

# University Students' Internet Addiction Levels Under Various Variables

*Olcay Salici*

*Zeynep Senem Soyleyici Ocal*

Suleyman Demirel University, Turkey

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## **Abstract**

Purpose of this study was to examine the internet addiction levels of university students under various variables. In the study, the level of internet addiction was compared with variables such as gender, physical exercise patterns, accommodation preference, marital status of the family, cigarette and alcohol consumption, grade point average, frequently used social media platform type, daily time spent on internet. A total of 250 university students, 78 females and 172 males, with an average age of  $21.52 \pm 2.88$ , participated in the study on a voluntary basis. In the research, the 20-clause "Internet Addiction Scale" developed by Young (1998) was used for data collection tool. Results showed that the internet addiction point average of the students participating in the research was below 49 points which falls into without risk zone. However, internet addiction levels varied according to various variables. Within the scope of the study, it would be possible that daily internet use of 8 hours or more may lead to the average of risky internet addiction score, and that students who have smoking or alcohol addiction may be more prone to internet addiction.

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**Keywords:** Internet Addiction, Addiction in University Students, Internet Use.

## **Introduction**

Addiction is a concept that has existed from the past until now. It expresses several attitudes and behaviors that human beings cannot give up even though it's harmful. Some explanations are examined under phases such as first use, continuing to use, quitting, thinking about using again and starting to use again (Ogel et al., 1998.) It is believed that the expression of addiction was first used in the historical process to describe the indispensability shown for fermented fruits (McKim & Hancock, 2012). The definition of addiction used for alcohol in the past has become used for many various attitudes and

behaviors today. Smoking, drugs, gambling, shopping, sex and even exercise addictions are among the addiction types that are frequently discussed and create treatment needs. The type of addiction that is among these types and perhaps occupies the agenda the most is, internet addiction, which has been aimed to be defined as technology, social media and smartphone.

The internet is a virtual network organized by the United States Department of Defense in the early 1900s to enable more rapid communication between departments. This virtual network, which was designed to connect more than one computer at that time, has been connecting computers all over the world since the 1970s. Today, however, it is a way that not only computers but almost any electronic device can be connected (Cohen-Almagor, 2013.) For this reason, internet addiction is such that it covers other types of addiction, such as smartphones, social media, and computers. Primarily for youngsters, cell phone, computer, tablet, or television without internet are non-impressive tools. The internet is an essential part of their education for university students (Nikolopoulou et al., 2020.) University students started to seek opportunities to access the internet in the cities smoothly, they went to for education. It has become an important reason for them to have an internet connection on the campus of the university where they decide to study and have an internet connection in their homes or dormitories.

The internet, which is a daily essential, has become supportive of daily activities under normal conditions. Activities such as shopping, watching movies, playing games, chatting with friends have become to a state that do not require a person leaving their homes anymore. This situation brought along immobility and addiction. The internet addiction among university students, who are defined as the generation guaranteeing the future, and the various destructions caused by this addiction, have been frequently researched recently. Wan Ismail et al. (2020) examined the internet addiction of university students and their stress, anxiety and depression levels and stated that internet addiction is related to stress, anxiety and depression. Jain et al. (2020) examined the relationship between internet addiction among university students with insomnia. Ghahremani & Nazari (2020) examined the relationship between university students' academic achievement and internet addiction.

The internet, which is the essential requirement of the new age we are in, is indispensable for young people with its facilities and time saving benefits. However, in addition to these benefits, avoiding damages has become a significant responsibility. For this reason, the level and causes of internet addiction need more research and should stay on the agenda. For a similar reason, this study aims to examine the level of internet addiction among university students under various variables.

## **Methods**

This research is a descriptive study in the form of survey model. A total of 250 university students with an average age of  $21.52 \pm 2.88$  voluntarily participated in the study, including 78 women and 172 men studying at various faculties at Suleyman Demirel University. Data were collected through easy sampling in the most visited areas of the university by students. In the study, the 20-clause internet Addiction Scale, which was developed by Young (1998) and whose Turkish validity reliability was checked by Bayraktar (2001), was used as the data collection tool. For the answers, six-point Likert type scale was used, it was requested to mark one of the following options "Never", "Rarely", "Occasionally", "Mostly", "Very Frequently" and "Always". These options were scored as 0, 1, 2, 3, 4 and 5 respectively. With this scoring, the minimum score that the scale can be obtained was 0, while the maximum score was 100. Those who scored 80 and above were classified as "addicted internet users", those who score between 50-79 were "Limited Symptoms" and those who scored 49 and below were classified as "No Symptoms" (Bayraktar, 2001.) The data collected from the scale were analyzed in the package statistics program. Cronbach's Alpha reliability coefficient of the scale was calculated as 0.883. In the normality test conducted on the distribution of the data, it was discovered that the results of the Kolmogorov Smirnov test and Shapiro Wilk tests were meaningful, and the data were not normally distributed. Accordingly, the Mann-Whitney U test was used for binary comparisons, and Kruskal Wallis tests were used for multiple comparisons. Post-hoc test was applied to comprehend the reason of the difference arising according to Kruskal Wallis test results. The significance levels were displayed next to the mean with letter superscripts.

