A Study on Cyber-Loafing Levels of University Students in Teaching Environments

Mustafa Aksoğan[a,1] , **Harun Bayer**[a]

[a]*Malatya Turgut Ozal University, Akcadag Vocational School, Department of Computer Programming*

ABSTRACT	ARTICLE INFO
This research aims to examine the cyberloafing levels of students studying in different departments of undergraduate and associate degree programs of a state university in terms of various variables. In this context, it was tried to determine whether the cyberloafing levels of teacher candidates differ according to demographic characteristics (gender, age), education level (undergraduate, associate degree). For this purpose, the "Cyber Loafing Scale - CLS" developed by Blau et al. (2006) and adapted into Turkish by Polat (2018) was used to determine the cyberloafing levels of the participants. The research was carried out using the survey model, one of the quantitative research methods. Participants consist of 385 students studying in different departments of a state university in the fall semester of the 2021-2022 academic year. According to the results of the research, there was no significant difference in terms of gender variable in the cyberloafing levels of the participants. However, significant differences were found according to age and education level variables.	

1. Introduction

Rapidly developing technology has become easier to access with each passing day. Computers, which used to be the size of a room and could four operations, have become an indispensable part of our lives by being small enough to fit in the palm of the hand. Nowadays, technological devices have become able to monitor nearly our every move, follow every step we take and help us make decisions. Technological devices that make our lives easier and that we benefit from in many areas are widely used at work, at school, at home, almost everywhere, especially because they have internet access and are small in size. Internet technology has brought opportunities in many fields such as education, industry, culture, tourism, finance, health, production and so on. In particular, technologies that contribute to the enrichment of educational environments are provide effective and efficient learning environments and save the lesson from mediocrity (Arabaci, 2017). Additionally, when technological devices are properly integrated into educational environments, they make learning activities more effective by creating diversity in the presentation of information (Aksogan & Bulut-Ozek, 2020). Although technological tools facilitate the work of many actors such as students, teachers, and administrators who make up the education, they can cause some negativities as a result of excessive, uncontrolled and unadvised use in educational environments (Karaoglan-Yilmaz, Yilmaz, Ozturk, Sezer & Karademir, 2015). Among these negatives; alienation from the lesson, loss of motivation (Arabaci, 2017), inability to focus on the lesson, behaviors that disturb the academicians (Hembrooke & Gay, 2003; Ravizza, Hambrick & Fenn, 2014) and discipline problems can be counted.

---

[1] Corresponding author's address: Malatya Turgut Ozal University, Akcadag Vocational School, Department of Computer Programming
e-mail: mustafa.aksogan@ozal.edu.tr

Despite the solutions that technological devices provide in many areas, they also cause some problems. One of these problems is cyberloafing, which has gained importance in recent years. The term cyberloafing was first coined by Tony Cummins in the New York Daily News in 1995. There are also some studies in the literature where the term cyberslacking is used instead of cyberloafing (Ugrin, Pearson & Odom, 2008; Vitak, Crouse & LaRose, 2011). Cyberloafing in educational settings; it can be expressed as the off-topic use of the Internet and technological devices in the learning environment (Gerow, Galluch & Thatcher, 2010; Kalaycı, 2010). Polito (1997) explained the term cyberloafing as students' use of the Internet for non-academic purposes during class hours. The most common cyberloafing behaviors seen in learning environments are; watching videos on students' smartphones (Lim, 2002), using social media, sending e-mails, surfing the internet (Blanchard & Henle, 2008; Ugrin & Pearson, 2008), online games, online chatting (Piotrowski, 2012; Soh, Koay et al. Lim, 2018) and online shopping (Yılmaz & Yurdugul, 2018).

Cyberloafing behaviors can be seen not only in the classroom but also in different environments outside the classroom (Chukwuemeka, Collins, Iloke, Stephen & Elizabeth, 2020). Studies show that cyberloafing has significant effects on students' comprehension skills and memory (Soh, Koay & Lim, 2018), academic achievement (Durak, 2020) and encouraging positive emotions (Metin-Orta & Demirtepe-Saygili, 2021). In order to prevent these negativities and prevent cyberloafing, it has been observed that some academicians in educational environments prohibit students from using electronic devices in lessons (Soh, Koay, & Lim., 2018). Considering the negative effects of cyberloafing behaviors, it is important for education to carry out studies to keep students away from these behaviors. The need for more research on cyberloafing has emerged in the literature due to the increase in the number of problems that arise as a result of the widespread use of mobile devices that can distract students, whether in formal or distance education. In the literature, there are many studies that evaluate the cyberloafing factor that can prevent the creation of a good learning environment and offer suggestions on this subject.

