THE PREDICTIVE POWER OF PROBLEMATIC INTERNET USE ON LEARNING RESPONSIBILITY OF HIGH SCHOOL STUDENTS

Abstract: The aim of the study is to determine the relationship between problematic internet use and learning responsibilities of students studying at different types of high schools in the province of Aydın and also to examine whether problematic internet usage and learning responsibilities of high school students differ significantly according to gender and school type variables. In this quantitative study using the relational survey model, Adolescent Form of Problematic Internet Usage Scale and Learning Responsibility Scale were used as data collection tool. For the analysis of the data collected within the scope of the research, independent samples t-test, one-way analysis of variance, pearson moments correlation test and multiple linear regression analysis were used. According to the results obtained in the study, it was observed that there was a significant difference between gender and school type variables and problematic internet usage. It was observed that the learning responsibility scores of high school students differed significantly according to gender. There was no significant difference between school type and learning responsibilities. A moderate negative relationship was found between problematic internet use and learning responsibilities. As a result of the multiple regression analysis, it was found that negative results of the internet and excessive use scores significantly predicted learning responsibilities. It was determined that the social benefit / social comfort did not have a significant effect on learning responsibilities.

Keywords: Problematic internet use, learning responsibility, negative results of the internet

Halil İbrahim Kolan
Teacher
Ministry of National Education Aydın
Turkey Contact:
E-mail: hkolan@gmail.com
ORCID:0000-0003-3491-7143

Beste Dinçer, PhD
Associate Professor Faculty of Education
Aydın Adnan Menderes University
Aydın
Turkey Contact:
E-mail: bdincer@adu.edu.tr
ORCID:0000-0002-9264-3665

INTRODUCTION

As one of the most important dynamics of the 21st century, technology deeply affects our lives and changes human life. With the innovations brought by virtual communication technologies, the style of communication and entertainment styles differ especially among adolescents. Internet is becoming an environment that affects people's communication styles and how they spend their free time (Dağtaş & Yıldırım, 2015: 149). According to the report called "The State of Digital in April 2019" 56 % of the world populations have access to the internet (www.wearesocial.com). As the rest of the world, internet usage rates are increasing rapidly in Turkey. According to the research by Turkey Statistics Institute [TÜİK] (2019), the use rate of computer and internet among individuals aged 15-74 is % 75,3 and % 90,8 among individuals aged 16-24. According to the same survey, 88.3 % of the households in general Turkey is reported to have internet access at home.

As the research results also show, with the widespread use of internet at home and via mobile devices, it is obvious that internet use is also becoming widespread. Especially with the widespread use of smartphones, applications provided by internet such as instant communication, messaging, entertainment, games and video sharing have become a popular phenomenon among young people. Besides its positive aspects such as fast and easy access to communication and learning environments, the excessive, unconscious and uncontrolled use of internet can cause negative effects especially on young people. Apart from the time spent on the internet for business or education, the use of internet at a level that disrupts individual's personal and social responsibilities is considered as excessive and problematic internet use. Especially, smart phones, which have become indispensable for internet access and communication, can cause academic and social problems when used excessively (Fathalla, 2019: 8). After the widespread use of smartphones, it is debated whether the overuse and abuse of these devices lead to addiction. A significant portion of young people see smartphones as an indispensable tool to access information. More and more young people cannot imagine even an hour without a cell phone. Therefore, problematic smart phone use can result in psychological problems such as anxiety disorder, loneliness, depression and guilt (Adamczyk et al., 2018: 30). In addition, problematic use of the internet can lead to cyberbullying behaviors. Individuals exposed to cyberbullying can experience problems such as depression, anxiety disorder, insomnia and panic attacks (Ramadan, 2019: 96). Beard & Wolf (2001: 378) defined problematic internet use as internet use that causes psychological and social difficulties in a person's life and difficulties at school or professional life. It can be said that the main factors in the development of internet addiction/ problematic internet use are the duration and the purpose of the internet use. Psychological and social problems experienced by an individual can be considered as factors contributing to internet addiction (Ögel, 2017: 135). Internet is also used by young people not only for fun, having information, social communication and playing games but also avoiding the problems of life, relieving loneliness, killing time and expressing oneself (Akar, 2017: 276). It is stated that the misuse or overuse of internet weakens communication skills of young people, lowers their academic success, negatively affects their physical and psychological development, worsens their relationship with their social environment and causes problems such as problematic internet use. (Zorbaz & Tuzgöl Dost, 2014: 299). It is seen that, in the literature the most frequently used terms to name the excessive, uncontrolled or unhealthy use of internet are internet addiction (Young, 2004: 402), internet abuse (Morahan-Martin & Schumacker, 2005: 39), pathological internet use (Davis, 2001: 188), problematic internet use (Caplan, 2002: 554) and compulsive internet use (Ciarrochi et al., 2016: 274). It can be said that different naming in the literature stems from the researchers' study of the cognitive, behavioral and affective aspects of functional disorders caused by unhealthy internet use in individuals. Although internet addiction has not yet been defined as a behavioral disorder, internet game addiction was accepted as a disorder that should be investigated in the future in DSM-V published by the American Psychiatric Association (APA) in 2013 and nine