## **Results**

Statistical analyses of the data collected from the research are presented in tables in this section. Table 1 depicts the percentage and frequency analyses of results according to gender of the students, their physical exercise status, their accommodation while they are studying at university, their parents' marital status, cigarette and alcohol consumption status, their university grade average, and social media usage types.

**Table 1. Percentage and Frequency Analyses of Students' Demographic Information**

<b>Demographic Variables</b>		<b><i>f</i></b>	<b>%</b>
<b>Gender</b>	Female	78	31.2
	Male	172	68.8
<b>Doing sports</b>	Yes	162	64.8
	No	88	35.2
<b>Accommodation Status</b>	Alone At Home	63	25.2
	At Home With Family	37	14.8
	In Dormitory	84	33.6
	At Home With a Friend	66	26.4
<b>Parental Marital Status</b>	Together	223	89.2
	Divorced	27	10.8
<b>Cigarette Smoking</b>	Smokers	148	59.2
	Non Smokers	89	35.6
	Quitted Smoking	13	5.2
<b>Grade Point Average (GPA)</b>	4.00-3.00	165	26
	2.99-2.00	178	71.2
	1.99-0.00	7	2.8
<b>Alcohol Use</b>	Drinkers	132	52.8
	Non Drinkers	92	36.8
	Quit Drinking	26	10.4
<b>The Most Used Social Media Type</b>	Facebook	11	4.4
	Instagram	204	81.6
	Twitter	19	7.6
	Other	16	6.4

When Table 1 was examined, it was observed that 64.8% of the students whose 31.2% were women, and 68.8% were men, do regular sports and 35.2% do not do sports. It was shown that the proportion of students staying with their family was only 14.8%, while 33.6% of the students stayed in the dormitory. It was observed that 10.8% of the student's parents were divorced, and the rest were married. It was noticed that 59.2% of the students smoke, 35.6% do not smoke and the remaining 5.2% quitted smoking. Similar to smoking, 52.8% of students drink alcohol, 36.8% do not, and the remaining 10.4% quitted drinking. According to the 4.00-grade system used by the university, it was observed that 26% of students had a GPA between 3.00 and

4.00, a high ratio of 71.2% was between 2.00 and 2.99, and 2.8% was between 0.00 and 1.99. It was found that 81.6% of the students used Instagram most, 7.6% of them used Twitter the most, 4.4% of them use Facebook and 6.4% of them use other types of social media.

Paired comparison according to various demographic knowledge of students is presented in Table 2.

**Table 2. Paired Comparison According to Various Demographic Knowledge of Students**

Variable	n	Mi	Ma	Mea	Mea	n	U	Z	p
s	n	n	x	n	Ss±	Rank			
<b>Female</b>	78	7,0	64,0	28,1	10,1	109,1			
		0	0	5	7	9	5435,5	-	0,016
<b>Male</b>	17	4,0	76,0	32,0	12,0	132,9	0	2,40	*
	2	0	0	2	7	0		3	
<b>Doing Sports Regularly</b>	16	4,0	76,0	30,1	12,0	120,1			
	2	0	0	3	9	8	6224,0	-	0,111
<b>Sedentary</b>	88	7,0	64,0	32,1	10,6	135,4	0	1,59	
		0	0	0	5	6		2	
<b>Parents Together</b>	22	4,0	76,0	30,7	11,4	125,1			
	4	0	0	6	8	5	2833,0	-	0,821
<b>Parents Divorced</b>	26	7,0	56,0	31,3	13,1	128,5	0	0,22	
		0	0	1	0	4		6	

\*p<0,05

Internet addiction level of the students participating in the study contained a considerable difference by gender (Table 2). It is observed that male had a higher average score. Besides, there was no significant difference in internet addiction levels of students who do sports and those who do not do sports. In addition, there was no significant difference in the average scores of internet addiction of students whose parents are divorced. On the other hand, the average score of all students defined according to this paired comparison was below 49.00.

Multiple comparison analysis according to various demographic knowledge of students is presented Table 3.

