Academic procrastination behaviours and problematic internet usage of high school students during the COVID-19 pandemic period

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Abstract

While Covid-19 pandemic created negative consequences in education as a virus affecting the world in general, the technological developments that came along with it are reshaping the entire world. This study aims to examine the relationship between academic procrastination behaviors and problematic Internet usage of high school students during the Covid-19 Pandemic period. This study is in the form of a descriptive survey, and the survey method was used in the study. The population of the study in the 2020-2021 academic year consisted of 350 students who studied in vocational schools affiliated with the Ministry of National Education and Culture in Northern Cyprus. The sample of the research consisted of 350 students selected by convenience sampling method. In this study, academic procrastination and problematic internet usage scales were used as data collection tools. As a result, in the Pandemic Period, the relationship between male students' problematic internet usage and academic procrastination behaviors is significantly higher than that of female students. As academic procrastination behaviors of students decrease, so did problematic internet usage levels.

Keywords: academic procratination, Covid-19,high school, internet usage;

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1. Introduction

The rapid increase in the importance of information in the world and advances in technology are directing individuals to entertain, shop and watch movies on the internet (Keser & Semerci, 2019). Activities that require people's active participation in social life are changing and making their way into the digital environment. There are countless benefits that technology brings to human life. The Internet, which is increasingly used in the world and in Turkey, is an effective communication and information sharing tool, and it significantly facilitates working and daily life. The most important opportunity that the Internet offers to human life is the equality of opportunity it brings in information and communication. With this facility offered by the Internet, traditional communication methods that require considerable investments have transformed, and Internet users have begun to share their knowledge and ideas with the rest of the world easily and cost-effectively. From communication to information sharing, from journalism to media reading, from promotional activities to travel and vacations, from public services to banking and shopping, from entertainment to social interactions and intercultural interactions, from health services to education, the Internet brings positive innovations and novelties to people's lives as a convenience in various areas that concern their daily life (Turanalp, 2016). In addition to its convenience and benefits, the Internet can also lead to serious problems such as uncontrolled use of information, lack of information separation, overloading of information, insecurity of information, cybercrimes, and Internet addiction (Kim and Kim, 2002; Keser, Kavuk & Numanoglu, 2021).

Problematic internet usage or internet addiction, on the other hand, refers to the pathological use of internet and computers or technology at a level that causes significant disruption or dysfunction in different dimensions of daily life such as relationships, education, and physical health (Varghese & Fayard, 2016). In another definition, it is stated as the occurrence of sadness as a result of the individual's inability to control internet usage and / or the disruption of the functionality of daily activities (Shapira et al., 2000). The earliest experimental research on problematic internet usage was conducted by Young (1996). As a result of the study, whether the internet was addictive or not and problems related to its abuse were discussed.

When the study in question conducted by Young (1996) is examined, it is seen that problematic internet usage is like pathological gambling and the criteria used to operationalize problematic internet usage are reliable and valid. Despite these methodological deficiencies, Young is thought to have started a new academic research area (Widyanto & Griffiths, 2007). Various definitions of problematic internet behavior are included in the literature. It is seen that many terms such as abuse of the internet, problematic internet usage, internet addiction and compulsive internet usage are offered, and special definitions are made for each term (Greenfield, 1999).

The cognitive behavioral model argues that problematic internet usage may be caused by experiences that go beyond the individual's coping strategies (Andegiorgis, 2020; Adebayo, Ninggal & Bolu-Steve, 2019). The person's dysfunctional cognitions and supporting behaviors play a role in problematic internet usage. People who have a negative cognition about their environment or a low, negative self-perception can spend more time on the internet, and they can more easily experience what they face as problems in real life on the internet. This situation causes different problems related to the cognitive schemas of individuals (Davis, 2003). Caplan (2002) put forward a new model based on the pathological internet usage model that Davis explained with a cognitive behavioural approach. In this model, unlike Young and Davis, Caplan gives preference to the concept of "problematic internet

usage". According to Caplan, some individuals can use the internet at the level of need and control their internet usage. However, other individuals are not able to use the Internet in a controlled manner, and they experience some problems in their work, family and social lives due to excessive use, and they see their functionality impaired. These behaviors, which cause problems in a person's life, are "problematic" because they have obvious deviations from what is termed normal and affect their social life negatively (Zorbaz, 2013).

