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Research on the cyberloafing levels of middle school students

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Abstract

The aim of this study was to examine the cyberloafing behaviors of middle school students during the lesson or while studying. Within the scope of this aim, cyberloafing levels of middle school students were examined by comparing them with the web platforms they use. For this research; which was modelled with explanatory sequential mixed pattern, one of the mixed methods, 355 middle school students were selected through the convenient sampling method that is one of the purposive sampling methods. 24 students were interviewed for the qualitative part of the study. Quantitative data were collected via Personal Information Form, Cyberloafing Activities Scale; and qualitative data were collected via Semi-Structured İnterview Form. The data were analyzed using SPSS 22.0 program and content analysis. When the findings were examined, it was observed that the cyberloafing levels of middle school students were low. However, it was determined that students perform moderate cyberloafing in the "accessing content" and "sharing" sub-dimensions within the scope of the sub-dimensions of cyberloafing. It was observed that the cyberloafing behaviors of the students vary significantly in terms of their age, gender, and grade level. It was observed that middle school students mostly watch videos, listen to music, download applications, texting friends, etc., and perform cyberloafing on music websites, TV series websites, movie websites, YouTube, Instagram, and social media. In order to decrease the cyberloafing behaviors of middle school students, various suggestions were made, including the cooperation of parents and teachers.

1. Introduction

Technological developments affect many fields such as economics, politics, education, and science. On the other hand, individuals need to be able to keep up with this affection and change in order to continue their existence (Gezgin and Sarsar, 2020). One of the biggest of these changes and one of the most involved areas in our daily lives is the internet (Tatlı, 2019).

Nowadays, technology and the internet have become a tool that has many effects in all areas of life, in almost every age group. People have stated that they use the internet in their homes and workplaces for their individual works and needs (Galluch and Thatcher, 2007). It has been seen that the rate of individuals using the internet is 82.6% and the rate of internet access from home is 92% in the 2021 Household Information Technologies (IT) Usage Survey of Turkey Statistical Institute. It has been also stated in the Household IT Usage Survey that the rate of performing e-government services via the internet increased to 58.9%, the rate of shopping or purchasing via the internet to 44.3%, and the rate of purchasing clothing,

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shoes, and accessories from the internet to 70.7% (TUIK, 2021). When examined within the scope of the reports, the internet is an inseparable part of our daily lives. However, while controlled internet usage is beneficial and life-facilitating, uncontrolled internet usage creates harmful and counterproductive situations (Özek, 2018). For instance, using the internet and social network in the field of education, strengthens the student-teacher relationship, increases the students' interest in the lesson, improve communication and social skills among students and support students' sense of responsibility (Kesici and Tunç, 2018; Sidekli and Avaroğulları, 2013; Yılmazsoy and Kahraman, 2017). In this context, the internet is very beneficial to students when used in a controlled and conscious manner (Tanrıverdi, 2017). However, the internet which has become an integral part of daily life, also carries some risks for students. For instance, the internet causes students to want to spend more time on a technological device, also causes using time inefficiently, showing aggressive behaviors, irritability and problem in social relations (Taylan ve Işık, 2015; Yılmazsoy ve Kahraman, 2017). This shows that there is a problematic internet use or internet addiction (Yörük and Taylan, 2018).

Recently, problematic behaviors such as internet addiction, which expresses the uncontrolled behavior of internet technologies especially in young age groups. cyberloafing, which expresses escape to virtual world by escaping from certain responsibilities of the real world, are frequently encountered in educational environments (Yazgan and Yıldırım, 2020). For instance, students use the internet for extracurricular purposes negatively affects their academic performance, improves their procrastination behaviors, and has many other negative effects (Çok, 2018; Nwakaego and Angela, 2018). These behaviors also create difficulties for teachers and complicate the teacher's effectiveness, efficiency, and classroom management (Kalaycı, 2010). For this reason, studies on the conscious use of the internet and the role of cyberloafing in educational environments are needed (Tanrıverdi and Karaca, 2018). Although studies on cyberloafing were first carried out in business areas (Koay and Soh, 2018; Pindek, Krajcevska and Spector, 2018; Wu, Mei, Liu, Ugrin and Wang, 2020), later, with the inclusion of technology and internet in education life, cyberloafing studies were also carried out in education areas (Dursun, Dönmez and Akbulut, 2018; Gözümi, Erkul and Aksoy, 2020; Özdamlı and Ercağ, 2021). It is seen that the studies in the literature have been generally conducted with university students, teachers and in areas using ICT tools (e.g. Akbulut, Dursun, Dönmez and Şahin, 2016; Rana, Slade, Kitching, and Dwivedi, 2019; Toker and Baturay, 2021; Yılmaz and Yurdagül, 2018). It is observed that the studies carried out, especially with middle school students are in the minority in the international framework. However, according to the research conducted by TUIK (2021), internet usage among students aged 6-15 was 50.8% in 2013, while this rate reached 82.7% in 2021. In addition, according to TUIK (2021), there has also been an increase in the use of ICT tools by students aged 6-15 in 2021. It was observed that the use of mobile phones/smartphones in children aged 6-10 increased from 11% to 53.9%, and increased from 37.9% to 75% in children aged 11-15. Furthermore, it was seen that students used tablets the most among the computer types, and this rate was 7.3% in 2013, and 57.2% in 2021 (TUIK, 2021). Additionally, it was observed that the rate of having at least one personal information technology product is 59.2% among children aged 6-10, while it is 74.2% among children aged 11-15. It is seen that the internet and ICT tools are used densely at the middle school level within the framework of these statistics. At this point, studies examining the cyberloafing status of middle school students are needed. The lack of cyberloafing studies within the scope of middle school students also limits the recognition of this group on cyberloafing. Also, only quantitative, or only qualitative studies are included in the limited number of studies on middle school students (Akgün, 2020; Özek, 2018). In this context, it was necessary to conduct a holistic study examining the cyberloafing status of middle school students and revealing the views of these students. This study focused on examining which cyberloafing activities middle school students perform, which platforms and/or web environments they use, and whether the level of cyberloafing changes according to demographic variables.

2. Literature

Nowadays, since it is almost impossible to work without an internet connection or work computer in business areas, researches on non-work-related internet use in business areas are widely carried out (Derin and Gökçe, 2016). Non-work-related technology activities are known as problematic internet use, in other words, cyberloafing, in the business environment (Garrett and Dangizer, 2008). In the international literature, it is also referred to by different names such as internet abuse, problematic internet use, non-work-related computing, cyberloafing, internet deviance, internet addiction, workplace internet leisure surfing and internet addiction disorder (Kim and Bryne, 2011; Koay and Soh, 2018; Ngowella, Loua and Suharnomo, 2020;).

The term cyberloafing is mentioned for the first time in the literature as the use of the internet for personal purposes other than business purposes in business life (Lim, 2002). Lim and Teo (2005) supported Lim's (2002) study and defined cyberloafing as the inefficient use of the internet in general. Afterward, Blanchard and Henle (2008) defined cyberloafing as the use of the internet to perform different activities for non-business purposes. Örücü and Yıldız (2014) defined cyberloafing as the use of computer and internet systems provided for business use for personal purposes. Ünal and Tekdemir (2015) similarly defined it as personal internet use in workplaces.

