

Full Length Research Paper

Investigation of high school students' internet addiction levels using various variables: The case of Giresun Province

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The aim of this study is to investigate the internet addiction levels of high school students using various variables. The research consists of a total of 962 students (452 girls and 410 boys) studying at different high schools in Giresun in the fall semester of the 2019 to 2020 academic year. The research data were obtained using the general survey model. The questionnaire consists of 6 items used to determine the introductory characteristics of university students; to obtain the data of the study, the "Internet Addiction Scale (IAS)" consisting of 20 items developed by Young and the "Academic Procrastination Scale" (AEÖ) consisting of 19 items developed by Çakıcı" were used. In analyzing the data, Kolmogorov-Smirnov (K-S), Arithmetic Mean, Standard Deviation, Independent groups t test, one-way ANOVA and Tukey analysis techniques were used. As a result of the research, it was determined that the mean scores of high school students regarding internet addiction levels differ significantly in terms of gender, class level, economic status, mother's education level and father's education level.

Key words: Internet, addiction, high school, student, internet addiction.

INTRODUCTION

The concept of addiction generally refers to the excessive desire of individuals for a physical substance and the inability to give up (Holden, 2001). Ögel (2001) defined addiction as the inability of an individual to quit a habit-forming substance he or she uses of his own free will, increasing the amount of the substance he uses, showing withdrawal symptoms when he cannot reach the substance, using it despite being harmed, and spending most of his time to reach the substance he is addicted to. Among the negative social and psychological consequences, the impact of the Internet is the so-called

Internet addiction phenomenon, which has been the subject of scientific debate for the past 20 years, depending on the development of information technology and its availability.

Young (1996) sees addiction as the destructive effects on the psychological, physical, social, mental and economic status of an individual as a result of a certain activity or substance use, one's inability to give up, the impulse created by habit Campbell (2003) identified it as a disease with symptoms such as the emergence of negative behaviors that are not observed in healthy

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people in personality and behaviors as a result of the continuous use of a habit-forming substance, damage to cognitive perception, and inhibition of willpower.

Addiction is basically divided into two categories as addiction to a physical substance and addiction to a behavioral action. Substance abuse; alcohol, smoking, drugs, etc. It is expressed as the strong need felt by an individual for the substance used as a result of the long and regular use of volatile substances in solid, liquid and gaseous form (Kurupınar and Erdamar, 2014: 66). An individual who has substance addiction gets used to the effects of the substance on his / her body, and when he / she is unable to take the substance or reduces it, fatigue behavior occurs (Bektaş, 1991).

Behavioral addiction is expressed as habits that cause negative consequences in substance addiction despite not using a substance (Sevindik, 2011: 10). Internet addiction is becoming a serious problem, especially among adolescents. Generally, playing video, using SocialNetworking Sites (e.g., Facebook, Twitter) or Internet games are popular online activities among youths. They usually do these activities for entertainment, excitement, challenge seeking, or to cope with their emotions. An individual mentally tends to do this behavior and thinks about it. When he is unable to act, he experiences a mood disorder, his tolerance level decreases, he shows withdrawal symptoms, and he is prone to conflict. Gambling, digital tools, food, sex, etc. addictions are examined under behavioral addiction (Griff, 1999).

Behavioral addiction: A individual is distinguished from substance addiction by being mentally dependent, not using substances, having fewer cases of multiple addiction, observing obsessive-compulsive disorder in behaviors, and getting more positive results than substance addiction in the treatment process (Marks, 1990). Today, the concept of internet addiction, which is examined under behavioral addiction, is an individual's computer, phone, television, tablet, social media, etc. It is used to describe his relationship with technological devices and environments (Shaw and Black, 2008; Young, 1996).

Addictive behavior is one of a deviant behavior forms characterized by a constant desire to receive a subjectively pleasant emotional state and is expressed in an active change in one's mental state (Arshinova and Bartsalkina, 2010; Mendelevich, 2013; Minicheva and Maslova, 2015). Facebook, twitter, instagram, etc. are platforms where multiple access is provided by wide spread use of the Internet, strengthening the connection to infrastructures (Aktan and Koçyiğit, 2016, p.67). Access to social media networks has also become easier. Social media include individuals' words, sound files, images, etc. It is expressed as a virtual-based environment depending on the communication (Arslan et al., 2015: 38).

