

# Students' Attitudes Towards Learning, A Study on Their Academic Achievement and Internet Addiction

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## Abstract

Examining attitudes of students towards learning, their academic achievements and internet addictions is the main focus of this study. With the institution permission obtained from the Provincial Directorate of National Education of İstanbul Governorship dated: 21.04.2016 and No: 59090411-20-E.4519158, a descriptive study in relational screening model was conducted. By evaluating the data of 355 students (158 male and 176 female), from 370 students studying in the 9th, 10th, and 11th grades attending public high schools in the region of Kadıköy, İstanbul during 2015-2016 academic year the outcome results were obtained. "Personal Information Form", "Attitudes Towards Learning" and "Computer Addiction for Adolescents" scales were used in order to collect research data. By analyzing the data with t test, one-way variance analysis (ANOVA) and correlation statistical research techniques in the SPSS 22.0 program, findings were obtained. A significance level of 0.05 was taken as the basis in the applied statistics. As per the findings, a difference was found in terms of internet addiction according to gender, academic achievement, homework habits, family activity frequency variables. Furthermore, a negative relationship was found according to the correlation analysis result between students' attitudes towards learning and internet addiction. In conclusion, in the light of the the research findings, it is possible to express that differentiation of students' attitudes towards learning can support effective and efficient use of information technologies. However, the negative differentiation of the attitudes towards learning can generate Internet addiction as a result of inefficient use of the information technologies.

**Keywords:** attitudes towards learning, internet addiction, academic achievement

## 1. Introduction

Technology is the product of the reflection of learning competence, which is one of the basic characteristics of human beings, on the problem solving process. Technology, which has gradually transformed human beings into an information society, and perhaps will transform them into a society beyond their current imaginations, has become the precursors of change and development with its equivalent in the information society. Therefore, rapidly generation and dissemination of information necessitated the differentiation of the human model that the societies needed. It is necessary for this new human being to be aware of what information is meaningful to him in order to define his needs and produce behaviour change in this direction and to be self-directed to achieve his goals. Although this understanding may seem familiar to us as a phenomenon that has brought humanity to these days, the basic tool that drives the information society, considering the speed of development of information technologies and the area of influence, it is obvious that the education understanding that will support the new human model should be very different (Isman & Gungoren, 2013). In other words, the definition and meaning of learning has changed in the information society.

In the last decade, especially in an era of rapid development of mobile communication technologies and devices, the characteristics of the people required by the societies have evolved; in order to adapt to the rapidly changing and developing world, communities require individuals who know how to access knowledge, who can use their knowledge when necessary and who are able to produce new information. Therefore, countries are more careful about their education systems and make investments accordingly (Scardamalia & Bereiter, 1994; Castells, 1997; Akolaş, 2004; Atasoy, 2007; Van Merriënboer & Brand-Gruwel, 2005; Stalder, 2006; Buabeng-Andoh, 2012). In the

information society, the definition of learning and its meaning for an individual has changed (Castells, 2011). According to Alvin Toffler's statement, "The illiterate of the future will not be the uneducated one. It will be the one who does not know how to learn" (Toffler, 1981). In this context, the main aim of student-centered teaching activities focuses not on "what to teach" but rather "to teach how to learn". In regard to supporting this process, the relevant literature highlights that without integrating rapidly evolving information technologies into the teaching process, efforts for regulating educational contents, educational activities and educational settings may be incomplete and inadequate (Ağır, 2007; Duit & Treagust, 2003; Kocacık, 2003; Reis, 2007; Castells, 2013).

Teaching supported by information technologies is very different to traditional education (Ağır, 2014; Drennan, Kennedy, & Pisarski, 2005; Yılmaz & Horzum, 2005; Deperlioğlu & Köse, 2010; Wu, 2013). The most striking difference is that the instructor and the learner in other words "the teacher and the student" continuously bears the title "the learner" (Kettanurak, Ramamurthy, & Haseman, 2001; Seferoğlu, 2004). As the traditional role of the teacher in the class disappears, teaching strategies, methods and techniques that will ensure the participation of all students in the classroom with different qualifications and interests can be easily applied (Ağır & Bayraktar, 2011; Hong, Ridzuan, & Kuek, 2003). Moreover, it is noted that it facilitates access to rich and diverse sources of information, enables the mental energy to be actively used in the most proper way possible as a result of feeling less physical fatigue for the teacher and the students (Baltacı & Akpınar, 2011; Rahimi & Yadollahi, 2011). Moreover, it provides a cost-effective way for testing of a case or an event of which accessibility, applicability and trialability is difficult, dangerous or impossible in life. (Işık, 2010; Kim, Choi, Kang, & Kim, 2011).