**Table 3. Multiple Comparison Analysis According to Various Demographic Knowledge of Students**

<b>Variables</b>	<b>n</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Ss±</b>	<b>Mean Rank</b>	<b>p</b>
<b>Living Alone At Home</b>	63	7,00	56,00	31,59	11,38	130,40	0,064
<b>Living At Home With Family</b>	37	4,00	76,00	28,68	16,59	109,41	
<b>Living In Dormitory</b>	84	9,00	59,00	29,27	9,67	115,67	
<b>Living At Home With A Friend</b>	66	15,00	64,00	33,24	10,50	142,36	
<b>Smoker</b>	148	4,00	64,00	31,43 <sup>ab</sup>	11,71	130,75	0,038*
<b>Non-Smoker</b>	89	5,00	76,00	29,08 <sup>a</sup>	11,60	111,99	
<b>Quitted Smoking</b>	13	22,00	56,00	35,69 <sup>b</sup>	9,25	158,19	
<b>Drinker</b>	132	12,00	64,00	33,05 <sup>a</sup>	11,12	139,88	0,003*
<b>Non-Drinker</b>	92	4,00	76,00	28,93 <sup>b</sup>	12,01	112,53	
<b>Quitted Drinking</b>	26	7,00	49,00	26,15 <sup>b</sup>	10,59	98,37	
<b>GPA Between 4.00 - 3.00</b>	65	4,00	52,00	27,98	10,59	110,08	0,124
<b>GPA Between 2.99 - 2.00</b>	178	5,00	65,00	31,73	11,32	131,37	
<b>GPA Between 1.99 – 0.00</b>	7	12,00	76,00	33,86	22,65	119,36	
<b>Mostly Facebook User</b>	11	4,00	76,00	29,36	19,21	111,82	0,558
<b>Mostly Instagram User</b>	204	7,00	65,00	30,79	10,93	125,46	
<b>Mostly Twitter User</b>	19	16,00	47,00	29,32	9,72	116,13	
<b>Other Social Media User</b>	16	5,00	54,00	33,88	15,94	146,53	
<b>Less Than 1 hour</b>	16	5,00	43,00	20,63 <sup>a</sup>	10,72	66,66	0,000*

<b>on internet a day</b>							
<hr/>							
<b>Between 1 and 3</b>							
<b>Hours</b>	<b>on</b>	91	4,00	65,00	26,04 <sup>a</sup>	10,73	92,06
<b>internet a day</b>							
<hr/>							
<b>Between 4 and 7</b>							
<b>Hours</b>	<b>on</b>	112	9,00	76,00	33,33 <sup>b</sup>	10,43	142,09
<b>internet a day</b>							
<hr/>							
<b>More Than 8</b>							
<b>Hours</b>		31	22,00	54,00	41,00 <sup>c</sup>	7,84	194,10
<b>on internet a day</b>							
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\*p<0,05

When Table 3 was analyzed, it was found that accommodation type did not have significant effect on internet addiction level. However, it was observed that smoking and drinking had effects. Accordingly, there was a significant difference between non-smokers and those who quitted smoking. The internet addiction of students who quitted smoking was higher than others. According to the alcohol consumption status, there was no significant difference between those who quitted and those who do not drink, while alcohol users constituted the reason for the difference with high average scores. While there was no significant difference between the students' GPA and social media types used, there was a significant difference in daily internet use. Accordingly, it was found that there was no difference between the average scores of students who use the internet for 3 hours or less per day. Still, there was a significant difference between those who use internet daily for 4 to 7 hours and those who use it over 8 hours. It was observed that internet addiction also increased depending on the hours of use. It was found that the average score in Table 3 were all below 49.00 and this draws attention.

## **Discussion**

In this study, which was carried out to examine university students' internet addiction levels under academic achievement levels and other variables, the results obtained from the research are discussed below in the light of related literature.

If the minimum score and the highest score that can be collected from the scale used to determine the level of internet addiction is remembered, the point that should be emphasized first is that the average score of the university students was below 49 points in all analysis results. According to the score classification, the level of internet addiction of university students was in the “no symptoms” class. Although their average values were in this class, it is

noteworthy when the differences between the levels are analyzed under various variables.

The internet addiction levels of the students participating in the study showed a significant difference according to gender. According to these analysis in Table 2, male students had higher internet addiction than female students. When the literature is examined, there are studies in which the level of internet addiction of men is significantly higher than women (Chou & Hsiao, 2000; Morahan-Martin & Schumacher, 2000; Kaltiala-Heino et al., 2004; Yoo et al., 2004; Johansson & Götestam 2004; Niemi et al., 2005.) On the other hand, Leung (2004) and Kim et al. (2006) stated that female students had higher internet addiction than male students. Despite these studies, there are also studies stating that there is no significant difference between male and female students (Greenfield, 1999; Whang et al., 2003; Pallanti et al., 2006). As of today, there is no definite distinction of internet addiction between male and female university students (Aslan & Yazici, 2016; Yilmazsoy & Kahraman, 2017; Aznar-Díaz et al., 2020; Unsar et al., 2020). Shawn & Black (2008) explains this situation as an analysis that cannot be resolved until all isolated societies in the world have fully gained internet use. However, the reality is that internet addiction can be observed in both genders.