The increase in the use of technology, such as the introduction of technology into educational environments and smartphones being more accessible, has led to cyberloafing behaviors in the field of education (Akgün, 2020; Bağrıaçık Yılmaz, 2017; Çınar and Cinisli, 2018; Seçkin and Kerse, 2017; Yazgan and Yıldırım, 2020). Kalaycı (2010) defined cyberloafing as the students' act or the tendency of using the internet for activities that are not course-related during the lesson or while studying. In her study, Tanrıverdi (2017) defined cyberloafing as students' failure to fulfill their duties because of the internet and realizing their own individual goals. The fact that students do their homework and study on the internet with technological devices thanks to technology and the internet is considered positive, but also considered negative since it directs the student to extracurricular activities (Brubaker, 2006; Demb et al., 2004). When considered from this aspect, researches on cyberloafing are conducted in order to comprehend cyberloafing and develop strategies.

Knight (2017) examined the cyberloafing behaviors of 141 graduate students in terms of various variables. As a result of the study, it was determined that 88% of the students use technology for non-academic purposes. It was observed that male students performed more cyberloafing behaviors compared to female students. In Brubaker's study (2006) conducted with 239 students and employees, it was seen that students play games, text, and watch videos on the Internet. In the study conducted by Rana et al. (2019) with 188 graduate students in the IT laboratory, it was found that 48% of the students had the tendency to cyberloafing, and perceived behavioral control and escape behavior had a significant and positive effect on cyberloafing tendency. In the study conducted by Wu, Mei, Liu, and Ugrin (2020) with 502 university students, it was determined that a learning break, namely social cyberloafing, increases performance in returning to learning. However, they emphasized that students may not return if the break is not adjusted correctly. In Giles' (2015) study conducted with 210 university students, it was determined that students perform behaviors such as playing games, looking for jobs, visiting news websites, and checking non-work-related financial websites. In addition, they stated that the students perform cyberloafing for nearly 35 minutes, and spend about 14 minutes cyberloafing in a one-hour study.

Tanrıverdi (2017) examined the correlation between 527 adolescent students and students' cyberloafing behaviors and cognitive absorption levels. According to the results of the research, they stated that students visit social networks, play online games and download files more often during the lesson or while studying. They also stated that they never preferred websites for banking transactions, booking vacations, and job searches. They noted that students spend the most time on Facebook and music, TV series, movies, and gaming websites. It was observed that male students' cyberloafing scores were higher than female students.

Akgün (2020), who examined the cyberloafing behaviors of 819 high-school students, found that students use smartphones more and spend 3-4 hours or more than 5 hours on the internet. It was determined that among social networks they mostly use YouTube, WhatsApp, Instagram, and Facebook. In addition, it was observed that the students' cyberloafing level was "moderate", and upper-class students were more cyberloafing compared to lower-class students. In the study conducted with 808 high school students by Sevinç (2021), it was found that the cyberloafing level of the students was "moderate". It was seen that the most preferred web platforms by the students were WhatsApp, Instagram, and Telegram applications, as well as music, TV series, and movie websites. In the study conducted by Gezgin, Arslantaş, and Şumuer (2018) with 145 high school students, they found that the most commonly used web environments by the students were YouTube, Instagram, and Facebook. It was determined that students who use smartphones perform more cyberloafing compared to those who do not use smartphones, and those who have social media accounts perform more cyberloafing compared to those who do not have social media accounts. Another study, conducted by Arabacı (2017) with 232 university students, showed that female students were more inclined to cyberloafing compared to male students. In the findings, it was found that upper-class students were more prone to cyberloafing compared to lower-class students. Şenel, Günaydın, Sarıtaş, and Çiğdem (2019) examined the level of cyberloafing with 124 university students. It was seen that the students' cyberloafing level was "moderate". It was determined that the time students spend on the internet and the number of applications used affect cyberloafing. It was observed that students' cyberloafing behaviors were affected by their reluctance to learn, notifications from technological devices, their sense of communication, curiosity, and their desire to have fun. Dursun, Dönmez and Akbulut (2018), who examined the cyberloafing behaviors of 1856 preservice information technology teachers, according to research results male students'cyberloafing scores were higher than female students. It was observed that senior and junior groups made a significant difference in shopping and sharing sub-dimensions. In addiction, a significant relationship was determined between spending time on social network and cyberloafing in all sub-dimensions (accessing online content, sharing, shopping, gaming/gambling, real-time updating). Finally, it was observed that students who have tablets and smartphones are more cyberloafing than those who do not.

When the studies on cyberloafing in the Turkish literature are examined, it is seen that the studies are mostly carried out with university students, teacher candidates, and high-school students. (Coşkun, Gökçearslan and Şahin, 2019; Demir and Seferoğlu, 2016; Karakullukçu, 2020; Çakmak and Yaldız, 2020). In general, studies are based on quantitative data (Akar and Coşkun, 2020; Doorn, 2011; Giles, 2015; Şumuer, Gezgin and Yıldırım, 2018). Considering that technology is now used by much younger age groups, detailed studies should be conducted in younger age groups in order to prevent future problems for students. In this context, the general purpose of this study is to examine the cyberloafing behaviors of middle school students in terms of various variables. Research questions within the scope of this purpose are listed below:

1. What is the level of students' cyberloafing behaviors?
2. Which cyberloafing activities do students perform the most?
3. Does the level of cyberloafing behavior vary significantly by the;
    a. gender,
    b. age,
    c. grade level,
    d. number of students in the class?
4. In which web environments do students perform cyberloafing behavior the most on the internet during the lesson and while studying?

3. Method

3.1. Research Model

In this study, the exploratory sequential mixed pattern, which is one of the mixed research patterns, has been adopted. Mixed designs are explained as the combination of quantitative and qualitative methods, concepts, and approaches by the researcher within the study (Creswell and Clark, 2020). For this study, it is necessary to examine the quantitative data thoroughly and support them with qualitative data. For this reason, the explanatory sequential mixed pattern has been used, which is one of the patterns in which quantitative data is collected first and then qualitative data are collected and quantitative data are supported finally. The model of the research is shown in Figure 1.