The increasing use of information technologies both in teaching and everyday life has brought different problems needing to be solved along with it. Contrary to the expectations, different tendencies and attitudes in student behaviors during the teaching process have emerged. These problematic attitudes depending on the intended use of information technologies that affect the individuals' lives in addition to the lives of students have been categorized in relevant literature as "addictions" in the form of "virtual environment, game, internet, etc." (Young, 1998; Cole & Griffiths, 2007; Kim, LaRose, & Peng, 2009; Mehroof & Griffiths, 2010; Üner & Tanıdır, 2011; Günüş & Kayri, 2013; Griffiths, Kuss, Billieux, & Pontes, 2016). In other words, the problem has led to the need of considering the different dynamics that affect learning about "human" or "student" characteristics in the teaching process.

Even though the literature on education and teaching discusses factors affecting learning in a multidimensional way in order to realize teaching objectives, it is observed that teachers, performing the teaching, and parents both share the same focal point: attitudes of students towards learning. To put it in other words, the fundamental reason that teaching objectives have not been achieved are due to the attitudes of the students towards learning (Glynn, Aultman, & Owens, 2005). The point that administrators, the teachers and the families responsible for the teaching activities draw attention to is "Behaviors to be produced in relation to the acquisition of certain behaviors (observable as performance)". Anything that "cannot be learned" by an individual is considered to be contrary to the human nature. Due to the fact that learning is a function of intelligence, it is the working mind that has carried the primitive human to what he is today, generating change and development and separating human beings from other living things. For this reason, except for certain special cases, it not possible to state the fact that a student cannot learn. Thus, it has been proven that attitudes as the total of emotional and behavioral tendencies and thoughts developed depending on several factors affect the acquisition of teaching objectives.

The concept of attitude is generally explained as positive or negative emotions and thoughts related to a specific social object such as humans, objects, facts or events (Bilgin, 2007). Attitude is a state of mental or neural readiness both as the premise and the consequences of behavior as a result of tendencies of emotions, thoughts, behaviors emerged due to previous experiences (Allport, 1967, Fishbein; 1967, Richardson, 1996) While attitudes, which are not directly seen but can be observed through behaviors, give direction to human behaviors, they are a phenomenon that can differentiate decision making, problem solving processes, in other words all interactions, and that can lead to bias. In other words, just as a positive response in a situation with a positive attitude can affect the approach to the events and phenomenon differently, negative reaction with a negative attitude can affect differently as well (Greenwald, 1968; Fazio, 1986; Tinkham, 1989; Ajzen & Fishbein, 1977; Olson & Zanna, 1993; Ajzen & Fishbein, 2005). Therefore, the effort of the student to show the expected behaviors in terms of teaching objectives, as a positive or negative attitude towards learning, is regarded as a predictor of the academic success of the student (Williams, 1992; Richardson, 1996; Osborne, Simon, & Collins, 2003; Hong-sheng, 2005; Tandogan & Orhan, 2007; McAuley, Leskovec, & Jurafsky, 2012). A student displays feelings and thoughts in terms of learning environment and learning processes with appropriate or inappropriate behaviors in accordance with the expectations of the environment. He or she tends to explain ones' self with positive or negative attitudes.