In the social media environment, individuals from all

walks of life in different places interact without age restrictions. The control of individual shares is usually done by users (Ersoy, 2019, p.11; Vural and Bat, 2010: 321).

Children and young people can easily access unsuitable content due to the fact that people can access social media not only from computers, but also with tablet and mobile phone they carry with them, without any time and place restrictions. This negative aspect of social media worries the society, especially since it harms young children (Şahin and Yağcı, 2017: 525). Dilci and Eranıl (2019: 1) state that the use of social media and technology is an important factor in deteriorating cognitive and social skills, especially in children.

Internet addiction generally means one's, inability to prevent the desire to use the internet excessively, the need for more and more time spent on the internet, the loss of importance of time spent without being connected to the internet, the emergence of extreme nervousness, tension, anxiety when deprived leading to the person's work, social and family life deteriorating gradually. It is stated that internet addiction is a primary and progressive disease just like chemical addictions (Chrismore et al., 2011). Although enjoyable behaviors have addictive properties, the enjoyable features of the internet and digital technologies are known. Therefore, a pleasant mood change increases the likelihood of further use (Greenfield, 2011). Internet addiction is a psychological addiction, and especially young people are at risk for this addiction. Overuse of the Internet can cause problems with health, relationship and time management (Chou and Hsiao, 2000). Problematic internet use is a psychiatric condition that includes maladaptive thoughts and pathological behaviors (Davis, 2001). Majority of people who are addicted to Internet use change their mood and avoid problems. In other words, the internet is consumed with the idea of medicine for treatment purposes.

Many internet addicts escape from some things they do not want to face in their lives, but hide what they are running away from. If the person is constantly experiencing problems, stress and excitement, the computer or the internet is a remedy for that person's distraction. In this way, focusing one's attention on another point prevents one from experiencing internal problems or alleviates one's intensity. Studies to define internet addiction include understanding internet addiction as an independent disease or a symptom of another disease. Those who do not define internet addiction as an independent illness claim that a person can use the internet to suppress the troubles caused by another illness. For example, they suggest that this person may exhibit behavior such as excessive internet use or prolonged video game play. It is stated that all individuals who use the internet excessively are not actually internet addicts; they use the internet as an ideal environment for the satisfaction of other addictions, so it

Table 1. Descriptive statistics of the study group.

Variable		F	%
Sex	Girl	452	57
	Male	410	43
Class	9th grade	240	26
	10th grade	246	28
	11th grade	238	23
	12th grade	238	23
Economic situation	Very good	240	26
	Good	234	23
	Middle	234	23
	Low	252	30
Mother's education status	Primary school	280	35
	Secondary school	260	27
	High school	268	29
	University	152	19
Father's education status	Primary school	290	36
	Secondary school	282	33
	High school	210	22
	University	180	19

is important to distinguish between those who are really addicted to the internet and those who satisfy their other addictions on the internet (Griffiths, 2000 cited in Arısoy, 2009; Mikowski, 2005; Ögel et al., 2012).

The characteristics of the Internet such as its own norms, its own standards and its unique language make it a unique tool for communication. While it was very difficult to transfer information from one place to another in the past years, today information can be easily transported thanks to the internet. The fact that they can access information so quickly and easily has created satisfaction for people. This satisfaction has played a role in increasing people's internet usage time (Akinoğlu, 2002). The fact that the internet facilitates human life can make it a difficult technology to give up. According to Gündüz, there is a difference between internet addiction and substance addiction; in order to get rid of substance addiction, the individual has to abandon 9 substances to which he / she is addicted, whereas in Internet addiction, using it correctly and healthily instead of leaving the Internet will prevent addiction. Thus, the individual can benefit from the numerous opportunities that the internet offers to humanity (Gönütç, 2009).

METHODOLOGY

In this part of the research, there are information about the research model, universe / sample, data collection tools used, data collection and analysis.

Working group

The research consists of a total of 962 students, 452 girls and 410 boys, who are studying at different high schools in Giresuncity in the fall semester of the 2019-2020 academic year (Table 1).