diagnostic criteria were presented. DSM-V stated that, in order to diagnose internet game addiction, gaming must cause "significant disruption or distress" in various aspects of an individual (https://www.psychiatry.org/File%20Library/Psychiatrists/Practice/DSM/APA_DSM-5-Internet-Gaming-Disorder.pdf). In 2018, internet gaming disorder was included in the 11th revision of World Health Organization's (WHO) International Classification of Diseases (ICD-11) and identified as a disorder. According to ICD-11, for the diagnosis of gaming disorder, the behavioral pattern must be at a level that cause significant deterioration in personal, familial, social, academic, professional or other important fields of study and must be evident for at least 12 months (https://www.who.int/news-room/q-a-detail/gaming-disorder). After Young has established the diagnostic criteria of internet addiction for the first time, many researchers created internet addiction criteria and contributed to the diagnosis of addiction by developing various evaluation tools. (Young, 2009: 8; Davis, 2001: 193; Caplan, 2002: 561; Hsu et al., 2015: 507). In addition, Davis's Cognitive- Behavioral Model of Pathological Internet Use Model which explains the etiology of problematic internet use (Davis, 2001: 188), Caplan's Problematic Internet Use Model (Caplan, 2002: 554) and Feindel's Biopsychosocial Internet Addiction Model (Feindel, 2019; 45) are important theories in the literature. In his model that explains problematic internet use, Caplan argues that problematic psychosocial predispositions lead individuals to excessive and compulsive online social interaction, which in turn worsens their problems. In this model, excessive internet use is defined by the participants as an amount of use that exceeds a normal, usual or planned period of time. On the other hand, compulsive internet use includes feeling of guilt about the individual's inability to control online activity (Caplan, 2003: 626). As seen in these models and definitions, uncontrolled use of the internet may cause individuals, especially the ones in the learning age to disrupt their responsibilities.

Learning responsibility can be defined as realizing that the learner is responsible for his / her academic achievements and taking an active role in his / her own learning, being prepared for the lessons, completing the assignments on time, determining, developing and implementing a plan to achieve educational goals. Yakar & Saracaloğlu (2017: 28) expressed the responsibility of learning as performing the tasks of individuals regarding learning, fulfilling what needs to be done to reach their own goals, and completing themselves in subjects they think they need. Learning responsibility is an important phenomenon as it forms the basis for other feelings of responsibility in the individual (Yeşil, 2013: 1216). Allan (2006: 102) examined learning responsibility in six dimensions in the learning responsibility scale developed in the sample of middle school and high school students studying in Australia: a) Orientation towards School and Learning b) Active Participation in Learning Activities c) Autonomy and Control of Learning d) Initiative e) Management of Learning Resources f) Control of Behavior in the Classroom and Cooperation. When learning is considered as a process in which the learner takes individual responsibility, students must fulfill their learning tasks on time in order to achieve academic success. In this context, it can be said that responsibility for learning is an important factor affecting students success (Yakar & Saracaloğlu, 2019: 8). Helker & Wosnitza (2016: 46) showed in their study among high school students that students with high learning responsibility tend to achieve higher success in mathematics lesson

Importance And Purpose Of The Research

High school period is a period in which critical decisions are made and critical developments are experienced in students' lives. During this period, there may be external and internal factors that negatively affect students' responsibility behaviors (Yeşil, 2013: 1215). Among these factors, excessive and unconscious use of technology and especially internet can also be listed. As Beard & Wolf (2001: 378) stated in their definition of problematic internet use, unconscious and excessive use of the internet can cause difficulties in an individual's school life. For this reason, determining the power of problematic internet use to predict learning responsibility is considered to be an important requirement. The aim of the study is to determine relationship between problematic

internet use and learning responsibilities of students studying at different types of high schools in the district of Efeler, Aydın, and to examine whether they differ significantly according to gender, school type and daily internet usage time variables.

Problem Statement

Is there a significant relationship between problematic internet use levels of the high school students and their learning responsibility levels?