In this context, it is believed that there should be difference between the learning attitudes of students who have different behavioral tendencies and can experience problems by using information technologies other than their teaching objectives and the attitudes of students using this technology towards their learning objectives. Based on this idea, this study was conducted in order to support the studies regarding the fact that the unexpected effect of information technologies can be overcome by the difference that can be created in learning attitudes. Thus, as the technology can contribute to the expected positive effect, it has been thought that information about what might be the dynamics that influence learning attitudes of students can be obtained. Accordingly, the study has revealed whether students' attitudes towards learning, academic achievements form differences in their use other than computer learning. The main purpose of the study is to investigate whether there is a relationship between students' attitudes towards learning, academic success and internet addiction. In line with this main purpose, the research was conducted to answer the questions regarding if there is a difference in the dependent variables of internet addiction and learning attitude with respect to the independent variables of gender, students' perceived academic success level, time spent for homework in a week, time spent with their families, time spent for internet games and the internet connection in their homes.

## 2. Method

Relational screening model, the method attempting to examine the existing situation between two or more variables relationally, was the basis of this study (Karasar, 2014).

### 2.1 The Study Group

The study was conducted in the public schools at the high school level in Kadıköy district of Istanbul in the 2015-2016 academic year with the randomly selected students, from the schools who enrolled students with scores between 450 and 500 points out of 500 in the exams conducted during the transition from secondary education to high school, with the institutional permission provided by the Governorship of İstanbul Provincial Directorate of National Education, with the date 04.21.2016 and issue: 59090411-20-E.4519158. These schools are also considered as the schools that provide the highest number of students to the universities that accept students with high points/upper percentage points in transition to higher education. The 12th grade of the schools in which the research was carried out was excluded from the scope of the study with the joint decision of both the researcher and the school administrations as they were preparing for the transition exam to higher education. 370 students from 9th, 10th and 11th grades selected randomly participated in the study and the information of 335 students, 158 of who were 177 and female were evaluated.

### 2.2 Data Collection Tools

In order to measure students' attitudes towards learning, Learning Attitude scale was used. The Internet Addiction scale was used in order to measure Internet addiction and in order to obtain the demographic information of the students the personal information form prepared by the researcher was used.

#### 2.2.1 Learning Attitude Scale

Developed by Kara (2010), learning attitude scale was prepared as a five-point Likert type consisting of 40 questions and four sub-dimensions. The Cronbach Alpha internal consistency coefficient of the scale was calculated as .73 and the test retest correlation coefficient was found to be .87. According to the factor analysis for the study group the Cronbach Alpha value of the study was found to be .775.

#### 2.2.2 Computer Addiction Scale

Developed by Ayas, Çakır and Horzum (2011), the computer addiction scale consists of two factors; game and internet addictions. The game addiction factor consists of 26 and the internet addiction factor consists of 28 questions. The load value of the Internet addiction factor of the scale varies between .512 - .795 and accounts for 29.49% of the total variance of the scale. The game value of the Internet addiction factor of the scale varies between .424 - .788 and is accountable for 19.13% of the variance of the scale. The Internet addiction factor group of this study was used as the data collection tool for the study group and Cronbach Alpha value was found to be .952 according to the factor analysis performed.

### 2.3 Sampling Procedures

In this study, the demographic variables of the students were determined as the average time spent on gender, school achievement, and activities performed after school (doing homework, doing family activities, playing computer games). By analyzing the data with t test, one-way variance analysis (ANOVA) and correlation statistical research

techniques in the SPSS 22.0 program, the findings were obtained. In the applied statistics, a significance level of .05 was taken as basis.

#### 2.4 Data Analysis Process

In this study, the demographic variables of the students were determined as the average time spent on gender, school achievement, and activities performed after school (doing homework, doing family activities, playing computer games). By analyzing the data with t test, one-way variance analysis (ANOVA) and correlation statistical research techniques in the SPSS 22.0 program, the findings were obtained. In the applied statistics, a significance level of .05 was taken as basis.

### 3. Results

9<sup>th</sup> graders consisted 16.1% of participating students in the research, 10<sup>th</sup> graders 33.7% and 11<sup>th</sup> graders 50.1% (See Table 1).