Data collection tools

Data collection tools used in the research is a questionnaire consisting of 6 items used to determine the introductory characteristics of university students; the "Internet Addiction Scale (IAS)" consisting of 20 items developed by Young (1996) and the "Academic" consisting of 19 items developed by Çakıcı (2003). (APÖ)". Academic Procrastination Scale was used. Internet Addiction Scale (IAS): It is a scale consisting of 20 items, adapted from DSM-IV's Pathological Gambling criteria (Young, 1996). This test, which can be accessed at the Internet Addiction Center's <http://www.netaddiction.com> address, is a self-assessment scale. It was adapted to Turkish in 2001 (Bayraktar, 2001). In Bayraktar's study, the Cronbach Alpha internal consistency coefficient of this scale was found to be .91 and the Spearman - Brown value as .87, and that the scale was valid and reliable (YYU Journal of Education Faculty, 2019; 16 (1): 243-278, <http://efdergi.yyu.edu.tr/http://dx.doi.org/10.23891/efddyu.2019.125> Research Paper ISSN: 1305-020 250). In this scale which is likert type, there are options 'Rarely', 'Sometimes', 'Often', 'Most of the time' or 'Always'. These options were given 1, 2, 3, 4 and 5 points, respectively. Getting a total score of 80 or above on the scale is accepted as an indicator of severe impairment in functionality and these individuals are described as internet addicts. Those with a score of 50-79 are defined as the borderline symptomatic group experiencing some Internet-related problems in their daily lives; those who score 49 or below are defined as a normal internet users who do not have any

Table 2. Descriptive statistics for the scale.

Scale	N	Lowest score	Highest score	X	S
Total score	962	29	145	78.93	24.06
Game	962	11	55	26.04	10.85
Media	962	12	60	37.54	11.90
Effects on daily life	962	6	30	15.35	6.32

Table 3. Digital addiction independent groups T test findings of secondary school students by gender variable.

	Sex	N	X	S	t	p
Total	Girl	452	76.35	324	-3.62	0.000*
	Male	410	85.10	24.68		
Game	Girl	452	23.91	10.02	-6.48	0.000*
	Male	410	31.03	11.14		
Media	Girl	452	37.54	12.12	-.00	0.991
	Male	410	37.55	11.46		
Effects on daily life	Girl	452	14.80	6.20	-.2.82	0.010*
	Male	410	16.63	6.30		

problems related to internet usage in their lives.

economic status, mother's education level and father's education level?

Data collection and analysis

The data of the study were obtained from a total of 962 students, 452 girls and 410 boys, who are studying in different high schools in Giresuncity in the fall semester of the 2019-2020 academic year. Necessary permissions were obtained for the application of the scales and the voluntary principle of the participants was observed. The scales were applied to 1050 students in total, but because 88 of them did not have the necessary features due to the half-filling of the scales and the deficiencies in the demographic information section, 962 scales were evaluated. The analysis of the data was made using the SPSS 17.0 statistics program. The Kolmogorov-Smirnov (K-S) test was applied to determine whether the scores were normally distributed, and it was found that the data showed a normal distribution. Independent groups test to determine whether the internet addiction levels of students differ according to gender variable; One-way ANOVA test was used to determine whether there is a significant difference according to the variables of class level, economic status, and education level of the parents.

Purpose of the research

In the study, it is aimed to determine the internet addiction levels of high school students according to the average and various demographic variables. In line with this determined purpose, answers to the following questions are sought:

- 1) What are the average scores of high school students obtained from the total and factors of the Internet addiction scale?
- 2) Do the Internet addiction levels of high school students differ significantly according to the variables of gender, class level,

RESULTS

This part of the research consists of the findings obtained from the analyses conducted on whether the Internet addiction levels of high school students differ according to the factors of the scale and the average score in the total score according to the variables of gender, economic status, and educational status of parents. The data obtained regarding the mean scores and standard deviation scores of the students from the scale are presented in Table 2.

According to the findings in Table 2, the internet addiction levels of the students were found to be medium level in the total of the scale (54.43), medium level in the game factor (47.35), medium level in the media factor (62.57) and medium level in the effect on daily life factor (51.17). It is seen that the mean scores of the students regarding internet addiction are in the highest media factor and the lowest in the game factor. The results of the independent groups test applied to determine whether the Internet addiction levels of high school students differ significantly according to the gender variable are shown in Table 3.

