribution. The scale scores did not show normal distribution at the different variable levels. Mann Whitney U test was used because the gender variable had two levels; the Kruskal Wallis H test was used because the faculty and department variables had more than two levels.

3. Results

The first sub-problem of the study sought the answer to the question, "What is the level of technology addiction of Ege University students?" Technology use levels of Ege University students according to the Technology Addiction Scale and subscale scores are presented in Table 4.

Table 4. Students' Technology Addiction Levels

Subscales	**N**	**Min.**	**Max.**	$\bar{X}$	**sd**	**Level**
Using a Social Network	2.170	6.00	30.00	12.10	4.20	Medium level
Instant Messaging	2.170	6.00	30.00	12.33	4.62	Medium level
Playing Online Games	2.170	6.00	30.00	9.62	4.92	Low level
Using Websites	2.170	6.00	32.00	11.81	5.06	Low level
Technology Addiction Scale Total	2.170	24.00	120.00	45.86	15.10	Low level

N: Number of People; Min.: Minimum value; Max.: Maximum value; $\bar{X}$: Mean; sd: standard deviation

When Table 4 is examined. it can be seen that technology use is moderate according to the average of the Technology Addiction Scale social networking and instant messaging subscale scores. The technology addiction levels were found to be low according to the Technology Addiction Scale's playing online games and using websites scores and the total scale score. The technology addiction levels determined by the distribution of the participants for the intervals determined based on their total scores from the Technology Addiction Scale are presented in Table 5.

Table 5. Distribution of Students' Technology Addiction Levels

Addiction level	**n**	**%**
Not addicted	32	1.47
Low level of addiction	1.370	63.13
Moderately addicted	641	29.54
Somewhat addicted	106	4.88
Fully addicted	21	0.97

When Table 5 is examined. it can be seen that 1.47% (n=32) of the students do not have technology addiction. 63.13% (n=1370) have a low level of technology addiction. 29.54% (n= 641) have a moderate level of technology addiction. 4.88% (n=106) have a high level of technology addiction. and 0.97% (n=21) are fully addicted.

The second sub-problem of the study sought the answer to the question. "Does technology addiction among Ege University students differ by gender?" - The normal distribution assumption was examined first to decide on the appropriate method to analyze differences in technology addiction levels among Ege University students by gender. The Technology Addiction Scale's subscales and total scale scores did not show a normal distribution by gender. Considering that the gender variable has two levels. the Mann-Whitney U test was used to differentiate technology addiction by gender. The results are presented in Table 6.

Table 6. Students' technology addiction by gender

	Gender	**n**	$\bar{X}$	**Median**	**Rank avg.**	**Z**	**p**
Social Network Use	Female	1.172	12.04	12.00	1086.91	0.114	0.909
	Male	998	12.17	11.00	1083.84		
Instant Messaging	Female	1.172	12.40	12.00	1105.01	1.577	0.115
	Male	998	12.24	12.00	1062.59		
Playing Online Games	Female	1.172	8.49	7.00	938.42	12.232	0.000
	Male	998	10.94	9.00	1258.22		
Websites Use	Female	1.172	11.85	11.00	1103.08	1.421	0.155
	Male	998	11.76	11.00	1064.86		
Technology Addiction Scale Total	Female	1.172	44.79	42.00	1051.62	2.731	0.006
	Male	998	47.11	44.50	1125.29		

When Table 6 is examined. it can be seen that while the Technology Addiction Scale's social networking. instant messaging. and website usage subscale scores do not show a statistically significant difference by student gender ($p>0.05$). the scale's playing online games subscale scores and scale total scores show a statistically significant difference by gender ($p<0.05$). When the rank averages are examined. it can be seen that both the Technology Addiction Scale total scores and playing online games subscale scores are higher for male students than female students. Accordingly. it can be said that male students have higher technology addiction levels than female students.

Another sub-problem of the study sought the answer to the question. "Does technology addiction among Ege University students differ by faculty?"

Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale's social networking subscale for Ege University students by faculty. The results are presented in Table 7.

Table 7. Students' scores for the social networking subscale of the Technology Addiction Scale by faculty

Faculty	n	$\bar{X}$	Median	Rank Avg.	H (sd=11)	p
Faculty of Humanities and Letters	402	12.50	12.00	1164.93		
Faculty of Engineering	325	12.26	12.00	1107.70		
Faculty of Agriculture	221	13.55	13.00	1272.64		
Faculty of Economics and Administrative Sciences	184	12.16	11.00	1068.23		
Faculty of Pharmacy	159	11.40	11.00	999.65		
Faculty of Sport Sciences	164	10.65	10.00	868.78		
Faculty of Health Sciences	151	12.52	12.00	1199.10	76.777	0.000
Ödemiş Faculty of Health Sciences	146	11.11	11.00	946.38		
Faculty of Science	143	11.15	10.00	890.43		
Faculty of Communication	119	12.31	12.00	1118.38		
Faculty of Nursing	102	12.24	11.50	1107.64		
Fine Arts. Design and Faculty of Architecture	54	11.91	10.00	1025.24		

When Table 7 is examined. statistically significant differences can be seen between the scores of the Technology Addiction Scale's social network use subscale by faculty ($p<0.05$). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant difference lay. The results of the pairwise comparisons showed that the significant difference detected was between the Faculty of Sport Sciences and the faculties of Engineering ($p=0.004$). Humanities and Letters ($p=0.000$). Health Sciences ($p=0.000$). and Agriculture ($p=0.000$). When the rank averages are examined. it can be seen that the students in the Faculty of Sports Sciences have lower social networking addiction in the Technology Addiction Scale than the students in the faculties of Engineering. Humanities and Letters. Health Sciences. and Agriculture. In addition. it was determined that the difference detected was due to the difference between the students in the Faculty of Pharmacy and the students in the Faculty of Agriculture ($p= 0.002$). When the rank averages are examined. it can be seen that the students in the Faculty of Pharmacy have lower social network use addiction levels in the Technology Addiction Scale than the students in the Faculty of Agriculture.

Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale's instant messaging subscale for Ege University students by faculty. The results are presented in Table 8.

Table 8. Students' scores for the instant messaging subscale of the Technology Addiction Scale by faculty

Faculty	n	$\bar{X}$	Median	Rank	H	p

				Avg.	(sd=11)	
Faculty of Humanities and Letters	402	13.02	12.00	1192.82		
Faculty of Engineering	325	11.77	10.00	990.78		
Faculty of Agriculture	221	13.36	13.00	1221.32		
Faculty of Economics and Administrative Sciences	184	12.05	11.00	1012.77		
Faculty of Pharmacy	159	12.66	12.00	1138.67		
Faculty of Sport Sciences	164	11.10	10.50	922.56		
Faculty of Health Sciences	151	13.41	13.00	1269.20	69.710	0.000
Ödemiş Faculty of Health Sciences	146	11.77	11.00	1011.49		
Faculty of Science	143	11.47	11.00	976.14		
Faculty of Communication	119	12.83	12.00	1127.18		
Faculty of Nursing	102	11.44	12.00	998.23		
Fine Arts. Design and Faculty of Architecture	54	11.30	10.00	935.88		

When Table 8 is examined. statistically significant differences can be seen between the instant messaging scores of the Technology Addiction Scale by faculty ($p<0.05$). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant difference lay. The results of the pairwise comparisons showed that the significant difference detected was between the Faculty of Science and the faculties of Humanities and Letters ($p=0.024$). Health Sciences ($p=0.004$). and Agriculture ($p=0.017$). When the rank averages are examined. it can be seen that the students in the Faculty of Science have lower instant messaging addiction in the Technology Addiction Scale than the students in the faculties of Humanities and Letters. Health Sciences. and Agriculture. The results of the pairwise comparisons showed that the significant difference detected was between the Faculty of Sport Sciences and the faculties of Humanities and Letters ($p=0.000$). Health Sciences ($p=0.000$). and Agriculture ($p=0.000$). When the rank averages are examined. it can be seen that the students in the Faculty of Science have lower instant messaging addiction in the Technology Addiction Scale than the students in the faculties of Humanities and Letters. Health Sciences. and Agriculture. The results of the pairwise comparisons showed that the significant difference detected was between the Faculty of Sport Sciences and the faculties of Humanities and Letters ($p=0.000$). Health Sciences ($p=0.000$). and Agriculture ($p=0.000$). When the rank averages are examined. it can be seen that the students in the Faculty of Science have lower instant messaging addiction in the Technology Addiction Scale than the students in the faculties of Humanities and Letters. Health Sciences. and Agriculture. It was also determined that the difference detected was due to the difference between the students in the Faculty of Nursing and the students in the Faculty of Health Sciences ($p=0.047$). When the rank averages are examined. it can be seen that the students in the Faculty of Nursing have lower instant messaging addiction in the Technology Addiction Scale than the students in the Faculty of Health

Sciences. It was also determined that the difference detected was due to the difference between the students in the Ödemiş Faculty of Health Sciences and the students in the Faculty of Health Sciences (p=0.025). When the rank averages are examined. it is seen that the students in the Ödemiş Faculty of Health Sciences have lower instant messaging addiction than the students in the Faculty of Health Sciences. It was further determined that the difference detected was due to the difference between the students in the Faculty of Economics and Administrative Sciences and the students in the Faculty of Health Sciences (p=0.012). When the rank averages are examined. it can be seen that the students in the Faculty of Economics and Administrative Sciences have lower instant messaging addiction in the Technology Addiction Scale than the students in the Faculty of Health Sciences.

Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale's playing online games subscale for Ege University students by faculty. The results are presented in Table 9.

Table 9. Students' scores for the playing online games subscale of the Technology Addiction Scale by faculty

Faculty	n	$\bar{X}$	Median	Rank Avg.	H (sd=11)	P
Faculty of Humanities and Letters	402	10.14	8.00	1141.81		
Faculty of Engineering	325	10.62	9.00	1209.95		
Faculty of Agriculture	221	10.17	9.00	1189.93		
Faculty of Economics and Administrative Sciences	184	9.42	7.00	1.003.74		
Faculty of Pharmacy	159	8.96	6.00	942.68		
Faculty of Sport Sciences	164	9.62	8.00	1160.00		
Faculty of Health Sciences	151	8.27	7.00	972.60	54.009	0.000
Ödemiş Health Sciences Faculty	146	8.85	7.00	993.96		
Faculty of Science	143	9.21	6.00	987.96		
Faculty of Communication	119	9.34	7.00	1029.31		
Faculty of Nursing	102	8.61	7.00	991.00		
Fine Arts. Design and Architecture Faculty	54	9.56	7.50	1086.57		

When Table 9 is examined. statistically significant differences can be seen between the playing online games scores of the Technology Addiction Scale by faculty ($p<0.05$). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant difference lay. The results of the pairwise comparisons showed that the significant difference detected was between the Faculty of Pharmacy and the faculties of Humanities and Letters (p=0.030). Engineering (p=0.000). and Agriculture (p=0.006). When the rank averages are

examined. it can be seen that the students in the Faculty of Pharmacy have lower online games addiction in the Technology Addiction Scale than the students in the faculties of Humanities and Letters. Engineering. and Agriculture. The results of the pairwise comparisons showed that the significant difference detected was between the Faculty of Health Sciences and the faculties of Engineering (p=0.005) and Agriculture (p=0.046). When the rank averages are examined. it can be seen that the students in the Faculty of Health Sciences have lower online games addiction in the Technology Addiction Scale than the students in the faculties of Engineering and Agriculture. The results of the pairwise comparisons showed that the statistical difference detected was between the Engineering and the Faculty of Science (p= 0.018). Ödemiş Faculty of Health Sciences (p=0.023). and Faculty of Economics and Administrative Sciences (p=0.015). When the mean ranks are examined. it can be seen that the students in the Faculty of Engineering have higher online games addiction in the Technology Addiction Scale than the students in the Faculty of Science. Ödemiş Faculty of Health Sciences. and Faculty of Economics and Administrative Sciences.

Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale's website use subscale for Ege University students by faculty. The results are presented in Table 10.

Table 10. Students' scores for the website use subscale of the Technology Addiction Scale by faculty

Faculty	**n**	$\bar{X}$	**Median**	**Rank Avg.**	**H (sd=11)**	**p**
Faculty of Humanities and Letters	402	12.26	12.00	1174.42		
Faculty of Engineering	325	11.70	11.00	1064.10		
Faculty of Agriculture	221	12.65	12.00	1210.29		
Faculty of Economics and Administrative Sciences	184	12.22	10.00	1095.09		
Faculty of Pharmacy	159	11.64	10.00	1046.58		
Faculty of Sport Sciences	164	9.89	9.00	832.34		
Faculty of Health Sciences	151	12.17	11.00	1161.91	56.595	0.000
Ödemiş Health Sciences Faculty	146	10.73	10.00	957.17		
Faculty of Science	143	11.80	10.00	1040.80		
Faculty of Communication	119	12.25	11.00	1141.39		
Faculty of Nursing	102	11.92	11.00	1104.61		
Fine Arts. Design and Architecture Faculty	54	11.31	10.00	984.81		

When Table 10 is examined. statistically significant differences can be seen between the website use scores of the Technology Addiction Scale by faculty ($p<0.05$). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant

difference lay. The results of the pairwise comparisons showed that the significant difference detected was between the Faculty of Sport Sciences and the faculties of Engineering (p=0.007). Economics and Administrative Sciences (p=0.006). Nursing (p=0.036). Communication (0.003). Health Sciences (p=0.000). Humanities and Letters (p=0.000). and Agriculture (p=0.000). When the rank averages are examined. it can be seen that the students in the Faculty of Sports Sciences have lower website use addiction levels than the students in the faculties of Engineering. Economics and Administrative Sciences. Nursing. Communication. Health Sciences. Humanities and Letters. and Agriculture. The results of the pairwise comparisons showed that the significant difference detected was between the Ödemiş Faculty of Health Sciences and the faculties of Humanities and Letters (p=0.021) and Agriculture (p=0.010). When the rank averages are examined. it can be seen that the students in the Ödemiş Faculty of Health Sciences have lower website use addiction in the Technology Addiction Scale than the students in the faculties of Humanities and Letters and Agriculture. Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale's total scores for Ege University students by faculty. The results are presented in Table 11.

Table 11. Students' total scores for the Technology Addiction Scale by faculty

Faculty	**n**	$\bar{X}$	**Median**	**Rank Avg.**	**H (sd=11)**	**p**
Faculty of Humanities and Letters	402	47.92	47.00	1207.01		
Faculty of Engineering	325	46.36	43.00	1102.71		
Faculty of Agriculture	221	49.72	48.00	1254.59		
Faculty of Economics and Administrative Sciences	184	45.85	40.00	1025.95		
Faculty of Pharmacy	159	44.67	42.00	1019.35		
Faculty of Sport Sciences	164	41.26	37.00	870.77		
Faculty of Health Sciences	151	46.37	45.00	1188.57	76.991	0.000
Ödemiş Health Sciences Faculty	146	42.46	40.00	936.33		
Faculty of Science	143	43.63	38.00	939.39		
Faculty of Communication	119	46.73	42.00	1115.24		
Faculty of Nursing	102	44.21	42.00	1027.83		
Fine Arts. Design and Architecture Faculty	54	44.07	41.00	980.62		

When Table 11 is examined. statistically significant differences can be seen between the faculties for the total scores of the Technology Addiction Scale ($p<0.05$). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant difference lay. The results of the pairwise comparisons showed that the significant difference was between the Faculty of Sport Sciences and the faculties of Engineering (p=0.007). Health Sciences (p=0.000).

Humanities and Letters (p=0.000). and Agriculture (p=0.000). When the rank averages are examined. it can be seen that the students in the Faculty of Sports Sciences have lower technology addiction levels than the students in the faculties of Engineering. Health Sciences. Humanities and Letters. and Agriculture. The results of the pairwise comparisons showed that the significant difference detected was between the Ödemiş Faculty of Health Sciences and the faculties of Health Sciences (p= 0.034). Humanities and Letters (p=0.001). and Agriculture (p=0.000). When the rank averages are examined. it can be seen that the students in the Ödemiş Faculty of Health Sciences have lower technology addition levels than the students in the faculties of Health Sciences. Humanities and Letters. and Agriculture. The results of the pairwise comparisons showed that the significant difference detected was between the Faculties of Science and the faculties of Health Sciences (p=0.043). Humanities and Letters (p=0.001). and Agriculture (p=0.000). When the rank averages are examined. it can be seen that the students in the Faculty of Sports Sciences have lower technology addiction levels than the students in the faculties of Engineering. Health Sciences. Humanities and Letters. and Agriculture. The results of the pairwise comparisons showed that the statistical difference detected was between the Faculty of Agriculture and the faculties of Pharmacy (p=0.020) and Economics and Administrative Sciences (p=0.017). When the mean ranks are examined. it can be seen that the students in the Faculty of Agriculture have higher technology addiction levels than the students in the Faculty of Pharmacy and the Faculty of Economics and Administrative Sciences.

Another sub-problem of the study sought the answer to the question. “Does technology addiction among Ege University students differ by faculty?” Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale’s social networking subscale for Ege University students by faculty. The results are presented in Table 12.