Yasar & Yurdugul (2013) examined the relationships between students' reasons for resorting to cyberloafing behaviors and cyberloafing activities in higher education. Data were collected from 215 students studying at the faculty of education using a scale. As a result of the study, they determined that only the addiction dimension of cyberloafing behaviors was significantly related to cyberloafing activities. Similarly, Durak (2020) tried to examine the cyberloafing levels of 171 students in online informatics courses and to propose a model that reveals the relationships between the variables by revealing the causes of cyberloafing behaviors. As a result of the study, it was revealed that cyberloafing is related to demographic and academic variables. In addition, it has been argued that the driving force behind cyberloafing behaviors stems from demographic and academic variables. In addition, it has been stated that there is an inverse relationship between cyberloafing and academic achievement and that measures should be taken to prevent the level of cyberloafing from reaching a level that can disrupt education.

In their study, Varol & Yildirim (2019) examined the causes of cyberloafing behaviors of university students in the laboratory environment and offered solutions to prevent them. In their qualitative study, the data were obtained from 184 students in the teaching department who received computer education. As a result of the study, they stated that the instructor, the course content, the students themselves and their learning environments affect the cyberloafing behaviors. Noting that the findings of the study can directly affect teacher training programs, especially in terms of practice and content, they made suggestions for reducing cyberloafing behaviors in laboratory classes. Similarly, Karaoglan-Yilmaz, Yilmaz, Ozturk, Sezer & Karademir (2015) a study to determine the level of cyberloafing behavior observed in computer laboratory courses of 288 undergraduate students and to reveal the factors that may be effective on cyberloafing behaviors. Thus, they stated that precautions can be taken against cyberloafing behaviors. As a result of the research, it was found that the cyberloafing levels of the students in general were moderate. In addition, it was concluded that the cyberloafing levels of male students are higher than female students and that the cyberloafing level is

higher in courses such as management information systems where more time is spent in the computer environment. In addition to these results, a positive relationship was revealed between the duration of internet use and the level of cyberloafing.

Galluch & Thatcher (2006) analyzed the data they received from 353 university students with structural equation modeling in their study to examine the negative use of internet technologies in the classroom. According to the results of the analysis, it was seen that peer perceptions affect the cyberloafing intention of the person. In addition, as a result of the study, suggestions were made to observe to what extent behavioral proximity affects cyberloafing intention, and to examine whether the peer who influences the behavior can affect it in the classroom or outside the classroom. In a different study on peer influence, it was seen that students' peer expectations and their intention to escape from reality were effective on cyberloafing attitudes. (Taneja, Fiore & Fischer, 2015). In the same study, it was also stated that indifference to the lesson and lack of attention were effective on cyberloafing attitudes.Again, in the same study, it was suggested to work with different variables that may affect students' cyberloafing attitudes for future research.

In a study investigating the relationship between teacher candidates' creativity and cyberloafing, data were collected from 597 students studying at the faculty of education. As a result of the research, a significant and positive relationship between creativity and cyberloafing was found to be small. According to these findings, it was concluded that creativity is slightly related to the level of cyberloafing (Akar & Coskun, 2020).

In the study of Hembrooke & Gay (2003) on communication department students; Two groups were formed and the students in these two groups completed the same course. One of the groups was allowed to search, browse and social computing behaviors from laptop computers during the lesson. Students in the other group were not allowed to use laptops. According to the results of the research; It was determined that the students in the group whose laptop computer was open experienced a decrease in memory measures.

The aim of this study is to determine the cyberloafing levels of university students who can freely use their technological devices such as mobile phones and computers in their classes in terms of different variables. In the study, it was investigated whether the cyberloafing levels of higher education students differ according to gender, age and education level (bachelor or associate degree). Examining cyberloafing behavior in terms of different variables is important in terms of analyzing these behaviors and taking measures to eliminate their negative effects. It is thought that this study will contribute to the understanding of cyberloafing behaviors of higher education students. The research was handled within the framework of the following sub-problems:

1- What is the cyberloafing level of higher education students?
2- Is there a difference in the cyberloafing levels of higher education students according to the gender variable?
3- Is there a difference in the cyberloafing levels of higher education students according to the age variable?
4- Is there a difference in the cyberloafing levels of higher education students according to the education level variable?

