

THE RELATIONSHIP BETWEEN SENSE OF BELONGING AND TECHNOLOGY ADDICTION OF HIGH SCHOOL STUDENTS¹

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ABSTRACT

Nowadays, technology addiction poses great risks, especially for adolescents. In this study, the relationship between high school students' technology addiction levels and school belonging feelings was tried to be revealed. For this purpose, the data were collected from 232 students studying at state high schools during in the 2018-2019 academic year in Western Black Sea Region of Turkey. Two scales were used as a data collection tool in the study, and relational screening method was used. The first of these scales is The Technology Addiction Scale and the second is the Sense of Belonging to School Scale. The data obtained from the scales were analyzed using SPSS package program. As a result of the analysis, technology addiction levels of high school students were found to be low. When the addiction level is examined in terms of gender, it was observed that technology addiction levels of male students were higher than female students. It was also found that male students' level of school belonging was lower than female students. When the feeling of rejection is analyzed in terms of gender, it was found that male students felt more rejected than female students. In terms of academic achievement, it was seen that technology addiction negatively affected academic achievement in general. It was concluded that the technology addiction levels of the 10th grade students were higher than the 11th grade students. According to the type of school, the technology addiction levels of vocational high school students were higher compared to students in other high schools, whereas the level of sense of school belonging was lower than the students studying in other high schools. There was a moderate negative correlation between technology addiction and sense of school membership.

Keywords: Technology addiction, academic success, sense of belonging, sense of rejection.

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INTRODUCTION

With the life-facilitating effect of technology that involves every area of life, the number of users increases day by day and it becomes an integral part of life especially thanks to the internet and the conveniences it offers. According to the 2019 report published by We Are Social on internet usage of countries every year, the number of internet users increased by 9.1% and the number of social media users increased by 9.0% compared to the previous year. In the same report, Turkey's number of Internet users, according to data of June 2019, increased to 59.36 million people by 72%, and the number of social media users has risen to 52 million people by 63% (We Are Social, 2019). Parallel to this increase rate of internet and social media users, the rate of computer use in households increased to 59.6% (TUİK, 2018). The rapid increase in the use of technology and technological devices resulted in negative effects such as technology addiction as well as the excessive use of technology. In general, addiction is defined as the loss of control over an object or an action that the person uses and the inability to live without it (TBM, 2015). Although research on addiction is generally conducted on drug addictions such as cigarettes, alcohol and drugs, new addiction types such as technology addiction have emerged with the advances in technology (Çavuş, Ayhan & Tuncer 2016). When technology addiction is mentioned, the concepts of internet, game, socialization, online shopping, social media, instant messaging, tablet and television addiction appear (Aydın, 2017; Karayel, 2019; Çavuş, Ayhan & Tuncer 2016). These types of addiction cause uneasiness, insomnia and anger and mental, social and physical problems in people (TBM, 2015). Internet addiction is a problem that threatens the mental health of adolescents all over the world (Hirao, 2017). Technology addiction that has so many adverse effects constitutes a great risk for young people that are the followers and the first users of new technologies in Turkey as well as all over the world (Ekşi & Ümmet, 2013), and it especially negatively affect students' education process. There is a relationship between technology addiction and attention deficit, hyperactivity and anxiety levels that are more common among young people (Ozturk, Ekinci, Ozturk & Canan, 2013). It causes interpersonal communication problems, insomnia, and other negativity in daily activities for students as well as academic achievement (Anderson, 2001). Addiction causes many problems such as psychological problems (Beranuy, Oberst, Carbonell, & Chamarro), loneliness (Ezoe & Toda, 2013; Park, 2005), anxiety (Jenaro, Flores, Gomez-Vela, Gonzalez-Gil, & Caballo, 2007), depression (Lu et al., 2011). These problems, which may arise as a result of addiction, may cause some other problems at school environment like decreasing of the students' sense of belonging to school and increasing the feeling of rejection. Sense of school belonging is defined as the feeling of support, acceptance and respect of students by other adults and teachers within the school environment (Goodenow & Grady, 1993). The strong feeling of belonging to school of the students reduces the stress (Zhang, Mou, Tong & Wu 2018) and also affects academic achievement positively (Anderson 2001). There is a positive relationship between academic achievement and sense of belonging to the school and it supports them to plan for the future (Adelabu, 2007). A strong sense of belonging to the school is also known to reduce school dropout (Anderman, 2003). According to Goodenow and Grady (1993), students' sense of belonging to the school includes feelings about how well they are accepted, respected and supported by the students and especially the teachers in the social environment of the school. Allen et al. (2008) point out that