Although it has been shown that individuals use the internet to obtain new information (Arıkan & Altun, 2007; Tekakpınar & Tezer, 2020), it is seen that young people do not benefit from this technology sufficiently. In addition to the positive effects of internet usage (Naseri et al., 2015), it has been observed that problematic internet usage can have consequences such as decrease in school and professional performance and incompatible cognition, social dysfunction, internet addiction related to internet usage (Prasad et al., 2017).

With the opportunity of easy access to the internet, the duration of internet usage has increased among adolescents, and as a result, there has been an increase in the problems adolescents have experienced (Ceyhan & Ceyhan, 2011). Problematic internet usage, which is common especially among school-age youth, can negatively affect their psychosocial and physical functions and reduce their academic achievement (Cengizhan, 2003). According to the data of the study investigating the effect of problematic internet usage on academic motivation by Akbaba (2019), it was purported that there is a low-level, negative and significant relationship between problematic internet usage and academic motivation of high school students. In other words, as the problematic internet usage of high school students increases, their academic motivation decreases.

In the study by Tomaszek and Muchacka-Cymerman (2019), which examined problematic internet usage and school burnout in adolescents with participants from Poland aged 17-20, it was revealed that high level of school burnout was associated with higher levels of internet addiction indicators. However, in the study, it is stated that school burnout, which occurs as a result of parental pressure for high school success, predicts internet addiction. In the study by Yavuz (2018) in which the effect of internet addiction of adolescents on school success was examined, it was revealed that adolescents with high academic achievement levels had lower internet usage times and scores from the internet addiction scale compared to students with medium and low levels.

Adolescents' academic procrastination behavior may negatively affect their success in class. According to Akpur (2005), the findings of the observations and studies are that all individuals do not use their potential savings to solve problems and sometimes they tend to avoid and withdraw. In other words, even if people have the potential to control and change events or problems, they sometimes do not perform these behaviors and withdraw (Ekinci, 2011). Sommer (1990) defines procrastination as a behavior expressing a hidden revolt against the authority figure. Sommer (1990) suggests that procrastination behavior of students can only be seen as a revolt against authority in the teacher-student relationship where unilateral demands are intense. According to this point of view, academic procrastination behavior is seen as the unconscious transfer of parent-child relationship over teacher-student relationship (Elgharnah & Ozdamli, 2020).

It is exceedingly difficult to imagine that a person has "never procrastinated" in his/her life. Someone who states that he/she has never procrastination is either lying about this issue or denying procrastination behavior by responding according to social appreciation measures. The reason why

procrastination is so universal and widespread is that it is one of the weaknesses of people (Senecal, Koestner, & Vallerand, 1995). A review of the literature reveals that there are many types of procrastination behavior. One of these types is academic procrastination. Rothblum, Solomon, and Murakami (1986) define academic procrastination behavior as delaying academic duties always or most of the time and worrying about delayed academic responsibilities (Çelikkaleli & Akbay, 2013). Researchers have stated that as a result of problematic internet usage, there are negative effects on the education and training process of the student, such as failing at school, missing classes, missing exams, and failing exams (Griffiths, 2001; Young, 2004).

Beswick, Rothblum, and Mann (1988) examined the relationship between academic achievement and academic procrastination behavior of students. In this study, academic success was evaluated in terms of the draft of the term paper given for the psychology course of students, the grade they received from this homework and the grades the students received from the psychology exam. According to the results of the research, a significant negative correlation was found between the grade they received from the draft prepared for the term paper and their academic procrastination behavior (r = -. 26). There is a significant negative relationship between the grade they received from the homework and their procrastination behavior (r = -. 21). There was also a significant negative correlation between the grade they received in the final exam of the psychology course and their academic procrastination behavior (r = -. 30). As a result of the study, it was determined that there is a negative relationship between procrastination behaviors of students and their academic achievement (Çakıcı, 2003, p.40).