2. Methodology

In this section, information about the research model, participant group, data collection tool and method, data analysis and ethics are given.

2.1. Research Model

General scanning model was used in the study. Scanning model; It is an approach that aims to describe a situation as it exists, in which the research subjects are defined in their own conditions and as they are, and there is no effort to change or influence the variables in any way (Karasar, 2012).

2.2. Participant Group

The participant group of this study, in which convenient sampling method was used, students studying at different levels (Vocational School or faculty) of state university in Malatya. The data collection form was delivered to 400 students who volunteered to participate in the research. After removing the 15 students who filled in the data collection form incompletely, the remaining 385 students formed the participant group of the research. Information on the demographic characteristics of the participant group is shown in Table 1.

Table 1. Demographic information of students

Variable		N	%
Gender	Female	185	48,1
	Male	200	51,9
Age	19 or younger	78	20,3
	20-22	159	41,3
	23-25	72	18,7
	26 or older	76	19,7
Education level	undergraduate	154	40,0
	associate degree	231	60,0
Total		385	100,0

2.3. Data Collection Tools and Procedure

In this study, the "Cyber Loafing Scale - CLS" developed by Blau et al. (2006) and adapted into Turkish by Polat (2018) was used to determine the cyberloafing levels of the participants. This scale is 6-point (never (1); rarely (2); sometimes (3); often (4); very often (5) and always (6)) likert type and consists of 3 factors and 16 items. The factors of the scale consist of "Scan Cyberloafing - SC" (7 items), "Interactive Cyberloafing - IC" (6 items) and "Entertainment Cyberloafing - EC" (3 items). The students' cyberloafing levels were calculated by taking the arithmetic average of their answers to all the items in the "Cyber Loafing Scale". Accordingly, the minimum score that can be obtained from the scale is 16; The maximum score is 96. This scale also included an information form in which students were asked to indicate their gender, age and education level. The scale used in the research was sent to the participants in digital media and the data were collected online. Information on the Cronbach's alpha reliability coefficient of the scale is presented in Table 2.

Table 2. Cronbach's alpha reliability coefficients

Factors	Cronbach's Alpha	
	Original Scale	Research Scale
SC (Scan Cyberloafing)	.86	.82
IC (Interactive Cyberloafing)	.81	.75
EC (Entertainment Cyberloafing)	.68	.71
CLS (Cyber Loafing Scale)	.88	.90

In Table 2, it is seen that both the all sub-dimensions of the scale (texting during class, browsing web pages, etc. – SC, sending e-mails, shopping online, etc. – IC, playing games online, browsing sports-related websites, etc. - EC) and the whole scale have Cronbach Alpha values greater than .70. According to this information, it can be said that the scale is highly reliable (Aksogan & Calis-Duman, 2020).

2.4. Data Analysis

The collected data was transferred to a package program and first of all, it was checked whether it showed a normal distribution. As a result of the normality test, the kurtosis value was calculated as .248 and the skewness value as .124. Since the skewness and kurtosis values are between +1 and -1, it is assumed that the data are normally distributed (Aksogan, 2020). For this reason, independent

sample t-test and one-way analysis of variance (ANOVA) were performed. In order to find out which groups differed from each other in the ANOVA analyzes where there was a statistically significant difference, the multiple comparison (Post-Hoc) test was performed using the Tukey test. Also Levene's test is used to test the homogeneity of group variances.

3. Findings

In order to determine the cyberloafing levels of the participants, the scores they got from the scale were calculated and the information about these scores is shown in Table 3.

Table 3. The cyberloafing levels of the participants

Factor	N	$\bar{X}$	SD
SC (Scan Cyberloafing)	385	38.43	1.152
IC (Interactive Cyberloafing)	385	34.47	1.044
EC (Entertainment Cyberloafing)	385	30.96	1.147
CLS (Cyber Loafing Scale)	385	35.54	1.01

When Table 3 is examined, it is seen that the scores of the participants are $\bar{x}$ = 38.43 in the scanning cyberloafing factor, $\bar{x}$ = 34.47 in the interactive cyberloafing factor, $\bar{x}$ = 30.96 in the entertainment cyberloafing factor and $\bar{x}$ = 35.54 in the whole scale. Considering that the cyberloafing score of those who rarely participate in all the items is 48, it can be said that the participants' cyberloafing levels are low.