the concepts and definitions of school belonging functionally combine three aspects: 1. School-based relationships and experiences. 2. Student-teacher relations. 3. Students' feelings about the school as a whole. Anderman (2003) evaluates school belonging with the social and academic components of the school and emphasizes that the assumptions about school belonging are related to academic and social variables in the school. Anderman (2003) is also of the opinion that academic motivational variables affect the level of school belonging. The use of technology, which facilitates our daily life and gives access to information and communication from anywhere, is increasing day by day with many features such as internet usage, social media and daily works. In addition to all these features, the unconscious and excessive use by people cause both physical and psychological problems, making it easy to work as a tool that makes people addicted. Individuals who are at greatest risk in this addiction are young people and students who are keen to test and use the new technology first. Excessive use of technology has been shown to cause problems such as introversion, stress, anxiety, depression, peer conflict, and lack of belonging. On the other hand, academic studies show us that school belonging positively affects students' academic achievement, reduces stress, and prevents school dropouts. It is thought that technology addiction will negatively affect school belonging of students. This study, which deals with technology addiction and school belonging, is likely to contribute to the literature. With this study, the answers to the following questions are sought in order to reveal the level of technology addiction level and belongingness of high school students.

- What is the level of technology addiction of high school students?
- What is the level of high school students' sense of belonging and rejection?
- Do technology addiction levels of high school students significantly differ in terms of gender, grade and academic achievement?
- Is there a relationship between high school students' technology addiction level and sense of belonging?

METHOD

Research Design

In the research, relational screening model which is one of the quantitative research designs was used. Screening models are used in order to reach a general judgment about the universe consisting of many elements. Studies using relational screening model aim at determining the change between two and more variables (Fraenkel & Wallen, 2003). In the research, technology addiction levels of high school students were depicted with singular screening model. With the relational screening model, the differences in participants' technology addiction levels were examined in terms of gender, grade, and academic achievement. Pearson Correlation Coefficient (r) was used to investigate the relationship between high school students' technology addiction levels and school belonging feelings.

Population And Sampling

The sample involved 3 Anatolian High Schools, one Vocational High School and one Science High School, that were located in Western Black Sea Region. Since the research involved technology addiction, the names of provinces and schools were not included in the research, but the school names were coded. The coding is given as Anatolian High School-1, Anatolian High School-2, Anatolian High School-3, Vocational High School and Science High School. In 2017-2018 academic year, these schools have received students according to the transition from Basic Education to Secondary Education Exam (TEOG). According to the results of TEOG, the lowest placement scores of the students were 484.16 points at Science High School, 466.58 points at Anatolian High School-A, 453.13 points at Anatolian High School-B, 405,03 points at Anatolian High School-C, while the Vocational High School accepted students that had scores between 173,60 and 240,38 depending on the departments (MEB, 2019).

The Ministry of National Education (MNE) has given up the score-based student registration system since the 2018-2019 academic year and switched to the address-based student registration system. As the 9th grades enrolled in high schools in the 2018-2019 academic year and were registered to schools without address points, 9th grades were not included in the study while 10th, 11th and 12th grades were included in the study.

For the purposes of the research, stratified sampling method was applied by considering the placement scores of students in high schools in order to reveal the relationship between academic achievement and technology addiction. The stratified sampling method, which is used to represent each stratum independently, was used to identify subgroups from the universe (Büyüköztürk, Çakmak, Akgün, Karadeniz & Demirel, 2012). Data were collected online from 232 volunteer students. The demographic characteristics of these students are given in Table 1.

Tablo 1. Demographics of the Participants

	n	%
Gender		
Male	137	59.1
Female	95	40.9
Class		
10. grade	72	31.0
11. grade	96	41.4
12. grade	64	27.6
Schools		
Science High School	73	31.5
Anatolian high school -A	15	6.5
Anatolian high school -B	45	19.4
Anatolian high school -C	27	11.6
Vocational and Technical High School	72	31.0
Total	232	100

Data Collection Tools

Two measurement scales were used in the study. The first is the Technology Addiction Scale (TDS) developed by Aydın (2017). The scale consists of 24 items with four-dimensional factor structure: Social Network Use, Instant Messaging, Online Gaming and Using Web Sites. The scale has a 5-point rating, the lowest score that can be obtained from the scale is 24, and the highest score is 120. The internal consistency coefficient (Cronbach's Alpha) is 0.786. Total values of items obtained from the scale; It was interpreted as low between 1-2.33, medium level between 2.34-3.66 and high level of technology addiction between 3.67-5.00.