When the findings in Table 3 are examined, Internet addiction levels of high school students according to gender variable in the total score of the scale, in the

Table 4. Digital addiction ANOVA test findings by high school students' grade level variable.

	Class	N	X	S	F	p	Significant difference
Total	9 th .class	240	83.50	20.72	2.62	0.017*	9-10*, 9-12*
	10 th .class	246	75.59	23.84			
	11 th .class	238	80.50	24.52			
	12 th .class	238	74.52	23.74			
Game	9 th .class	240	27.55	10.60	2.14	0.038*	9-11*
	10 th .class	246	25.34	11.20			
	11 th .class	238	24.75	10.82			
	12 th .class	238	24.92	10.81			
Media	9 th .class	240	38.39	11.76	2.60	0.028*	9-12*, 11-12*
	10 th .class	246	36.19	11.18			
	11 th .class	238	39.29	12.73			
	12 th .class	238	34.98	11.60			
Effects on daily life	9 th .class	240	15.70	6.31	2.84	0.016*	9-10*, 10-11*, 11-12*
	10 th .class	246	14.07	4.88			
	11 th .class	238	16.46	5.26			
	12 th .class	238	14.60	7.65			

factors of the effect of games and general life $p < 0.05$, which showed a significant difference in favor of female students, $p > 0.05$ was determined that there was no significant difference in media factor. It is observed that the mean scores of male students regarding their internet addiction levels are higher than the scores of female students. The findings of the ANOVA test applied to determine whether the Internet addiction mean scores of high school students differ significantly according to the grade level variable are presented in Table 4.

According to the findings in Table 4, it was determined that the mean Internet addiction scores of high school students showed a significant difference $p < 0.05$ in the total and all factors of the scale according to the grade level variable. According to the analysis results of the TUKEY test, which was applied to determine which classes there is a significant difference; the total score of the scale between "9 and 10", "9 and 12" against the ninth grade; against the ninth grade between "9 and 11" in the game factor; in favor of the twelfth grade between "9 and 12", "11 and 12" in the media factor of the scale; against the ninth grade between "9 and 10" in its effect on daily life, it was determined that there is a significant difference against the eleventh grade between "10 and 11", "11 and 12". The ANOVA test data, which was conducted in order to determine whether there is a significant difference in the mean scores of internet addiction according to the economic status variable of high school students are shown in Table 5.

When Table 5 is examined, it is seen that the mean scores of Internet addiction of high school students do

not show a significant difference in terms of the economic status variable, the total score of the scale, game and media factors $p > .05$. On the other hand, it was determined that there is a significant difference between "Average and Good" in favor of good in the factor of its effect on daily life. According to the total scores, it was determined that the group with medium economic status had the highest average score, and the group with the lowest had the lowest score. The mean scores of high school students on Internet addiction differ significantly in terms of the maternal education variable, total of the scale, game and media factors $p < 0.05$. It was concluded that $p > 0.05$ did not show a significant difference in the effect on daily life.

As a result of the Tukey test applied to determine between which groups there is a significant difference, "Primary School and High School", "Primary School and University" in favor of primary school, between "Middle School and High School", "Middle School and University" in favor of secondary school; in the lower part of the game, between "Primary and High School" in favor of primary school, between "Secondary School and High School", "Middle School and University" in favor of secondary school; in the media factor, it was determined that there is a difference between "Primary School and High School", "Primary School and University" in favor of primary school, and between "Secondary School and High School", "Secondary School and University" in favor of secondary school. According to the total score, it is seen that the students' mean scores for internet addiction are highest in the group whose mother is a university

Table 5. Internet addiction ANOVA test findings according to the economic status variable of high school students.

	Economic	N	X	S	F	p	Significant difference
Total	Very good	240	78.82	24.30	0.08	0.965	No
	Good	234	78.60	22.75			
	Middle	234	78.38	24.70			
	Low	252	76.55	33.13			
Game	Very good	240	26.00	10.66	0.25	0.865	No
	Good	234	25.56	10.99			
	Middle	234	26.41	10.72			
	Low	252	25.22	12.88			
Media	Very good	240	37.54	12.52	0.88	0.422	No
	Good	234	38.57	12.18			
	Middle	234	36.48	12.14			
	Low	252	34.36	16.08			
Effects on daily life	Very good	240	15.50	6.67	2.50	0.040*	Middle-Good*
	Good	234	14.40	5.72			
	Middle	234	16.08	6.46			
	Low	252	17.24	8.64			

graduate and the lowest in the group whose mother is a secondary school graduate.