In order to determine whether there was a gender difference in the cyberloafing levels of the participants, the scores they got from the scale were calculated, the independent sample t-test was performed, and the information regarding the analyzes is shown in Table 4.

Table 4. T-test results by gender on the cyberloafing levels of the participant group

Factor	Variable	N	$\bar{X}$	SD	F	t	p
SC	Female	185	40.93	1.172	5.193	2.581	.010*
	Male	200	36.11	1.112			
IC	Female	185	34.47	.974	2.067	-.001	.999
	Male	200	34.46	1.107			
EC	Female	185	32.66	1.167	6.680	1.755	.080
	Male	200	29,39	1.122			
CLS	Female	185	36,96	1.010	2.917	1.660	.098
	Male	200	34.24	.999			

* The mean difference is significant at the .05 level

In Table 4, it is seen that female participants have higher scores than male participants in both all sub-dimensions of the scale and the whole scale. According to the results of the independent samples t-test performed to determine whether these differences are significant, it is seen that the difference is significant only in the sub-dimension of scanning cyberloafing (p<.05). According to this result, it can be said that female participants exhibit cyberloafing behaviors such as chatting online, looking at the news, browsing web pages that are not related to the course, and shopping online more than male participants.

In order to determine whether there is a difference in the virtual loafing levels of the participants according to the age variable, the scores they got from the scale were calculated, ANOVA analysis and the Tukey test was performed to determine between which groups the difference was, and the information regarding the analyzes is shown in Table 5.

Table 5. ANOVA results by age on the cyberloafing levels of the participant group

Factor	Age	N	$\bar{X}$	SS	F	p	PostHoc
SC (Scan Cyberloafing)	19 or younger (1)	78	43.76	1.047			
	20-22 (2)	159	42.83	1.040			
	23-25 (3)	72	35.15	1.210	5.880	.001**	4 < 1 and 2
	26 or older (4)	76	35.87	1.122			
	TOTAL	385	38.43	1.152			
IC (Interactive Cyberloafing)	19 or younger (1)	78	40.84	.989			
	20-22 (2)	159	36.44	.806			
	23-25 (3)	72	31.87	1.161	6.264	.000**	4 < 1 and 2
	26 or older (4)	76	31.73	.926			
	TOTAL	385	34.47	1.044			
EC (Entertainment Cyberloafing)	19 or younger (1)	78	36.14	1.137			
	20-22 (2)	159	36.96	1.129			
	23-25 (3)	72	27.51	1.153	7.834	.000**	3 and 4 < 1 and 2
	26 or older (4)	76	27.42	1.008			
	TOTAL	385	30.96	1.147			
CLS (Cyber Loafing Scale)	19 or younger (1)	78	41.24	.932			
	20-22 (2)	159	39.33	.835			
	23-25 (3)	72	32.48	1.098	7.573	.000**	4 < 1 and 2
	26 or older (4)	76	32.73	.896			
	TOTAL	385	35.54	1.006			

** The mean difference is significant at the .01 level

As can be seen in Table 5, the average of the scores obtained from the scale varies according to the age of the participants. It is seen that younger participants have higher scores both in all sub-dimensions of the scale and in the whole scale compared to the participants who are older than themselves. According to the ANOVA results, all the differences are significant (p<.05). Tukey test was used to calculate between which groups the difference originated. It was seen that the source of the difference was between the 1st and 2nd groups and the 3rd and 4th groups in the entertainment cyberloafing dimension, in favor of the 1st and 2nd groups. It was seen that the source of the difference in the other dimensions and the whole of the scale was between the 1st and 2nd groups and the 4th group, to the disadvantage of the 4th group.

In order to determine whether there was education level difference in the cyberloafing levels of the participants, the scores they got from the scale were calculated, the independent sample t-test was performed, and the information regarding the analyzes is shown in Table 6.

Table 6. T-test results by education level on the cyberloafing levels of the participant group

Factor	Variable	N	$\bar{X}$	SD	F	t	p
SC	Undergraduate	231	34.18	1.114	1.053	5.792	.000**
	Associate Degree	154	44.80	1.096			
IC	Undergraduate	231	31.43	1.054	6.116	4.470	.000**
	Associate Degree	154	39.01	.964			
EC	Undergraduate	231	26.64	1.025	18.150	5.899	.000**
	Associate Degree	154	37.44	1.203			
CLS	Undergraduate	231	31.74	.963	.951	5.924	.000**
	Associate Degree	154	41.25	.967			

** The mean difference is significant at the .01 level

In Table 6, it is seen that the scores of associate degree students in all dimensions of the scale and entire scale are higher than those of undergraduate students. According to the results of the independent sample t-test performed to determine whether this differences is significant, all of the

differences are significant. According to this result, it can be said that the cyberloafing levels of associate degree students are higher than those of undergraduate students.

