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Investigation of High School Students' Cyberloafing Behaviors in Classes

Fatma Akgün [1]

Abstract

The aim of this study is investigating the cyberloafing behaviors of high school students in classes with regard to various variables and teachers' opinions. Study group of the research patterned with convergent parallel mixed method is composed of 819 high school students in total from 9 different schools. Five-factor "Cyberloafing Scale" developed by Akbulut, Dursun, Dönmez, and Şahin (2016) was used to collect the quantitative data. A semi-structured interview form was prepared to collect the qualitative data and this form handed out to a total of 18 teachers to be filled with the intent of supporting the information obtained from students. These teachers were giving lectures in different branches at each school. Independent-samples t-test, one-way ANOVA test, multiple comparison tests and Bonferroni Correction were used to control Type-I Error were used to analyze the quantitative data, and content analysis was used to analyze the qualitative data. While the analysis of quantitative data revealed that the variables of gender and type of school have a medium level significant impact on cyberloafing behaviors of students in classrooms, it shows a small level effect size and significant difference as regards to grade and average time spent on social networks. However, within the framework of the opinions received from teachers in the research, the reasons for cyberloafing behaviors of students in classrooms were determined as the education process and socio-psychological factors and it was also founded that cyberloafing behaviors in classrooms generally affect academic achievements of students and their interest in the course in a negative way. Participants of the research have also stated that the cyberloafing behaviors of students in classes lead to negativities such as diminishing motivation of their classmates and teachers, causing distractibility and distorting the lessons.

Keywords

Cyberloafing
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[1] Trakya University, Faculty of Education, Department of Computer and Instructional Technology Education, Turkey, fatmaakgun@trakya.edu.tr

Introduction

Emergence of the Internet regarded as one of the greatest inventions made available to humanity by science (Ehikhamenor, 2003; Mowery & Simcoe, 2002), major changes took place in the society in the last century. Before the Internet, people were struggling to make investigations, reach any kind of information, communicate with each other, improve themselves in science and arts, receive education or specialize in any field, and having difficulties in terms of time and finance. As a matter of fact, in conjunction with emergence of the Internet due to innovations in science world and proliferation of mobile technologies, it is observed that the majority of these problems have been eliminated and these developments had a significant impact on lives and work areas of people (Taneja, Fiore, & Fischer, 2015). Being commonly and easily used by individuals of all ages and especially by the youth, the Internet technologies play an active role in all areas of life (Gomez, Rial, Brana, Varela, & Golpe, 2017). Use of the Internet technologies for fun and communication such as affiliating with social networks, making video calls, sending e-mails, watching videos and playing games, innovations brought by mobile technologies such as application programs and opportunities provided by mobile technologies led to a significant increase in the number of Internet users and the time spent on the Internet every passing day (Özkoçak, 2016; Uğur & Turan, 2015). In recent years it was revealed that around 53% of world population are internet users (Bayrak, 2018) and internet access ratio at homes in Turkey is found as 83.8%. It is also found that internet use in Turkey is more common among the youth (Turkish Statistical Institute (TUIK), 2018). On the other hand, this increase in internet use has prepared the ground for internet addiction, especially among young people (Weinstein & Lejoyeux, 2010; Young, 2004) and as a result of this intensive use, misuse and/or excessive use of internet technology has come into the picture (Dursun, Dönmez, & Akbulut, 2018). In this respect Li, Sarathy, Zhang, and Luo (2014) state that the employees misuse the Internet in their offices to check their personal e-mails, play games, shop or for other purposes not related to business and Ruhnka and Loopesko (2013) emphasize that the employees' use of internet for personal reasons in the office causes loss of time and productivity for and also costs significantly to the company.

Ravizza, Hambrick, and Fenn (2014) exemplify misuse of internet by the students in education for non-academic purposes as sending/receiving messages, reading news, watching sports videos and checking e-mails in classrooms and state that this may have a negative impact on their academic achievement. Similarly Wu, Mei, and Ugrin (2018) state that use of internet by the students for non-academic purposes may hinder efficient integration of Information and Communication Technologies (ICT) with learning environments. However, while Sana, Weston, and Cepeda (2013) emphasize that misuse of internet leads to waste (loss) of time and students' using their laptop computers in classrooms for the purpose of having online fun such as instant messaging, playing games, checking e-mails and watching movies wastes the time they need to spare for learning, Kuss, Rooij, Shorter, Griffiths, and Mheen (2013) state that proliferation of social media applications poses a potential risk of internet addiction among teenagers (adolescents) and this might weaken their academic performance, form negative personality characteristics and weaken interpersonal relationships. As it is seen, such misuses of internet technology may lead to unintended consequences in the society in terms of both education, and work and production. Therefore, such unproductive uses have prepared the ground for emergence of the concept of cyberloafing for employees and individuals in the field of education. While we have initially confronted with cyberloafing as a subject covered by studies on business and management (Andreassen, Torsheim, & Pallesen, 2014; Jandaghi, Alvani, Matin, & Kozekanan, 2015; Kim, Triana, Chung, & Oh, 2015; Lim, Teo, & Loo, 2002), it has become a subject of many studies in the field of education in conjunction with the increased use of technology in education system (Akbulut et al., 2016; Dursun et al., 2018; Gerow, Galluch, & Thatcher, 2010; Heidari, 2018; Keser, Kavuk, & Numanoğlu, 2016; Knight, 2017; Taneja et al., 2015; Wu et al., 2018; Yuwanto, 2018). Use of ICT by students during courses for reasons other than activities related to the course is regarded as turning the students' attention toward something other than the course and instructor and hindering their learning (Gerow et al., 2010)

and it is also stated that engaging in such devices which enable people to perform multiple tasks hinders understanding the course and causes the students to get bad marks which affects their academic achievement negatively (Sana et al., 2013). So, studies were being conducted on this subject in the literature to find a solution to this problem faced in education and business lives and prevent misuse of technology by users.

Cyberloafing

The concept of cyberloafing is called in the international literature as cyberslacking (Block, 2001; Hernandez, Levy, & Ramim, 2016; Miles, Hu, Beldona, & Clay, 2001; Ugrin, Pearson, & Odom, 2007), cyberloafing (Akbulut et al., 2016; Blanchard & Henle, 2008; Lim, 2002; Ugrin & Pearson, 2013), cyber deviance (Holt, Burruss, & Bossler, 2010; Oakley & Salam, 2012; Udris, 2016), while the Turkish name of the concept in national literature varies such as "cyberloafing" (Akbulut et al., 2016; Baş, 2017; Candan & İnce, 2016; Demir & Seferoğlu, 2016; Ergün & Altun, 2012; Hayıt & Dönmez, 2016; Keklik, Kılıç, Yıldız, & Yıldız, 2015; Örücü & Aksoy, 2018; Özdem & Demir, 2015; Varol & Yıldırım, 2018; Yağcı & Yüceler, 2016; Yaşar, 2013) and "cyberslacking" (Örücü & Yıldız, 2014). Cyberloafing, which is an attention-grabbing concept both in business and education lives refers to use of mobile technologies by internet users in their business and education lives for wrong purposes at any given time.

The definition of cyberloafing was first made by Lim (2002). Lim (2002) has defined cyberloafing as the use of corporate internet by the employees for personal purposes such as surfing the net or sending and receiving e-mails and emphasized in his study that this behavior is detrimental to the organization. Blanchard and Henle (2008) defines cyberloafing as use of internet by an employee during work hours for e-mailing and personal purposes and classifies it as important and unimportant. In this respect, sending personal e-mails, visiting news or financial web sites, online shopping are considered unimportant but visiting adult web sites, chatting in chat rooms, online gambling, updating personal web sites, downloading music and reading blogs are considered as important cyberloafing behaviors. However Ugrin et al. (2007) define cyberloafing as misuse of internet by employees for purposes like online gaming, online shopping, personal e-mail transactions, online chat, watching media or pornography while Vitak, Crouse, and LaRose (2011) define it as using internet and mobile technologies for personal purposes during work hours.

In many studies on cyberloafing behavior, cyberloafing is regarded as intensive use of internet within working hours for reasons other than work (Andreassen et al., 2014; Jandaghi et al., 2015; Kim & Byrne, 2011; Lee, Lee, & Kim, 2004), connecting to applications with electronic mediators on internet at work (Askew et al., 2014), using corporate internet connection for reasons other than business (Anandarajan, Devine, & Simmers, 2004; Lim et al., 2002; Örücü & Aksoy, 2018), aberrant office behavior by spending time on internet rather than doing one's job (Zoghbi, 2007) and it is stated that cyberloafing may be performed not only with internet access devices provided by businesses but also with all technological devices that enable individual internet access as a consequence of technological development (Baş, 2017). Klotz and Buckley (2013) have stated that improvement of mobile devices enables the employees to exhibit cyberloafing behaviors not only at their desk or on employer's internet network but they are able to do it by using their own smart phones, iPads or laptops. Divergently Kim et al. (2015) have emphasized that personality traits of individuals play a role in cyberloafing along with environmental factors. Cyberloafing in business world causes loss of human resource and time, decrease in production, financial loss, being exposed to debt risk, productivity slowdown and decrease in corporate performance to businesses (Ahmad & Omar, 2017; Liberman, Seidman, McKenna, & Buffardi, 2011; Lim & Teo, 2005; Ugrin, Pearson, and Nickle, 2018; Vitak et al., 2011). Having easy access to internet from far and near and not only in business life, increased diversity of social network applications and easily owning mobile devices and wireless internet have led to undesirable behaviors also in educational environments. For example End, Worthman, Mathews, and Wetterau (2010) have revealed in their experimental studies that the students watching an educational video become distracted when a mobile phone rings and their learning performance is adversely affected. While

Kulezsa, DeHondt, and Nezlek (2011) state that the contemporary learning techniques don't guarantee a superior learning experience and may also distract the students and reduce their participation and interest, Fried (2008) emphasizes that use of portable devices would have an adverse effect on learning of the students and distract other students if use of these devices in classrooms is not guided and controlled. As it is seen, advancement of technological devices may lead to some negative circumstances not only in terms of employers and workplaces but also for the education process. As an example, it causes some situations such as the students' using mobile devices and wireless internet access for the purposes not related to the classes and the distraction of them from the course, losing their attention and the ability to focus on the course, and affecting their academic performances as well as it causes the emergence of the concept of cyberloafing in educational environments, which gives rise to negative education environments in terms of educators (Soh, Koay, & Lim, 2018).