When the literature is examined, it is stated that academic procrastination tendency arises from lack of preparation or implementation, low effort, and unfavorable performance situations (Balkıs, 2006[a]; Senecal, Julien, & Guay, 2003). In addition to all the foregoing, when the literature is examined, it is seen that low or high self-esteem affects academic procrastination behavior (Kandemir, 2012). As a result, procrastination behavior causes students to experience academic failures (Burka & Yuen, 1983; Ferrari, Johnson, & McCown, 1995; Knaus, 1997), fail the courses that can be considered difficult, show absenteeism from school, and even such unwanted situations as dropping out of school (Rothblum, Solomon, & Murakami, 1986).

According to studies, there is a negative relationship between procrastination behavior and academic achievement (Beswick, Rothblum, & Mann, 1988; Fritzsche, Young, & Hickson, 2003; Orpen, 1998, Tice & Baumeister, 1997; Balkıs et al., 2006[b]). Klassen (2010) determined that students who display negatively influenced procrastination behavior have low self-regulatory self-efficacy and are unable to use time effectively, and as a result of this situation their academic performance is negatively affected (Düşmez, 2013). Considering the literature, quite a few academic studies have revealed the negative effect of academic procrastination behavior on academic performance (McCown, 1986; Rothblum, Solomon, & Murakami, 1986; Tice & Baumeister, 1997; Akdoğan, 2013). There is also a weak positive relationship between Internet usage and anxiety. Academic procrastination is a serious and common problem for millions of people around the world and therefore requires constant researching (O'Sullivan, 2020).

COVID-19 is a virus epidemic that affects the whole world and has caused serious economic problems (Aydın & Doğan, 2020; Asilkan & Domnori, 2020). In this period, the widespread use of technology such as social media and Internet surfing by young people increased (Gökler & Turan, 2020). Teachers in educational institutions often complain about student failures, unwillingness of students to attend classes, and students spending more time on the internet than studying. Therefore, the academic

success of the students in courses decreases. In the light of the findings of this study, it is believed that the success of high school students will increase if their problematic internet usage and academic procrastination behaviors are reduced. In this study, it was aimed to examine the relationship between academic procrastination behavior and problematic internet usage of high school students during the Covid-19 Pandemic. In addition, academic procrastination behaviors of high school students and their problematic internet usage were compared in terms of gender, grade point average (GPA) out of 10 in the previous semester, grade level, frequency of Internet usage, average time spent on the Internet and demographic variables related to the income level of the students' families.

2. Methodology

In this research conducted within the framework of quantitative research approach, relational survey model was used. Relational survey model is a research model that aims to determine the presence and / or degree of change between two or more variables (Karasar, 2013).

2.1 Population and Sample

The population of this research consisted of students studying in vocational high schools affiliated to the Ministry of National Education and Culture in Northern Cyprus in the academic year 2020-2021. The sample of the study, on the other hand, consisted of 350 students selected with the appropriate sampling method with 5 percent margin of error and 99 percent confidence interval. Due to the pandemic, after obtaining the necessary ethical permission from the Ministry of National Education and Culture and Vocational High School administrations, students were interviewed, and 350 volunteering students were asked to fill in the questionnaire form online. Considering the gender of the students participating in the research, it was understood that 64 (18.3%) of the teachers were girls and 286 (81.7%) of them were boys. The overall grade point average of the students out of 10 in the last semester is 6.53 and the standard deviation is 1.371. Considering the grade level of the students, 9th graders constituted 21.4% of the sample, 10th graders 30%, 11th graders 28.3% and 12th graders 20.3%. The income level of their families was asked to the students included in the study and it was determined that 54 (15.4%) were low-income, 258 (73.7%) were middle-income and 38 (10.9%) were high-income families.

2.2 Data Collection Tools

In the research, academic procrastination and problematic internet usage scales were used as data collection tools. Academic procrastination scale was developed by Çakıcı (2003) and the Cronbach Alpha reliability coefficient was found as 0.92 in his study. There are 19 items in the scale. In this study, the Cronbach Alpha reliability coefficient of the academic procrastination scale was found to be 0.91. In the study, problematic internet usage scale consisting of 27 items developed by Ceyhan and Ceyhan (2009) was also used. The Cronbach Alpha reliability coefficient of the scale was found to be 0.93 in his study. In this study, the Cronbach Alpha reliability coefficient of the problematic internet usage scale was found to be 0.82. Demographic variables related to gender, GPA out of 10 in the previous term, grade level, frequency of Internet usage, average time spent on the Internet and the income level of the students' families were also added to the questionnaire form. The questionnaire was administered to the students who were studying at vocational high schools during the Covid-19 Pandemic period after obtaining expert opinions on the suitability of the questionnaire.