4. Conclusion and Discussion

In this study, cyberloafing levels of higher education students (undergraduate and associate degree) were examined according to their different demographic characteristics. According to the results of the research, the cyberloafing levels of the participants are below the average. This result shows that the participant group does not exhibit much cyberloafing behavior and is similar to other studies in the field (Kurun & Çobanoğlu, 2019; Günar & Ünsal, 2020; Yazgan & Yıldırım, 2020). There are studies in the field showing that the level of cyberloafing is moderate (Cinar & Cinisli, 2018; Senel, Gunaydin, Saritas & Cigdem, 2019; Gezgin & Sarsar, 2020; Sert, 2021) or higher than the average (Arikan & Ozgur, 2019).

In addition, the study supports some studies in the literature and reveals that the level of cyberloafing does not differ significantly by gender (Kaplan & Cetinkaya, 2014; Bagriacik-Yilmaz, 2017; Cinar & Cinisli, 2018; Gezgin, Kamali-Arslantas & Sumuer, 2018; Tanriverdi & Karaca, 2018; Katier & Cuhadar, 2019; Saygin & Guvenc, 2019; Dogrusoy, Sevinc & Ergun, 2020). This result reveals that university students who have computer access and can use their mobile phones in their classes show similar levels of cyberloafing behavior regardless of gender. Contrary to this result, there are studies in the field that show that men exhibit more cyberloafing behaviors than women (Hayit & Donmez, 2016; Serttas & Simsek, 2017; Cok, 2018; Arikan & Ozgur, 2019; Korucu & Kara, 2019; Senel, Gunaydin, Saritas & Cigdem, 2019; Cetinturk, 2020; Yazgan & Yildirim, 2020) also found a study showing that women exhibit more cyberloafing behavior than men (Sahin, 2020). In addition, it was concluded that the mean score ($\bar{x}$ = 40.93) of the female participants in the scan cyberloafing dimension of the scale was higher than the male participants ($\bar{x}$ = 36.11) and this difference was significant. According to this result, it can be said that women exhibit more cyberloafing behaviors such as messaging, browsing websites, and browsing news websites.

According to another result of our research, the level of cyberloafing shows a significant difference both in all dimensions of the scale and in the whole scale according to the age variable. This difference is in favor of relatively younger participants. According to this result, younger participants exhibit more cyberloafing behavior than older from them participants. It is thought that this result is due to the fact that young people use technological devices and the internet more intensively. This result of our research too supports some studies in the literature (Bayram, 2020; Cetinturk, 2020). Contrary to this result, there are also studies that conclude that the level of cyberloafing does not differ according to age (Kaplan & Cetinkaya, 2014; Serttas & Simsek, 2017; Saygin & Guvenc, 2019).

The last result of our research shows that the average score of associate degree students from the scale ($\bar{x}$ = 31.74) is higher than that of undergraduate students ($\bar{x}$ = 41.25). As a result of the analyzes made, it was determined that this difference was significant. It is thought that the reason for this result is that associate degree students give less importance to courses than undergraduate students. No research has been found comparing the cyberloafing levels of associate and undergraduate students in the field.

The results of the study should be evaluated in the light of some limitations. The research is limited to 385 students studying at a state university located in a city in the Eastern Anatolia region of Turkey. For this reason, it is thought that it would be beneficial to conduct a similar study in universities located in different regions and with a larger participant group. In addition, similar studies can be conducted with students of different age groups and different education levels. Increasing the number of samples, realizing cyberloafing measurements with different scales, and including qualitative research methods can bring a new dimension to the studies to be conducted.