Cyberloafing Behavior in Schools

When the innovations of the information age are considered, it is seen that use of technology in lessons by both students and teachers has increase as far as possible as a result of integration of technology with the field of education-learning. Multimedia applications, web technologies and next-generation educational applications among these technological innovations enable the courses to be taught more effectively and interactively (Ersoy, Duman, & Öncü, 2016; Özkale & Koç, 2014; Sari, Aryana, Subarkah, & Ramdhani, 2018). Students use the computer laboratory of schools or their personal mobile devices to access these next-generation applications and benefit from them. On the other hand, although it is regarded as a very common behaviour for the students to bring their devices connected to internet to classrooms in today's digital world (Soh et al., 2018), they use these devices in accordance with their intended use but also for other purposes (Aljomaa, Al Qudah, Albursan, Bakhiet, & Abduljabbar, 2016). When students misuse internet in lessons they may encounter serious problems such as disconnecting from the lesson, becoming distracted and losing their motivation (Arabacı, 2017; Genç & Tozkoparan, 2017; Hayıt & Dönmez, 2016; Wu et al., 2018). However easily accessing internet aided applications in classroom gives way to cyberloafing behaviors of students and expansion of computer use, and at the same time internet access in school environment increases concerns about cyberloafing in educational environments (Baturay & Toker, 2015; Galluch & Thatcher, 2006; Zoghbi, 2012).

Although the concept of cyberloafing has been studied on the employees in many studies, as a result of development of mobile technologies and applications in tune with these technologies and their increased use, particularly by young people, many studies can be found on cyberloafing behaviors of university students (Akbulut et al., 2016; Arabacı, 2017; Dursun et al., 2018; Ergün & Altun, 2012; Galluch & Thatcher, 2006; Genç & Tozkoparan, 2017; Gerow et al., 2010; Heidari, 2018; Kalaycı, 2010; Keser et al., 2016; Knight, 2017; Özcan, Gökçearslan, & Yüksel, 2017; Ravizza et al., 2014; Soh et al., 2018; Taneja et al., 2015; Wu et al., 2018; Yuwanto, 2018; Yaşar & Yurdugül, 2013), high school students (Akbulut et al., 2016; Baturay & Toker, 2015; Gencer & Koc, 2012), teachers (Akbulut et al., 2016; Demir & Seferoğlu, 2016; McBride, Milligan, & Nichols, 2013), academicians (Zoghbi, 2012), students and employees (Akbulut, Dönmez, & Dursun, 2017). When considered in terms of education, cyberloafing is expressed as use of internet by students in classrooms for reasons not related to the course but rather for their personal affairs or other reasons (Ergün & Altun, 2012; Gerow et al., 2010; Kalaycı, 2010; Varol & Yıldırım, 2018). This concept has been talked about in business life for long year and recently became a subject to consider in education (Özcan et al., 2017). When the students use such technologies during courses, they might be distracted and consequently undesired circumstances such as decrease in interest and participation in lessons and their performance may occur (Adams, 2006; Brubaker, 2006; Ergün & Altun, 2012; Karaoğlan Yılmaz, Yılmaz, Öztürk, Sezer, & Karademir, 2015; Yaşar & Yurdugül, 2013). However, many studies emphasize that intensive use of internet by students may reduce their academic achievement (e.g., Chou & Hsiao, 2000; Dursun et al., 2018; Jacobsen & Forste, 2011; Ravizza et al., 2014) and becomes an harmful distraction tool (e.g., Wu et al., 2018). Expressed as using internet excessively

and unnecessarily as an example to this, cyberloafing has caused worry both in workplaces and educational environments and brought up as an issue to put excessive emphasis on (Andreassen et al., 2014; Örücü & Yıldız, 2014).

Many researches conclude that cyberloafing is gradually becoming a widespread behavior and determining and understanding its sources and the variables that might affect cyberloafing would considerably help the educators to prevent cyberloafing behaviors (Bağrıaçık Yılmaz, 2017; Hayıt & Dönmez, 2016; Liberman et al., 2011; Soh et al., 2018). As cyberloafing is particularly common among the youth (Smith et al., 2008), it directly affects the academic achievement, motivation, in-class efficiency and attention and perception mechanisms of young people. Consequently many studies state that works are required to prevent and regulate this situation which may reduce the academic performance of students during their education (e.g., Ergün & Altun, 2012; Hayıt & Dönmez, 2016; Varol & Yıldırım, 2017). Especially when it is considered that high school education occupies an important place to prepare the students for university exam and contribute to development of their personality, it is considered necessary to determine the circumstances that lead to cyberloafing behaviors of students. However, the lack of sufficient number of studies on determining the cyberloafing behaviors of students in classroom (Baturay & Toker, 2015; Gencer & Koc, 2012) and concentration of current studies in the field of education mostly on samples of university students has become a significant factor to do this research with participation of high school students. For this purpose, it is considered important to determine the reasons of this behaviour, which is considered a serious problem in high school education that affects the academic achievement of students and the variables affecting it. Moreover, as it was seen important to receive the opinions of stakeholders and suggest solutions, a mixed pattern study was conducted and answers were sought for the following questions.

1. What is the instance of cyberloafing behaviors of students during courses?
2. Does cyberloafing behavior of students during courses differ in terms of gender, school type, grade and the average daily time spent on social networks?
3. According to the opinions of teachers;
    a. what is the frequency of cyberloafing behaviors of students during courses?
    b. what are the reasons?
    c. what are the effects on learning process and academic achievement?
    d. what are the effects on motivation, interest and attention of other students for the course?
    e. what is the effect on the motivation of teachers when they teach a course?
4. What are the measures taken by teachers to prevent cyberloafing behaviors of students during courses and their solution proposals in this respect?

Method

Research Design

The research was patterned with a mixed method approach using quantitative and qualitative models. The basic assumption of this approach is that the researcher will contribute more to the research by combining the statistical trends (quantitative data), stories and personal experiences (qualitative data) in terms of understanding the research problem better in comparison with using only one of these methods (Creswell, 2017). To this end, it was aimed to use both approaches in the research and increase the validity and reliability of research findings. The mixed method approach was used in the form of Convergent Parallel Mixed Method Design was used in the study. In this approach, quantitative and qualitative data are collected and a comparison is made to determine whether the findings confirm each other or not (Creswell, 2013). In this kind of researches the aim is collecting both quantitative and qualitative data simultaneously, combining them and using the results to understand a research problem (Fırat, Kabakçı Yurdakul, & Ersoy, 2014). In this research, the relational screening model which

reveals the characteristics of the sample for quantitative data included in research pattern and aims at determining the existence and/or degree of change between two or more variables (Frankel & Wallen, 2006; Karasar, 2012). For qualitative data, on the other hand, the phenomenologic method was used to focus on the phenomenons we are aware of but not have an in-depth and detailed understanding about, in short, to reveal the experiences and meanings (Yıldırım & Şimşek, 2011).

Study Group of the Research

In the study, which was designed with a mixed methodological approach, two different samples were studied on for quantitative and qualitative dimensions. Simple random sampling method was used to determine the high school students included in the study group which constitutes the quantitative dimension of the study. In simple random sampling, all elements in the universe have equal chances to be selected (Karasar, 2012).

Table 1. General Data of Students (Quantitative Data)

Gender	Girl: 378		Boy: 414	**Total: 819**	
Grade Level	**n**	**(%)**	**School Type**	**n**	**%**
9th grade	214	26	Regular High School	257	31
10th grade	367	45	Vocational High School	278	34
11th grade	159	19	Science High School	108	13
12th grade	79	10	Anatolian High School	96	12
			Religious High School	80	10

The preferred device for connecting to the internet	**n**	**(%)**
Notebook PC	79	10
Tablet PC	18	2
Smart Phone	671	82
Desktop PC	51	6

Average daily time spent on social network	**n**	**(%)**
Less than 1 hour	72	9
1-2 hours	117	14
2-3 hours	152	19
3-4 hours	167	20
4-5 hours	106	13
5 hours and more	205	25

The reason to use the phone during the course	**f**	**(%)**
Boredom	398	49
Request to social networks	205	25
Messaging with friends	196	23
Lessons attracted attention	148	18
Research about the course	105	13
Negative attitude towards teacher	99	12
Others (control clock, play game, listen to music, call a lover, communication with family, urgent need)	85	10
Read news from net	71	8

Study sample of the research was composed of 819 students receiving education in different grade of different types of high schools in city Centre of Edirne province to whom we have reached with simple random sampling method. Necessary permissions were obtained from Edirne Provincial Directorate for National Education to collect the data in the research. 46% of the sample was composed of girl and 54% was composed of boy students and their demographic information are given in Table 1.