**Table 1.** Demographic Characteristics of Students

Gender	f	%	Age	f	%	Grade	f	%
Female	158	47.2	15	37	11.0	9 <sup>th</sup> grade	54	16.1
Male	177	52.8	16	154	46.0	10 <sup>th</sup> grade	113	33.7
Total	335	100.0	17	144	43.0	11 <sup>th</sup> grade	168	50.1
			Total	335	100.00	Total	355	100.0

**Table 2.** Information on Demographic Characteristics of the Parents of Students

Level of education	No education		Primary school		Secondary school		High School		University		Total
	f	%	f	%	f	%	f	%	f	%	
Mother	6	1.8	43	12.8	43	12.8	119	35.6	124	36.8	335/100.0
Father	3	0.9	24	7.2	35	10.4	99	29.6	174	51.8	335/100.0
Working status	Unemployment		Housewife		Retired		Works part-time		Works full-time		Total
	f	%	f	%	f	%	f	%	f	%	
Mother	26	7.8	47	14.0	134	40.0	16	4.8	112	33.2	335/100.0
Father	21	6.3	-	-	34	10.1	19	5.7	261	73.1	335/100.0

The outcome of the t test applied to determine whether the students of the sample group had a significant difference in the averages of the total scores of the Internet Total compared to the gender variable, showed significant differences ( $t_{(282.89)} = 2.260$ ;  $p < .05$ ). On the basis of the findings obtained, the average of male students (64.47) is higher than the average scores of female students (58.67) (See Table3).

**Table 3.** T Test Results According to Gender Variable of Internet Addiction Scale Scores

Scales	Group	N	$\bar{x}$	SD	T	t test	
						df	p
Internet Addiction	Male	158	64.47	26.67	2.260	282.89	.025
	Female	177	58.67	19.29			

As a result of the one-way analysis of variance (ANOVA) conducted to determine whether there was a significant difference in the average of internet addiction scale total scores of the students forming the sample group according to the school achievement (depending on students' perceptions) variable, there were significant differences found between groups' arithmetic averages ( $F=3.349$ ;  $p < .05$ ) (See Table 4)

**Table 4.** Results of Variance Analysis of Internet Addiction Scale Scores According to the School Achievement Variable

Results of ANOVA				F and Sd Values					
Group	N	$\bar{x}$	SD		Sum of Squares	df	Mean square	F	p
Very good	39	53.46	21.74	Between Groups	7023.94	4	1755.98	3.349	0.011
Good	162	60.48	22.54	Within Groups	167279.58	319	524.39		
Average	100	64.84	21.98	Total	174303.52	323			
Bad	15	76.00	34.98						
Very bad	8	65.00	19.18						

As a result of the Tukey Post-Hoc analysis performed after the variance analysis to determine where the significance difference was among the groups, there was a significant difference in the internet addiction total scores average between the students who stated that their school success was very bad ( $\bar{x}=76.00$ ) and those who stated that it was very good ( $\bar{x}=53.46$ ) in favor of those who said that their school success was very bad (See Table 5).

**Table 5.** The Scale Differences Between Grades According to the Scores Received from the Internet Addiction Scale

Dependent Variable	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
				LowerBound	Upper Bound
Internet Total Bad Very good	22.5385*	6.9574	.035	.982	44.095

One-way ANOVA conducted to determine whether the average of Internet addiction scale total scores of the students of the study group showed a significant difference according to the time period they spared to do homework in one-week period variable, there was a significant difference found between the arithmetic average of the groups ( $F=7.497$ ;  $p<.05$ ) (See Table 6).

**Table 6.** The Results of Variance Analysis of Internet Addiction Scale Scores According to the Variable of the Duration Spared to Do Homework in One-Week Period

Results of ANOVA					F and Sd Values					
Scale	Group	N	$\bar{x}$	SD		Sum of squares	Sd	Mean Square	F	p
Internet addiction	Never	62	74.44	28.67	Between Groups	14991.37	4	3747.84	7.497	0.000
	1-2 hours a week	120	59.49	21.38	Within Group	164963.42	330	499.89		
	3-5 hours a week	85	60.41	21.79	Total	179954.79	334			
	6-7 hours a week	39	56.13	18.51						
	8 hours, more a week	29	51.48	16.42						
	Total		335	61.41	23.21					

As a result of Tukey Post-Hoc analysis performed after variance analysis to determine where the significant difference was among the groups, there was a significant difference found among the students who said “never” for sparing time to do homework in one-week period ( $\bar{x}=74.44$ ) and those who said they spared “1-2 hours” ( $\bar{x}=59.44$ ), “3-5 hours” ( $\bar{x}=60.41$ ), “6-7 hours” ( $\bar{x}=56.13$ ) and “more than 8 hours” ( $\bar{x}=51.44$ ) in favor of those who said never (See Table 7).