References

Akar, I., & Coskun, B.K. (2020). Exploring the relationship between creativity and cyberloafing of prospective teachers. *Thinking Skills and Creativity*, 38, 100724. doi: 10.1016/j.tsc.2020.100724

Aksoğan, M. (2020). Opinions of students about distance education in the pandemi process. *MTU Journal of Engineering and Natural Sciences*, Special Issue, 1-9. doi: 10.46572/nat.2020.11

Aksoğan, M. & Bulut Özek, M. (2020). Öğretmen adaylarının teknoloji yeterlilikleri ile teknolojiye bakış açısı arasındaki ilişki. *Gümüşhane Üniversitesi Sosyal Bilimler Enstitüsü Elektronik Dergisi*, 11(2), 301-311. Retrieved form: https://dergipark.org.tr/tr/download/article-file/1171576

Aksoğan, M. & Çalış-Duman, M. (2020). A research on academician opinions on distance education in the COVID-19 process. *MTU Journal of Engineering and Natural Sciences*, Special Issue, 38-49. doi: 10.46572/nat.2020.10

Arabaci, I. B. (2017). Investigation faculty of education students' cyberloafing behaviors in terms of various variables. *Turkish Online Journal of Educational Technology*, 16(1), 72-82. Retrieved form: https://eric.ed.gov/?id=EJ1124916

Arıkan, F. & Özgür, H. (2019). Öğretmen adaylarının siber aylaklık ve bilişsel kapılma düzeylerinin çeşitli değişkenler açısından incelenmesi. Trakya Üniversitesi Sosyal Bilimler Dergisi, 21(2), 863-885. doi: 10.26468/trakyasobed.569532

Bağrıacık-Yılmaz, A. (2017). Lisansüstü öğrencilerinin siber aylaklık düzeylerinin çeşitli değişkenler açısından incelenmesi: Karma bir çalışma. *Ahi Evran Üniversitesi Kırşehir Eğitim Fakültesi Dergisi*, 18(2), 113-134. Retrived form: https://dergipark.org.tr/en/download/article-file/1486987

Bayram, A. (2020). *Öğretmenlerde sanal kaytarma davranışının demografik değişkenlere göre incelenmesi*. Proceeding 2. Uluslararası İktisat, İşletme ve Sosyal Bilimler Kongresi, 9-15.

Blanchard, A.L. & Henle, C.A. (2008). Correlates of different forms of cyberloafing: The role of norms and external locus of control. *Computers in Human Behaviour*, 24(3), 1067–1084. doi: 10.1016/j.chb.2007.03.008

Chukwuemeka, E. E., Collins, I. N., Iloke, Stephen, E., & Elizabeth, A. (2020). Organizational Identification and Proactive Work Behaviour as Predictors of Cyber-loafing among Anambra State Civil Servants. *Asian Journal of Advanced Research and Reports*, 8(2), 10-19. doi: 10.9734/ajarr/2020/v8i230194

Çetintürk, İ. (2020). Sanal kaytarma ve demografik özellikler: beş yıldızlı konaklama işletmesinde bir uygulama. *Anadolu Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi,* 21(2), 35-46. Retrieved form: https://dergipark.org.tr/en/download/article-file/1154233

Çınar, O. & Cinisli, Z. (2018). Beden eğitimi ve spor öğretmenliği bölümü öğrencilerinin siber aylaklık davranışları. *Beden Eğitimi ve Spor Araştırmaları Dergisi*, 10(1), 39-48. doi: 10.30655/besad.2018.3

Çok, R. (2018). Üniversite öğrencilerinde çeşitli akademik değişkenlerin siber aylaklık davranışlarını yordama durumlarının incelenmesi (Master's thesis). Accessed from the national thesis center database (511294).

Doğusoy, B., Sevinç, M. & Ergün, H. (2020). Öğretmen adaylarının siber aylaklık davranışlarının farklı değişkenlere göre incelenmesi. *Kastamonu Education Journal*, 28(3), 1321-1332. doi: 0.24106/kefdergi.3898.

Durak, H.Y. (2020). Cyberloafing in learning environments where online social networking sites are used as learning tools: Antecedents and consequences. *Journal of Educational Computing Research*, 58(3), 539-569. doi: 10.1177/0735633119867766

Galluch, P. A., & Thatcher, J. B. (2007). *Maladaptive vs. adaptive use of internet applications in the classroom: A test of competing models.* In Proceedings of the 2007 Southern Association for Information Systems Conference (pp. 9-10). Retrived form: https://aisel.aisnet.org/sais2007/5/

Gerow, J.E., Galluch, P.S., & Thatcher, J.B. (2010). To slack or not to slack: internet usage in the classroom. *Journal of Information Technology Theory and Application*, 11(3), 5-23.