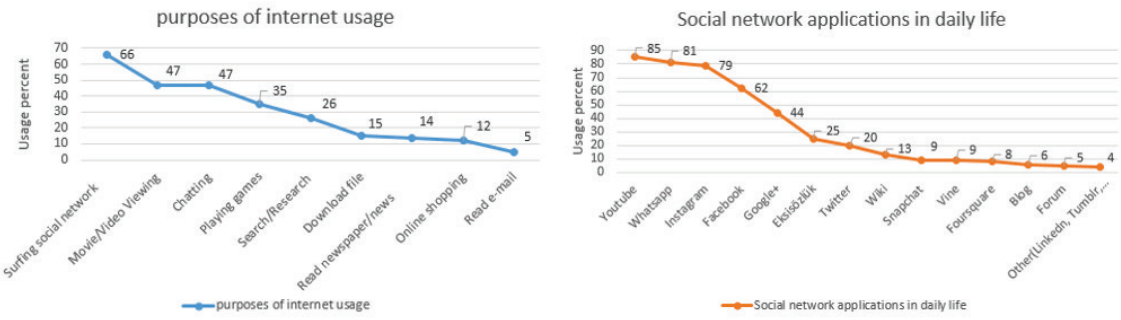

Figure 1. Intended Use of the Internet and the Social Network Applications Used

As it is seen in Figure 1, 66% of the students mostly use the internet for social networking, 47% for watching movies/videos and similarly, 47% to chat and 35% to play games. When the average daily time spent on social networks by students is looked at, it was found out that the longest time they spent is 5 hours. The mostly visited social networks are YouTube, WhatsApp, Instagram and Facebook at the rate of 85%, 81%, 79% and 62% respectively.

Table 2. General Data of Teachers (Qualitative Data)

Participants	Gender	Branch	School	Age	Seniority
T1	Male	German	Regular High School	43	22
T2	Male	Philosophy	Regular High School	42	19
T3	Female	Arabic	Religious High School	30	5
T4	Female	Maths	Religious High School	34	9
T5	Female	Physics	Regular High School	54	24
T6	Female	Chemistry	Regular High School	40	17
T7	Male	Computer	Vocational high School	44	19
T8	Male	History	Vocational high School	39	18
T9	Male	History	Vocational high School	41	19
T10	Female	Biology	Vocational high School	39	16
T11	Female	English	Science High School	37	15
T12	Female	Chemistry	Science High School	45	23
T13	Female	Maths	Regular High School	39	17
T14	Female	Maths	Regular High School	40	20
T15	Female	Geography	Anatolian High School	38	16
T16	Female	Literature	Anatolian High School	30	8
T17	Female	English	Vocational high School	40	16
T18	Male	Social Services	Vocational high School	25	3

Maximum Variation Sampling Method was used as a purposeful sampling to determine the teachers composing the study group for qualitative dimension of the research and the participants were selected. Maximum variation sampling aims to create a relatively small sample and reflect the maximum variation of individuals who may be a party to research problem in this sample (Yıldırım & Şimşek, 2011). In determination of the participants with this sampling technique gender, branch, school type, age and years of seniority were used as criteria. Demographic information of teachers are shown in Table 2.

Data Collection Tools

For the quantitative data of the study, "Cyberloafing Scale" and personal information form were used to obtain demographic information about the study group. 2 teachers from each school were interviewed to obtain the qualitative data and opinions of 18 teachers about cyberloafing behaviors of students during courses were received with a semi-structured interview form containing 8 questions and their verbal responses were recorded.

Personal Information Form: The personal information form drawn up by the researchers contained 11 items on some demographic information such as gender, school type, age, grade, mobile phone ownership, mobile internet ownership, reason of using mobile phone during the courses, the most preferred device to connect to the internet, the purposes of using the internet, social networks used in daily life and time spent on social networks.

Cyberloafing Scale: To measure the degree of cyberloafing behaviors of students during the courses, the "Cyberloafing Scale" developed by Akbulut et al. (2016) was used. The scale was composed of 5 factors and 30 items. 9 items of the scale were based on sub-factors like sharing (for example, *"I look at the content shared by my friends "*, *posting content, chatting, etc.*, 7 items on shopping (for example, *"I shop online "*, *such as online shopping, auction*), 5 items on real-time updating (for example, "*I tweet*" *tweeting, reading tweets*), 5 items on accessing online content (for example, "*I download music from the Internet*" *music and video downloading*) and 4 items on gaming/gambling (for example, "*I visit betting sites*" *betting and online gaming)*. 5 Point Likert Scale had ranged from 1 (never) to 5 (a great extent) and the points varied in the range of 30-150. Mean scores are interpreted in "1.00-1.80" very low, "1.81-2.60" low, "2.61-3.40" medium, "3.41-4.20" high and "4.21-5.00" very high was an used in the 5-point Likert type scale evaluation range, which score value obtained by dividing the mean score value of the scale by the number of items. Internal consistency coefficient (Cronbach Alpha) of the original scale on the basis of factors was determined as 0.93 for sharing, 0.87 for shopping, 0.93 for real-time updating, 0.94 for accessing online content and 0.80 for gaming/gambling and 0.95 for the whole scale. Internal consistency coefficient (Cronbach Alpha) based on the data obtained in this research was determined as 0.90 for sharing, 0.81 for shopping, 0.83 for real-time updating, 0.93 for accessing online content and 0.81 for gaming/gambling and 0.93 for the whole scale.

Semi-Structured Interview Form: The semi-structured interview form prepared by the researcher contained demographic information such as interviewee, interview environment, date, time, school, branch, seniority and age along with questions like "*What might be the effects of the use of information and communication technologies by students during courses on their learning and academic achievement?*" The interview form was composed of 8 questions aimed at determining the frequency of cyberloafing behaviors of students during courses, cyberloafing of students, its reasons, effects on their academic achievement, effects of their classmates, effects of the performance of teacher and measures taken and suggestions made by teachers. Before preparation of interview questions, the relevant literature was reviewed to ensure the validity of the scope. The questions in the draft interview form were prepared accordingly and some questions were supported with alternative, explanatory and deepening probing questions. Then the draft interview form was submitted to 3 academicians who are expert in Computer and Teaching Technologies to receive their opinions. The interview form was finalized in line with the feedback received.

Analysis of Data

Quantitative data were analyzed by using SPSS 23.0 statistical packaged software. In order to analyze whether the data have a normal distribution or not, their Skewness and Kurtosis values were examined. When these values were examined, Skewness and Kurtosis coefficients were found in the range of "-1.5 and +1.5" and it was accepted that the data has a normal distribution (Tabachnick & Fidell, 2013). After completion of normality tests descriptive statistics, t-test, one way ANOVA and multiple

comparison tests were used. The effect size was also calculated in the study to determine the degree of the significant difference for t-test and one way ANOVA test along with statistical significance. The one-way analysis of variance test reveals if there is a significant difference between the compared averages but doesn't provide information about the magnitude of this difference (Can, 2016). Therefore, in addition to statistical significance, effect size was also calculated in the study. The effect size statistic eta-square (η2) was used to determine the degree of total variance in dependent variable explained by independent variable or factor (Büyüköztürk, 2010). The effect size varies in the range of 0.00-1.00 and .01 level is interpreted as "small", .06 level as "medium" and .14 level as "large". However, in the analysis of data for one way ANOVA test, Bonferroni correction was performed to check Type I error. As the excess number of groups may increase the error margin in paired comparison during the analysis of data, Bonferroni correction is made and this value is determined by using the "significance level (α)/number of group comparison" formula (Miller, 1991; Vialatte & Cichocki, 2008). Content analysis technique was used for the qualitative data of the research. "*Content analysis aims to conceptualize the data and reveal the themes that might describe the phenomenon. The results are presented descriptively and often include direct citations. In addition, findings obtained within the framework of revealed themes and patterns are explained and interpreted*." (Yıldırım & Şimşek, 2011). When making the content analysis, an inter-decoders reliability study was conducted with an expert academician and the value calculated with reliability coefficient=agreement/(agreement + disagreement) formula was found as 0.90. This result was accepted reliable for the research (Miles & Huberman, 1994). On the other hand, the same expert was consulted about disagreed codes about decoding and thematic framework and then an agreement was reached about the themes on which there was a difference of opinion and they were also included in the study.

Results

Cyberloafing Behaviors of Students during Courses

Descriptive statistics to determine cyberloafing behaviors of students during courses are given in Table 3.

Table 3. Averages Related to Cyberloafing Behaviors during Courses

Variable	**N**	***m***	$\bar{X}$	$\bar{X}/m$	***SD***
Sharing	819	9	24.05	2.67	8.72
Shopping	819	7	10.91	1.56	4.71
Real-time updating	819	5	7.15	1.43	3.29
Accessing online content	819	5	14.54	2.91	6.98
Gaming/Gambling	819	4	7.84	1.96	4.32
Cyberloafing	**819**	**30**	**64.49**	**2.15**	**20.93**

***m*: item number**

While it is observed that cyberloafing behaviors of students during courses is ($\bar{X}$**/m=2.15**) *"low"*, it is seen that they use their smart phones during courses mostly for accessing online content in in terms of the sub-dimensions of cyberloafing ($\bar{X}$**/m=2.91**), and the least for real-time updating ($\bar{X}$**/m=1.43**).