Necessary ethical permissions were obtained from Near East University, Institute of Educational Sciences and the Ministry of National Education and Culture (MEKB) of Northern Cyprus in order to carry out the research. The data was obtained by completing the questionnaire form on Google Forms within 15-20 minutes on the days and hours when students studying at vocational high schools affiliated with MEKB were available.

2.3 Analysis of Data

Statistical Package for Social Sciences SPSS 24.0 statistical software program was used to analyze the research data after they were obtained. In all statistics, the significance level value was taken as .05. While the frequency and percentage values were used in the analysis of the data in the study, a preliminary study was conducted with SPSS to determine whether the data were distributed as homogeneity. As a result of the Kolmogorow-Smirnov test, it was understood that the distribution of dependent variables in subgroups was not normal (p <0.05). In order to test the significance of the differences between the mean scores in the study, the Mann-Whitney U test was used for samples independent of non-parametric tests in case the variable had two subgroups. The Kruskal Wallis H test was used to determine whether there was a significant difference between more than two unrelated sample means. In addition, Spearman test was used to determine the level of the relationship between dependent variables (Büyüköztürk, 2018).

3. Results

In this section, besides the demographic information of the students, findings related to the purpose of the research are included. In Table 1, the information about the frequency of Internet usage of the students participating in the research and their connection duration to the Internet during the pandemic period are provided.

Table 1. *Distribution of Internet Usage Frequency of Students*

Internet Usage Frequency	N	%
1-2 days a week	32	9.1
34 days a week	34	9.7
Every day	284	81.1
Total	350	100.0

The distribution of internet usage frequency of students in a week is given in Table 1. When the table is examined, it can be seen that 81.1% of the students participating in the survey used the internet every day, 9.7% used the internet 3-4 days a week, and 9.1% used the internet 1-2 days a week during the pandemic period.

Table 2. *Distribution of the duration of connection to the Internet on average*

Internet Connection Time	N	%
0-1 Hour	44	12.6
1-2 Hours	86	24.6
3-4 Hours	82	23.4
4 Hours and above	138	39.4
Total	350	100.0

The distribution of the duration of connection to the Internet for students on average is given in Table 2. When the table is examined, during the pandemic period 39.4%, 24.6%, 23.4% and 12.6% of students remained connected to the internet for 4 hours and above, 1-2 hours, 3-4 hours and 0-1 hour maximum, respectively. Almost all the students participating in the study stated that they were connected to the internet for 4 hours or more per day during the pandemic period.

3.1 Evaluation of academic procrastination behaviors of high school students and their views on problematic internet usage in terms of gender

In Table 3, academic procrastination behaviors of high school students and their views on problematic internet usage are compared with the Mann-Whitney U test conducted according to gender.

Table 3. *Comparison of the views of high school students on academic procrastination behavior and problematic internet usage by gender*

	Gender	N	Mean Rank	Sum of Ranks	U	Z	P
Problematic Internet Usage	Female	64	137.80	8819.00	6739.00	-3.299	.001
	Male	286	183.94	52606.00			
Academic Procrastination Behavior	Female	64	133.42	8539.00	6459.00	-3.682	.001
	Male	286	184.92	52886.00			

In Table 14, a significant difference was found as a result of the Mann-Whitney U tests conducted for the comparison of the views of high school students on problematic internet usage and academic procrastination behaviors by gender (p <.05). Accordingly, problematic internet usage of male students was found to be significantly higher than female students (U = 6739.000). In addition, it was determined that male students showed more academic procrastination behaviors than female students (U = 6459.000).