Gezgin, D.M., Kamalı-Arslantaş, T., & Şumuer, E. (2018). Mesleki ve teknik lise öğrencilerinin siber aylaklık düzeylerinin farklı değişkenlere göre incelenmesi. *Ege Journal of Education*, 19(2), 408-424. doi: 10.12984/egeefd.344675

Gezgin, D.M. & Sarsar, F. (2020). Böte bölümünde öğrenim gören öğrencilerin siber aylaklık yapma nedenlerine ait görüşleri: Bir karma yöntem çalışması. *Türkiye Sosyal Araştırmalar Dergisi*, 24(1), 243-256. Retrived form: https://dergipark.org.tr/en/download/article-file/1037974

Gülnar, M. & Ünsal, H. (2020). Üniversite öğrencilerinin akıllı telefon siber aylaklık durumları hakkında bir çalışma. *Uluslararası Bilim ve Eğitim Dergisi*, 3(2), 92-100. doi: 10.47477/ubed.766531

Hayıt, T. & Dönmez, O. (2016). Üniversite öğrencilerinin siber aylaklık profilleriyle bilişsel kapılma düzeyleri arasındaki ilişkinin incelenmesi. *Eğitim ve Öğretim Araştırmaları Dergisi*, 5(Special Issue), 146-150. Retrived form: http://www.jret.org/FileUpload/ks281142/File/16.tolga_hayit.pdf

Hembrooke, H., & Gay, G. (2003). The laptop and the lecture: The effects of multitasking in learning environments. *Journal of Computing in Higher Education*, 15(1), 46-64. Retrived form: https://link.springer.com/article/10.1007/BF02940852

Kalaycı, E. (2010). Üniversite öğrencilerinin siber aylaklık davranışları ile öz düzenleme stratejileri arasındaki ilişkinin incelenmesi (Master's thesis). Accessed from the national thesis center database (270174).

Kaplan, M. & Çetinkaya, A.Ş. (2014). Sanal kaytarma ve demografik özellikler açısından farklılıklar: Otel işletmelerinde bir araştırma. *Anatolia: Turizm Araştırmaları Dergisi*, 25(1), 26-34. doi: 10.17123/atad.vol25iss114726

Karaoğlan-Yılmaz, F.G., Yılmaz, R., Öztürk, H.T., Sezer, B., & Karademir, T. (2015). Cyberloafing as a barrier to the successful integration of information and communication technologies into teaching and learning environments. *Computers in Human Behavior*, 45, 290-298. doi: 10.1016/j.chb.2014.12.023

Karasar, N. (2012). *Bilimsel Araştırma Yöntemleri.* Ankara: Nobel Yayınevi

Katıer, H. & Çuhadar, C. (2019). Okullarda siber aylaklık davranışının okul iklimine yansımalarının yönetici ve öğretmen görüşlerine göre değerlendirilmesi (Master's thesis). Accessed from the national thesis center database (570954).

Korucu, A.T. & Kara, S. (2019). Öğretmen adaylarının derslerde akıllı telefon siber aylaklık düzeyleri ile sanal ortam yalnızlık düzeyleri arasındaki ilişkinin incelenmesi. *Bilgi ve İletişim Teknolojileri Dergisi*, 1(1), 41-56. Retrived form: https://dergipark.org.tr/en/download/article-file/880044

Kurun, M. & Çobanoğlu, F. (2019). Okul yöneticilerinin yönetsel ve sanal kaytarma davranışları arasındaki ilişki. *IBAD Sosyal Bilimler Dergisi*, 5, 134 – 152. doi: 10.21733/ibad.611278

Lim, V. K. (2002). The IT way of loafing on the job: Cyberloafing, neutralizing and organizational justice. *Journal of Organizational Behavior,* 23(5), 675-694. doi: 10.1002/job.161

Metin-Ota, İ. & Demirtepe-Saygılı, D. (2021). Cyberloafing behaviors among university students: Their relationships with positive and negative affect. *Current Psychology*, 1-14. doi: 10.1007/s12144-021-02374-31

Piotrowski, C. (2012). Cyberloafing: A content analysis of the emerging literature. *Journal of Instructional Psychology*, 39(3-4), 259-262. Retrived form: https://www.proquest.com/docview/1490691578

Polat, M. (2018). Derslerde akıllı telefon siber aylaklığı ölçeği (datsaö): Ünıversıte öğrencılerı için bir ölçek uyarlama çalışması. *Social Sciences Studies Journal,* 4(21), 3114-3127. doi: 10.26449/sssj.733

Polito, A. (1997). Cyberloafing can be curbed. *Workforce*, 76(3), 18.