Evaluation of Cyberloafing Behaviors in terms of Gender Variable

The findings related to evaluation of cyberloafing behaviors of students during courses in terms of gender variable are given in Table 4.

Table 4. Cyberloafing Behaviors of Students with Respect to Gender Variable

Variable	Group	N	$\bar{X}$	SD	df	t	p	Effect size (η^2)
Sharing	Girl	378	23.38	8.671	817	-2.054	.040*	.005
	Boy	441	24.63	8.723				
Shopping	Girl	378	9.63	3.718	817	-7.651	.001*	.067
	Boy	441	12.01	5.166				
Real-time updating	Girl	378	7.28	3.370	817	1.018	.309	.001
	Boy	441	7.04	3.211				
Accessing online content	Girl	378	12.71	6.815	817	-7.127	.001*	.059
	Boy	441	16.10	6.735				
Gaming/Gambling	Girl	378	5.20	2.004	817	-20.616	.001*	.342
	Boy	441	10.10	4.493				
Cyberloafing	**Girl**	**378**	**58.20**	**18.616**	**817**	**-8.370**	**.001***	**.079**
	Boy	**441**	**69.88**	**21.324**				

***p<0.05**

It is seen in Table 4 that there is a significant difference between the average points gotten in cyberloafing scale and the variable of gender (t_{817} **= -8.370; p < .05**). While there is no significant difference between the sub-dimension of real-time applications factor and gender variable (t_{817} **= 1.018; p = .309)**, it is determined that there is a significant difference between all other sub-dimensions and gender variable and this difference was in favor of boys (Table 4).

In addition, magnitude of the significant difference between the averages of sharing, shopping, accessing online content, gaming/gambling and cyberloafing of girls and boys was calculated with effect size. When cyberloafing in general and sub-factors are considered, in terms of highest and lowest effect size values (η^2), the difference between the average scores of girls and boys in gaming/gambling sub-factor (η^2=.342) is large while the difference between the average scores of girls and boys in sharing sub-factor (η^2=.005) was founded as small. In terms of cyberloafing scale in general, the difference between the average scores of girls and boys was found as medium level (η^2=.079).

Evaluation of Cyberloafing Behaviors in Terms of the Variable of School Type

The findings related to evaluation of cyberloafing behaviors of students during courses in terms of school type variable are given in Table 5.

Table 5. Cyberloafing Behaviors of Students According to the Variable of School Type

Variable	Source of Variation	Sum of Squares	df	Mean Square	F	p	Effect size (η^2)
Sharing	Between Groups	3694.414	4	923.603	12.862	.001*	.059
	Within Groups	58452.534	814	71.809			
	Total	62146.947	818				
Shopping	Between Groups	880.572	4	220.143	10.400	.001*	.049
	Within Groups	17230.273	814	21.167			
	Total	18110.845	818				

Table 5. Continued

Variable	Source of Variation	Sum of Squares	df	Mean Square	F	p	Effect size (η^2)
Real-time updating	Between Groups	70.786	4	17.696	1.645	.161	.008
	Within Groups	8759.041	814	10.760			
	Total	8829.827	818				
Accessing online content	Between Groups	3163.813	4	790.953	17.575	.001*	.079
	Within Groups	36633.875	814	45.005			
	Total	39797.687	818				
Gaming/Gambling	Between Groups	507.645	4	126.911	6.994	.001*	.033
	Within Groups	14769.757	814	18.145			
	Total	15277.402	818				
Cyberloafing	**Between Groups**	**28661.233**	**4**	**7165.308**	**17.683**	**.001***	**.080**
	Within Groups	**329843.355**	**814**	**405.213**			
	Total	**358504.589**	**818**				

Bonferroni correction was performed before the post-hoc test made to determine the groups between which the difference obtained in ANOVA test. Intergroup interaction test was interpreted basing on the significance value and the alpha value was analyzed in comparisons in consideration of Bonferroni correction. As the number of groups was 5 in terms of school variable, the number of comparisons was calculated as 10 and Bonferroni value was found to be 0.005 by dividing the alpha value by the number of comparisons. In consideration of this value, p value is directly compared with 0.005 and if p <0.005, it can be said that there is a difference between the groups. As a result of the analysis carried out in the study, it is seen from the average point scored by high school students from overall cyberloafing scale (**$F_{4,814}$= 17.683; p<.005; η^2=.080)** and sharing, one of the sub-factors of the scale (**$F_{4,814}$= 12.682; p<.005; η^2=.059)**, shopping (**$F_{4,814}$= 10.400; p<.005; η^2=.049)**, accessing online content (**$F_{4,814}$= 17.575; p<.005; η^2=.079** and gaming/gambling (**$F_{4,814}$= 6.994; p<.005; η^2=.033)** and the point average obtained from the above sub-dimensions and school type, there is a significant difference as shown in Table 5. Besides, when the overall cyberloafing scale is examined in the study, it is seen in Table 5 that the effect size in terms of school variable (η2 =.080) is at medium level.

According to the results of Levene Test made to test the homogeneity of the variances in ANOVA test, the group variances are revealed to be equal in terms of sharing sub-factor and unequal in terms of overall cyberloafing scale and shopping, accessing online content and gaming/gambling dimensions. In order to determine the groups between which there is a difference the Scheffe Test, a Post-Hoc Test, was made in terms of sharing sub-factor and Tamhane's T2 Test was conducted for overall cyberloafing scale and shopping, accessing online content and gaming/gambling dimensions. At the end of the analysis made in terms of sharing factor, the average point of Vocational High School students for exhibiting cyberloafing behaviors during courses (**$\bar{X}$=26.63**) were found higher than the average point of Regular High School students (**$\bar{X}$=23.25**), Anatolian High School student (**$\bar{X}$=23.13)** and Science High School student (**$\bar{X}$=20.21)** and similarly, the average point of Regular High School students (**$\bar{X}$=23.25)** were found higher than Science High School students (**$\bar{X}$=20.21**). In the study, it was revealed that the average point of Vocational High School students to exhibit cyberloafing behaviors during courses in connection to overall cyberloafing scale (**$\bar{X}$=72.12**) were higher than the average point of Religious High School students (**$\bar{X}$=63.29**), Regular High School students (**$\bar{X}$=61.62**), Anatolian High School students (**$\bar{X}$=61.56)** and Science High School students (**$\bar{X}$=55.15)** and similarly, average point of Regular High School students (**$\bar{X}$=61.62**) were higher than the average point of Science High School

students ($\bar{X}$=**55.15**). Similarly, in terms of shopping sub-factor, the average points to exhibit cyberloafing behaviors during courses of Vocational High School students ($\bar{X}$=**12.30**) were found out higher than the average point of Anatolian High School students ($\bar{X}$=**10.59**), Religious High School students ($\bar{X}$=**10.56)** Regular High School students ($\bar{X}$=**10.22)** and Science High School Students ($\bar{X}$=**9.54**) and in terms of accessing online content sub-factor, higher than the average scores of students studying, again in terms of accessing online content sub-factor, the average points to exhibit cyberloafing behaviors during courses of Vocational School students ($\bar{X}$=**17.17**) were found higher than the average point of Religious High School students ($\bar{X}$=**14.06**), Regular High School students ($\bar{X}$=**13.54**), Anatolian High School students ($\bar{X}$=**12.61)** and Science High School students ($\bar{X}$=**12.17**). In terms of gaming/gambling sub-factor, on the other hand, average point of cyberloafing behaviors of Vocational High School students ($\bar{X}$=**8.77**) were found higher than the average point of Regular High School students ($\bar{X}$=**7.55)** and Science High School students ($\bar{X}$=**6.39**).

Evaluation of Cyberloafing Behaviors in Terms of the Variable of Grade

The findings regarding the evaluation of students' cyberloafing behaviors during courses in terms of grade variable are given in Table 6.

Table 6. Cyberloafing Behaviors of Students According to the Variable of Grade

Variable	Source of Variation	Sum of Squares	df	Mean Square	F	p	Effect size (η^2)
Sharing	Between Groups	774.182	3	258.061	3.427	.017	.012
	Within Groups	61372.765	815	75.304			
	Total	62146.947	818				
Shopping	Between Groups	409.711	3	136.570	6.288	.001*	.023
	Within Groups	17701.134	815	21.719			
	Total	18110.845	818				
Real-time updating	Between Groups	28.324	3	9.441	.874	.454	.003
	Within Groups	8801.503	815	10.799			
	Total	8829.827	818				
Accessing online content	Between Groups	1268.170	3	422.723	8.942	.001*	.032
	Within Groups	38529.518	815	47.275			
	Total	39797.687	818				
Gaming/Gambling	Between Groups	163.543	3	54.514	2.940	.032	.011
	Within Groups	15113.858	815	18.545			
	Total	15277.402	818				
Cyberloafing	**Between Groups**	**9565.712**	**3**	**3188.571**	**7.447**	**.001***	**.027**
	Within Groups	**348938.877**	**815**	**428.146**			
	Total	**358504.589**	**818**				

Bonferroni correction was performed before the multiple comparison test (post-hoc) made to determine the groups between which the difference obtained in ANOVA test is found in terms of grade variable. The p value obtained by Bonferroni correction was found to be 0.0083 and differences between the groups were analyzed according to this value. As a result of the analysis carried out in the study, it is seen that there is a significant difference between the average point scored by high school students from overall cyberloafing scale (**$F_{4,814}$= 7.447; p <.008; η^2=.027)** and the average points scored from shopping sub-factor of the scale (**$F_{4,814}$= 6.288; p <.008; η^2=.023)** and from accessing online content (**$F_{4,814}$= 8.942; p <.008; η^2=.032)** with grade variable and it is shown in Table 6. In addition, the effect size statistic

related to grade variable, eta-square was calculated in the study and when the eta-square value related to overall cyberloafing scale was considered, the effect size in terms of grade variable (**η2** =.027) was found at small level.