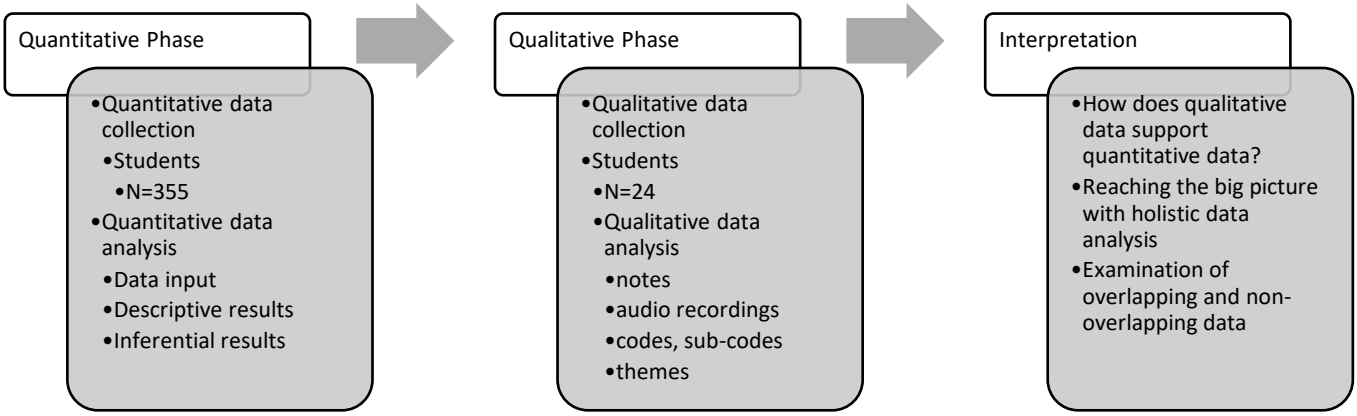


Fig. 1. Explanatory sequential mixed pattern model

3.2. Study Population

The universe of this research is all middle school students in Çanakkale province. The sample of the research consists of 355 students studying at three public schools in the Central and Bayramiç districts of Çanakkale Province during the 2021-2022 academic year. The study population was selected using the convenient sampling method, which is one of the purposive sampling methods. The personal information of the students participating in the study is given in Table 1.

Table 1.

Personal Information of Students

Personal Characteristics		**Frequency**	**Percentage**
Gender	Male	179	50.4
	Female	176	49.6
Age	10	32	9.0
	11	91	25.6
	12	103	29.0
	13	74	20.8
	14	55	15.5
Grade	5th grade	91	25.6
	6th grade	90	25.4
	7th grade	89	25.1
	8th grade	85	23.9
Number of Students in the Class	0-10	6	1.7
	11-20	115	32.4
	21-30	234	65.9

In Table 1, it is seen that 355 students, 179 male (50.4%) and 176 female (49.6%) students, participated in the quantative study. 26.6% of the students are in 5th grade, 25.4% are in 6th grade, 25.1% are in 7th grade and 23.9% are 8th grade students. The groups with the highest number of students in the classes are 234 students between 21-30, 115 students between 11-20, and 6 students between 0-10.

A total of 24 students participated 10 female (41.6%) and 14 male (59.4%) students in the qualitative part of the study. 25% of the students are in 5th grade, 25% are in 6th grade, 25% are in 7th grade and 25% are 8th grade students.

3.3. Data Collection Tools

In the first phase of this study, quantitative data were collected through a two-part questionnaire. The first part of the questionnaire is the Personal Information Form, and the second part of which is the Cyberloafing Activities Scale. In the second phase, semi-structured interviews were conducted with the students. Each interview lasted approximately 5-10 minutes. In this section, the students were asked questions such as "Do you spend time on the Internet and perform different activities during the lesson or while studying? If so, which platforms do you prefer?"

The Cyberloafing Activities Scale developed by Akbulut, Dursun, Dönmez, and Şahin (2016) was adopted to measure students' cyberloafing behaviors and levels. This scale intends to determine the degree of cyberloafing behaviors performed by students during the lesson. For the scale items, the 5-point Likert structure “Never (1)”, “Rarely (2)”, “Sometimes (3)”, “Usually (4)” and “Always (5)” was adopted. In addition, the scale consists of five sub-dimensions. The first dimension is the Sharing dimension, which consists of 9 items and has an internal consistency coefficient of α=0.933. The second dimension is the Shopping dimension, which consists of 7 items and has an internal consistency coefficient of α=0.875. The third dimension is the Real-Time Updating dimension, which consists of 5 items and has an internal consistency coefficient of α=0.941. The fourth dimension is Accessing Content, which consists of 5 items and has an internal consistency coefficient of α=0.938. The fifth dimension is the Gaming/Gambling dimension, which consists of 4 items and has an internal consistency coefficient of α= 0.814. The general internal consistency coefficient of the study was found to be α= 0,942. In accordance with the answers of 355 students, reliability analysis and Principal Components analysis were applied to the scale. When the reliability of the 5 sub-dimensions of the scale was examined, it was found that sharing α=0.854, shopping α=0.685, real-time updating α=0.831, accessing content α=0.803 and gaming/gambling α=0.499. As a result of the carried out analysis, the general reliability of the scale was determined as α=0.906. By definition, the reliability coefficient is 1 if there is no error in the scores (X=T) and 0 if there is an error in all of the observed scores (Büyüköztürk, 2008). Within the scope of this information, it is concluded that the scale is highly reliable.

In the second phase of the study, semi-structured interviews were conducted with the students. A semi-structured interview is a type of interview that is slightly more flexible than structured interviews; where questions are prepared in advance, yet changes can be made according to the flow of the interview, and answers can be detailed (Yıldırım and Şimşek, 2021). The researcher's questions were examined by an expert and pilot interviews were conducted with four students at different grade levels. In the pilot interviews, the second question was “How would you describe your dealings with technology or the internet outside of the classroom?”. The question “How would you describe the use of technology outside of the classroom or your activities on the internet?” arranged in the form. Otherwise, the 4th questions “What do you think pushes you to extracurricular environments while studying?” the question is not understood. This question is, “What do you think pushes you to technological devices or the internet while studying?” formatted. The prepared questions were supported by questions at the end, after taking expert opinions and examining them by the consultant. It was deemed appropriate to complete the interview form with 5 questions by taking its final form. There were no problems with the clarity of the questions during the actual interviews. However, since the are small age groups, the students showed timid attitudes. Students made

short and concise sentences while answering the questions. The role of the researcher is important as he/she directly interacts with the participants in the interviews conducted in the qualitative analysis of the research, coding and grouping the data (Creswell, 2021). For this reason, the researcher gave the participants student codes (O1, O2, etc.) to ensure their privacy and informed them about the confidentiality of the research. In addition, the researcher paid attention to the students' privacy within the scope of research ethics and did not share her personal experiences and ideas with the students. Furthermore, the researcher has fulfilled the requirements for monitoring, documenting and evaluating the analytical process of the data, which are important for the reliability of the research. By creating an internal audit and taking notes, the researcher avoided prejudices as much as possible and increased the reliability and validity of the research. The researcher received expert opinions and provided an in-depth analysis of the data in order to ensure validity and reliability. Thus, the meaning of the data and the connections between them were determined (Starks and Trinidad, 2007).

3.4. Data Analysis

In the quantitative analysis part, which is the first phase of the data analysis, was analyzed via the SPSS program. The students' Cyberloafing Activities Scale scores and the descriptive statistics of these scores were calculated. Arithmetic means and standard deviations were analyzed within the scope of descriptive statistics. The results of the analysis were interpreted according to the following ranges: 1.00-1.80 “Never (1)”, 1.81-2.60 “Rarely (2)”, 2.61-3.40 “Sometimes (3)”, 3.41-4.20 “Usually (4)” and 4.21-5.00 “Always (5”). For each of variables gender, age, class level and the number of students in the class, it was examined whether the cyberloafing behavior levels of the student showed a normal distribution. For this, the Kolmogorov-Smirnov test was performed, Skewness Kurtosis values and Histogram graphs were examined, and whether all measurement distributions of the variables met normality was evaluated. As a result of the analysis, skewness and kurtosis values in both tests were found to be between -1.5 and +1.5. According to Tabachnick and Fidell (2013), the distribution was considered to be normal. In addition, George and Mallery (2010) stated that the range of -2 and +2 is acceptable as a normal distribution. For this reason, parametric analyzes were used in this study, since each variable includes the assumptions of normal distribution.