It is revealed in the results in Table 2 that there is no significant difference in terms of average scores of internet addiction between those who do sports and those who do not, and those whose family is divorced and those whose family is married. Young (1998) underlined that computer and internet addiction harms domestic relationships and that, it is the parents' responsibility to manage it. The regulatory behavior of the family is the most vital factor that helps to get rid of the addiction in university-age youth (Paik & Kim, 2014; Gazo et al., 2020). However, in the research findings, the marital status of university students' families is not a factor that affects students' internet addiction scores significantly. However, there is no significant difference in terms of students' accommodation types (see Table 3.) Although there is a difference in scores of the ones staying in dorms and the students staying with a friend, this was not significant. The conclusion from these analyses suggests that internet addiction scores of university students do not change depending on their social environment. Shek & Yu (2012) stated that having divorced parents is related to the pathological internet use. However in this study, whether parents were divorced or not, living with the family, living at home, living alone or living with friends at home was not a factor in internet addiction.

On the other hand, besides gaining physiological and psychological benefits by doing regular sports, having a busy time to spend does not seem to be a factor significantly affecting internet addiction score. Park et al. (2016) reported that physical activities had a crucial effect on recovering from the



internet addiction. However, in this study, no significant difference was found between students who do sports and who do not do sports in terms of internet addiction.

Smoking and alcohol consumption are frequent subject of academic studies conducted on addiction. There are also studies where they are compared with other types of addictions. According to these studies, addiction is a behavior that can change from one attitude to another (West, 2013). It is said that smoking and alcohol consumption affect each other (Hays et al., 1999). Therefore, a habit that is tried to be abandoned may shift to internet addiction. Some studies indicate that internet addiction levels of university students are related to alcohol use (Griffiths, 1999; Sung et al., 2013; Zenebe et al., 2020). There are also studies claiming that smoking is related to internet addiction (Sung et al., 2013; Zenebe et al., 2020). According to Table 3, internet addiction levels of university students using alcohol were higher than those who do not drink and quitted drinking. However, the high score average of those who quitted smoking was remarkable in the analysis based on smoking status. According to this analysis, those who quitted smoking had higher internet addiction scores than smokers and non-smokers. As mentioned in the literature, it may be possible to transfer smoking addiction to internet use. However, if their average scores are remembered, the internet addiction scores of these students were below 49.

Social media is one of the factors that cause internet addiction. There are social media service providers that are designed with various content and serve many various purposes. The most commonly used ones are Facebook, Instagram and Twitter (Dailey et al., 2020; Yang & Lee, 2020). The effects of these service providers on internet addiction are also mentioned (Dailey et al., 2020; Gentina et al., 2020). However, according to Table 3 in this study, the level of internet addiction of university students did not differ according to the type of social media they frequently use. However, there were differences according to internet use. In this context, when the literature is examined, studies indicate that internet addiction is related to the duration of use (Eroglu & Bayraktar, 2017; Aznar-Díaz et al., 2020; Unsar et al., 2020; Zenebe et al., 2020). While the daily time spent on internet in Table 3 did not show a significant difference in the average of internet addiction up to 3 hours, it was found that daily internet usage times of 4-7 hours and above 8 hours showed a significant difference. As the daily time spent on internet increased, the level of internet addiction also increased.

Although the universities have various grading scales, generally the grading system consists of over 4.00. (Soh, 2010). Smith & Izadyar (2020) stated that university students' internet addiction was negatively related to GPA. Sung et al. (2013) found that students with academic success anxiety had high internet addiction levels. In another study, it was determined that

university students using the internet over 11 hours a week had lower school performances and academic success than those using the internet less than 3 hours a week (Gross, 2004). In this study, although the average score of internet addiction among those with a GPA between 0.00 and 1.99 was higher than others, this score was not significant. Academic success score of university students did not affect internet addiction levels.

In conclusion, in this study, where the internet addiction levels of university students were examined under various variables, it was found that male students had higher addiction scores than female students, doing regular sports, marital status of parents, accommodation preference, and academic success level did not affect internet addiction. The type of social media used did not affect the level of internet addiction. However, it was found that there were significant differences between the internet addiction score of cigarette and alcohol consumers, and the internet addiction scores of students drinking alcohol and those who quitted smoking were higher than others. It was found that time spent on internet causes a low internet addiction score of up to 3 hours a day, and internet addiction scores increase as the time spent on internet of 4 hours or more per day increases. Despite all these findings, it was found that university students did not have internet addiction at the pathological level, but internet addictions decreased and increased under various variables. Within the scope of this study, it can be emphasized that using the internet for 8 hours or more per day may increase the average risk of internet addiction score and that students who are smoking or using alcohol are more prone to internet addiction.

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