Subproblems

1.Do the problematic internet use, negative aspects of internet, social benefit/social comfort and excessive use of internet differ significantly by gender?
2.Do the problematic internet use, negative aspects of internet, social benefit/social comfort and excessive use of internet differ significantly by school type?
3. Do high school students participating in the study levels of fulfilling their learning responsibilities in the sub-dimensions of "Externally Managed Learning Responsibilities" and "Self-Directed Learning Responsibilities" differ significantly?
4. Do the learning responsibilities, externally managed learning responsibilities and self-directed learning responsibilities of high school students differ significantly by gender?
5. Do the learning responsibilities, externally managed learning responsibilities and self-directed learning responsibilities of high school students participating in the study differ significantly by school type?
6. Is there a significant relationship between problematic internet use and its sub-dimensions and learning responsibilities and its sub-dimensions of high school students participating in the study?
7. Do the negative results of the internet, social benefit / social comfort and excessive use sub-dimensions of the high school students participating in the study have a significant predictive power on the responsibility of learning together?

METHOD

In this study, the relational survey model aiming to determine the existence and/or degree of mutual change between two or more variables was used (Karasar, 2018: 114) in accordance with the research problem.

Universe And Sample

The universe of the research consists of 9^{th}, 10^{th}, 11^{th} and 12^{th} grade students studying at public schools in Efeler district of Aydın in the 2019-2020 academic year. In the universe of the research, there are approximately 10945 students enrolled in 19 high schools of different school types (Aydın Provincial Directorate of National Education, 2019). In the cluster sampling method, the universe is divided into clusters consisting of similar features. In disproportionate cluster sampling, the selection of clusters to be included in sampling is entirely random (Karasar, 2018: 152). While determining the sample, firstly 19 schools in 5 different high school types were listed. Then, two schools among Anatolian High Schools, two schools among Vocational High Schools and 2 Anatolian Imam Hatip High Schools were determined randomly; and 1 Science High School and 1 Social Sciences High School were determined as sub-clusters. Classes were chosen randomly from each school and scales were applied to the students. The scale was applied to 1043 students who voluntarily participated in the study as a sample in the study. After eliminating the incorrectly and incompletely filled scales, the remaining 1005 scales were analyzed. Detailed numerical and percentage distributions regarding some demographic characteristics of high school students participating in the study are shown in Table1.

Table 1.Demographic Characteristics of Students

Variable	Groups	N	%
Gender	Female	668	66,5
	Male	337	33,5
School Type	Anatolian High School	389	38,7
	Anatolian Imam Hatip High School	152	15,1
	Social Sciences High School	109	10,8
	Science High School	114	11,3
	Vocational High School	241	24,0
	Total	1005	100

Data Collection Tool And Process

In the study, the "Demographic Information Form" prepared by the researcher, the "Problematic Internet Use Scale-Adolescent" developed by Ceyhan and Ceyhan (2009), and the "Learning Responsibility Scale (High School Student Form)" developed by Yeşil (2013) have been applied to the participating students. The validity and reliability studies of the problematic internet use scale for adolescents were conducted by Ceyhan and Ceyhan (2009) among 678 high school students. The scale is 5-point Likert type consisting of 27 items. According to the results of the exploratory and confirmatory factor analysis of the scale, it has been revealed that it has a three-factor structure: "negative consequences of the internet", "excessive use" and "social benefit / social comfort". The overall internal consistency coefficient (α) of the scale was found 0.93. According to these results, the findings regarding the scale show that the scale is a valid and reliable measurement tool. Learning Responsibility Scale was developed by Yeşil (2013) to determine the level of high school students' fulfilling their learning responsibilities for school learning. The scale is 5-point Likert type consisting of 22 items. It consists of 2 sub-factors: Externally Directed Learning Responsibility and Self-Directed Learning Responsibility. The reliability coefficient of the Learning Responsibility Scale (LRS-II) was determined as Cronbach Alpha .89.

Data Analysis

At the end of the research, the data obtained from the Problematic Internet Use Scale (Adolescent Form), Learning Responsibility Scale and Demographic Information Form were analyzed in a computer statistics program. The significance level of $p < 0.05$ was accepted as the basic criterion in the interpretation of the data. In this study; gender and school type were determined as independent variables. The dependent variables to be compared, according to these variables are problematic internet use and learning responsibility. In the data analysis process of the study, at first, it was examined whether the average scores obtained from the scales show normal distribution or not. In order to test the normality situation, the coefficients of skewness and kurtosis of the distribution were examined. In studies where the number of data is over 50, the distribution can be considered normal when the coefficients of skewness and kurtosis are in the range of ± 1 (Can, 2018: 85). Considering the size of the sample included in this study (N = 1005), it can be said that this assumption is valid (Table 2) and the distribution was sufficient for the assumption of normality.