The independent samples t-test, which is one of the parametric tests, was adopted in order to examine whether the cyberloafing behavior levels of middle school students vary significantly by gender. One-way analysis of variance (ANOVA), which is one of the parametric tests, was used in order to examine whether the cyberloafing behavior levels of middle school students vary in terms of age, class, and the number of students in the class.

In the qualitative part of the study, open-ended questions were asked to support the research findings. The questions to be asked in the interviews were determined by the collaborative work of the researchers. Afterward, the questions were examined by the field experts, and arrangements were made for the 2th and 4th questions. In the next phase, a questionnaire study and interview were conducted with the students whose parental permission was granted. The data obtained as a result of these interviews were evaluated using the content analysis method. The purpose of the content analysis is to extract themes and concepts from similar data within blocks of text and gather these concepts into a category and arrange them in a way that the reader can understand (Yıldırım and Şimşek, 2021). The answers given by the students in the interview were first transferred to the computer environment, then analyzed by content analysis, and the main themes and sub-themes were determined. The theme and sub-themes of “activities performed for communication purposes” under the theme of “mostly performed cyberloafing activities” were rearranged. The main theme of “social media environments” under the theme of “web environments in which cyberloafing is mostly performed” was gathered under one title from many sub-titles. As a result of the rearrangements of the two researchers, themes and sub-themes were finalized. The obtained data are given below the quantitative analysis of the first, third, and fourth research questions' findings. Themes and sub-themes are sorted by their frequencies through tables. Frequencies are not included. While intense frequencies were evaluated

with two participants, relatively non-intensive frequencies were evaluated with one participant. The obtained data were interpreted in the final phase.

3.5. Research Procedure

This research was initiated with the joint decision of the 1st and 2nd researchers since it was thought that there was a deficiency of studies in the field of cyberloafing after the literature review. The first approval of the study was received by providing "Ethics Committee Documents" via Çanakkale Onsekiz Mart University. After receiving Ethics Committee Approval from the University, the permission to use the "Cyber Loafing Activities Scale" developed by Akbulut et al. (2016) to be used in the study was received from Yavuz Akbulut via e-mail. A preliminary application to the Ministry of National Education (ayse.meb.gov.tr) was made for this study, which was to be carried out with middle school students, then the relevant documents were prepared and sent to the Çanakkale Provincial Directorate of National Education, and the approval was obtained from Çanakkale Provincial Directorate of National Education in order to conduct the study. In the next phase, the Individual Research Project was applied with the necessary documents, and the process was started after obtaining approval from there as well.

3.6. Findings and Discussion

In this section, the findings are given in parallel with the research questions. The findings were analyzed according to results of other studies in the literature.

3.6.1. Findings on the Cyberloafing Levels of Middle School Students

The scores regarding the cyberloafing levels of the students are given in Table 2 below.

Table 2.

Cyberloafing Levels by Total and Sub-Dimensions of Cyberloafing Activities Scale

Scale Dimensions	$\bar{X}$	Ss
Accessing Content	3.46	1.06
Sharing	2.69	.88
Gaming/Gambling	1.93	.75
Shopping	1.63	.64
Real-Time Updating	1.61	.84
Total Score of Cyberloafing Activities Scale	2.27	.62

When Table 2 is examined, it is seen that students perform cyberloafing behavior at a ***low*** level ($\bar{x}$=2.27) during the lesson or while studying at home. When the cyberloafing levels were examined within the scope of the sub-dimensions of the cyberloafing activities scale, it was observed that the students, respectively, performed cyberloafing at ***moderate*** level ($\bar{x}$=3.46) in the "accessing content" sub-dimension and at ***moderate*** level ($\bar{x}$=2.69) in the "sharing" sub-dimension. Then, it was determined that they performed cyberloafing at a ***low*** ($\bar{x}$=1.93) level in the "gaming/gambling" sub-dimension, at a ***low*** level ($\bar{x}$=1.63) in the "shopping" sub-dimension, and at a ***low*** level ($\bar{x}$=1.61) in the "real-time updating" sub-dimension.

When the studies in the literature were examined, it was seen that the total cyberloafing score was at a ***low*** level in Akgün's (2020) study examining the cyberloafing behaviors of high-school students. When it is examined within the scope of the sub-dimensions of the cyberloafing activities scale, it was determined that cyberloafing behavior was mostly ***moderate*** in the "accessing content" sub-dimension, ***moderate*** in the "sharing" sub-dimension, ***low*** in the "gaming/gambling" sub-dimension, ***low*** in the "shopping" sub-dimension, and ***low*** in the "real-time updating" sub-dimension, respectively. Our study and Akgün's (2020) study illustrate that the lower classes' spending much less time with technology than the upper classes

lowers their total cyberloafing score. In order to get a more accurate result, it was determined that different results could be obtained with another study in which the youngest age group was excluded from the study.

The cyberloafing behavior levels of university students were observed in another study. In this study conducted by Çok (2018), it was seen that the total cyberloafing levels of the students were ***slightly above the average***. When the findings of the study were examined within the scope of the sub-dimensions of the cyberloafing scale; it was found to be ***high*** in the "accessing content" dimension, ***higher than the moderate level*** in the "sharing" dimension, and ***low*** in the "gaming/gambling" dimension. In addition, it was determined to be ***moderate*** in the "shopping" dimension and ***moderate*** in the "real-time updating" dimension. When national and international studies are reviewed, the level of cyberloafing has been found to be ***moderate*** in some studies, ***high*** in some, and ***low*** in some. (e.g. Çınar and Cinisli, 2018; Çok and Kutlu, 2018; Mercado, Giordano and Dilchert, 2018; Şenel et al., 2019). This may be due to the differences in the scale and scale contents used on cyberloafing behaviors, the differences in the age group of the students, and the differences in the type and number of technological devices they use. This, in turn, creates differences or similarities in the cyber loitering behavior levels of students.

3.6.2. Findings on the Mostly Performed Cyberloafing Activities by Middle School Students

3.6.2.1. Quantitative Analysis Findings Regarding the Cyberloafing Activities That the Middle School Students Performed the Most

Table 3 shows the cyberloafing behaviors that 355 middle school students perform the most on the item basis in the Cyberloafing Activities Scale.

Table 3.