The second measurement tool used in the study, Sense of Belonging to School Scale (SBSS), was developed by Goodenow (1993) and adapted to Turkish by Sarı (2011). The scale consists of 18 items and two factors. The Sense of Belonging to School involved 13 items while feeling of Rejection involved 5 items.

Sense of Rejection items 3, 6, 9, 12, and 16 consisted of negative expressions. These two factors explained 38.49% of the total variance. Cronbach's alpha internal consistency coefficients were .84 and .78, respectively. Total values of items obtained from the scale; It was interpreted as low between 1-2.33, medium level between 2.34-3.66 and high level between 3.67-5. Data were collected from 232 volunteer high school students online during the spring semester of 2018-2019 academic year.

Data Analysis

In the study, descriptive statistics for expressions in personal information form were used and percentage values of the participants were analyzed in school, classroom, gender and achievement analysis. Independent samples t-test was used In order to determine whether TDS and SBSS scores differed significantly in terms of gender and academic achievement. One-way analysis of variance (ANOVA) was used to determine whether technology addiction and school belonging differed according to the grade and schools. Pearson Correlation Coefficient (r) analysis was conducted to determine the direction and strength of the relationship between technology addiction and sense of belonging to school. SPSS.21 package program was used in the analysis of the data and .05 was accepted as the level of significance in the analyzes.

FINDINGS (RESULTS)

As a result of the research, the scores obtained from the TDS and SBSS and their factors are given in Table 2.

Table 2. The Mean and Standard Deviation Distributions of the Students' TDS and SBSS Scores

		n	\bar{X}	Ss
Technology addiction	Using social media	232	1.90	0.75
	Instant messaging	232	1.87	0.68
	Playing online game	232	1.70	0.86
	Using web sites	232	1.94	0.89
	Technology addiction (General)	232	1.85	0.65
The sense of belonging school	Sense of Belonging to School	232	3.33	0.76
	Rejection	232	2.67	0.83

When Table 2 is examined, it is seen that Technology Addiction Levels of high school students are generally low. On the other hand, according to TDS and factors, it was seen that while the level of addiction on using Web Sites was highest, the level of Online Game Playing was lower.

When Table 2 was examined according to school belonging, it was observed that high school students had a moderate level sense of belonging to school and rejection, and the sense of belonging level was higher than the level of rejection.

Table 3 shows the independent samples t-test between the TDS and SBSS and their factors according to the gender of high school students. For statistical methods in which the difference between the two groups averages is calculated, Cohen's d value is commonly used to calculate the effect size. In the interpretation of Cohen's d value; .20- small; .50- moderate; .80 is interpreted as large (Cohen, 1988).

Table 3. The Results of t-Test Regarding the TDS and SBSS Scores of the Students According to Gender

			N	\bar{X}	Ss	Sd	t	p	Cohen's <i>d</i>
Technology addiction	Using social media	Male	137	1,94	.76	230	.989	.324	.13
		Female	95	1,84	.73				
	Instant messaging	Male	137	1,86	.71	230	-.329	.743	.04
		Female	95	1,89	.66				
	Playing online game	Male	137	1,95	.87	230	5.521	.000*	.72
		Female	95	1,35	.70				
Using web sites	Male	137	1,97	.91	230	.479	.632	.06	
	Female	95	1,91	.87					
Technology addiction (General)	Male	137	1,93	.66	230	2.073	.039*	.27	
	Female	95	1,75	.64					
Belonging school	Sense of Belonging to School	Male	137	3,25	.81	230	-2.029	.044*	.25
		Female	95	3,44	.67				
	Rejection	Male	137	2,76	.86	230	1.973	.045*	.26
		Female	95	2,54	.77				

* $p < 0.05$

When Table 3 is examined, in terms of technology addiction, male students have higher technology addiction than female students ($p < 0.05$). Similarly, in the playing games, it is seen that male students have higher levels of addiction than female students ($p < 0.05$). There were no significant differences among other variables and factors ($p > 0.05$). The effect size value was calculated from Cohen *d*; technology addiction ($d = .27$) moderate, online gaming ($d = .72$) broad, sense of school belonging ($d = .25$) moderate and rejection ($d = .26$) moderate effect size.