**Table 7.** The Scale Differences Between Grades According to the Scores Received from the Internet Addiction Scale

Dependent Variable			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Internet	Never	1-2 hours a week	14.9438*	3.4969	.001	4.111	25.776
Total		3-5 hours a week	14.0237*	3.7341	.008	2.456	25.591
		6-7 hours a week	18.3073*	4.5695	.003	4.152	32.462
		8 hours, more a week	22.9527*	5.0299	.000	7.371	38.534

One-way ANOVA conducted to determine whether the average of internet addiction scale total scores of the students of the study group showed a significant difference according to the variable of participating in an activity with their families in one-week period, there was a significant difference found between the arithmetic average of the groups (F=6.806; p<.05) (See Table 8)

**Table 8.** The Results of Variance Analysis of Internet Addiction Scale Scores According to the Variable of Participating in an Activity with Their Families in One-Week Period

Results of ANOVA					F and Sd Values					
Scale	Group	N	$\bar{x}$	SS		Sum of Squares	Sd	Mean Square	F	p
Internet Total	Never	38	76.82	30.71	Between Groups	13713.53	4	3428.38	6.806	0.000
	1-2 hours a week	74	63.57	25.26	Within Group	166241.26	330	503.76		
	3-5 hours a week	137	59.61	19.74	Total	179954.79	334			
	6-7 hours a week	45	58.84	21.31						
	8 hours, more a week	41	52.02	17.18						
	Total	335	61.41	23.21						

As a result of Tukey Post-Hoc analysis after variance analysis performed to determine where the significant difference was, there was a significant difference found according to the participation in an activity with the family in one-week period variable among the students who said “never” ( $\bar{x}$ =76.82) and those who said “3-5 hours” ( $\bar{x}$ =659.61), “6-7 hours” ( $\bar{x}$ =58.84) and “more than 8 hours” ( $\bar{x}$ =52.02) in favor of those who said never (See Table 9).

**Table 9.** The Scale Differences Between Grades According to the Scores Received from the Internet Addiction Scale

Dependent Variable			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Internet	Never	3-5 hours a week	17.2027*	4.1151	.002	4.455	29.950
Total		6-7 hours a week	17.9713*	4.9449	.011	2.653	33.289
		8 hours, more a week	24.7914*	5.0541	.000	9.135	40.448

One-way ANOVA conducted to determine whether the average of internet addiction scale total scores of the students of the study group showed a significant difference according to the variable of time period they spared for computer games in one-week period, there was a significant difference found between the arithmetic average of the groups (F=4.453; p<.05) (See Table 10).

**Table 10.** The Results of Variance Analysis of Internet Addiction Scale Scores According to the Variable of the Time Spared for Computer Games in One-Week Period

Results of ANOVA					F and Sd Values					
Scale	Group	N	$\bar{x}$	SS		Sum of Squares	df	Mean Square	F	p
Internet Total	Never	153	57.62	21.32	Between Groups	9217.51	4	2304.38	4.453	0.002
	1-2 hours a week	76	60.45	24.31	Within Group	170269.58	329	517.54		
	3-5 hours a week	35	61.11	24.21	Total	179487.09	333			
	6-7 hours a week	21	64.52	20.56						
	8 hours, more a week	49	73.14	24.36						
	Total	334	61.34	23.22						

As a result of Tukey Post-Hoc analysis after variance analysis performed in order to determine where the significant difference was among the groups, there was a significant difference found between the students who indicated that they spared "8 hours and over" ( $\bar{x}= 73.14$ ) for computer games in one-week period and those who indicated that they do not spare any time "no" ( $\bar{x}= 57.62$ ) in favor of the students who stated "8 hours and over" per week (See Table 11).