Mostly Performed Cyberloafing Activities by Students on the Item Basis of Cyberloafing Activities Scale

Scale Dimensions	Items	$\bar{X}$	Ss
Accessing Content	I watch videos online.	3.91	1.25
	I listen to music online.	3.78	1.38
Sharing	I text my friends.	3.85	1.29
	I watch funny videos that are shared.	3.55	1.33
Gaming/Gambling	I play games online.	3.05	1.55
	I visit sports websites.	2.36	1.50
Shopping	I visit shopping websites.	2.25	1.30
	I shop on shopping websites.	2.11	1.33
Real-Time Updating	I read tweets.	1.86	1.24
	I add a tweet I like to my favorites.	1.78	1.24
Total Score of Cyberloafing Activities Scale		2.27	.62

When Table 3 was examined, it was determined that more frequently performed cyberloafing behaviors by students during the lesson or while studying at home were activities "accessing content " and “sharing” sub-dimensions. In the sub-dimensions of "accessing content” and “sharing”, it was observed that ***watching videos online***, ***listening to music online, downloading applications texting friends*** and ***watching shared fun videos.*** It was determined that the cyberloafing activities that students performed less are "gaming/gambling", "shopping" and "real-time updating" sub-dimensions. In the sub-dimensions of "gaming/gambling", "shopping" and "real-time updating", it was observed that ***online game-playing, visiting shopping websites***, ***shopping from shopping websites*** and ***read tweets activities.*** When the literature is examined, is seen that that students tend to use the internet more for activities such as

messaging, communication, socializing, listening to music, watching videos and playing games (Bağrıaçık Yılmaz, 2017; Sakarya, Tercan and Çoklar, 2012). Due to the age of the students, is thought that a lower rate of activity is carried out in the "gaming/gambling" sub-dimension. It was seen in the literature that high school and university students tend to these pages more (Özsoy, Gelen, Kandaş, Tabuk, Görün and Afat, 2014), especially since gaming sites are sites that individuals over the age of 18 can enter. It was seen that the middle school students performed the least amount of cyberloafing activities in the "real-time updating" sub-dimension. It is thought that the reason for this is the differences in the areas in which the students are satisfied with their age. In the literature, it is seen that students use social media mostly for the purposes of playing games and getting information about the course through social media (Pehlivanoğlu and Duru, 2015). It was observed that more university students follow more social media pages such as Twitter and Instagram. It was determined that the reason for this is to provide satisfaction in purposes such as following the agenda, learning what is happening in the country and the world, and expressing their thoughts (Üçer, 2016).

3.6.2.2. Qualitative Analysis Findings Regarding the Cyberloafing Activities That the Middle School Students Performed the Most

Middle school students were asked the question "How would you evaluate your use of technology or your activities on the Internet outside of the classroom?" and the received answers were themed. In this context, the students stated that they mostly perform "educational technology activities", "entertaining technology activities" and "communication-oriented technology activities".

Table 4.

The most common cyberloafing activities that students perform in class or while studying

Cyberloafing activities that started with educational purposes
Listening to music
To chat
Cyberloafing events starting for fun
Playing games
Watching videos
Cyberloafing activities that started for communication purposes
Surfing social networks
Playing game

Three sub-themes were determined within the scope of "educational technology activities". These are respectively given in Figure 2.

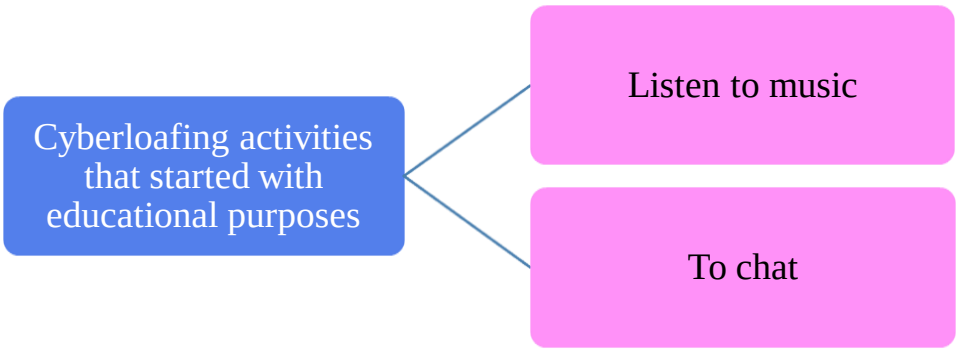


Fig. 2. Educational technology activities and sub-themes

"Cyberloafing activities that started with educational purposes" include cyberloafing behaviors that students perform during the course or while studying such as listen to music, to chat. Within the framework of this theme "Listen to music", O3 expressed her opinion by saying "I use it to do research or for research videos or to relax sometimes by turning on music when I'm stressed." Some students use technology for the purpose of "to chat". This sub-theme is evaluated as students asking questions, texting and communicating with each other while studying or during the lesson. O4 said, "I use Whatsapp, I have a group with my friends. Let me say e-twinning or something. We're texting from there." Expressed his opinion on the matter. It is also frequently encountered in the literature that middle school students turn to cyberloafing while searching for information about a course, searching for news and researching (Seçkin ve Kerse, 2017; Varol ve Yıldırım, 2019). This finding suggests that students'information sources are mostly the internet (Sakarya et al., 2012; TUIK, 2021).

Two sub-themes were determined within the scope of "entertaining technology activities". These sub-themes are respectively given in Figure 3.

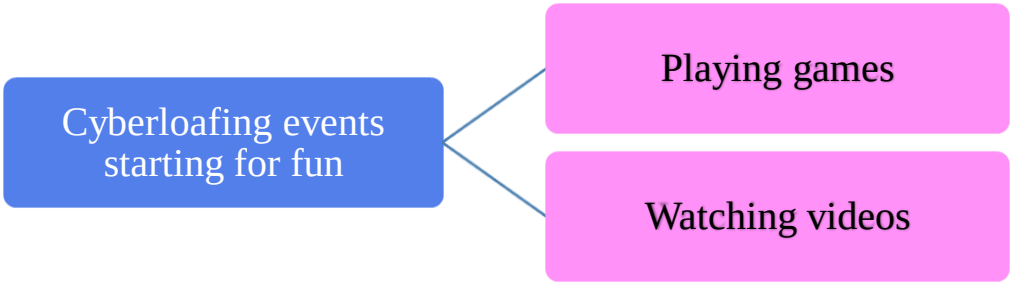


Fig. 3. Cyberloafing events starting for fun and sub-themes

It was observed that students mostly turn to cyberloafing for the purpose of playing games and watching videos in recreational technology activities. Within the sub-theme of "playing games", a student named O5 talked about her activities by saying ""Umm, I don't have a technological device of my own. But sometimes I use my parents' devices mainly to play games or study. I mean, I don't visit websites much, I just play games." Within the scope of the sub-theme "watching videos", O4 said "I use it for entertainment. Sometimes I watch *Çok Güzel Hareketler Bunlar*, and *Kırgın Çiçekler*." O7 said, "The videos there attract my attention. So I like to watch them." and they stated the purpose of using technology with those. With the decline of technology use to younger age groups (TUIK, 2021), middle school students'digital game playing behaviors using technological devices have increased (Yaman, Çubukçu, Küçükali, Kabakçı Yurdakul, 2020). In addition, considering the educational cyberloafing activities of the students, it is supported by literature that the behaviors of playing games and watching videos are higher (Seçkin and Kerse, 2017).

Two sub-themes were determined within the scope of "technology activities for communication purposes". These sub-themes are respectively given in Figure 4.