According to another result obtained from Table 3, it is seen that female students have higher levels of school belonging than male students ($p < 0.05$). According to the sense of rejection, male students feel more rejected than female students ($p < 0.05$).

In order to determine the level of technology addiction according to the academic achievement of the students, the 100-point grading system was divided into four groups. This score ranges as; The first group consisted of 0-24 points, the second group 25-49 points, the third group 50-74 points and the fourth group 75-100 points. According to the data obtained, there were no students in the 0-24 points range, there were two students in the 25-49 points range, 52 students in the 50-74 points range and 178 students in the 75-100 points range. Two students in the 25-49 point range were included in the 50-74 point range for the closest group in order to make the analyzes possible. According to the results of independent sample t-test, it is seen that there is a statistically significant difference between the levels of technology addiction of the students according to their academic success and these results are given in Table 4.

Table 4. Results of t-Test Between Technology Addiction and School Belonging in Terms of Academic Achievement

		N	\bar{X}	Ss	Sd	t	p	Cohen's d	
Technology addiction	Using social media	50-74	54	2,03	.76	230	1.451	.148	.19
		75-100	178	1.86	.74				
	Instant messaging	50-74	54	2,20	.81	230	4.046	.000*	.46
		75-100	178	1.78	.61				
	Playing online game	50-74	54	1.94	.85	230	2.340	.020*	.30
		75-100	178	1.63	.85				
Using web sites	50-74	54	2,28	1.03	230	2.867	.005*	.38	
	75-100	178	1.84	.82					
Technology addiction (General)	50-74	54	2,11	.74	230	3.001	.004*	.39	
	75-100	178	1.78	.61					
Belonging school	Sense of Belonging to School	50-74	54	3.11	.73	230	-2.413	.017*	.26
		75-100	178	3.39	.76				
	Sense of Rejection	50-74	54	2.82	.77	230	1.583	.115	.25
		75-100	178	2.62	.85				

*p<0.05

When Table 4 is examined, it is seen that there is a significant difference in students' technology addiction scores and its factors including messaging, gaming, and using web sites ($p < 0.05$). It can be observed that students with lower academic achievement had higher levels of addiction. There was no significant difference in social network use in terms of academic achievement ($p > 0.05$). There was a significant difference in school belonging scores in terms of academic achievement ($p < 0.05$). Contrary to technology addiction, it was seen that students with high academic achievement had higher levels of sense of belonging to school. There was no statistically significant difference in the rejection factor. The effect size value was calculated from Cohen's d; technology addiction ($d = .39$) moderate, instant message ($d = .46$) moderate, online gaming ($d = .30$) moderate, using web sites ($d = .38$) moderate and sense of school belonging ($d = .26$) moderate effect size.

One-way analysis of variance (ANOVA) and the Scheffe test from the Post Hoc Tests were used to determine whether students' technology addiction levels and school belongingness differed in terms of grade levels. As a result of the analyzes, while there is no significant difference in school belonging dimension, there is a significant difference in technology addiction dimension and this result is given in Table 5. The Cohen's f value is commonly used to calculate the effect size in variance analyzes. Cohen's f is interpreted as .10 = small, .25 medium, .40 wide (Cohen, 1988).

Table 5. Variance Analysis Results of the Students' TDS Scores by Grade

	N	\bar{X}	Variance source	Squares total	sd	Squares per	F	p	difference	Cohen's f
10. Grade	72	1.96	Among groups	3,57	2	1,78	4.21	.016	10-11*	.31
11. Grade	96	1.71	Inter-group	96,98	229	0,42				
12. Grade	64	1.95	Total	100,55	231					
Total	232	1,85								

*p<0.05

When Table 5 was examined, it was observed that there was a significant difference between 10th and 11th graders ($p < 0.05$) and 11th graders had higher levels of technology addiction. Effect size value (Cohen) $f = 0.31$ and is calculated medium effect size of these values.

One-way analysis of variance (ANOVA) and Scheffe test from Post Hoc Tests was applied to determine whether the technology addiction levels of the students differed according to the schools they are studying and the results are given in Table 6.