3.2 Comparison of the views of high school students on problematic internet usage and academic procrastination behavior by grade level

In Table 4, a significant difference was found as a result of the Kruskal Wallis H test conducted to compare the opinions of high school students about problematic internet usage according to their grade level [X2 = 21.731, p <0.05]. However, no significant difference was found as a result of the comparison of the views of high school students on academic procrastination behavior with the Kruskal Wallis H test [X2 = 4.862, p> 0.05].

Table 4. *Comparison of views of high school students on problematic internet usage and academic procrastination behavior by grade level*

	Grade level	N	Mean Rank	f	X^2	p
Problematic internet usage	9. Grade	75	200.59			
	10. Grade	105	197.95		21.731	.001
	11. Grade	99	158.89			
	12. Grade	71	138.95			
Academic procrastination behavior	9. Grade	75	156.85			
	10. Grade	105	181.14		4.862	.182
	11. Grade	99	188.58			
	12. Grade	71	168.61			

In Table 4, when the views of high school students about problematic internet usage are compared with the Mann Whitney U tests according to their grade level, it is seen that the problematic internet usage levels of 9th and 10th grade students are higher than the 11th and 12th grades. However, it can be said that academic procrastination behaviors of high school students are at the same level regardless of their grade level.

3.3 *Comparison of the views of high school students on problematic internet usage and academic procrastination behavior according to their frequency of internet usage*

In Table 5, a significant difference was found as a result of the Kruskal Wallis H test conducted to compare the opinions of high school students about problematic internet usage according to their frequency of internet usage [X^2 = 21.731, p <0.05]. However, no significant difference was found as a result of the comparison of high school students' views on academic procrastination behaviors according to their internet usage frequency with the Kruskal Wallis H test [X^2 = 4.862, p> 0.05].

Table 5. *Comparison of the views of high school students on problematic internet usage and academic procrastination behavior according to their frequency of internet usage*

	Internet Usage Frequency	N	Mean Rank	f	X^2	p
Problematic internet usage	1-2 days a week	32	124.77			
	3-4 days a week	34	152.19		11.868	.003
	Everyday	284	184.01			
Academic procrastination behavior	1-2 Days a Week	32	192.95			
	3-4 days a week	34	202.63		4.155	.125
	Everyday	284	170.29			

In Table 5, the opinions of high school students about problematic internet usage are compared with Mann Whitney U tests according to the frequency of internet usage of problematic internet usage. Accordingly, it was observed that students who use the internet every day have more problematic

internet usage levels than students who use internet 3-4 days a week and 1-2 days a week. In addition, it has been observed that students who use internet 3-4 days a week have more problematic internet usage levels than students 1-2 days a week. However, regardless of the internet usage frequency of high school students, it can be said that academic procrastination behaviors are at the same level.

3.4 Comparison of the views of high school students on problematic internet usage and academic procrastination behavior according to their duration of internet connection

In Table 6, a significant difference was found as a result of the Kruskal Wallis H test, which was made to compare the opinions of high school students about problematic internet usage according to the duration of being connected to the internet during the day [X^2 = 61.738, p <0.05]. In addition, a significant difference was found as a result of the comparison the views of high school students on academic procrastination behavior with the Kruskal Wallis H test according to the duration of internet connection during the day [X^2 = 14.678, p <0.05].

Table 6. *Comparison of the views of high school students on their problematic internet usage and academic procrastination behavior, according to the duration of internet connection within the day*

	Duration of internet connection	N	Mean Rank	df	X^2	p
Problematic internet usage	0-1 Hour	44	115.86			
	1-2 Hours	86	134.57	3	61.738	.001
	3-4 Hours	82	168.51			
	4 Hours and above	138	224.17			
Academic procrastination behavior	0-1 Hour	44	139.57			
	1-2 Hours	86	159.50	3	14.678	.002
	3-4 Hours	82	173.40			
	4 Hours and above	138	198.17			

In Table 6, the opinions of high school students about problematic internet usage are compared according to their duration of being connected to the internet during the day, and significant differences have been observed among all categories. When the differences between the categories are compared with the Mann Whitney U tests, it is seen that students with more than 4 hours of internet connection have more problematic internet usage. It was also observed that students who were connected to the internet for 3-4 hours, 1-2 hours and 0-1 hour respectively had problematic internet usage levels.