Table 12. Students’ scores for the social networking subscale of the Technology Addiction Scale by faculty

Department	$\bar{X}$	**Median**	**Rank Avg.**	**Department**	$\bar{X}$	**Median**	**Rank Avg.**
Pharmacy	11.40	11.00	992.91	Electronics and Electrical Engineering	12.63	12.50	1179.52
Economics	12.72	12.00	1131.69	Food Engineering	12.82	14.00	1201.73
Business	11.84	11.00	1006.63	Civil Engineering	13.15	14.50	1252.90
International Relations	11.13	11.00	953.19	Chemical Engineering	11.59	12.00	1064.32
German Language and Literature	11.98	11.00	1067.08	Mechanical Engineering	12.58	12.00	1143.50
Archaeology	10.57	11.00	870.57	Textile Engineering	11.02	11.00	956.02
Philosophy	13.70	13.00	1332.24	Nursing	12.17	11.00	1098.73
English Language and Literature	13.35	12.00	1209.87	Coaching Education	10.61	10.00	875.69
Translation and Interpreting	12.17	11.00	1103.67	Physical Education and Sports	10.52	9.00	854.53

Psychology	12.76	13.00	1232.43	Sports Management	9.48	9.00	660.09
History	13.96	13.00	1359.96	Nutrition and Dietetics	13.20	14.00	1295.99
Turkish Language and Literature	12.70	13.00	1227.20	Physiotherapy and Rehabilitation	12.30	11.00	1143.39
Journalism	11.90	11.00	1040.88	Midwifery	12.24	12.00	1157.16
Public Relations and Publicity	12.03	11.00	1132.39	Horticulture	12.34	12.00	1181.81
Advertising	11.08	12.00	971.10	Crop Protection	14.00	14.00	1333.90
Astronomy and Space Sciences	9.96	8.00	750.59	Landscape Architecture	14.18	12.50	1341.88
Statistics	12.89	11.50	1124.14	Agricultural Economics	11.97	10.00	960.28
Biochemistry	12.60	12.00	1140.35	Agricultural Engineeringand Technologies	12.62	13.00	1208.25
Chemistry	14.23	14.00	1367.61	Field Crops	14.77	16.00	1443.06
Mathematics	11.55	11.00	1017.53	Animal Science	13.11	13.00	1261.17
Computer Engineering	12.33	12.00	1105.02	Visual Communication Design	9.72	9.00	698.91
Bioengineering	12.00	11.00	1045.68	Child Development	11.52	11.00	1007.32
Leather Engineering	16.58	15.50	1544.06				

H (sd=44)=154.769; p=0.000<0.05

When Table 12 is examined. statistically significant differences can be seen between the social network use scores of the Technology Addiction Scale by department (p<0.05). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant difference lay. The results of the pairwise comparisons showed that the significant difference detected was between the Department of Sports Management and the departments of Psychology (p=0.005). Nutrition and Dietetics (p=0.009). Philosophy (p=0.003). Crop Protection (p= 0.016). Landscape Architecture (p=0.004). History (p=0.019). Chemistry (p= 0.038). Field Crops (p=0.001). and Leather Engineering (p=0.000). When the rank averages are examined. it can be seen that the students in the Department of Sports Management have lower social networking addiction in the Technology Addiction Scale than the students in the departments of Psychology. Nutrition and Dietetics. Philosophy. Crop Protection. Landscape Architecture. History. Chemistry. Field Crops. and Leather Engineering. The results of the pairwise comparisons showed that the significant difference detected was between the Department of Visual Communication Design and the departments of English Language and Literature (p=0.033). Turkish Language and Literature (p=0.025). Psychology (p=0.000). Animal Science (p=0.028). Nutrition and Dietetics (p=0.002). Philosophy (p=0.001). Crop Protection (p=0.006). Landscape Architecture (p=0.001). History (p=0.009). Chemistry (p=0.023). Field Crops (p=0.000). and Leather Engineering (p=0.000). When the rank averages are examined. it can be seen that the students in the department of Visual Communication Design have lower social network use addiction in the Technology Addiction Scale than the students in the

department of English Language and Literature. Turkish Language and Literature. Psychology. Animal Science. Nutrition and Dietetics. Philosophy. Crop Protection. Landscape Architecture. History. Chemistry. Field Crops. and Leather Engineering.

Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale's instant messaging subscale for Ege University students by department. The results are presented in Table 13.

Table 13. Students' scores for the instant messaging subscale of the Technology Addiction Scale by department

Department	$\bar{X}$	Median	Rank avg.	Department	$\bar{X}$	Median	Rank avg.
Pharmacy	12.65	12.00	1131.10	Electronics and Electrical Engineering	11.63	10.50	963.38
Economics	12.58	11.00	1069.32	Food Engineering	13.14	13.00	1250.16
Business	12.31	11.00	1023.31	Civil Engineering	12.55	10.50	1102.88
International Relations	10.80	10.00	889.79	Chemical Engineering	11.47	9.00	936.97
German Langu and Literature age	13.67	14.00	1290.32	Mechanical Engineering	11.97	11.50	1025.58
Archaeology	10.73	9.00	779.88	Textile Engineering	10.55	10.00	856.33
Philosophy	13.81	13.00	1246.23	Nursing	11.43	12.00	989.93
English Langu and Literature age	14.90	15.00	1384.95	Coaching Education	10.39	10.00	797.80
Translation and Interpreting	11.93	11.50	1049.45	Physical Education and Sports	10.85	10.00	900.04
Psychology	13.20	13.00	1250.27	Sports Management	11.88	12.00	1073.77
History	13.04	12.00	1262.23	Nutrition and Dietetics	13.80	13.00	1360.93
Turkish Langu and Literature age	13.80	13.50	1293.67	Physiotherapy and Rehabilitation	12.63	12.00	1117.58
Journalism	12.85	11.00	1049.16	Midwifery	13.41	13.00	1231.17
Public Relations and Publicity	12.05	12.00	1091.17	Horticulture	13.66	14.00	1388.02
Advertising	11.27	11.00	953.73	Crop Protection	12.94	13.00	1195.08
Astronomy and Space Sciences	10.63	9.00	788.11	Landscape Architecture	13.71	12.50	1203.64
Statistics	12.11	12.50	1093.18	Agricultural Economics	11.25	12.00	921.86
Biochemistry	12.10	12.50	1120.10	Agricultural and Engineering Technologies	14.13	14.00	1403.44
Chemistry	13.77	13.00	1299.48	Field Crops	13.97	13.00	1362.60
Mathematics	10.76	9.50	867.41	Animal Science	12.64	12.00	1121.69
Computer Engineering	12.23	11.00	1059.21	Visual Communication Design	10.26	10.00	813.04
Bioengineering	11.36	10.00	927.55	Child Development	12.03	11.50	1050.32
Leather Engineering	17.71	17.00	1695.73				