Table 6. Results of Variance Analysis of Students' TDS Scores by Schools

	N	\bar{X}	Variance source	Squares total	sd	Squares per	F	p	difference	Cohen's f
1- Science High School	73	1.68	Among groups	10.94	4	2.73	6.92	.000	5-1, 5-3, 2-3*	.67
2- Anatolian High School-A	15	2.18	Inter-group	89.61	227	.39				
3- Anatolian High School-B	45	1.59	Total	100,55	231					
4- Anatolian High School-C	27	2.03								
5- Vocational High School	72	2,06								
Total	232	1,85								

* $p < 0.05$

As a result of the analysis, it was seen that the technology addiction levels of Vocational High School students significantly differed from the technology addiction levels of Science High School and Anatolian High School-B students ($p < 0.05$). This difference was in favor of the students of Vocational High School. Moreover, a significant difference was found between the technology addiction levels of Anatolian High School-A students and Anatolian High School-B students. Accordingly, Anatolian High-School-B students had significantly higher scores of technology addiction. The effect size value (Cohen) is calculated as $f = 0.67$ and this value has a large effect size.

One-way analysis of variance (ANOVA) and the Scheffe test from the Post Hoc Tests was performed in order to determine whether students' sense of belonging to school levels differed according to the high schools they studied. The results are given in Table 7.

Table 7. Results of Variance Analysis of Students' SBSS Scores by Schools

	N	\bar{X}	Variance source	Squares total	sd	Squares per	F	p	difference	Cohen's f
1- Science High School	73	3.56	Among groups	18.55	4	4.64	9.01	.000	5-1, 5-3, 5-4*	.13
2- Anatolian High School-A	15	3.01	Inter-group	116.87	227	.51				
3- Anatolian High School-B	45	3.55	Total	135.43	231					
4- Anatolian High School-C	27	3.49								
5- Vocational High School	72	2.95								
Total	232	3.33								

* $p < 0.05$

When Table 7 is examined, it is seen that the sense of belonging to school levels of Vocational High School students differed significantly than the scores obtained by students at Science High School, Anatolian High School-B and Anatolian High School-C ($p < 0.05$). Accordingly, students of Vocational High School had lower levels of school belongingness. The effect size value (Cohen) is calculated as $f = 0.13$ and this value is of low effect size.

One-way analysis of variance (ANOVA) and the Scheffe test from the Post Hoc Tests was used to determine whether students' feelings of rejection differed in terms of high school. The results are given in Table 8.

Table 8. Variance Analysis Results of Students' SBSS Rejection Scores by Schools

	N	\bar{X}	Variance source	Squares total	sd	Squares per	F	p	difference	Cohen's f
1- Science High School	73	2.50	Among groups	14.55	4	3.63	5.62	.000	5-1, 5-3*	.99
2- Anatolian High School-A	15	2.94	Inter-group	146.95	227	.64				
3- Anatolian High School-B	45	2.35	Total	161.50	231					
4- Anatolian High School-C	27	2.68								
5- Vocational High School	72	2.98								
Total	232	2.67								

* $p < 0.05$

When Table 8 is examined, it is seen that rejection scores of vocational high school students significantly differed from the scores of students at Science High School and Anatolian High School-C ($p < 0.05$). Accordingly, students of vocational high school had significantly higher levels of rejection than the students of Science High School and Anatolian High School-C. The effect size value (Cohen) is calculated as $f = 0.99$ and this value has a high effect size.

In this study, Pearson Correlation Coefficients was calculated to determine whether there was a significant relationship between high school students' technology addiction levels and school belongingness levels as well as their factors. The Pearson Correlation coefficient was preferred because the data were normally distributed. The results can be seen in Table 9. Pearson's correlation was used to analyze the data for normal distribution.

Table 9. Correlation Coefficient Results Between High School Students' Technology Addiction and Sense of School Belonging

	1	2	3	4	5	6	7
1- Technology addiction	1.00						
2- Social networking	.859*	1.00					
3- Instant message	.797*	.628*	1.00				
4- Online games	.756*	.527*	.401*	1.00			
5- Using websites	.881*	.699*	.665*	.513*	1.00		
6- Sense of Belonging to School	-.232*	-.196*	-.214*	-.135*	-.233*	1.00	
7- Sense of rejection	.427	.381*	.326*	.326*	.371*	-.656*	1.00

* $p < 0.05$

When Table 9 is examined, it is seen that there is a significant positive relationship between medium and high level of high school students' technology addiction levels and sub-factors. There is a low level of negative correlation between Sense of Belonging to School factor and technology addiction and all sub-factors. There was a low and moderate positive relationship between Sense of Rejection and technology dependence and its sub-factors, while there was a significant negative correlation between School Attachment and Sense of Rejection ($r = -.656; p < .05$).