The t-test was used to determine whether the average scores obtained from the scales differ significantly according to gender. One-way analysis of variance (ANOVA) was conducted to determine whether there was a significant difference in the average scores according to school type and daily internet usage time variable. In order to determine the source of difference, LSD test was performed in cases where the homogeneity of variances could not be provided, and Tamhane's T2 test was used when it could not. Pearson Product Moment Correlation test was used in order to determine the relationship between problematic internet use and learning responsibility. Multiple linear regression analysis was conducted to determine the predictive power of problematic internet use sub-dimensions on co-learning responsibility. For the linearity assumption, which

is one of the basic assumptions of multiple linear regressions, the covariance plot was examined and it was seen that the assumption was met. VIF (Variance Augmentation Factors), tolerance values, correlation coefficients between variables and Durbin-Watson values were examined to determine whether there was a multiple connectivity problem among the predictive variables and they were found to meet the multiple linear regression assumption.

Table 2. Skewness and Kurtosis Values of the Scale Average Scores

Scales	N	$\bar{X}$	Ss	Skewness	Kurtosis
Problematic Internet Use	1005	2,19	0,71	,707	-,208
Learning Responsibility	1005	2,91	0,60	-,314	-,427

FINDINGS

In accordance with the sub-problems of the study, findings related to the comparison of problematic internet use and learning responsibility levels according to the variables of gender and school type were included.

Findings and Comments Regarding the Difference of High School Students' Problematic Internet Use Levels by Gender

T-Test analysis was conducted to determine whether problematic internet use of high school students caused a significant difference according to gender. In this context, the data regarding the test results are given in Table 3.

Table 3.T-Test Results of the Average Scores of High School Students' Problematic Internet Use Levels and Sub-Dimensions Difference According to Gender

Sub-Dimensions	Gender	N		$\bar{X}$	Ss	t	sd	p
Negative consequences of the internet	Female	668		1,84	,81	-2,01	1003	.044*
	Male	337		1,95	,75			
Social benefit / social comfort	Female	668		1,95	,83	-3,36	1003	.001*
	Male	337		2,14	,84			
Excessive Use	Female	668		3,12	,91	,421	1003	.674
	Male	337		3,10	,78			
Problematic Internet Use	Female	668		2,15	,73	-2,09	1003	.037*
	Male	337		2,25	,66			

*p<.05

According to Table 3 it was determined that the problematic internet use of high school students differed significantly according to the gender variable, the problematic internet use scores of males ($\bar{X}$=2,25), were higher than the problematic internet use scores of females ($\bar{X}$=2,15) ($t_{(1003)}$=-2,09, p<.05). It is seen that the average scores of the sub-dimension of excessive use ($t_{(1003)}$ = 421, p>0,05) did not make a significant difference according to gender; in the sub-dimensions of negative results of the internet ($t_{(1003)}$=-2,01, p<.05and social benefit / social comfort ($t_{(1003)}$=-3,36, p<.05) there is a significant difference in favor of males.

Findings and Comments Regarding the Difference of High School Students' Problematic Internet Use Levels by School Type

One-way analysis of variance (ANOVA) was conducted to determine whether the problematic internet use of high school students made a significant difference according to the school type variable. In this context, the data regarding the test results are given in Table 4.

Table 4. ANOVA Results on the Difference in Average Scores of High School Students' Problematic Internet Use Levels and Sub-Dimensions According to School Types

Sub-Dimensions	Groups	Sum of Squares	df	Average of Squares	F	*p*	Significant Difference
Negative consequences of the internet	Between Groups	9,626	4	2,407	5,063	.001*	1-3 5-3
	Within Groups	629,388	1000	,629			
	Total	639,014	1004				
Social benefit / social comfort	Between Groups	3,746	4	4,112	7,988	.000*	1-3 2-3 5-3
	Within Groups	715,192	1000	,702			
	Total	718,938	1004				
Excessive Use	Between Groups	8,154	4	2,718	3,583	.612	
	Within Groups	759,259	1000	,759			
	Total	767,413	1004				
Problematic Internet Use	Between Groups	4,063	4	1,806	4,781	.001*	1-3 5-3
	Within Groups	507,150	1000	,504			
	Total	511,212	1004				

* p<.05 1= Anatolian High School, 2= Anatolian Imam Hatip High School, 3=Social Sciences High School 4= Science High School 5= Vocational High School