Ravizza, S. M., Hambrick, D. Z., & Fenn, K. M. (2014). Non-academic internet use in the classroom is negatively related to classroom learning regardless of intellectual ability. *Computers & Education*, 78, 109-114. doi: 10.1016/j.compedu.2014.05.007

Saygın, M. & Güvenç, K. (2019). Cyberloafing tendencies of the workers: The case of Silifke organized industrial zone. *International Journal of Eurasia Social Sciences*, 10(37), 820-832. Retrived form: https://app.trdizin.gov.tr/publication/paper/detail/TXpRek5ESTNOdz09

Sert, U. (2021).). Üniversite öğrencilerinin eğitim ortamlarında siber aylaklık ve dijital oyun bağımlılık düzeyleriyle ilgili yordayıcı ilişkilerin incelenmesi (Master's thesis). Accessed from the national thesis center database (666726).

Serttaş, O. & Şimşek G. (2017). Konaklama işletmelerinde siber aylaklık: çalışanların demografik özellikleri ile siber aylaklıkları üzerine bir araştırma. *Uluslararası İktisadi ve İdari Bilimler Dergisi*, 3(1), 20-34. Retrived form: https://dergipark.org.tr/en/download/article-file/272123

Soh, P.C.H., Koay, K.Y., & Lim, V.K. (2018). Understanding cyberloafing by students through the lens of an extended theory of planned behavior. *First Monday*, 23(6). doi: 10.5210/fm.v23i6.7837

Şahin, Y.L. (2020). Facebook sosyal ağ kullanıcılarının akademik erteleme davranışları ile eğitsel ortamlardaki siber aylaklık durumlarının incelenmesi. *Kırşehir Eğitim Fakültesi Dergisi*, 21(1), 629-666. Retrived form: https://9lib.net/document/4yr398jy-kirsehir-egitim-fakueltesi-dergisi.html

Şenel, S., Günaydın, S., Sarıtaş, M.T. & Çiğdem, H. (2019). Üniversite öğrencilerinin siber aylaklık seviyelerini yordayan faktörler. *Kastamonu Eğitim Dergisi*, Cilt:27 Sayı:1, 95-105. doi: 10.24106/kefdergi.2376

Taneja, A., Fiore, V., & Fischer, B. (2015). Cyber-slacking in the classroom: Potential for digital distraction in the new age. *Computers & Education*, 82, 141-151. doi: 10.1016/j.compedu.2014.11.009

Tanrıverdi, Ö. ve Karaca, F. (2018). Ergenlerin demografik özelliklerine göre bilişsel kapılma ve siber aylaklık etkinlik düzeylerinin incelenmesi. *Addicta: The Turkish Journal on Addiction*, 5, 285–315. doi: 10.15805/addicta.2018.5.2.0052

Ugrin, J. C., & Pearson, J. M. (2008). Exploring Internet abuse in the workplace: How can we maximize deterrence efforts? *Review of Business*, 28(2), 29-40. Retrived form: https://web.s.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=2&sid=1c3f43c4-3140-4122-8c97-a4ba70760f1e%40redis

Ugrin, J.C., Pearson, J.M. & Odom, M.D. (2008). Cyber-Slacking: Self-Control, prior behavior and the impact of deterrence measures. *Review of Business Information Systems,* 12(1), 75-88. doi: 10.19030/rbis.v12i1.4399

Varol, F., & Yıldırım, E. (2019). Cyberloafing in higher education: Reasons and suggestions from students' perspectives. *Technology, Knowledge and Learning*, 24(1), 129-142. doi: 10.1007/s10758-017-9340-1

Vitak, J., Crouse, J. & LaRose, R. (2011). Personal internet use at work: Understanding cyberslacking. *Computers in Human Behavior*, 27(5), 1751-1759. doi: 10.1016/j.chb.2011.03.002

Yazgan, Ç.Ü. & Yıldırım, A.F. (2020). Üniversite gençliğinde internet bağımlılığı ve derslerde siber aylaklık davranışları. *Gençlik Araştırmaları Dergisi*, 8(Special Issue), 5-23. Retrived form: https://dergipark.org.tr/tr/download/article-file/1070189

Yılmaz, R., & Yurdugül, H. (2018). BT sınıflarında siber aylaklık: Sınıftaki psiko-sosyal ortamın rolünü, bilgisayarlara ve bilgisayar kurslarına karşı tutumu, motivasyonu ve öğrenme stratejilerini keşfetmek. *Yüksek Öğrenimde Bilişim Dergisi*, 30 (3), 530-552