H (sd=44)=170.534; p=0.000<0.05

When Table 13 is examined. statistically significant differences can be seen between the instant messaging scores of the Technology Addiction Scale by department ($p<0.05$). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant difference lay.

The results of the pairwise comparisons showed that the significant difference detected was between the Archaeology Department and the departments of Nutrition and Dietetics (p=0.027). English Language and Literature (p=0.009). and Leather Engineering (p=0.000). When the rank averages are examined. it can be seen that the students in the Archeology Department have lower instant messaging addiction in the Technology Addiction Scale than the students in the departments of Nutrition and Dietetics. English Language and Literature. and Leather Engineering. The results of the pairwise comparisons showed that the significant difference detected was between the Department of Astronomy and Space Sciences and the Department of Leather Engineering (p=0.000). When the rank averages are examined. it can be seen that the students in the Department of Astronomy and Space Sciences have lower instant messaging addiction than the students in the Department of Leather Engineering.

Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale's playing online games subscale for Ege University students by department. The results are presented in Table 14.

Table 14. Students' scores for the playing online games subscale of the Technology Addiction Scale by department

Department		**Median**	**Rank Avg.**	**Department**		**Median**	**1.331.63**
Pharmacy	9.00	7.00	955.28	Electronics and Electrical Engineering	12.13	9.00	999.73
Economics	10.15	8.50	1147.66	Food Engineering	9.32	6.50	1120.00
Business	9.73	7.00	1067.78	Civil Engineering	10.65	8.00	1178.85
International Relations	8.91	6.00	959.62	Chemical Engineering	10.18	8.00	1375.64
German Languageand Literature	10.27	10.00	1368.26	Mechanical Engineering	11.89	11.00	793.54
Archaeology	9.24	8.00	1055.57	Textile Industry Engineering	7.70	6.00	1019.54
Philosophy	13.30	9.00	1331.49	Nursing	8.83	7.00	1225.08
English Languageand Literature	12.53	13.00	1414.76	Coaching Education	9.72	9.00	1134.16
Translation and Interpreting	10.37	8.00	1170.30	Physical Sports and Education	9.52	8.00	761.71
Psychology	9.16	7.00	991.15	Sports Management	7.18	6.00	1200.53
History	10.04	6.00	1001.67	Nutrition and Dietetics	9.31	9.00	954.95
Turkish Languageand Literature	8.35	6.00	900.09	Physiotherapy and Rehabilitation	8.54	7.00	805.66
Journalism	8.90	7.00	1023.07	Midwifery	7.88	6.00	1412.52

Public Relations and Publicity	8.68	7.50	1015.66	Horticulture	10.83	10.00	1334.76
Advertising	8.00	6.00	860.58	Crop Protection	11.32	11.00	1192.25
Astronomy and Space Sciences	7.19	6.00	728.13	Landscape Architecture	10.63	9.00	1.044.08
Statistics	11.11	8.50	1209.22	Agricultural Economics	9.19	7.00	974.48
Biochemistry	9.85	6.00	933.48	Agricultural Engineering and Technologies	8.21	7.50	1322.63
Chemistry	7.27	6.00	778.20	Field Crops	10.90	10.00	971.38
Mathematics	11.39	11.00	1398.68	Animal Science	8.11	7.00	1028.67
Computer Engineering	10.57	9.00	1283.61	Visual Communication Design	8.98	7.00	1023.14
Bioengineering	10.05	8.00	1144.81	Child Development	9.21	7.00	1331.63
Leather Engineering	14.96	15.50	1574.60				

H (sd=44)=187.626; p=0.000<0.05

When Table 14 is examined. statistically significant differences can be seen between the playing online games scores of the Technology Addiction Scale by department ($p<0.05$). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant difference lay. The results of the pairwise comparisons showed that the significant difference detected was between the Department of Astronomy and Space Sciences and the departments of German Language and Literature ($p=0.015$). Mechanical Engineering ($p=0.022$). Mathematics ($p=0.011$). Horticulture ($p=0.025$). English Language and Literature ($p=0.002$). and Leather Engineering ($p=0.001$). When the rank averages are examined. it can be seen that the students in the Department of Astronomy and Space Sciences have lower online games addiction in the Technology Addiction Scale than the students in the departments of German Language and Literature. Mechanical Engineering. Mathematics. Horticulture. English Language and Literature. and Leather Engineering. The results of the pairwise comparisons showed that the significant difference detected was between the Department of Sports Management and the departments of Philosophy ($p=0.049$). German Language and Literature ($p=0.013$) Mechanical Engineering ($p=0.021$). Mathematics ($p=0.010$). Horticulture ($p=0.025$). English Language and Literature ($p=0.002$). and Leather Engineering ($p=0.001$). When the rank averages are examined. it can be seen that the students in the Department of Sports Management have higher online games addiction in the Technology Addiction Scale than the students in the Departments of Mechanical Engineering and lower than the students in the departments of Philosophy. German Language and Literature. Mathematics. Horticulture. English Language and Literature. and Leather Engineering.

Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale's website use subscale for Ege University students by department. The results are presented in Table 15.

Table 15. Students' scores for the website use subscale of the Technology Addiction Scale by department

Department		Median	Rank Avg.	Department		Median	Rank avg.
Pharmacy	11.47	10.00	1013.10	Electronics and Electrical Engineering	11.94	10.50	1139.84
Economics	13.28	11.00	1193.59	Food Engineering	12.23	11.00	1174.34
Business	11.81	11.00	1058.45	Civil Engineering	14.05	11.50	1337.65
International Relations	10.64	8.00	884.13	Chemical Engineering	9.65	8.00	780.03
German Languageand Literature	11.67	11.00	1088.73	Mechanical Engineering	13.13	11.00	1146.09
Archaeology	10.19	11.00	949.22	Textile Engineering	10.00	9.00	884.56
Philosophy	13.72	14.00	1371.88	Nursing	11.92	11.00	1107.48
English Languageand Literature	13.24	12.00	1248.22	Coaching Education	9.55	9.00	790.20
Translation and Interpreting	12.09	11.00	1109.53	Physical Education and Sports	9.30	8.00	775.68
Psychology	12.49	12.00	1220.25	Sports Management	9.12	8.00	714.89
History	12.31	11.00	1175.12	Nutrition and Dietetics	13.58	12.00	1349.88
Turkish Languageand Literature	12.04	12.50	1197.48	Physiotherapy and Rehabilitation	11.30	10.00	1056.37
Journalism	11.27	10.00	1025.57	Midwifery	11.59	10.00	1035.08
Public Relations and Publicity	13.47	13.00	1327.46	Horticulture	12.97	12.00	1343.88
Advertising	10.40	9.00	929.41	Crop Protection	13.00	14.00	1220.45
Astronomy and Space Sciences	9.70	9.00	855.81	Landscape Architecture	12.24	12.00	1176.29
Statistics	12.75	12.00	1160.79	Agricultural Economics	13.06	13.50	1156.31
Biochemistry	16.60	13.00	1502.48	Agricultural and Engineering Technologies	14.13	13.00	1452.00
Chemistry	13.82	14.00	1343.18	Field Crops	13.35	12.00	1259.39
Mathematics	11.37	10.00	1024.89	Animal Science	10.67	11.00	994.50
Computer Engineering	12.07	11.00	1135.29	Visual Communication Design	9.80	8.50	819.55
Bioengineering	11.24	9.00	956.06	Child Development	11.45	10.00	1048.13
Leather Engineering	15.46	16.00	1533.90				
H (sd=44)=165.471; p=0.000<0.05							

When Table 15 is examined. statistically significant differences can be seen between the website use scores of the Technology Addiction Scale by department ($p<0.05$). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant difference lay. The results of the pairwise comparisons showed that the significant difference detected was between the Department of Sports Management and the departments of Public Relations

(p=0.037). Nutrition and Dietetics (p=0.009). Philosophy (p=0.005). Agricultural Engineering and Technologies (p= 0.011). Biochemistry (p=0.008). and Leather Engineering (p=0.011). When the rank averages are examined. it can be seen that the students in the Department of Sports Management have lower website use addiction in the Technology Addiction Scale than the students in the departments of Public Relations. Nutrition and Dietetics. Philosophy. Agricultural Engineering and Technologies. Biochemistry. and Leather Engineering. The results of the pairwise comparisons showed that the significant difference detected was between the Department of Physical Education and Sports and the departments of Psychology (p=0.012). Public Relations and Publicity (p=0.020). Nutrition and Dietetics (p=0.003). Philosophy (p=0.002). Agricultural Engineering and Technologies (p=0.007). Biochemistry (p=0.006). and Leather Engineering (p=0.000). When the rank averages are examined. it can be seen that the students in the Department of Physical Education and Sports have lower website use addiction in the Technology Addiction Scale than the students in the departments of Psychology. Public Relations and Publicity. Nutrition and Dietetics. Philosophy. Agricultural Engineering and Technologies. Biochemistry. and Leather Engineering.

Kruskal Wallis H test was used to differentiate the scores of the Technology Addiction Scale's total scores for Ege University students by department. The results are presented in Table 16.

Table 16. Students' total scores for the Technology Addiction Scale by department

Department		Median	Rank avg.	Department		Median	Rank avg.
Pharmacy	44.52	42.00	1019.91	Electronics and Electrical Engineering	48.31	46.00	1201.61
Economics	48.74	43.00	1139.29	Food Engineering	47.50	45.00	1192.23
Business	45.69	42.00	1011.48	Civil Engineering	50.40	50.00	1346.78
International Relations	41.49	35.00	837.69	Chemical Engineering	42.88	36.00	931.26
German Language and Literature	47.58	46.00	1195.21	Mechanical Engineering	49.58	44.50	1183.03
Archaeology	40.73	37.00	881.97	Textile Engineering	39.27	39.50	820.22
Philosophy	54.53	53.00	1399.74	Nursing	44.35	41.50	1030.25
English and Language Literature	54.02	48.00	1366.22	Coaching Education	40.27	39.00	848.22
Translation and Interpreting	46.56	48.00	1158.56	Physical Education and Sports	40.18	36.00	812.78
Psychology	47.61	46.00	1212.18	Sports Management	37.67	35.00	719.45
History	49.35	47.50	1282.17	Nutrition and Dietetics	49.89	49.00	1378.24
Turkish and Language Literature	46.89	46.00	1198.76	Physiotherapy and Rehabilitation	44.77	42.00	1078.13
Journalism	44.93	38.00	1005.56	Midwifery	45.12	42.00	1088.68
Public Relations and Publicity	46.24	44.00	1176.07	Horticulture	49.79	51.00	1375.83
Advertising	40.75	39.50	885.94	Crop Protection	51.26	49.00	1273.37