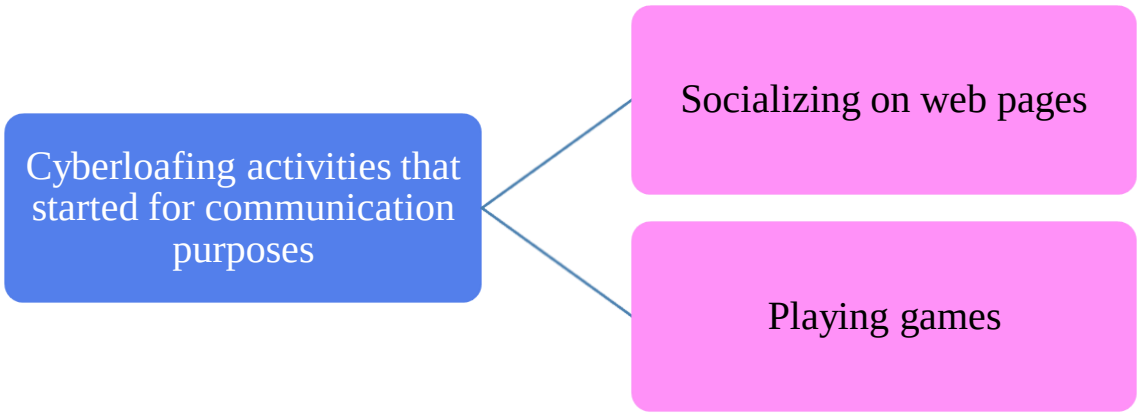


Fig. 4. Cyberloafing activities that started for communication purposes and sub-themes

Within the scope of this theme, middle school students stated that they tended to cyberloafing mostly for the purposed of "socializing on web pages" and "watching videos." The sub-theme of "socializing web pages" includes students'communication and messaging through social media. Under the sub-theme "Socializing on web pages", while O2 said "…I'm on Facebook. I don't use it for any other purpose." O8 explained his activities by saying "… I surf in social media. Nothing else. Facebook, Instagram." It includes the sub-theme of "playing games" and the tendency of students to enter and play games in virtual environments for the purpose of communicating. O9, one of the students who use technology for "playing games", said "I'm playing games and talking with my friends." described its activity. Within the scope of interniews, it was seen that the students were texting for socialization and communication by entering social media or using their smart devices. The student (O7), who also stated that she could not resist an incoming message and turned to the phone, said that she turned to cyberloafing. Looking at the literature, it was determined that the most performed behaviors are messaging and communication (Altay and Özerbaş, 2020; Çınar and Cinisli, 2018).

When the studies are examined, it is seen that the activities they perform in terms of the tasks given to the students, the current mood of the student, the environment they are in, and the technological device they have can have different results in each study. These results sometimes may be the activities that students perform to relax (Wu et al., 2020). Sometimes students perform cyberloafing behaviors in order to take a break (Rykard, 2020). Sometimes, they may perform cyberloafing behaviors due to technology addiction, which is one of the biggest problems in today's world (Yazgan and Yıldırım, 2020). For this reason, it is necessary to detail the cyberloafing activities of the students and the reasons why they perform these activities by conducting further interviews with the students.

3.6.3. Findings Regarding the Examination of Cyberloafing Behavior Levels of Middle School Students in terms of Demographic Variables

The results of the statistical analysis carried out to test whether the cyberloafing behavior levels of middle school students vary significantly in terms of various variables during or while studying within the scope of the study are given in detail below.

3.6.3.1. Gender

Table 7 shows the independent samples t-test results of middle school students' Cyberloafing Activities Scale scores by gender.

Table 7.

Independent Samples T-Test Results by Gender

Gender	*n*	$\bar{X}$	ss	df	t	p	Cohen d
Female	176	2.17	.62	353	-3.01	.03	.319
Male	179	2.37	.60		-3.01		

*p<.05

When Table 7 is examined, it is seen that students' cyberloafing behavior levels vary significantly by gender ($t_{(355)}$=-3.01, p<.05). It has been observed that the cyberloafing behavior level of male students is higher than the cyberloafing behavior level of female students. Cohen (1988) stated that if the d value is .02 and below, the effect size is small, if it is .05, the effect size is moderate, and if it is higher than .08, the effect size is high. In this case, it is seen that the effect size (Cohen d=.319) is high.

Since there isn't enough information about middle school students in the literature, studies with high school and university students were taken into consideration In this context, in studies conducted with university students, it was found that male students do more cyberloafing than female students (eg Korucu and Kara, 2019; Yazgan and Yıldırım, 2020). However, some studies show changes within scope of cyberloafing activities scale sub-dimensions (Çınar and Cinisli, 2018; Doğusoy, Sevinç and Ergün, 2020). In this study of Doğusoy, Sevinç and Ergün (2020), it was seen that male students do more cyberloafing than female students only in the gaming/gambling sub-dimension (playing online games, entering betting sites, etc.). Besides, according to the findings of Arık's (2019) study, it is seen that gender does not constitute a significant difference in the level of cyberloafing.

3.6.3.2. Age

In order to determine the level of cyberloafing of middle school students by the age variable, the Levene test was performed first to test the homogeneity of the variances within the scope of the independent variable of the study. It was seen that the variances were homogeneous (p>.05) according to the results of the test. The results of the one-way analysis of variance (ANOVA) performed to determine the cyberloafing levels of the students by the age variable are given in Table 8.

Table 8.

One-Way Analysis of Variance (ANOVA) Results by the Age

Source of Variance	Sum of Squares	sd	Mean Square	F	p*	η^2	Gabriel
Between Groups	13.476		3.369	9.477	.00*	.098	1-5
Within-Groups	124,426		.356				2-5
Total	137,902	.624					3-5
							4-5

*p<.05

1: Age 10 2: Age 11 3: Age 12 4: Age 13 5: Age 14

When Table 8 is examined, it can be seen that there is a significant correlation between age and cyberloafing behaviors (p>.05). According to Cohen (1988), the effect size (η^2=.098) indicates that the difference is moderate. Post-Hoc analysis was carried out to determine between which subgroups the difference was found. Gabriel test was used since the variances are homogeneously distributed and the number of people between groups is close to each other, but not equal.

According to the Gabriel test results, there is a significant and moderate difference between the ages of 10 and 14, 11 and 14, 12 and 14, and 13 and 14.

Among the studies in the literature, the study conducted by Knight (2017) with 141 graduate students differs. According to the findings of the study, younger students exhibited more cyberloafing behavior compared to older students. The study of Örücü and Yıldız (2014) conducted with 151 academic staff was examined. It was observed that younger employees exhibited more cyberloafing behavior in general compared to older employees. Moreover, in King's (2007) study conducted with academic staff, it was found that younger staff exhibited more cyberloafing behavior compared to older staff. This situation encountered in the literature shows that younger individuals are more active in technological activities than older individuals. It can be said that the reason for this is due to the fact that the age group studied is in a different age group. While 10-year-old students have just started studying with technology, 14-year-old students do homework, communicate with their friends, and perform entertaining activities with technology. This situation shows that 14-year-olds use technology more actively. In this case, cyberloafing activities are performed more by the 14 year-olds. In order to interpret the data more accurately, it has been understood in the literature that more studies should be conducted with this age group.