It was concluded that the mean scores of Internet addiction of high school students showed a significant difference in terms of the total of the scale, game and media factors in terms of the father education level variable $p < .05$, and $p > .05$ in the factor of its effect on daily life. Considering the results of Tukey test applied in order to determine between which groups there is a significant difference, in the total of the scale and the game factor, between "Secondary School and University", "High School and University" against the university; in the media factor, it is seen that there is a significant difference against the university between "Primary School and University", "Middle School and University", "High School and University". According to the total score, it is seen that the students' mean scores for internet addiction are highest in the group whose father is a university graduate and lowest in the group whose father is a secondary school graduate. When the findings obtained from the study are examined in general, it is seen that male students have higher internet addiction levels compared to female students; the ninth grades of the group had the highest internet addiction score average from the total score. The group with the lowest average score is the twelfth grade; the group with medium economic status has the highest average score, and the group with the lowest had the lowest score. The students' mean internet addiction score is the highest in the group whose mother is a university graduate; it is seen to be the lowest in the group whose mother is a secondary school graduate.

DISCUSSION

Here, the comparison and interpretation of the findings obtained from the research with similar studies and suggestions in accordance with the study questions are given. Internet addiction levels of high school students were found to be moderate in the total and all factors of the scale. It is seen that the mean scores of the students regarding internet addiction are in the highest media factor and the lowest in the game factor. It was determined that the internet addiction levels of high school students showed a significant difference in favor of female students in the total score of the scale according to the gender variable, in terms of the effect of games and on the general life factors; while there was no significant difference in the media factor. It is observed that the mean scores of male students regarding internet addiction levels are remarkably higher than the scores of female students.

CONCLUSION AND RECOMMENDATIONS

According to the findings of the research conducted by Gönüç (2009) on secondary school students, it is concluded that male students' internet addiction levels are higher than female students; this is similar with this study. In the study conducted by Arslan et al. (2015), it was found that there was a significant difference in terms of gender variable, but female students had higher levels of internet addiction. In the study conducted by Eryılmaz and Çukurluöz (2018) on high school students, it was

found that there is a difference between the internet addiction score averages of the students according to the gender variable and this difference is against male students. Similar results were obtained in the study conducted by Gökcəarslan and Durakoğlu (2014). In the studies conducted, it is seen that the addiction levels of male students are generally higher than female students. It was determined that the mean internet addiction scores of high school students differ significantly in all factors of the scale, according to the class level variable.

According to the total score, it was determined that the group with the highest internet addiction score average was the ninth grade, and the group with the lowest average score was the twelfth grade. According to the findings of the study conducted by Gönük (2009), students' mean scores for internet addiction differ significantly from the grade level variable. Consistent with this study, it was determined that the group with the highest mean score was the ninth grade and the group with the lowest average score was the twelfth grade. There are also studies in the literature with different results. In the study of Eryılmaz and Çukurlöz (2018), grade level does not have an effect that would make a significant difference on students' internet addiction averages. According to the research results of Kayri and Gönük (2016) aiming to determine the relationship between students' internet addiction levels and students' economic levels, it was concluded that students with better economic status have higher addiction levels than those with lower levels. The results indicate that different dimensions of internet addiction can be predicted by a combination of different users' characteristics.

It is accepted that individuals with better economic status have more access to digital tools, which is effective on this situation. Internet addiction scores of students whose mothers are university graduates are also found to be quite high. In the studies, the generally expected situation is that as the education level of the mother increases, the digital addiction of the students decreases. In this case, the judgment that the mother's education will increase the level of consciousness becomes important. According to the total score, it is seen that the internet addiction mean scores of the students are the highest in the group whose father is a university graduate and the lowest in the group whose father is a secondary school graduate. Studies have also determined that parental attitudes have an effect on students' internet addiction levels. Although technology has many blessings and facilitates human life in many different areas, there are situations where it affects individuals and societies negatively. The most important of the negative effects are internet addictions, whose effects are felt more and more in people and social life.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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