Astronomy Space and Sciences	37.48	34.00	676.65	Landscape Architecture	50.76	43.50	1264.66
Statistics	48.86	48.00	1157.79	Agricultural Economics	45.47	46.00	1041.34
Biochemistry	51.15	45.00	1210.30	Agricultural and Engineering Technologies	49.08	49.50	1345.77
Chemistry	49.09	50.00	1282.95	Field Crops	53.00	48.00	1388.63
Mathematics	45.08	43.50	1103.38	Animal Science	44.53	43.00	1065.94
Computer Engineering	47.20	45.00	1182.35	Visual Communication Design	38.76	35.00	742.56
Bioengineering	44.65	42.00	1005.94	Child Development	44.21	41.00	1005.65
Leather Engineering	64.71	61.00	1673.08				

When Table 16 is examined. statistically significant differences can be seen between the departments for the total scores of the Technology Addiction Scale ($p<0.05$). Pairwise comparisons were made by taking Bonferroni correction into account to work out between which faculties of the faculty variable the significant difference lay. The results of the pairwise comparisons showed that the significant difference detected was between the Department of Astronomy and Space Sciences and the departments of English Language and Literature ($p=0.004$). Horticulture ($p=0.030$). Nutrition and Dietetics ($p=0.004$). Field Crops ($p=0.016$). Philosophy ($p=0.003$). and Leather Engineering ($p=0.000$). When the rank averages are examined. it can be seen that the students in the Department of Astronomy and Space Sciences have lower technology addiction than the students in the departments of English Language and Literature. Field Crops. Nutrition and Dietetics. Field Crops. Philosophy. and Leather Engineering. The results of the pairwise comparisons showed that the significant difference detected was between the Department of Sports Management and the departments of English Language and Literature ($p=0.004$). Horticulture ($p=0.038$). Nutrition and Dietetics ($p=0.004$). Field Crops ($p= 0.019$). Philosophy ($p=0.003$). and Leather Engineering ($p=0.000$). When the rank averages are examined. it can be seen that the students in the Department of Sports Management have lower Technology Addiction than the students in the departments of English Language and Literature. Horticulture. Nutrition and Dietetics. Field Crops. Philosophy. and Leather Engineering.

4. Discussion

This project was carried out to examine the Technology Addiction Levels of Ege University Students. To do this. the students at Ege University Faculty of Pharmacy. Faculty of Humanities and Letters. Faculty of Science. Faculty of Fine Arts. Design. and Architecture. Faculty of Nursing. Faculty of Economics and Administrative Sciences. Faculty of Communication. Faculty of Engineering. Faculty of Health Sciences. Faculty of

Sports Sciences. Faculty of Agriculture. and the Ödemiş Faculty of Health Sciences were asked to complete the Technology Addiction Scale.

The study investigated:

- Whether technology addiction levels differ by gender.
- Whether technology addiction levels differ by faculty attended.
- Whether technology addiction levels differ by department.

Based on the data obtained from 2.170 volunteer students. it can be seen that the technology use of Ege University students is moderate according to the average of the Technology Addiction Scale's social networking and instant messaging subscale scores. The technology addiction levels were found to be low according to the Technology Addiction Scale's playing online games and using websites scores and the total scale score. It can be seen that 1.47% (n = 32) of Ege University students do not have technology addiction. 63.13% (n = 1370) have a low level of technology addiction. 29.54% (n = 641) have a moderate level of technology addiction. 4.88% (n = 106) have a high level of technology addiction and 0.97% (n = 21) are fully addicted.

Akdağ. Yılmaz. Özhan. and Şan (2014) used the relational survey model. one of the survey models. in their multivariate study examining the internet addictions of university students (Inönü University Sample). The study was conducted on 1.325 students from various faculties. The study concluded that the majority of the students had a low level of Internet addiction. Although there were significant differences in Internet addictions according to gender. perceptions of academic achievement. class attendance. daily internet usage time. a place where they connect to the Internet. and telephone connection to the internet. no significant differences were found according to the variables of education type and family income level. This finding is similar to the findings of this study.

Although no statistically significant difference was observed in the Ege University students' scores in the Technology Addiction Scale's social networking. instant messaging. and website use subscales by gender ($p>0.05$). statistically significant differences were seen in their scores in the Technology Addiction Scale's playing online games subscale and scale total scores by gender ($p<0.05$). The study showed that male students scored higher than female students in the Technology Addiction Scale's playing online games subscale and the Technology Addiction Scale total scores. Accordingly. it can be said that male students have higher technology addiction levels than female students. Based on the results of research regarding gender. it can be said that men's problematic Internet use is higher (Akbaş. Atalan Ergin. and Tatlı. 2019; Aydın. 2017). These findings coincide with the findings of the study.

The Ege University students' scores in the Technology Addiction Scale's social networking subscale showed statistically significant differences by faculty ($p<0.05$). The students in the Faculty of Sport Sciences have lower social networking addiction on the

Technological Addiction Scale than the students in the faculties of Engineering. Literature. Health Sciences. and Agriculture; the students in the Faculty of Science have lower addiction than the students in the faculties of Engineering. Humanities and Letters. Health Sciences. and Agriculture; the students in the Ödemiş Faculty of Health Sciences have lower addiction than the students in the faculties of Literature. Health Sciences. and Agriculture; finally. the students in the Faculty of Pharmacy have lower addiction that those in the Faculty of Agriculture.

The Ege University students' scores in the Technology Addiction Scale's instant messaging subscale showed statistically significant differences ($p<0.05$). The students in the Faculty of Science were found to have lower instant messaging addiction on the Technology Addiction Scale than the students in the faculties of Humanities and Letters. Health Sciences. and Agriculture; the students in the Sports Faculty have lower instant messaging addiction than those in the faculties of Humanities and Letters. Health Sciences. and Agriculture; finally. the students in the Faculty of Nursing have lower addiction levels than those in the Faculty of Health Sciences. The students in the Ödemiş Faculty of Health Sciences were found to have lower instant messaging addiction on the Technology Addiction Scale than the students in the Faculty of Health Sciences; the students in the Faculty of Economics and Administrative Sciences have lower instant messaging addiction in the Technology Addiction Scale than the students in the Faculty of Health Sciences.