CONCLUSION and DISCUSSION

As a result of the research, it was seen that the technology addiction levels of the students were generally low. Among the factors of TDS (Social Network Use, Instant Messaging, Online Gaming and Using Web Sites), Web Sites were the first with the highest level of technology addiction, while Social Networking was the second. According to the results obtained from the second scale SBSS, high school students' sense of belonging to school level and sense of rejection was found to be moderate.

The relationship between high school students' technology addiction and school belonging levels by gender

According to the results obtained from TDS, high school students' addiction levels of male students were higher than female students' addiction levels. In the Online Game Playing, which is one of the factors of the TDS, the addiction levels of male students were higher than female students. According to the literature, there are studies showing that technology addiction levels of male students are higher than female students (Yang & Tung 2007; Günüç, 2009; Bakken, Wenzel, Götestam, Johansson & Oren, 2009; Milková & Ambrožová, 2018; Şahin & Tuğrul 2012). In some of the other studies, there is not a significant difference between the technology addiction levels of male and female students (Taş, Eker & Anlı 2014; Topal, Şahin & Topal, 2018). There are studies supporting the research finding in the game addiction factor. In these researches, they found that male students had higher levels of play addiction than female students (Horzum, 2011; Güllü, Arslan, Dünder & Murtahan, 2012). There are also studies in the literature where there is a significant difference in game addiction between male and female students (Öncel & Tekin 2015). The reason why male students had higher levels of technology addiction and game addiction may be that internet cafes encourages people to play games and the vast majority of those who play here are males.

According to the findings obtained from SBSS, there was a significant differences between high school students' Sense of Belonging to School in terms of gender, and female students had higher Sense of Belonging to School than male students. When the relationship between gender and sense of rejection is examined, it is seen that male students have higher rejection sense than female students. In support of the research, Sarı (2015) and Bellici (2015) conducted a study on secondary school students in which they found male students had a higher sense of rejection than female students. Sarı (2013) and Yanık (2017) did not find any significant difference in their research for high school students in terms of gender. In their study, Özgök and Sarı (2016) and Arastaman (2009) concluded that female secondary school students had higher levels of Sense of Belonging to School than

male students. Balak (2017), in his study on primary school students, found that female students had higher school belonging feelings than male students in support of the research finding.

The Relationship Between High School Students' Technology Addiction Levels and School Belonging Feelings According to the Grade

In the research, it was seen that technology addiction levels of 10th grade students were higher than 11th grade students. Taş, Eker and Anlı (2014), in the research conducted on secondary school students' internet and game addictions, found that technology addiction levels of 11th graders were higher than the other grades. Günüş (2009) found that the students in the 9th grade had higher levels of addiction than the 10th, 11th and 12th grades in their study, and that the technology addiction decreased when they went to the upper classes, and the reason for this was interpreted as the preparation of the students for the university entrance exams. While preparing for university exams may have an effect, the fact that students in lower classes are smaller in age than others, that they meet technology at an earlier age and use technology from a younger age in all areas of life may be the reason for high levels of technology addiction.

According to the data obtained from SBSS, there was no significant difference between high school students' sense of belonging to school and sense of rejection in terms of grade. Özgök (2013) did not find any significant difference between the grades in support of the research findings in the study conducted on the belonging of secondary school students to school. Contrary to these findings, Sarı (2013) stated that 9th grade students had higher Sense of Belonging to School than 10th grade students, and that 10th grade students had a higher rejection sense than 9th grade students.

The Relationship Between Technology Addiction Levels and School Belonging Feelings in Terms of Academic Achievement and Schools

As a result of the research, students with high academic achievement have low level of technology addiction in terms of Instant Messaging, Online Gaming, Using Web Sites. In other words, technology addiction levels of those with a grade point average of 75-100 are lower than students with a grade point average of 50-74. This may be because of the majority of high school students' time is devoted to study and academic success, resulting in less time for unnecessary technology use. According to this finding, it can be said that technology addiction levels of students with high academic achievement are low.

As a result of the analysis, it was seen that the technology addiction levels of Vocational High School students were higher than those of Science High School and Anatolian High School-C students.