**Table 11.** The Scale Differences Between Grades According to the Scores Received from the Internet Addiction Scale

Dependent Variable			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Internet Addiction Scale Total	8 hours, more a week	Never	15.5219*	3.7342	.002	3.954	27.090

As a result of the independent groups t test, applied to determine whether the students of the sample group had a significant difference in the averages of the total scores of the internet addiction according to the variable of availability of internet connection at home, there was a significant difference found ( $t_{(22,28)}=4.411$ ;  $p<.05$ ). As per the findings obtained, the averages of the students indicating that there is internet connection in their home (Yes  $\bar{x}=62.13$ ) were higher than those who stated that there was not (No  $\bar{x}=47.29$ ) any internet connection (See Table 12).

**Table 12.** T Test Results According to the Variable of Availability of Internet Connection at Home of Internet Addiction Scale Scores

Scale	Groups	N	$\bar{x}$	SS	t	df	p
Internet Total	YES	317	62.13	23.44	4.411	22.28	.000
	NO	17	47.29	12.76			

As a result of the correlation analysis made to determine the relation between the attitudes of the students, who constituted the study group, towards learning and scores on internet addiction behavior characteristics, there was a negative relationship found between attitude towards learning and internet addiction ( $r=-.167$ ) (See Table 13).

**Table 13.** The Relationship Between Learning Attitude and Internet Addiction

	Groups	Attitudes toward learning	Internet Addiction
Attitudes toward learning	Pearson Corr.	1	-.167**
	Sig.(2-tailed)		.002
Internet addiction	Pearson Corr.	-.167**	1
	Sig.(2-tailed)	.002	
		335	

#### 4. Discussion

The results of the research conducted to examine whether there is a relationship between students' attitudes towards learning, academic achievement and internet addictions draw attention to the relationship between the internet addiction and attitude towards learning. The results of the analysis conducted in line with the sub-objectives of the research show that independent variables make a difference in the dependent variables of internet addiction and attitude towards learning.

According to the results of the analysis on whether there is a difference in the internet addiction and attitude towards learning with respect to gender independent variable, while there is a difference in favor of male students in terms of internet addiction, there is no difference in their attitudes towards learning. The findings are in line with the results of the literature related to the game addiction research besides the internet addiction (Ko, Yen, Chen, Chen, & Yen, 2005; Van Rooij, Ferguson, Van de Mheen, & Schoenmakers, 2017; King & Delfabbro, 2016). Accordingly, while some of the results of the studies examining the gender factor in terms of attitudes towards information communication technologies support the relevant data, some of them have revealed different results (Whang, Lee, & Chang, 2003; Laconi, Tricard, & Chabrol, 2015; Laconi, S., Kaliszewska-Czeremska, Gnisci, Sergi, Barke, Jeromin, & Király, 2018). Studies have highlighted that the attitude changes according to the gender regarding the internet technologies and use of internet depend on various factors including having a computer, experiences of computers, school and family environment, cultural and geographical differences among countries. (Batıgün & Kılıç, 2011; Bozkurt, Şahin, & Zoroğlu, 2016; Liang, Zhou, Yuan, Shao, & Bian, 2016; Morsünbül, 2014; Sargın, 2013; Suri & Sharma, 2013; Young, 2004). Also researches emphasize that the levels of utilization of social environmental resources such as expectations of social roles for men and women and the periods of development in which they began to benefit from these resources may vary depending on the dynamics of social life of men and women (Marino, Vieno, Pastore, Alberly, Frings, & Spada, 2016). Research findings on socio-psychological dynamics, family roles and duties of Turkish society reveal that the expectations of male and female gender identity role behaviors can make a difference in the way they are raised. The fact that there is no difference in the attitudes of students towards learning according with respect to gender variable indicates some degree of difference with the studies related to academic achievement. Research shows that learning motivation, academic achievement levels, anxiety about academic achievement and school burnout in female students are higher than in male students. Interdisciplinary studies emphasize that social fabric and consequently domestic dynamics have different effects on the living spaces of men and women in the process of identity acquisition. If there are no differences in attitudes toward learning with respect to gender in this research, this can be explained with the fact that the students participated in this study are the students at the schools with a high level of academic success in the transition from secondary education to high school and from high school to the university in Turkey. In order to be able to study in these high schools, students need to get a high score in the transition from secondary to high school, which includes boarding schools for students from different regions of Turkey. In addition, the schools in which the research was conducted were randomly selected among the schools with similar characteristics in the district of Kadıköy, Istanbul for the main purpose of the research. In other words, the academic achievement of the students of these schools cannot only be evaluated with the exam preparation process at 8th grade, and the motivation for learning should also be different from other students in the previous education levels. When the demographic information of the parents of the study group are taken into consideration, if a majority of them are high-school or university graduates or whether they are working mothers or retired affect the distinctions in the attitudes towards learning. The literature on psychology, education and learning psychology stress that the competencies of the individuals' being able to manage their own learning develops in accordance with their experiences and that the family plays an important role during this period (Effeney, Carroll, & Bahr, 2013; Leung, 2006; Kapıkıran & Özgüngör, 2009; Peker & Kağızmanlı, 2018; Üneri & Tandır, 2011; Yılmaz, 2014). While the concepts of self-efficacy, self-regulation, focus of control in the literature related to academic achievement and competence assign the individual's self-improvement responsibility to him/her, they also