When the analysis results given in Table 4 are examined, it is seen that the average scores of problematic internet use in terms of the general scale ($F_{4-1000)}$= 4,78, p<.05), in negative results of internet ($F_{4-1000)}$= 5,06, p<.05) and social benefit / social comfort ($F_{4-1000)}$= 7,98, p<0,05) sub-dimensions make a significant difference according to the school type variable; on the other hand, it does not seem to make a significant difference in the excessive use ($F_{4-1000)}$= 3,58, p<.05) sub-dimension. As a result of the Tamhane T2 comparison test conducted to find the source of the difference, it was seen that the difference between the students of Social Sciences High School ($\overline{X}$=2,00) and Anatolian High School ($\overline{X}$=2,25) and Vocational High School ($\overline{X}$=2,22) was in favor of Anatolian High School and Vocational High School respectively in terms of the general problematic internet use scale of the significant difference. In the negative consequences of the Internet sub-dimension, it was observed that the difference between Social Sciences High School ($\overline{X}$=1,64) and Anatolian High School ($\overline{X}$=1,96) and Vocational High School students was in favor of Anatolian High School and Vocational High School, respectively. In the sub-dimension of social benefit / social comfort, it was observed that the difference between Social Sciences High School ($\overline{X}$=1,74) and Vocational High School ($\overline{X}$=2,14), Anatolian Imam Hatip High School ($\overline{X}$=2,06) and Anatolian High School ($\overline{X}$=2,04) students was in favor of Vocational High School, Anatolian Imam Hatip High School and Anatolian High School, respectively.

Differentiation of High School Students' Levels of Fulfilling Their Learning Responsibilities According to Sub-dimensions

The Dependent Sample t-Test Results on whether the levels of fulfilling the learning responsibilities in the sub-dimensions of "Externally Directed Learning Responsibilities" and "Self-Directed Learning Responsibilities" of the High School students participating in the study differ significantly or not are given in Table 5.

Table 5.Paired Sample t-Test Results Regarding Differentiation According to High School Students' Learning Responsibility Levels and Sub-Dimensions

Sub-Dimensions	N	$\bar{X}$	Ss	t	*df*	*p*
Externally Directed Learning Responsibility	1005	3,10	,58	27,871	1004	.000*
Self-Directed Learning Responsibility	1005	2,42	,91			

*p<.05

When Table 5 is examined, it is seen that there is a significant difference in favor of externally directed learning responsibility ($t_{(1005)}$=27.871) between the average scores of externally directed learning responsibility ($\bar{X}$=3.10) and self-directed learning responsibility ($\bar{X}$=2.42) among high school students participating in the study. p <0.05).

Differentiation Of High School Students' Learning Responsibility Levels According To Gender

T-Test analysis was conducted for independent samples in order to determine whether the Learning Responsibilities of high school students caused a significant difference according to gender. In this context, the data regarding the test results are given in Table 6.

Table 6. T-Test Results of the Average Scores of High School Students' Learning Responsibility Levels and Sub-Dimensions Difference According to Gender

Sub-Dimensions	Gender	N	$\bar{X}$	Ss	t	*df*	*p*
Externally Managed Learning Responsibility	Female	668	3,17	,56	5,863	1003	.000*
	Male	337	2,95	,60			
Self-Directed Learning Responsibility	Female	668	2,48	,92	2,896	1003	.004*
	Male	337	2,31	,89			
Learning Responsibility General	Female	668	2,99	,58	5,361	1003	.000*
	Male	337	2,77	,61			

*p<.05

According to the results of the T-Test conducted for independent samples in order to reveal whether there is a significant difference in the learning responsibility levels of high school students according to the gender variable, when the analysis results given in Table 6 are examined, it was seen that the learning responsibility levels of the students differ significantly according to the gender variable, and the learning responsibility average scores of the female students ($\bar{X}$=2,99) was found to be higher than the male students' average scores for learning responsibility ($\bar{X}$=2,77) ($t_{(1003)}$= -2,09, p<.05).When analyzing the differentiation of the sub-dimensions of the learning responsibility scale according to gender, it is seen that the average scores of the Externally Directed Learning Responsibility ($t_{(1003)}$=5,863, p<.05) and Self-Directed Learning Responsibility ($t_{(1003)}$=2,896, p<.05) sub-dimensions make a significant difference in favor of females.

Differentiation of High School Students' Learning Responsibility Levels According to School Types

One-way analysis of variance (ANOVA) was conducted to determine whether the learning responsibility of high school students made a significant difference according to the school types. In this context, the data regarding the test results are given in Table 7.