The Ege University students' scores in the Technology Addiction Scale's playing online games subscale showed statistically significant differences ($p<0.05$). The students in the Faculty of Pharmacy were found to have lower online games addiction on the Technology Addiction Scale than the students in the faculties of Humanities and Letters. Engineering. and Agriculture. The students in the Faculty of Engineering were found to have higher online games addiction on the Technology Addiction Scale than the students in the Faculty of Science. the Ödemiş Faculty of Health Sciences. and the Faculty of Economics and Administrative Sciences.

The Ege University students' scores in the Technology Addiction Scale's website use subscale showed statistically significant differences ($p<0.05$). The students in the Faculty of Sport Sciences were found to have lower website use addiction on the Technology Addiction Scale than the students in the faculties of Engineering. Economics and Administrative Sciences. Nursing. Communication. Health Sciences. Literature. and Agriculture. The students in the Ödemiş Faculty of Health Sciences were found to have lower website use addiction in the Technology Addiction Scale than the students in the faculties of Humanities and Letters and Agriculture.

The Ege University students' scores on the Technology Addiction Scale total scores showed statistically significant differences ($p<0.05$). The students in the Faculty of Sports Sciences were found to have lower technology addiction than the students in the faculties

of Engineering. Health Sciences. Humanities and Letters. and Agriculture. The students in the Ödemiş Faculty of Health Sciences were found to have lower technology addition levels than the students in the faculties of Health Sciences. Humanities and Letters. and Agriculture. The students in the Faculty of Science were found to have lower technology addiction than the students in the faculties of Sciences. Humanities and Letters. and Agriculture. The students in the Faculty of Agriculture were found to have higher technology addiction levels than the students in the faculties of Pharmacy and Economics and Administrative Sciences. The Ege University students' scores in the Technology Addiction Scale's social networking subscale showed statistically significant differences by department ($p<0.05$). The students in the Department of Sports Management have lower social networking addiction on the Technology Addiction Scale than the students in the departments of Psychology. Nutrition and Dietetics. Philosophy. Crop Protection. Landscape Architecture. History. Chemistry. Field Crops. and Leather Engineering. The students in the Department of Visual Communication Design have lower social network use addiction on the Technology Addiction Scale than the students in the departments of English Language and Literature. Turkish Language and Literature. Psychology. Animal Science. Nutrition and Dietetics. Philosophy. Crop Protection. Landscape Architecture. History. Chemistry. Field Crops. and Leather Engineering.

The Ege University students' scores in the Technology Addiction Scale's instant messaging subscale showed statistically significant differences by department ($p<0.05$). When the rank averages are examined. it can be seen that the students in the Archeology Department have lower instant messaging addiction in the Technology Addiction Scale than the students in the departments of Nutrition and Dietetics. English Language and Literature. and Leather Engineering. When the rank averages are examined. it can be seen that the students in the Department of Astronomy and Space Sciences have lower instant messaging addiction than the students in the Department of Leather Engineering.

The Ege University students' scores in the Technology Addiction Scale's playing online games subscale showed statistically significant differences ($p<0.05$). The students in the Department of Astronomy and Space Sciences have lower online games addiction on the Technology Addiction Scale than the students in the departments of German Language and Literature. Mechanical Engineering. Mathematics. Horticulture. English Language and Literature. and Leather Engineering. The students in the Department of Sports Management were seen to have higher online games addiction on the Technology Addiction Scale than the students in the Departments of Mechanical Engineering and lower than the students in the departments of Philosophy. German Language and Literature. Mathematics. Horticulture. English Language and Literature. and Leather Engineering.

The Ege University students' scores in the Technology Addiction Scale's website use subscale showed statistically significant differences by department ($p<0.05$). The students in the Department of Sports Management have lower website use addiction on the Technology Addiction Scale than the students in the departments of Public Relations. Nutrition and Dietetics. Philosophy. Agricultural Engineering and Technologies. Biochemistry. and Leather Engineering. The students in the Department of Physical Education and Sports were seen to have lower website use addiction in the Technology Addiction Scale than the students in the departments of Psychology. Public Relations and Publicity. Nutrition and Dietetics. Philosophy. Agricultural Engineering and Technologies. Biochemistry. and Leather Engineering.

The Ege University students' scores on the Technology Addiction Scale total scores showed statistically significant differences ($p<0.05$). The students in the Department of Astronomy and Space Sciences were seen to have lower technology addiction than the students in the departments of English Language and Literature. Field Crops. Nutrition and Dietetics. Field Crops. Philosophy. and Leather Engineering. The students in the Department of Sports Management were found to have lower technology addiction than the students in the departments of English Language and Literature. Horticulture. Nutrition and Dietetics. Field Crops. Philosophy. and Leather Engineering.

5. Conclusions

It can be said that the results of the research conducted using the Technological Addiction Scale favor the students in the Faculty of Sport Sciences and the Ödemiş Faculty of Health Sciences. This suggests that time spent on sports and physical activities reduces technology addiction. Alagöz (2019) stated that internet addiction decreased as physical activity increased. That research. which states that there is a strong negative relationship between spending time on physical activity and Internet addiction. supports the findings of this project. The Ödemiş Faculty of Health Sciences consists mainly of female students. The results of the study coincide with the results that favor female students.

Recommendations

Future research:

- Could investigate the causes of technology addiction in adolescents.
- Could give seminars to students about technology and internet addiction.
- Could develop alternatives to increase students' physical activity.
- Could direct students to school clubs and encourage them to participate in many activities.
- Projects to raise awareness by conducting broader studies will help to direct adolescents positively.

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