According to the results of Levene Test made to test the homogeneity of the variances in ANOVA test, the group variances are revealed to be equal in terms of overall cyberloafing scale and accessing online content dimension and unequal in terms of shopping dimension. In order to determine the groups between which there is a difference, the Scheffe Test, a Post-Hoc Test, was made in terms of overall cyberloafing scale and accessing online content dimension and Tamhane's T2 Test was conducted for shopping dimension. At the end of the analysis related to overall cyberloafing scale, the average point of 4th grade students to exhibit cyberloafing behaviors during courses ($\bar{X}$**=71.78**) were found higher than the average point of 3rd grade students ($\bar{X}$**=63.79**) and 2nd grade students ($\bar{X}$**=61.47**), and similarly the average point of 4th grade students to exhibit cyberloafing behaviors during courses ($\bar{X}$**=17.32**) were found higher than the average point of 2nd grade students ($\bar{X}$**=13.56**). When the shopping sub-dimension of scale is looked at, it is seen that the average point of 4th grade students to exhibit cyberloafing behaviors during courses ($\bar{X}$**=12.57**) was found higher than the average point of 2nd grade students ($\bar{X}$**=10.31**).

Evaluation of Cyberloafing Behaviors in terms of the Variable of the Average Daily Time Spent on Social Networks

The findings regarding the assessment of students' cyberloafing behaviors during courses in terms of time spent on social networks variable are given in Table 7.

Table 7. Cyberloafing Behaviors of Students According the Variable of the Average Daily Time Spent on Social Networks

Variable	Source of Variation	Sum of Squares	df	Mean Square	F	p	Effect size (η^2)
Sharing	Between Groups	4726.982	5	945.396	13.386	.001*	.076
	Within Groups	57419.965	813	70.627			
	Total	62146.947	818				
Shopping	Between Groups	112.683	5	22.537	1.018	.406	.006
	Within Groups	17998.162	813	22.138			
	Total	18110.845	818				
Real-time updating	Between Groups	57.160	5	11.432	1.059	.382	.006
	Within Groups	8772.666	813	10.790			
	Total	8829.827	818				
Accessing online content	Between Groups	463.436	5	92.687	1.916	.089	.012
	Within Groups	39334.251	813	48.382			
	Total	39797.687	818				
Gaming/Gambling	Between Groups	140.911	5	28.182	1.514	.183	.009
	Within Groups	15136.491	813	18.618			
	Total	15277.402	818				
Cyberloafing	**Between Groups**	**12766.977**	**5**	**2553.395**	**6.004**	**.001***	**.036**
	Within Groups	**345737.611**	**813**	**425.262**			
	Total	**358504.589**	**818**				

Before the multiple comparison test made to determine the groups between which the difference found in ANOVA test made in terms of average daily time spent on social networks variable Bonferroni correction was performed, p value was found as 0.00333 and differences between the groups were analyzed in accordance with this value. At the end of the analysis carried out in the study, it is seen that there is a significant difference between the average point scored by high school students related to overall cyberloafing scale (**$F_{5,813}$= 6.004; p <.003; η^2=.036)** and their average point scored in relation to sharing sub-factor of the scale (**$F_{5,813}$= 13.386; p <.003; η^2=.076)** and the variable of daily average time spent on social networks as seen in Table 7. In addition the effect size statistic was calculated for the current variable and when the eta-square value of overall cyberloafing scale was looked at, the effect size in terms of daily average time spent on social networks variable (η2 =.036) was found to be small level as seen in Table 7.

According to Levene test conducted to test the homogeneity of variances in ANOVA test, it was found that group variances were not equal in terms of overall cyberloafing scale and sharing dimension of sub-factors. In order to determine the groups between which there is a difference found in ANOVA test, the Tamhane's T2 test, a Post-Hoc test, was made in terms of overall cyberloafing scale and sharing dimension of sub-factors. As a result of the analysis related to overall cyberloafing scale, the average point of students who spend more than 5 hours per day on average on social networks to exhibit cyberloafing behaviors during courses (**$\bar{X}$=69.71**) was found higher than the average point of students who spend less than 1 hour (**$\bar{X}$=56.33**), 1-2 hours (**$\bar{X}$=62.00**) and 2-3 hours (**$\bar{X}$=62.33**). Similarly, the average point of students who spend 4-5 hours per day on social networks (**$\bar{X}$=67.25**) is higher than the average point of students who spent less than 1 hour (**$\bar{X}$=56.33**). Similarly, the average point of students who spend more than 5 hours per day on average on social networks to exhibit cyberloafing behaviors during courses in terms of sharing dimension (**$\bar{X}$=27.10**) was found higher than the average point of students who spend less than 1 hour (**$\bar{X}$=19.03**), 1-2 hours (**$\bar{X}$=22.61**), 2-3 hours (**$\bar{X}$=22.38**) and 3-4 hours (**$\bar{X}$=23.89**). The average point of students who spend 4-5 hours per day on social networks (**$\bar{X}$=25.82**) was found higher than the average point of students who spent less than 1 hour (**$\bar{X}$=19.03**) and 2-3 hours (**$\bar{X}$=22.38**).

Opinions of Teachers Regarding Cyberloafing Behaviors of Students During Courses

On the qualitative dimension of the research semi-structured interviews were had with 18 teachers. Following the questions to obtain demographic information, 8 open-ended questions were asked to participants. Based on the findings obtained from the analysis of qualitative data, the following themes were created.

Information and Communication Technologies Used During Courses

Teachers have made explanations about the types of ICT the students use during courses. Teachers have stated that almost all of the students bring their smart phones to school and they are apt to use them during courses. They have also stated that many students bring their tablet PCs to classroom and are apt to use them. Another ICT device the students use during courses is mp3 player. Moreover, teachers have stated that the students also use the interactive whiteboard when needed. Teacher T18 said; "*They all have smart phones and use them all the time, whether in classroom or during the break"*, Teacher T10 said; *"Almost all of them have mobile phones. That is, they have smart phones. I can say that they are more interested in them than the lesson. We keep warning them.*" When talking about the use of interactive whiteboard by students under the supervision of teacher during the lessons, T16 said; *"They mostly use smart phones of course. We also have interactive whiteboards. We use the interactive whiteboards but they use it with our help"*.

Frequency of Using Information and Communication Techniques During Courses

As a result of the opinions of the teachers about the frequency of ICT usage of the students in the lessons, general thoughts were gathered under various themes. Teachers have also said that the students use ICT whenever they find a chance, in other words the students tend to use their smart phones whenever *"they find a chance"* and try to use smart phones as long as teachers don't seem them using it. In this respect, T14 emphasized that they are tend to use them by saying, "*In other words, the students always hold their smart phones. We impose disciplinary punishments, suspend them from school. They are afraid but we sure get angry. Everybody becomes distracted. Then the student puts it aside."* When they have talked about *"in case of need"*, teachers stated that they allow their students to use their smart phones in case there is something unknown about the course or if they need to investigate something and find a solution to some problems related with the course. Some of the teachers said that it is very *"common"* among students to answer the messages they receive without permission of teachers and also use their smart phones for purposes not related to the course such as taking photos or shooting videos. T17 said in this respect that "*they do this most of the time. Most of the time because they receive messages, take photos, shoot videos and so forth. We try to prevent them doing that and even pick up their phones as much as we can but to no avail."*

Reasons of Students to Use Information and Communication Technologies during Courses

The opinions of teachers regarding the reasons for students to use ICT during courses are grouped under a main theme and sub-themes. While sub-themes of *"Course Content"* and *"Teacher"* are grouped under the main team of *"Education Process"*, sub-themes of *"Addiction"*, *"Communication"*, *"Individual Differences"* and *"Personal Problems"* are grouped under the main theme of *"Socio-Psychological Factors"*. When talking about the opinion of *"Course Content"* in education process, teachers have said that the reasons for students to use their smart phones during courses are mostly their disinterest in the course (or lesson) and finding the course (or lesson) dull and difficult to learn. When T5 talked about disinterest of students in the course (or lesson), he/she said that "*they may not devote themselves to the lesson at that moment. I think they might not be interested in the lesson in the first place"*, T11 said that "*they do it from time to time because they get bored and continued, disliking the course, disliking the teacher, maybe their entourage, class environment, classmates have some effect*." Another opinion in terms of education process was related to *"Teachers"*. According to the opinions of teachers, students may use their smart phones during courses because of their negative attitude towards the teacher, and due to the teaching style and ability of the teacher. In respect of teaching style of teachers, T15 said; *"Unfortunately it is related to our education system because it is teacher-centered rather than student-centered. I mean, students will surely get bored as they are not interacting with the teaching but only listening to their teachers and when they get bored, they turn their attention to other things. But if we are having a pleasant lesson, I mean if I use a better material that day or if I am giving a lesson that would attract the attention of students, generally all of them attend the classroom. Loving the teacher, the course, the subject plays an important role…"*. In relation to sub-theme of *"Addiction"* as a socio-psychological factor, teachers stated that the students are apt to use their smart phones constantly because they are addicted to technology and games. In this respect, T9 said; *"I had students who always played games. They were addicted. Addicted to games. Going to the next level and next level. Because when they play a game, they fulfill their need for approval which they don't experience in real life"*. In respect of the sub-theme *"Communication"*, teachers stated that the students are tend to use their smart phones during courses to communicate with their peers, be active on social media in general and sometimes to communicate with their families. When mentioning the communication with peers, T13 said; *"The reason may be chatting in their circle of friends. They have WhatsApp groups. If there is an emergency, they can communicate with their friends instantly.."* When talking about another sub-theme of socio-psychological factors, the *"Individual Differences"* teachers stated that using smart phones during courses has become a pattern, these kinds of habits are more common in upper classes, will to disobey the rules to attract attention in adolescence and looking for fun during courses are worth to consider. In respect of habits, T7 said; "*I think it is a habit to begin with. There may be other reasons, but they*