draw attention to the relationship of the process with social and emotional environment (Pajares & Schunk, 2001; Bong & Skaalvik, 2003; Bandura, 2005). From past to present, the fact that meditation for problem solving may be more effective than the things taught at school has been emphasized in several studies and this process could also be influential on the young being unsuccessful at schools (Rand, Tannenbaum, & Feuerstein, 1979) and it could create a positive effect on the academic achievement and learning habits by the controller and disciplined behaviors of the family (Pressman, Owens, Evans, & Nemon 2014). Therefore, although it is perceived that it does not comply with the literature as no difference between the female and male students was found in terms of attitudes towards learning, the characteristics of the student group should be considered in the evaluation of the findings.

According to the independent variables of students' school performance (according to their own expressions) and the time (duration) they spend doing homework and playing computer games in one week period, findings on whether there is a difference in attitudes towards learning and internet addiction indicate that there are no differences in their attitudes towards learning, in addition mean scores of internet addiction change in favor of the students who stated that their academic success is bad, the students who stated that they "never" spend time to do homework, and those who stated that they devoted more time to computer games. This finding is in line with the finding which displays that there is a negative relationship between learning attitudes and internet addiction behaviors of the sample group. These findings support the hypothesis, which is the main purpose of the study, that learning attitudes can make a difference in the behaviors of internet addiction resulting from the use of information technologies other than its real purpose. In addition, the literature on internet addiction in recent years argues that, it is necessary to differentiate these dynamics by emphasizing that the increasing use of information technologies applications in education, training and business world in order to learn and develop as a requirement of information society cannot be considered within the scope of internet addiction (Griffiths, Kuss, Billieux, & Pontes, 2016) Therefore, students' use of information technology applications while doing homework or studying is not discussed in the context of internet addiction, on the contrary, it is regarded as the role behavior supporting the learning process of the member of information society. On the other hand, the difference in terms of internet addiction of students who stated that they do not take time to do homework, students who evaluate their academic success as bad and students who stated that they play computer games, can be supported with research related to adolescence behavior and adaptation problems as well as literature related to internet addiction and game addiction (Baltacı & Akpınar, 2011; Drennan, Kennedy, & Pisarski, 2005; Işık, 2010; Tandoğan & Orhan, 2007; Wu, 2013; Vigna-Taglianti, Brambilla, Priotto, Angelino, Cuomo, & Diecidue, 2017).