Table 7. ANOVA Results Regarding the Difference of Average Scores of High School Students' Learning Responsibility Levels and Sub-Dimensions According to School Types

Sub-Dimensions	Groups	Sum of Squares	*df*	Average of Squares	F	*p*	Significant Difference
Externally Managed Learning Responsibility	Between Groups	1,668	4	,417	1,412	.229	
	Within Groups Total	347,011 348,679	1000 1004	,347			
Self-Directed Learning Responsibility	Between Groups	13,045	4	3,261	4,072	.003*	3-2* 3-5*
	Within Groups Total	828,063 841,108	1000 1004	,828			
Learning Responsibility General	Between Groups	1,251	4	,313	,874	.480	
	Within Groups Total	364,534 365,785	1000 1004	,365			

*p<.05 1= Anatolian High School 2= Anatolian Imam Hatip High School 3=Social Sciences High School 4= Science High School 5= Vocational High School.

As seen in Table 7 according to the results of one-way analysis of variance (ANOVA) conducted to determine whether the learning responsibility of high school students made a significant difference according to the school type variable, there is no significant difference statistically in Learning Responsibility scale in general or in the Externally Managed Learning Responsibility sub-dimension between the average scores (p>.05). The average scores in Self-Directed Learning Responsibility (F_{4-1000}= 4,072, p<.05) sub-dimension have a significant difference according to the school type variable. Since the homogeneity of variances could not be provided in Levene's Test performed to determine the source of difference in self-directed learning responsibility sub-dimension, Tamhane's T2 multiple comparison test, which is used when variances are not homogeneous, was conducted. As a result of Tamhane's T2 test, it was seen that the significant difference between groups is between Social Sciences High School ($\overline{X}$=2,65) students and Anatolian Imam Hatip High School ($\overline{X}$=2,28) students in favor of Social Sciences High School; between Social Sciences High School ($\overline{X}$=2,65) students and Vocational High School ($\overline{X}$=2,32) in favor of Social Sciences High School.

FINDINGS REGARDING THE RELATIONSHIP BETWEEN HIGH SCHOOL STUDENTS' PROBLEMATIC INTERNET USE AND LEARNING RESPONSIBILITIES

In determining the relationship between high school students' problematic internet use and learning responsibilities; Pearson Product Moment Correlation Coefficient was examined since the assumptions of normality of variables were met. The data regarding the correlation analysis performed are given in Table 8.

Table 8. Pearson Product Moment Correlation Analysis Results Regarding the Relationship Between High School Students' Problematic Internet Use and Learning Responsibilities

Sub-Dimensions		Externally Managed LRS-II	Self-Directed LRS-II	LRS-II General
Negative consequences of the internet	Correlation	-,354*	-,306*	-,378*
	p N	,000 1005	,000 1005	,000 1005
Social benefit / social comfort	Correlation	-,231*	-,152*	-,227*
	p N	,000 1005	,000 1005	,000 1005
Excessive Use	Correlation	-,311*	-,355*	-,368*
	p N	,000 1005	,000 1005	,000 1005
PIU	Correlation	-,361*	-,321*	-,389*
General	p N	,000 1005	,000 1005	,000 1005

*p<.01 PIU = Problematic Internet Use, LRS-II = Learning Responsibility Scale

When Table 8 is analyzed, a moderate downhill (negative) and significant relationship was found between the average scores obtained from the problematic internet use scale and the learning responsibility scale (r=,389, p<0.01) in general. When the relationship between the sub-dimensions of problematic internet use and learning responsibility is examined, it is seen that there is a moderate downhill (negative) and significant relationship with the negative consequences of the Internet sub-dimension (r=- ,378, p<0,01), and a low downhill (negative) and significant relationship with the social benefit / social comfort sub-dimension (r=-,227, p<.01), and a moderate downhill (negative) and significant relationship with excessive use sub-dimension (r= -,368, p<.01).

FINDINGS REGARDING THE PREDICTIVE POWER OF THE PROBLEMATIC INTERNET USE ON LEARNING RESPONSIBILITIES OF HIGH SCHOOL STUDENTS

The data obtained from the multiple linear regression analysis regarding the Predictive Power of the Problematic Internet Use on Learning Responsibilities of High School Students are given in Table 9.

Table 9. Multiple Linear Regression Analysis Results Regarding the Predictive Power of the Problematic Internet Use on Learning Responsibilities of High School Students

Variable	R	R^2	F	B	Standart $Error_B$	β	t	p
Fixed	,408	,166	66,447	3,704	,068		54,422	,000
Negative consequences of the internet				-,179	,034	-,237	-5,272	,000**
Social benefit / social comfort				-,001	,026	-,001	-,040	,968
Excessive Use				-,143	,027	-,207	-5,259	,000**

**p<.05

When Table 9 is examined, it is seen that the negative consequences of the internet, together with the social benefit / social comfort and excessive use sub-dimensions, have significant predictive power on learning responsibility. (R=.408, R^2=.166, F=66,447, p<.05). These three variables together explain the %17 of the total variance in learning responsibility. It was seen that the important predictor variables of learning responsibility were the negative consequences of the internet (β=-.237, p<.05) and the excessive use of internet (β=-.207, p<.05). It was also seen that the social benefit / social comfort sub-dimension (β=-.001, p>.05) was not a predictor variable of learning responsibility.