The reason why the technology addiction level of Vocational High School students is higher than the other schools may be because of it is the school that receives students with the lowest score according to the TEOG score. In the previous finding of the study, the finding of high level of technology addiction of students with low academic

achievement supports this result. Another reason may be because of vocational high school students have very low university acquisition rates, lack of university goals, and perceive themselves as intermediate staff in the labor market because of their lack of focus on academic achievement. Yang and Tung (2007) found that they supported the research findings in their study on internet addiction, and commented that this might be because of the course weights of vocational high school students were lighter than other high schools. Dhir, Chen and Nieminen (2015) and Huang and Leung (2009) stated that technology addiction negatively affects academic achievement. Taş, Eker and Anlı (2014) found that technology addiction levels of Anatolian high school students were higher than those of health vocational high school in the opposite direction of the research finding.

In the study, when the relationship between high school students' sense of belonging compared to the schools they studied, it was concluded that Vocational High School students' Sense of Belonging to School was lower than Science High School, Anatolian High School-C and Anatolian High School-B students. Another result obtained from the study is that Vocational High School students have higher rejection feelings than Anatolian High School-B. According to the findings of the study, it was found that the students who had high academic achievement had high sense of belonging to the school and the students who had high scores among the schools receiving the students with the central system TEOG score had higher feelings of belonging than the schools receiving students with low scores. Anderson (2001) stated that there is a positive relationship between school achievement and sense of belonging. In support of the research findings, Bellici (2015) stated that the students with high academic achievement had a high level of sense of belonging to school. Özgök and Sarı (2016) stated that the sense of belonging to school is significantly related to the expectation of success, general school motivation and internal effort. When the results of the research and other studies are evaluated together, it can be said that the students who are studying in schools receiving high scores have higher sense of belonging to the school. In other words, it can be said that students with high academic achievement have a high sense of belonging.

The Relationship Between High School Students' Technology Addiction and School Belonging Feelings

In the study, as a result of the correlation analysis between TDS, SBSS and its factors, it was seen that there were positive and moderate relationships between high school students' Technology Addiction and Social Network Usage, Instant Messaging, Online Game Playing and Using Web Sites. According to this result, technology addiction of high school students is related to all factors, and we can say that decreasing any of these factors will decrease technology addiction and other factors. Or, it can be said that while struggling with technology addiction, addiction should not be handled from a single dimension, but should be tackled considering all its dimensions.

In the study, according to the data obtained from the TDS and SBSS, there was a moderate negative relationship between School belonging and Sense of Rejection. According to this result, it can be said that the more the high school students' sense of belonging to school develops, the less the sense of rejection they will feel.

In the study, it was concluded that sense of school belonging was negatively correlated with Technology Addiction and its factors. It can be said that technology addiction of high school students will decrease if the sense of belonging to school is improved.

It was concluded that there is a low level positive relationship between Rejection factor, which is the SBSS factor, and Technology Addiction and its sub-factors. According to this result, it can be said that high school students' sense of rejection increases as technology addiction increases, or vice versa. Huang and Leung (2009) stated that there is a positive relationship between students' shyness and rejection and technology addiction. Technology addiction has negative effects on students such as restlessness, insomnia, anger, social problems, and academic failure (Anderson, 2001; TBM, 2015). A positive sense of belonging to the school reduces stress on students (Zhang, Mou, Tong & Wu 2018), and positively affects academic achievement (Anderson 2001; Adelabu, 2007) and reduces dropout (Anderman 2003). Improving students' sense of belonging to school can contribute to the reduction of feelings of rejection, as well as the prevention of technology addiction.

SUGGESTIONS

The results of this research were limited to interpreting the results according to the data obtained from the scales. There may be many different factors that affect technology addiction and sense of belonging to school. After that, it can contribute to the literature by considering the following issues in the studies to be conducted in this field.

- Information seminars on technology addiction can be given to teachers, students and families.
- Sports and cultural activities can be carried out for the students to adopt the school.
- Research can be done on students' smart phone addiction.
- The study can be conducted for primary, secondary and university students.
- Teachers can be informed about the use of technology for educational purposes.
- With qualitative research, technology addiction and sense of belonging can be investigated in depth.
- In the results of the research, the reasons of high technology addiction in vocational high schools can be investigated.
- This research can be carried out in higher and lower socio-economic levels.

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