not able to break their habits and want to keep on pursuing them during courses. When they do it, they have some fun". When talking about the other sub-theme, *"Personal Problems"* he students are apt to use smart phones during courses because of the family problems they have, their problems with friends or communication problems and in this respect T6 said; *"If they have a problem with their families or friends, they become apt to use it as an impulse. They distract themselves."*

Effects of Using Information and Communication Technologies during Courses on Learning and Academic Achievement of Students

Teachers expressed positive and negative opinions regarding the effects of using ICT during courses on learning and academic achievement of students. Within the framework of general opinions two main themes were created as *"Negative Effects"* and *"Positive Effects"*. Majority of teachers defined the *"Negative Effects"* as some adverse effects of using ICT during courses without consent of teachers. One of the sub-themes, *"Disinterest in the Course (or Lesson)"* was expressed as reduction of the interest of students in the course (or lesson), not participating in the course (or lesson) and not understand the course (or the lesson) as necessary. In this respect, T17 said; *"I mean these are negative effects. They are not interested in the course (or lesson). I am just an English teacher. I tell them to look for some words for instance, and they find those words online. That's fine but I know that some of them play games. Therefore, I would say most of its effects are negative"*. Teachers exemplified *"Decline in Academic Achievement"* as follows; students may have problems as they don't listen to their teacher and pay attention to the course, they will not learn well because they are not adapted to the lesson and they will not be able to understand other topics without understanding the previous one. In this respect T5 said; "*It makes them break from the course and not understand the topic. For instance, when I try to put a theory I have taught earlier into practice, a student who doesn't have sufficient knowledge about the theory will not be able to do it. In this respect, they affect the academic* success". When it comes to *"Not Concentrating on the Lesson"*, teachers stated that use of ICT during courses leads to loss of time and students cannot pay attention to the lesson because students have their mind on their phones. Moreover, those who play games without permission are not able to focus on the lesson and what the teacher tries to teach and consequently they don't understand the topic. In this respect T3 said; *"They cannot concentrate on the topic because they have their mind on their phones. And they cannot learn well as they are not concentrated on the lesson."* In respect of *"Using Time Unproductively"*, teachers have emphasized that using smart phones beyond knowledge of teachers during the lessons delays learning and students cannot use the time they should study unproductively because they lose track of time. In this respect T1 said; *"It is deterrent to a large extent. I think it delays learning. Why? Because they cannot concentrate on life. For example, when they are busy with their mobile phones, they lose track of time and spend 2-3 fours for nothing. Instead of doing tests or studying, they are busy with Instagram or Facebook."* Some teachers stated that using ICT may have some benefits as assisting learning and communicating with peers and the main theme of *"Positive Effects"* emerged under this opinion was addressed in two sub-themes; *"Facilitating Learning"* and *"Communicating with Peers. "Facilitating Learning"*, according to teachers, refers to reaching a special material related to a topic in teaching the course by investigating the topic on internet by using their smart phones and share the materials on social media. In this respect T10 said; *"I even let them use their smart phones during a lesson. Let's say, we are talking about a city in England. I make them investigate that city on Google and let them read it in classroom. Or I tell them to look for the meaning of a word, so that they can gain a habit."* In respect of *"Interaction with Peers"* teachers stated that when investigating something on internet, students who don't have internet access can benefit from sharings of their classmates on internet and complete their investigation and they can also share information about the course with each other. In respect of positive effects of interaction with peers, T6 said; *"They share information with their peers and use it academically. What they share on Instagram can be useful, they have groups."*

Effects of Students' Use of Information and Communication Technologies during Courses on Their Classmates

Teachers expressed their opinions regarding the effects of spending time with ICT on classmates of those students and relevant themes were created. Most of the teachers stated that this might distract the students and exemplified the theme of *"Causing Distraction"* as the students may want to imitate their friends who use ICT and thinking that their teachers shut their eyes to them, they would want to use these technologies secretly. Teachers also believe that checking out both friends and teachers may cause lack of attention paid to the lesson and students may be distracted when they see that their friends are having fun or being happy when they use these technologies. In respect of causing distraction, T16 said; "*It influences them. They wonder what they do and direct their attention to them. They chuckle and move around*". When teachers presented their opinions about *"Demotivation to Learn the Course"* they stated that students who see their friends are busy with their smart phones, they also think of doing the same thing or wonder what their friends do and when teachers don't interfere in what they do, other students are encouraged to do the same thing and consequently it demotivates them. With respect of the theme of *"Hindering Learning"*, it is stated that use of ICT by some students during courses may demotivate other students and this may constitute a problem in learning process. In respect of demotivation to learn the course, T2 said; *"Think about it! You are lecturing. 10 students are busy with their phones and the teacher doesn't say anything about it or doesn't interfere. Other 20 students would say, "What's that?" I mean, they may be demotivated and have problems in learning in classroom environment"*. *"Setting Negative Example"* is another important theme. In this respect, teachers stated that if they don't warn the students who are busy with ICT during courses, this would set a bad example for other students and they will also be affected. T12 said; "*If these students are not warned at the right time, others will also be busy with some materials other than the course. Therefore I think that they will be influenced*". The theme of *"Not Influential"* was not supported by many teachers and it was stated that a student who is concentrated on the lesson is not interested in what others do and focuses on the lesson. Therefore it is e personal choice. In this respect T14 said; *"If the student is busy with his/her phone secretly and the student next to him/her is concentrated on the lesson, he/she is not affected by it. I mean, everything depends on the person himself/herself*".

Effects of the Use of Information and Communication Technologies by Students during Courses on Teacher

Various themes were created within the framework of teachers' opinions regarding the effects of students' use of ICT during courses on teachers. The theme *"Reducing Motivation for the Lesson"* includes opinions that the students who are busy with ICT during courses without knowledge of teachers don't pay attention to teachers and thus, teachers are affected by this and become demotivated in teaching the lesson, when students use their smart phones instead of listening to teachers and the interest in the lesson and teacher is reduced, teachers don't enjoy what they do and become demotivated. Under the theme of *"Disrupting the Lesson"* it was stated that teachers interrupt teaching to warn the students using ICT during the lesson without permission and it may take time to re-direct the attention of the class to the lesson afterwards and accordingly, it disrupts the lesson. T12 stated that being busy with ICT during courses without permission reduce motivation of teachers and distorts the lesson and said; "*"Of course our motivation will be reduced when we try to teach the lesson. It will disrupt teacher's motivation. Because the teacher must try to attract the student's attention to the lesson. The teacher may be forced to interrupt teaching and ask questions to attract attention of the said student. So teacher may get off the topic."* In respect of *"Negative Psychological Impact "* theme , teachers stated that they believe the students don't listen to what they lecture if they use such technologies and they are unavoidably affected

psychologically to attract student's attention to the lesson and motivate him/her. Even both students and themselves may be distracted because of constant interruption of the lesson. In this respect T16 said; *"It affects me adversely. I am sure this is the case for all teachers. Somehow, we pull ourselves together. You know, it is hard but at the end, all students become distracted. If you don't warn the student, he gets distracted, and we don't attract the kid's attention. Their friends also become distracted and so forth. Therefore, yes, it also affects us negatively".* In respect of the *"Creating Distraction" theme,* teachers feel the need to warn the student because they are worried about if their photos were taken. Is their voice being recorded? So they also become distracted while teaching something and even forget the topic they were teaching. In this respect T1 said; *"It distracts me. I don't know what that kid is doing when I see him doing something with his smart phone. Did he take my photo? Did he shoot a video? Is he recording my voice? As I don't know anything about what he does, I need to interfere to protect the student and also to protect the whole class and myself."* Under the theme of *"Disturbing Concentration on the Course"* teachers stated that such behaviors of students disturbs their concentration on the course, lead to ambiguity and consequently, they have difficulty to put the lesson together. In this respect T5 said; *"It disturbs our concentration so much. We have difficulty to pull ourselves together. I mean whatever it is, even electronics, it affects the lesson adversely."*

Measures Taken by Teachers to Prevent Students Spending Time with Information and Communication Technologies during Courses