DISCUSSION, CONCLUSION AND SUGGESTIONS

THE PROBLEMATIC INTERNET USE OF HIGH SCHOOL STUDENTS

According to the results obtained regarding this sub-problem, it was determined that the problematic internet use of high school students differed significantly according to the gender variable, and the problematic internet use scores of the males were significantly higher than the problematic internet use scores of the females. When the analyzes regarding the sub-dimensions were examined, it was seen that the excessive use scores do not make a significant difference according to the gender; and that that there was a significant difference in favor of males in the negative results of the internet and social benefit/social comfort sub-dimensions. The results supporting the findings in the literature have been reached. There are many studies in the literature that indicate that problematic internet use differs in favor of males according to gender (Vigna-Tagliant et al., 2017). There are also some studies in the literature that indicate that the scores of the problematic internet use are significantly higher in favor of females. (Liu et al. , 2011). There are also studies (Hall and Parsons, 2001; Ceyhan, 2011) in the literature showing that gender is not a determining variable on problematic internet use. In the studies, mostly male students have higher scores of problematic internet use.

It may be caused by factors such as males acquaintance of internet and computer earlier than females (Öztürk & Özmen, 2011), males having more positive attitudes and self-efficacy perceptions than females (Cai et al., 2017), and male students' higher addiction levels of online gaming than female students (Koçoğlu, 2019).According to the results obtained in this study, in terms of the school type variable, the scores in the dimensions of problematic internet use scale in general, social benefit and negative consequences of the internet differ significantly; while there was no significant difference in excessive usage scores. In this study, it was observed that the highest average scores for problematic internet use were among the Anatolian High School students, and the lowest average scores for problematic internet use were among the Social Sciences High School and Science High School students. The average social benefit / social comfort scores of Vocational High School students were found to be higher than other high school students. The reason for this result may arise from the fact that Social Sciences High School and Science High School students focus more on university exams than other high schools. When the time allocated for the exam is much, it can be thought that the use of the internet, which is not required except for accessing information and communication, will be very limited. It can be said that the low level of problematic internet use among Social Sciences High School students stems from a culture-oriented school climate. It can be argued that with teachers encouraging students at school about art, history, culture and literature publications and events and that the lessons being different from other schools in this context, prevent excessive and unconscious use of the internet. Since Science High School students have regular studying habits, self-regulation skills and use the internet for doing homework or research instead of entertainment, it can be said that they use the internet consciously and healthily.

As a result, it can be argued that they are less affected by the negative consequences of the internet than other school students. In the literature there are some studies supporting the findings obtained in this study to the type of school (Kaçar, 2017). The reason for the differentiation between school types may due to the fact that Science High School and Social Sciences High School students spend more time studying and focus on academic success in order to prepare for exams. There are also studies (Yörük & Taylan, 2018) in the literature showing that school type is not a determining variable on problematic internet use.

The Learning Responsibilities Of High School Students

According to the results obtained from the study, it was found that the external directed learning responsibility scores of high school students were significantly higher than the self-directed learning responsibilities. It is seen that there are studies consistent with the results obtained in this study in the relevant literature. Yeşil (2013) found that high school students' external directed learning responsibilities average scores were significantly higher than their self-directed learning responsibility scores. In the study in question, it was determined that students fulfill their learning responsibilities and external directed learning responsibilities at a good level and self-directed learning responsibilities at a medium level. Contrary to these findings, Golzar (2006) found in his research on 5th grade students that internally supervised students had a higher level of fulfilling their responsibilities than externally supervised students. According to the results obtained in this study, it was determined that the learning responsibilities of high school students differ significantly according to the gender variable and the learning responsibility scores of female students were significantly higher than the learning responsibility scores of male students. This finding can be explained by the fact that girls and boys grow up with different roles and behavior patterns based on gender. When considered in terms of social expectations and cultural phenomena, assigning more responsibility on girl from an early age, especially at home, can make learning responsibility settled more for girls. Thus, it can be said that girls have higher levels of responsibility from an early age compared to boys. (Golzar, 2006).In his study,