3.6.3.3. Grade Level

A one-way analysis of variance (ANOVA) was conducted to test whether the cyberloafing behavior levels of middle school students vary significantly by grade level. The homogeneity of variances was analyzed via Levene's test. As a result of Levene's test, it was observed that the variances were not homogeneous (p<.05).

Table 9.

One-Way Analysis of Variance (ANOVA) Results by the Grade Level

Source of Variance	**Sum of Squares**	**sd**	**Mean Square**	**F**	**p***	**η^2**	**Tamhane's T2**
Between Groups	9.969		3.323	9.117	.00*	.072	1-4 2-4
Within-Groups	127,934		.364				3-4
Total	137,902	.624					

*p<.05

1: 5th grade 2: 6th grade 3: 7th grade 4: 8th grade

When Table 9 is examined, a significant difference was observed between the cyberloafing behavior levels of middle school students and their grade levels (p<.05). According to Cohen (1988), the effect size (η^2=.072) of this difference is found to be moderate. Post-Hoc analysis was carried out in order to find the difference. Since the variances were not homogeneous and the number of students at the grade level was almost equal, Tamhane's T2 test was applied. Thanks to the result of Tamhane's T2 test, it was observed that there was a significant and moderate differentiation between 5th grades and 8th grades, 6th grades and 8th grades, and 7th grades and 8th grades. The results for grade level are similar to the results for age. This is because the age at middle school student grade levels doesn't vary as much as for university students.

These findings are supported by the study conducted by Arabacı (2017) with 232 university students. In the study, a significant difference was observed between 1st grades and 4th grades, 2nd grades and 4th grades. In the study conducted with 819 students by Akgün (2020), who examined the cyberloafing behaviors of high school students in the classroom, a significant difference was observed between 2nd grade students and 4th grade students, and 3rd grade students and 4th grade students.

3.6.3.4. Number of Students in the Class

The normal distribution was examined first in order to test whether the cyberloafing levels of the students vary by the number of students in the class, In order to test the homogeneity of the variances, Levene's test was used and it was found that the variances were homogeneously distributed (p>.05). One-way analysis of variance (ANOVA) was carried out in order to test the correlation between cyberloafing levels and the number of students.

Table 10.

One-Way Analysis of Variance (ANOVA) Results by the Number of Students in the Class

Source of Variance	Sum of Squares	sd	Mean Square	F	p*	η^2	Tukey HSD
Between Groups	.020		.010	.026	.975	.00*	1-4 2-4
Within-Groups	137,882		.392				3-4
Total	137,902	.624					

*p<.05

1: Number of Students 0-10 2: Number of Students 11-20 3: Number of Students 21-30

When Table 10 is examined, no significant difference is found between the level of cyberloafing behavior and the number of students in the class (p>.05). According to Cohen (1988), the effect size (η^2=.000) is found to be low.

3.6.4. Findings On the Examination of the Web Environments in which Middle School Students Perform Cyberloafing Behaviors the Most

In this section, analyzes of the web environments in which middle school students mostly perform cyberloafing will be included. In this context, the quantitative and qualitative analysis findings will be examined.

3.6.4.1. Quantitative Analysis Findings Regarding the Web Environments in which Middle school Students Perform the Most Cyberloafing Behavior

The descriptive statistics results regarding the web environments in which students spend the most time on the Internet during the lesson or while studying are given in Table 11.

Table 11.

The Web Environments in which Students Spend the Most Time on the Internet

Web Environments in which Time Spent on the Internet	Sub-Titles	f	%
Social Media	Music, TV Series, Movie Websites	248	69,9
	YouTube	218	61,4
	Instagram	215	60,6
	Gaming Websites	194	54,6
	TikTok	143	40,3
	Facebook	48	13,5
	Twitter	43	12,1
General Educational Websites	E-Okul	142	40,0
	Educational Websites	100	28,2

When Table 11 is examined, it is seen that middle school students spend the most time on music, TV series, and movie websites, as well as on YouTube and Instagram. These web environments are respectively followed by gaming websites, TikTok and E-School. According to the results of the analysis, it has been observed that students spend the most time in social web environments.

With the rapid development of technology, individuals meet their communication, interaction and socialization needs in social media environments (Tektaş, 2014). Our research results and studies in the literature also support this situation. In the study of Tanrıverdi (2017), which was conducted with 527 middle school students, it was stated that the web platforms where students spend the most time are "Facebook", "music, TV series, movie websites" and "gaming websites". Similary, social media environments (Instagram, Twitter, YouTube, etc.) are the most preferred environmens in different age groups (Bağrıaçık Yılmaz, 2017; Gezgin, Arslantaş and Şumuer, 2018; Sert, 2021).

3.6.4.2. Qualitative Analysis Findings Regarding the Web Environment in which Middle school Students Perform the Most Cyberloafing Behavior

In the interview conducted with middle school students, the students were asked “Which sites or applications do you prefer most on the internet during the lesson or while studying?” and five main themes were determined in accordance with the answers. These main themes are “social media environments”, “educational web environments”, “Web video environments”, “Web gaming environments” and “digital music environments”.

Table 12.

The most preferred sites or applications on the internet while studying or studying

Social media environments
Educational web environments
Course related web pages
Web pages for research
Web video environments
Web gaming environments
Digital music environments

Web video environments, game web environments, digital music web environments in Table 12 are not detailed below because they were not emphasized by the students.

Within the scope of the main theme of "Social media environments" one of the students, 010 expressed his opinion by saying *"…Instagram. Facebook, WhatsApp. Snapchat, Twitter…I mean.. There are some funny videos and stuff, I'm having fun with it."* O4 explained her activities by saying "*…I visit lots of websites…Teacher, I check Instagram. Well, sometimes, also WhatsApp. Teacher, I have an account, but I barely use it."* O11 expressed his opinion by saying "*Teacher, well, we have a few groups with our friends, and it's about our village. So, we're texting from there. When I meet my close friends or relatives, or when I go somewhere I send photos and stuff like that."*

A similar result can be seen in Özek's (2018) interviews with middle school students. It is determined that one of the most cyberloafing activities performed by the students is "social media environment." This result is also supported by the study of Şenel et al. (2019). Social media tools such as Instagram, Facebook, Twitter, Facebook, TikTok are used for communication, interaction, following the agenda, sharing ideas, etc. meets mant needs. This shows that social media is an integral part of daily life (Durak and Seferoğlu, 2016; Lee, Chen, Li ve Lin, 2015). For this reason, it is thought that cyberloafing behaviors are mostly carried out through social media.

"Educational web pages" main theme is divided into two sub-themes. These sub-themes are given in Figure 5.