Teachers talked about the measures they take to prevent students from using ICT without permission during courses and various themes were created accordingly. One of this themes was related to *"Picking up Smart Phones"* which was most mentioned by teachers. Teachers stated that they pick up the smart phones of students before the lesson and put them away to prevent the students from using them. Another measure taken by teachers is *"Warning".* In this respect teachers warn the students that their smart phones should be turned off, unpermitted use would be a disciplinary crime, they would be suspended from school and explain them this is forbidden by giving examples. In this respect T7 said; *"We warn them to turn off their mobile phones. We tell them administrative or disciplinary sanctions might be imposed. If they keep on doing it, we may tell them to leave their mobile phones on the desk before the lesson and take them when the lesson is over. These are the kind of measures we take". "One-to-One Communication"* is another theme. Teachers stated that they go up to the student who uses the smart phone without permission during the lesson and silently warm him/her. They also talk to them one-to-one or make an eye contact with them. In this respect T9 said; "*They play games secretly under their desk. I go up to them, touch them, make eye contact and try to solve this problem in this way. Otherwise warning or chewing them out doesn't work. But when you go up to them and tell them that it is wrong, this can be with a glance or you may whisper so that others would not hear it. I saw it works then". "Scaring Them with Marks"* under this theme, teachers stated that they threaten them with poor mark and change their performance mark. This is an effective method for students who don't want their marks to be poor but others don't mind it. In this respect T4 said: "*I do this with marks. I tell them minus and plus points are summed up and they may lose ten points. It is effective for the student who considers his marks but those who don't mind their marks, it doesn't work."* In respect of *"Raising Awareness of Parents"* it was stated that they talk with parents in parent-teacher meetings and warn them not to let them loose in using their phones and not send them to school with their phones. In this respect T3 said; *"Their families may not let them have their phones at school. At parent-teacher meetings we tell them not to send them, for example, they know the times when their children are at school. They can reach anybody from school in case of an emergency". "Turning off Smart Phones"* under this theme, teachers stated that they generally warn the students to keep their phones turned off during courses, require them to keep their phones turned off during written exams and put them on their or

teacher's desk. In this respect T16 said; *"I make them turn off and put their phones on their desks during courses* ".

Suggestions of Teachers to Prevent the Students from Cyberloafing during Courses

Teachers made various suggestions to prevent the students from cyberloafing during courses and various themes were created in the light of these suggestions. One of them is *"Giving Seminars"*. Their opinion was informing the students about the use of the technology and giving seminars at schools. Another theme is *"Course/Course Topic"*. In this respect, their common opinion was forming a course on conscious and correct use of technology or including the matter as a topic in a convenient course and emphasize its importance. *In respect of "Warning /Making Public Service Announcement"* one of the opinions of teachers was making public service announcement to create awareness or the awareness of public regarding the correct use of technology can be raised by way of warnings. In respect of the theme of *"Family Effect"* teachers stated that the responsibility of a child primarily begins in the family and families should take the control within the scope of some certain sanctions and cooperate with teachers. In respect of the opinions of teachers, T1 said; *"I think seminars would be effective, warnings, public service announcements, they all would be very effective. I am not sure which course would be good to do this or which topic might be useful but this should be a special topic"*. So T1 has emphasized giving seminars, giving warnings and making public service announcement to create awareness would be a course topic. And T8 said; *"Completely banning this or not letting them have phones is not a solution. Families should impose some sanctions. They should be aware of the sites their children visit. There should be a time limit to use ITC. Unlimited freedom is not a good thing"* and stated that families should assume responsibility and raise awareness of their children by controlling them.

Discussion, Conclusion and Suggestions

Within the scope of the research, cyberloafing behaviors presented by high school students during courses are examined with a mixed approach by using qualitative and quantitative patterns. The research has revealed that the students mostly prefer smart phones to connect to internet. Within the frame of the opinions received from teachers, it is seen that almost all of the students have smart phones, they bring them to school and even tend to use them whenever they find a chance. In addition, it was determined that they use smart phones mostly to surf social media, watch movies/videos, chat and play games. Similarly, teachers have stated that the students generally use smart phones in social media environments and to message with each other. The finding regarding that the students generally don't use their smart phones for the purpose of education and waste their time can be seen in samples of numerous studies but not only in the sample of present study (e.g., Armağan, 2013; Bağrıaçık Yılmaz, 2017; Baturay & Toker, 2015; Chou & Hsiao, 2000; Varol & Yıldırım, 2017). In one of the reviewed studies, Bağrıaçık Yılmaz (2017) has investigated cyberloafing behaviors of postgraduate students and found that the students use internet for messaging at the most and social networking sites and special purposes such as personal interests follow this. Similarly Chou and Hsiao (2000) conducted a study on students in Taiwan and revealed that the students use internet as a message board at the most and personal purposes like surfing the internet, playing games and exchanging files follow it. As it is seen, regardless of the level of education system, it can be said that students generally don't use the internet for useful purposes such as making investigations or obtaining information but rather, they spend their time unproductively and this may result in negative effect both for themselves and their education and would constitute a problem for their teachers or classmates.

When the quantitative findings of the study are examined, it is seen that the students' cyberloafing behaviors during lesson sare not overmuch. Whereas teachers have stated that most of the students are apt to exhibit cyberloafing behaviors during courses, use their smart phones for personal purposes whenever they find a chance and from time to time, they use them for educational purposes within the knowledge of teachers. Even if the students use these technologies for educational purposes, many students may misuse them and move away from a topic they have to learn (Taneja et al., 2015). While the students have stated that they don't exhibit cyberloafing behaviors during courses in the study, teachers have stated the opposite. In fact, some teachers believe that it has become a habit for some students to act this way during courses and even an addiction for some others. Accordingly, it is known that all students have smart phones, they bring their phones to school and intensive and even excessive use of smart phones may possibly lead to occurrence of undesired circumstances (Aljomaa et al., 2016).

In the study, when cyberloafing behaviors of students are examined in terms of gender variable, it was concluded that boys' students exhibit more cyberloafing behaviors than girl students. As it is assumed that the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) which is an explanatory model emerged to explain the individual differences such as gender, acceptance of technology by individuals and their intentions to use the technology is a unification of many theoretical models (Venkatesh, Thong, & Xu, 2012) and an important factor to arrange the relationships (Chang, 2012; Palau Saumell, Forgas Coll, Sanchez Garcia, & Robres, 2019; Yılmaz & Kavanoz, 2017), therefore, the impact of gender on cyberloafing behaviors of students was investigated. In respect of the reasons why the findings related to impact of gender are reached, it can be said that boys are more into the technology than girls and more prone to internet and game addiction than girls (Aljomaa et al., 2016; Çakır, Ayas, & Horzum, 2011; Griffiths, Kuss, & King; 2012; Oggins & Sammis, 2012) they use many new applications on smart phones and accordingly, the possibility of exhibiting cyberloafing behaviors would be higher as compared to girls. Similarly, it has been concluded that gender has an important effect on cyberloafing in the literature (Ahmad & Omar, 2017; Akbulut et al., 2017; Andreassen et al., 2014; Arabacı, 2017; Baturay & Toker, 2015; Blanchard & Henle, 2008; Garrett & Danziger, 2008; Hayıt & Dönmez, 2016; Keser et al., 2016; Lim & Chen, 2012; Dursun et al., 2018; Vitak et al., 2011). In this respect, Ahmad and Omar (2017) emphasize in their study that males are more busy with cyberloafing than females regardless of age and gender should be addressed as a main variable or control variable in studies on cyberloafing, while Andreassen et al. (2014) state that males are more apt to spend time on social networks during working hours than females, and Hayıt and Dönmez (2016) state that gender is an important variable in the field of cyberloafing as in many fields related to technology.

Another finding of the research is that there is a significant difference between the school type and cyberloafing points of students. According to this finding, Vocational School students exhibit more cyberloafing behaviors during courses than students of Regular Highs School students, Religious High School students, Anatolian High School students and Science High School students, however students of Science High Schools exhibit less cyberloafing behaviors during courses. Its reason may be stated as the students of Science High Schools are more successful than the students of other school types and they have studied more to be able to study in their current high schools, understood the importance of education and schooling and the value of time and they aim to have a university education. As the Vocational High School students are trained to gain knowledge and skills required for a profession rather than having a university education and their courses are practical rather than theoretical, the students may not be disciplined enough to learn the courses and little more apt to use ICT. Consequently

they are more interested in smart phones than courses and may use their phones out of purpose more than the students of other high schools. Similar to the results of this study, Berberoğlu and Kalender (2005) have found out in line with the results of their study they have analyzed SSE and PISA by school types that especially the Science High School students have an extraordinary achievement but the level of achievement in vocational high schools is rather low, while Yavuz, Gülmez, and Özkaral (2016) emphasize that the students who get low points in central exam are from Vocational High Schools and their success in science, mathematics and reading is much lower as compared to other school types.

In the study, when the students' grade and cyberloafing behaviors were examined, it was seen that 4th grade students tend to exhibit more cyberloafing behaviors during courses than the students of other grades. In the literature, it was revealed that there is a significant difference between the students' grade and cyberloafing behaviors and this difference was caused by the cyberloafing scores of the students in upper classes (Arabacı, 2017; Baturay & Toker, 2015; Baş, 2017; Dursun et al., 2018). In this respect, Arabacı (2017) states that 4th grade Information Technologies students exhibit more cyberloafing behaviors than other grade and explains the reason as these students are expertised in using the internet. In order to emphasize that grade is an important variable in determining the level of cyberloafing, Dursun et al. (2018) conducted a study on cyberloafing and emphasized that the researches address the grade of students in their researches and grade should be taken into consideration as a determinant of cyberloafing. According to the finding, it can be stated that upper class students have more self-confidence in school environment as compared to other grade, they are left in peace during courses so that they can prepare for the university exam, they are used to their environment, friends and teachers and accordingly they behave loosely. As a matter of fact, while the students should use the time given them by their teachers to study, do tests and obtain knowledge, they take advantage of this situation to spend their time for their private pleasures and this necessitates that students should always be guided and their awareness should be raised.