In Table 6, the opinions of high school students about academic procrastination behavior are compared according to their duration of being connected to the internet during the day, and significant differences have been observed among all categories. When the differences between the categories are compared with the Mann Whitney U tests, it is seen that students with more than 4 hours of internet connection displayed more academic procrastination behaviors. Afterwards, it was observed that students who were connected to the internet for 3-4 hours, 1-2 hours and 0-1 hour respectively displayed academic procrastination behavior.

3.5 Comparison of the views of high school students on problematic internet usage and academic procrastination behavior according to the income levels of students' families

In Table 7, no significant difference was found as a result of the Kruskal Wallis H test conducted to compare the opinions of high school students about problematic internet usage according to their income level [X2 = 2.859, p> 0.05]. In addition, as a result of the comparison of the views of high school students on academic procrastination behaviors according to their income levels with the Kruskal Wallis H test, again, no significant difference was found [X^2 = 1.113, p> 0.05].

Table 7. *Comparison of the views of high school students on problematic internet usage and academic procrastination behavior according to the income levels of students' families*

	Income level	N	Mean Rank	f	X^2	p
Problematic internet usage	Low income	54	171.82			
	Middle income	258	172.41		2.859	.239
	High income	38	201.68			
Academic procrastination behavior	Low income	54	171.44			
	Middle income	258	173.97		1.113	.579
	High income	38	191.63			

In Table 7, the opinions of high school students about problematic internet usage are compared with the Mann Whitney U tests according to the income levels of the students. Accordingly, it was observed that the problematic internet usage levels of the students were similar regardless of their income level. Also, it can be said that academic procrastination behaviors of high school students are at the same level regardless of their income level.

3.6 Relationship between GPA, problematic internet usage and academic procrastination behavior of high school students

The Spearman test was used to examine the relationship between the grade point averages, problematic internet usage, and academic procrastination behaviors of high school students (Table 8).

Table 8. *Relationship between GPA, problematic internet usage and academic procrastination behavior of high school students*

	Grade average	Problematic internet usage	Academic procrastination behavior
Grade average	1.000		
	.		
Problematic internet usage	-.100*	1.000	
	0.042	.	
Academic procrastination behavior	-.155*	0.371*	1.000
	0.609	0.004	.

*p<0,05

Significant differences were found as a result of Spearman tests conducted to examine the relationship between high school students' grade point averages, problematic internet usage and academic procrastination behaviors ($p < .05$). A significant, negative and weak relationship was found between the average mathematics grade of students in the previous semester and their problematic internet usage measurement scores ($r = -. 100, p < .05$). In this case, it can be said that as the problematic internet usage of students decreases, their GPA will increase.

A significant, negative and weak relationship was found between the average mathematics grade of students in the previous semester and their academic procrastination behavior measurement scores ($r = -. 155, p < .05$). In this case, it is possible to say that as the academic procrastination behavior of the students decreases, their GPA will increase.

A significant, positive, and moderate correlation was found between the problematic internet usage levels of students and their academic procrastination behavior measurement scores ($r = .371, p < .05$). In this case, it can be claimed that as the academic procrastination behavior of students decreases, their problematic internet usage levels will decrease.

3.7 Problematic internet usage and academic procrastination behavior of high school students

The mean and standard deviation scores of the problematic internet usage and academic procrastination behavior of high school students are given in Table 9.

Table 9. *Problematic internet usage and academic procrastination behavior of high school students*

	N	Minimum	Maximum	Mean	Std. Deviation
Problematic internet usage	350	1.19	4.59	2.23	.725
Academic procrastination behavior	350	1.53	4.58	2.68	.623

When the problematic internet usage scores of high school students are examined in Table 9, the average is 2.23 and the standard deviation is 0.725, and the students stated that they rarely experience problematic internet usage. When the academic procrastination behavior scores of high school students are examined, it is seen that the average is 2.68 and the standard deviation is 0.623, and it can be said that the students reflect themselves in terms of academic procrastination behavior to a certain degree.