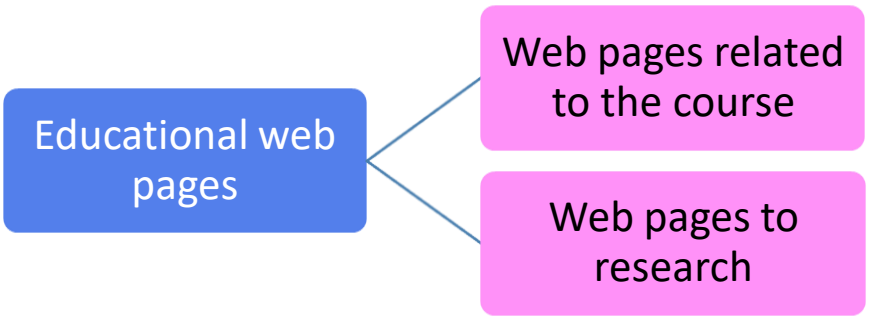


Fig. 5. Educational web pages and sub-themes

Within the scope of the sub-theme "web pages related to the course" O2 emphasized the web environments she used by saying *"I mean, Teacher, you know there is a homework program.. website, application, I use that. And also I use.. I use the general subject lectures for middle schools. I learn English words, I use those, applications..."* O4, on the other hand, stated that she used web environments "for research" by saying "*Google. Teacher, I don't know what I click on Google. I visit a lot of websites, for research purposes*.." O12 stated that he used web environments both for lectures and for research by saying "*I usually use EBA (Education Information Network). I follow Barış Özcan... to learn stuff. I think his content is better than most YouTubers, I mean most content producers. It's both informative and well.."* In the studies in the literature, it was seen that students (middle school, university etc.) carried out cyberloafing behavior while doing research on educational web pages (Gülnar and Ünsal, 2020; Tatlı ve Sadık, 2021). In addiction, Wu et al. (2020) found a positive relationship between cyberloafing and academic performance in their study with 502 university students. Cyberloafing by taking a learning break has been shown to improve performance in returning to learning. In the study conducted by Setiawan (2019) with 212 university students, it was determined that cyberloafing didn't have any positive or negative contribution to academic performance. This shown that the relationship between education and cyberloafing hasn't yet produced clear results in order to interpret it positively or negatively.

4. Conclusion and Recommendations

In this study, the cyberloafing behavior levels of middle school students and the correlation between students' demographic characteristics and cyberloafing behaviors were examined, and the most frequently performed cyberloafing activities by students and the web environments they use were researched.

Looking at the general average, it is seen that middle school students have low levels of cyberloafing. Within the scope of the sub-dimensions of the scale, is was found that cyberloafing was moderate in two sub-dimensions (content access, sharing) and low-level cyberloafing in the other three sub-dimensions (shopping, gaming/gambling, real-time updating). Within the framework of these findings, it was concluded that the majority of middle school students had a low level of cyberloafing. It is seen that the fact that the 5th grade students are very small affects the cyberloafing average result. Resuls can be compared with a seperate study with middle school students in a larger sample.

The cyberloafing activities most frequently performed by middle school students were examined within the scope of Cyberloafing Activities Scale. In this context, it was found that students mostly engage in cyberloafing in the sub-dimensions of “content Access” and “sharing”. At least, they were found to be cyberloafing in the sub-dimensions of “gaming/gambling”, “shopping” and “real-time updating”. In the content Access sub-dimension, “watching videos on the internet”, “listening to music from the internet”, “dowloading the applications that are needed”; in the sub-dimension of sharing, it was found that they performed the activities of “messaging with friends” and “watching shared fun videos”. Within the framework of these findings, it is concluded that middle school students ted towards communication, socialization and cyberloafing behaviors for personal needs. The fact that middle school students tend to Access content and sharing, but not to gambling, shopping and real-time updating may be related to their age leves. Fort his reason, research should be conducted using the same scale with high school and university students. Ask the students, “How would you evaluate the use of technology outside the classroom or your activities on the internet?” ask. The question was asked and it was determined that the students carried out activities that started with educational, entertainment, communication-oriented technology activities and turned into cyberloafing. It has been concluded that middle school students mostly tend to cyberloafing by listenin to music and chatting while doing a study about the course. Within the scope of this result, researches can be conducted on how students feel while studying, what emotions they experience and how they turn to technology. The second theme that students stated they performed the most was cyberloafing activities that started for entertainment technology activities. Within the scope of this theme, the students stated the sub-themes of playing games and watching videos more. Game activities with students, street games, social and artistic activities and students’distance from technology can be examined with a new research.

When the cyberloafing behaviors of the students were examined according to the gender variable, it was found that male students did cyberloafing at a significant and higher level than female students. This findings Show that male students spend more time on the internet than female students. Causes and consequences can be evaluated by increasing the number of interviews with male students. In addiction, by conducting studies with students in different age groups, the cyberloafing status of female and male students can be examined. When students are given training on conscious internet use, it can be examined whether the relationship between male students and cyberloafing differs. When students’cyberloafing behaviors were analyzed according to age, a significant difference was found. It was found that 14 years old students do more cyberloafing than 10, 11, 12 and 13 year old students. According to the finding, older students did more cyberloafing than younger students. With this finding, it is concluded that students who are close to adolescence or have entered adolescence have a more active relationship with technology and internet. Conducting studies examining the cyberloafing activities of middle school students by considering their puberty status can explain the situation of being or not related to the cyberloafing behaviors of the students in the younger age group (8-14 years old). When cyberloafing behaviors of middle school students are examined according to grade level, a significant difference was found. This result is similar to the age

variable. There are no big age differences in middle school as in university. Fort his reason, the same result was obtained with age. 8th grade students exhibit more cyberloafing behavior than 5th, 6th and 7th grade students. In similar studies with middle school students, it was determined that the grade level variable was not necessary. When the cyberloafing of the students differed according to the number of students in the class, no significant difference was reached. With this finding, it was concluded that students'cyberloafing behaviors were not related to the number of students in the classroom. This result may be due to the fact that the study was conducted with public schools. With insufficient technological facilities in public schools, students do not turn to cyberloafing regardless of the number of students in the classroom. Similar studies can be carried out with state schools or private schools with technological facilities and it can be observed whether the "number of students in class" variable affects the result of cyberloafing level.

Quantitative analysis findings regarding the environments in which middle school students spend the most time while performing cyberloafing behavior were examined. Within the framework of these findings, it has been observed that students mostly tend to social networks and educational sites. Students tended to music, TV series and movie sites, YouTube, Instagram, Game sites and TikTok the most in social networks. In education sites, it was found that they mostly tended to e-school. With this finding, the question of why students turn to social networks arose. In this context, interviews were held with the students. In the interview, the students were asked, "Which site sor applications do you prefer most when studying or studying?" question has been asked. When the answers received were themed, the theme of "social media environments" was reached the most. Within the scope of this theme, students are encouraged to have fun, communicate, spend time, etc. It was found that they turned to social media for social media purposes. These findings Show that students spend more time on social media. In addiction, interaction and communication in social media provides many advantages in terms of being aware of the agenda, watching and sharing entertaining content and finding content related to the course. Fort his reason, it is thought that students tend to social media more. In this context, studies or activities that strengthen the relationship of social media with the lesson can be carried out and results can be examined. In addiction, by analyzing the current place and content of social media in detail, it can be researched how it can be made more useful for students. In addiction, students can be given training on social media. The extent to which these trainings affect students'perspectives can be examined through pre- and post-work.

When the results of the research were examined, it was observed that the adopted scale did not directly reflect the age group (11-15 years), which revealed the scale problem. A scale study can be developed on cyberloafing that can be carried out efficiently with middle school students.

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