In the study, It is also determined that exhibiting cyberloafing behaviors during the lesson differs in terms of the variable of the time the students spend on social networks per day and its reason might be that these students spend more time on social networks out of the school and they maintain this habit during lesson. Since the students are very used to spending time on social networks, they also do this behaviour in school environment, neglect listening to lessons and turn their attention to exhibit cyberloafing behaviors by using mobile technologies. As it is known that those who spend more time on social networks and/or on the internet are more likely to engage in cyberloafing behaviors (Baturay & Toker, 2015; Dursun et al., 2018; Karaoğlan Yılmaz et al., 2015; Özcan et al., 2017; Yaşar, 2013), as a remedy to this situation it may be in needed to be focus their attention to something else. In respect of spending extensive time on the internet and social networks may lead to negative results, Karaoğlan Yılmaz et al. (2015) emphasize that productivity of individuals reduce as the time they spent on the internet increase. Dursun et al. (2018) have emphasized that the time spent on social networks and frequency of using the internet are important predictors of exhibiting cyberloafing behaviors.

Considering the overall study, it is clearly seen that cyberloafing behaviors result in distress and this behavior has negative aspects in educational environment. First of all, revealing the reasons that steer the students to exhibit such behaviors may gain quite favor to reduce to act this way in terms of education process. In this study, the data regarding cyberloafing behaviors of students during courses were obtained from the students but also opinions of teachers were asked to ensure the diversity of data. In this regard, teachers have addressed the reasons for cyberloafing of students during courses as the factor of education process and socio-psychological factors. The effect of the *course* and *teachers* in

education process was also mentioned. The reasons given for cyberloafing behaviors of students during courses by teachers under the theme of the effect of the course were disinterest of students in the course and finding the course dull and in respect of the effect of teachers, the reasons were negative attitude of students towards teachers and teaching styles of teachers. As socio-psychological factors affecting cyberloafing during courses, addiction to such information and communication devices and especially addiction to games were given as reasons (Cha & Seo, 2018), it was also stated that this has become a habit for students (Oulasvirta, Rattenbury, Ma, & Raita, 2012; Soh et al., 2018) and students want to communicate with their peers. In order to support the opinions of the teachers, similarly in the student's opinion, they have also stated that they exhibit cyberloafing behaviors during courses because they mostly get bored with the lesson, want to surf social networks and exchange messages with their friends and they are not interested in the lessons. On the other hand, as lack of motivation, personal and family problems, problem of not focusing on the lesson, distraction (Soh et al., 2018), dullness of the environment, attitude towards the lesson and teacher, attitude towards the class, personal needs and excessive self-confidence, classroom administration and teaching skills of teachers, (Dursun et al., 2018; Soh et al., 2018), communication styles of teachers, teaching preferences such as teaching methods and techniques (Bağrıaçık Yılmaz, 2017; Dursun et al., 2018; Genç & Tozkoparan, 2017; Taneja et al., 2015; Varol & Yıldırım, 2018) are among the reasons of cyberloafing behaviors of students, all of these issues should be addressed properly and teachers should investigate the ways to prevent use of ICT during courses for non-academic purposes and misuse of technology (Soh et al., 2018) and produce solutions. Instead of preventing cyberloafing behaviors, it is considered that researchers should focus on why an individual is involved in such behavior for a new better solution (Askew et al., 2014).

According to the opinions of teachers received in the research, to reflect the matter more in-depth and detail, it was found that cyberloafing behaviors of students during courses may have positive and negative effects on their academic achievement. While it was revealed that cyberloafing behaviors of students during courses may result in disinterest in the lesson, decreased academic achievement and being unable to concentrate on the lesson, it was also found out that such behaviors may also have positive effects such as facilitating learning and providing communication with peers. In consideration the received opinions, it can be said that use of internet may have positive or negative effects on people depending on the purpose and manner of use. In this context Wu et al. (2018) states that internet technologies positively improve students' learning by providing up-to-date, relevant and updated material to students and also they constitute an obstacle for an efficient integration of technology with education when they are use non-academic purposes. Yağcı & Yüceler (2016) have found that such behavior has positive aspects in their study conducted on cyberloafing in conceptual dimension but also emphasized that cyberloafing is generally considered as negative. In this context, there are studies in the literature that emphasize both positive and negative aspects of cyberloafing (Dursun et al., 2018; Ünal, Tekdemir, & Yaldızbaş, 2015). Therefore, in positive aspects use of technologies would gain speed in the society when this kind of behaviors of individuals should be exhibited in a controlled manner and they become aware of the usefulness of ICT for themselves.

Not only exhibition of cyberloafing behaviors by students, its reasons and effects on them but also the effects of cyberloafing behaviors on their classmates and teachers were investigated in the research and it was determined that cyberloafing of students during courses result in undesired situations such as distracting their classmates, reducing their motivation towards the lesson, setting a negative example and hindering learning. Similarly, in respect of the effect of cyberloafing on learning, Yaşar (2013) states that when students exhibit cyberloafing behaviors during courses, their learning

interaction does not occur and their learning becomes deficient. On the other hand, Gerow et al. (2010) emphasize that cyberloafing behavior is firstly about the individual but they can also be influenced by their environment. In this respect Brubaker (2006) states in his study where he received the opinions of teachers that use of mobile devices by students during courses may lead to disinterest in the lesson, create a passive discussion environment and distracting the classmates to the lesson. Especially the adolescent high school students may ape and imitate each others, try to be different from others and attract attention and accordingly, they may take their friends' behaviors as an example and have courage to act the same way. Therefore, teachers who are responsible for preventing such behaviors during courses have an important task and finding appropriate solutions before they affect the students adversely. On the other hand, it was revealed that the negative effects on teachers of cyberloafing behaviors of students during courses are mostly demotivating them regarding the lesson, distorting the flow of the lesson, creating negative psychological effects, causing distraction and having difficulty to concentrate on the lesson. In consideration of the expressions made in the research, such behaviors may hinder the provision of desired education, harm teacher-student relationships and the discipline in the classroom which may harm the education to a great extent and accordingly, the seriousness of this situation is required to be understood by everyone. At the same time, in order to avoid such problems found in the research, teachers have stated that they have taken various measures to prevent the students from exhibiting cyberloafing behaviors during courses. They have stated that their measures are mostly picking up the smart phones of students before the lesson or warning them not to use them during the lesson, emphasizing that it is a disciplinary crime, establishing one-to-one communication and threatening them with low marks. In the research, giving seminars at schools with regard to efficient and productive use of technology, giving warnings, emphasizing the importance of the situation with public service announcements, teaching it as a course or a topic of a convenient course and conferring responsibility to families were suggested as effective preventive measures.

The evaluation of the research results in a general sense has revealed that the students exhibit cyberloafing behaviors during courses from both student data and teacher data. It was determined that misuse of mobile technologies is especially common among boys students, final year students, Vocational High School students and the students who spent excessive time on social media. In order to prevent and/or reduce cyberloafing which is considered as an inappropriate or out-of-purpose behavior, some recommendations may be required within the framework of the opinions of teachers. In consequence of the findings of the research, it is seen that such behaviors of students result in adversely affecting their learning and their classmates and reduction in the motivation and attention of teachers to teach the lesson. The following recommendations can be made in this respect:

First of all, the awareness of the students, who are the main subject of present research, to use the internet for useful purposes should be raised constantly. Students can be taught that internet is not only a platform to spend time on social networks but also a tool to reach all kinds of sources and/or materials related to the course and develop applications. For example, in courses or educational seminars, students can be informed about current web applications and their uses. They may be taught to develop their own web pages. Thus, they can be encouraged to use the mobile technologies for educational purposes such as web applications, virtual learning but not for cyberloafing.

Teachers have also the duty of teaching the students to use the internet for right purposes. As it is seen in the research, the reasons of cyberloafing behaviors of students during courses in some cases were described as finding the lesson boring and unilateral teaching style of teachers. Therefore, teachers should be more sensitive in this regard and apply interactive teaching. In other words, they should apply student-centered teaching method by conferring responsibility to students. For example, teachers may ask some questions to students during courses and ask them to discuss it among themselves or implement some practices they consider useful for them. They may even ask the students to investigate something current or scientific to ensure correct use of ICT during the course and make them have this habit and allow to make the investigation by using their smart phones. In this way, with these applications, the majority of the class can participate in the course and help them to learn.

In the research, it was found out that one of the determinants for students to use the internet correctly and consciously is the family. Therefore, it seen that cooperation of schools, families and teachers and establishing a control triangle is considered necessary to prevent the students from exhibiting cyberloafing behaviors during courses and make them use their private times effectively. As the main responsibility for making the students use the technologies they have belongs to families, the families can be informed by way of seminars, meetings or public service announcements. Seriousness and how negative would be the consequences of this situation should be constantly told to families and the controlling triangle would be in constant communication and the students can be reached correctly.

It is recommended to future researchers to base their researches on the findings of this and similar researches and conduct emprical or action researches to prevent or reduce cyberloafing behaviors of students during courses.

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