Yeşil (2013) found that the level of fulfilling the responsibilities towards school learning of female students studying in different types of high schools was significantly higher than male students. There are studies consistent with the results of the research in the relevant literature (Yeşil, 2013). Apart from this, there are also studies that do not show a significant difference according to gender (Hakkari, 2020). According to the results obtained in this study, no statistically significant difference was found between the average scores of learning responsibility and external-directed learning responsibility in terms of school type variable. Significant difference was found between self-directed learning responsibility and school type variable. Contrary to these findings, Yeşil (2013) found that there is a significant difference in learning responsibility and its sub-dimensions according to the variable of school types in his study on high school students. According to the results of this study, it is observed that the highest average scores in the learning responsibility scale are among the Social Sciences High School students and the lowest learning responsibility average scores are among the Vocational High School students. In the Externally-Managed Learning Responsibility sub-dimension, it is observed that the highest average scores are among the students of Anatolian Imam Hatip High School, and the lowest average scores of learning responsibility are among the Science High School students. It is seen that the highest average scores in the sub-dimension of Self-Directed Learning Responsibility are among the Social Sciences High School and Science High School students, respectively. It is observed that the lowest average scores of responsibility for self-directed learning are among Anatolian Imam Hatip High School students. According to these results, it can be said that Anatolian Imam Hatip High School students are more open to external control tools such as teachers, peers and parents. It can be argued that Science High School and Social Sciences High School students rely more on internal control tools such as self-regulation, self-control and self-motivation. In this study, it is an unexpected result that there is no significant difference between learning responsibility scores according to the school type variable.

The Relationship Between Problematic Internet Use And Learning Responsibility

According to the findings obtained from the study, a moderate downhill (negative) and significant relationship was found between high school students' problematic internet use and their learning responsibilities. Problematic internet use average scores explain about 16 % of the average scores of learning responsibilities. Moreover, it has been observed that negative results of the internet and excessive use scores have a significant predictive power on learning responsibility, but social benefit / social comfort scores do not have a predictive power on learning responsibilities. Considering that the negative results of the internet have a weak average score in this study, it can be said that it is a consistent result to find a moderate relationship between problematic internet use and learning responsibilities. According to this result, although high school students use the internet relatively excessively, its negative effects are limited. In this context, it can be considered as a reasonable result that participant students' level of internet usage is moderately effective in hindering their responsibilities towards learning. In addition, it is another finding of this study that excessive use behaviors, one of the main factors of internet addiction, have a negative effect on learning responsibilities. In today's world where distance education and online learning are gaining importance, it is getting more and more important for students to be responsible for their own learning. One of the main factors affecting students' learning responsibility is the excessive, problematic, uncontrolled usage of the internet, in short, unhealthy usage. As a result of problematic internet use, students may experience problems such as difficulty concentrating on their academic studies, distraction, not being able to finish homework on time, not being able to prepare for exams, deterioration of studying habits, decrease in academic success, and missing classes (Ayaydın & Ayaydın, 2018). When the factors that negatively affect their performance are examined, it is seen that problematic internet use

behaviors are an important factor for students. Problematic internet use causes negativities such as excessive mental preoccupation, the need to use the internet for increasing periods, and the loss of time control in internet usage, which may cause students to fail to fulfill their responsibilities towards learning.

SUGGESTIONS

• The value of responsibility in education programs is among the root values that students should gain. In addition, students need to be a responsible learner in order to achieve their goals and dreams in a lifelong learning journey. Teachers, family and media have an important role in helping students gain responsibility behaviors. In this context, responsibility for learning can be integrated into curricula as a targeted competence from preschool.

• In this process, where distance education and lifelong learning competencies gain importance, school administrations, counselors and field teachers can raise awareness of students in order to increase the level of learning responsibility in students. In addition, awareness raising activities can be carried out by counselors for parents to help their children gain learning responsibility behaviors.

• Considering the relationship between problematic internet use and learning responsibility, trainings on conscious and healthy internet use for students can be provided by counselors and information technologies teachers.

• In order to equip students with skills such as self-motivation, self-regulation and self-control, which are closely related to learning responsibility behaviors, training programs that include these skills and competencies can be developed and implemented.

• School counselors can apply training programs based on cognitive behavioral approach to preventing problematic internet use to students who use the internet at an unhealthy and excessive level and whose problem is observed that internet use disrupts their learning responsibilities.

• In this study, it was determined that there is a significant relationship between problematic internet use and learning responsibilities. In the literature, there is no research examining the relationship between these variables. Therefore, studies that examine the relationship between these two variables can be conducted in samples of different ages and education levels.

• Research using qualitative research methods can be conducted to examine the causes and consequences of problematic internet use in depth.

• In this study, it was determined that problematic internet use explains an important part of learning responsibility. In this context, it can be said that there are other factors affecting learning responsibility. In order to determine other facts that explain learning responsibility, studies can be done to test the relationship between different variables and learning responsibility.

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