Considering the other outcomes of the research, spending time with the family is significant for the students and can differentiate the Internet addiction behavior. According to the finding obtained, there has been a significant difference in terms of Internet addiction behaviour in favor of the students stating that they have "never" spared time for any activity with their parents in a week compared to the students sparing time for activities with their parents. In addition, when compared to those who do not have internet connections at home to those that do, there is a difference in terms of Internet addiction in favor of the students who have Internet connection at home. Both findings stress the significance of inter-family relationships. The finding points out the importance of the inter-family communication and interaction for the students (adolescents) and it suggests that the direction of the virtual environment activities of the students may vary as the quality and quantity of family relationships show distinction (Chen, Chen, & Gau, 2015; Lachmann, Sariyska, Kannen, Cooper, & Montag, 2016; Bonnaire & Phan, 2017; Seyrek, Cop, Sinir, Ugurlu, & Şenel, 2017)

The results of the correlation analysis conducted in line with the main purpose of the research show that there is a negative relationship between the attitude towards learning and internet addiction. The obtained finding supports the starting point, the idea, of the research, which is, the difference in the problem of internet addiction behavior among students with different attitudes towards learning. Additionally, in the related literature, it is seen that studies on the relationship between academic achievement and internet addiction have reached similar results (Siddiqui, Memon, & Siddiqui, 2016; Badri, Al Nuaimi, Guang, & Al Rashedi, 2017). Related studies indicate that many dynamics ranging from personality traits to familial factors can be effective in internet addiction behavior (Johnson, 2016). Therefore, although the degree of negative relationship between related features is not as high as expected, it is thought that this finding may contribute to the studies on the prevention of internet addiction. The finding suggests that information technologies can be used in accordance with their purposes with the effectiveness of learning processes and applications in the stages of education. In addition, when we consider that the applications of information technologies such as games and social networking that support addictive behavior problems serve different needs of individuals; in case that the students develop behaviors towards meeting their psycho-social needs, information technologies may become a means of improving quality of life rather than being a problem.

## 5. Conclusion

As a result of this study, which is designed to examine whether there is a relationship between students' attitudes towards learning, academic achievement and internet addictions, whereas a negative relationship between students' internet addiction and attitudes towards learning was found, it is observed that the internet addiction scores of the students who perceive their academic performance as high and devote more time to do homework were low. The findings show that as the attitudes towards learning differ, there may be a decrease in internet addiction behaviour.

According to the results of the study, there is a difference with respect to gender variable in favour of male students, and according to the variables of playing computer games, having an activity with the family and having an internet connection at home in favour of the students who were more likely to play computer games, spend less time in a week with his family and have internet connection at home in terms of internet addiction. However, the findings also show that there were no differences in students' attitudes towards learning regarding the related variables.

Considering to the research findings, it is possible to express that differentiation of students' attitudes towards learning can support effective and efficient use of information technologies and that the negative differentiation of the attitudes towards learning can generate Internet addiction as a result of inefficient use of the information technologies.

## 6. Recommendations

According to the results of this research as a relational screening model aimed at determining whether there has been a relationship between the students' attitudes towards learning, academic achievement and Internet addiction, it is believed that the dynamics that can make a difference in the attitudes of the students towards learning should be discussed multidimensionally. It is clearly observed that in the educational process, information technology fails to be sufficient in changing the motivation of the students to learn, and that this situation causes certain problems related to the use of such technologies. It is stated that establishing effective communication networks in the contexts of administrators, teachers and the family and putting the learning process out of the performance-based and exam-oriented understanding have an importance considering the student as a "human" in the education environment. In particular, it is necessary to strengthen the leadership and guidance duties of teachers for the students to become technologically literate.

Due to certain negativities that have been observed and experienced during the initial and application phase of this research, some modifications in the scope of the research have been done. The research has been initially designed to examine the teachers' attitudes towards learning as well as the students' attitudes, the relationship between their academic achievement and Internet addiction. Due to the fact that data could be obtained from 40 teachers from the schools where students of the study group attended, attitudes of teachers towards learning were to be excluded. On account of the work load of the teachers or of different factors, it has not been possible to collect information on their attitudes towards learning. One of the issues that the researcher has observed during the applications in different studies is related to the significance of the contributions of the scientific studies on teaching to the teaching process and to the teachers themselves, rather than the occupational burnout of the teachers. Therefore, it is recommended that the in-service educational process of the teachers should be revised and regulated accordingly. Moreover, it is stated that it is necessary to prevent the aforementioned training events from generating "inadequacy perception" and to emphasize the importance of the teacher as well as the school administrators, students and parents.

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