4. Discussion

Majority of the students stated that they use the internet every day during the pandemic period, and it was determined by this research that most of them stayed connected to the Internet for 4 hours or more per day. During the Covid-19 Pandemic period, it was found that male students experienced significantly higher problematic internet usage than female students (Tezer et al., 2021). In addition, it was determined that male students showed more academic procrastination behaviors than female students. As a result of the study, it was seen that 1.4% of secondary school and high school students were internet addicts and 28.1% were risky internet users. In addition, although there was no significant difference between secondary school and high school students in terms of internet addiction scores, it was determined that the difference between male and female students differed significantly in favour of female students. In addition, it was found that as the duration of using a computer or mobile phone

increases, addiction increases, and academic achievement decreases significantly (Mertoglu, 2020; Gürsel, 2018).

When the views of high school students about problematic internet usage were compared according to their grade level, it was observed that the problematic internet usage of the students was higher in the first years of high school compared to other years. However, it can be said that the academic procrastination behaviors of high school students are at the same level regardless of their grade level. Problematic internet usage of high school students increases according to their frequency of internet usage. However, it can be said that the academic procrastination behaviors of high school students are at the same level regardless of their internet usage frequency. Problematic internet usage of high school students increases according to the duration of internet connection during the day. It was observed that academic procrastination behaviors of high school students increased according to their duration of internet connection during the day. Üztemur (2020) stated that social media addiction of social studies pre-service teachers negatively predicted their academic achievement. According to his research, the author commented that as the time people spend on social media increases, their academic success will decrease.

As students' problematic internet usage decreases, their GPA increases. It can be argued that as students' academic procrastination behavior decreases, their GPA will increase. It can be said that as students' academic procrastination behavior decreases, their problematic internet usage levels will decrease. Şengül and Seyfi (2020) attempted to determine the relationship between the views of pre-service teachers on academic procrastination behavior and academic self-efficacy. When the relationship between academic procrastination behavior and academic self-efficacy was examined in the findings of the study, it was concluded that there was a low negative relationship. As a result of their research, it was determined that as academic procrastination behavior increases, academic self-efficacy decreases, and as academic procrastination behavior decreases, academic self-efficacy increases.

In another study, it was stated that as academic procrastination behavior increases, academic achievement decreases. In addition, although social media addiction affects academic achievement negatively, it has been stated that it has a positive effect on academic procrastination behavior and indirectly affects academic achievement negatively. In addition, it was stated in this study that social media addiction negatively affects academic achievement both directly and indirectly (Üztemur, 2020). Also, High school students' views on problematic internet usage and academic procrastination behavior are similar according to the income level of their families. In this study, students generally stated that they rarely showed problematic internet usage and that they reflected themselves somewhat in terms of academic procrastination behavior.

5. Conclusion

As a result, problematic internet usage and academic procrastination behaviors of male students are significantly higher than female students during the pandemic period. It has been observed that the problematic internet usage of students was higher in the first years of their high school years compared to other years. However, academic procrastination behaviors of high school students are similar regardless of their grade level. Problematic internet usage of students increases according to their frequency of internet usage. Regardless of the internet usage frequency of high school students, their academic procrastination behaviors are at the same level. Problematic internet usage of students increases according to the duration of their stay connected to the internet during the day. It was

observed that academic procrastination behaviors of high school students increased according to their duration of internet connection during the day. As problematic internet usage of students decreases, their GPA also increases. It can be argued that as the academic procrastination behavior of students decreases, their GPA will increase. It can also be claimed that as the academic procrastination behavior of students decreases, their problematic internet usage levels will decrease as well. In this study, students generally stated that they rarely showed problematic internet usage and that they reflected themselves somewhat in terms of academic procrastination behavior.

6. Recommendations

With this research, the relationship between problematic internet usage and academic procrastination behaviors of students in vocational high schools during the pandemic period was examined. If a similar research is to be conducted at different educational levels, it will provide various contributions to the literature.

• In this study, the problematic internet usage and academic procrastination behavior of students in vocational high schools were examined in terms of various demographic variables. In future studies, problematic internet usage and academic procrastination behavior of students can be examined with different variables.

• Case studies can be conducted to find out why male students show higher levels of problematic internet usage than female students in terms of gender.

• Students, teachers and parents can be informed about problematic internet usage and academic procrastination behavior and various preventive measures can be taken on these issues.

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