

Teacher Candidates' Cyberloafing Behaviors in Terms of Different Variables¹

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Doi:10.19044/ejes.v8no3a81

[URL:http://dx.doi.org/10.19044/ejes.v8no3a81](http://dx.doi.org/10.19044/ejes.v8no3a81)

Submitted: 09 June 2021
Accepted: 26 July 2021
Published: 30 September 2021

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Abstract

This is a descriptive study in the survey model conducted to examine teacher candidates' cyberloafing behaviors in terms of different variables. The study population consists of teacher candidates attending different departments of a state university in the academic year 2017-2018. To create the sample, students from all grade levels in randomly chosen fields of study from different departments of Education Faculty. Research data were collected using the "Scale of Cyberloafing Activities" and the "Personal Information Form". The data collection tools were delivered from a total of 918 teacher candidates who participated in the study voluntarily. Descriptive statistics, the Mann-Whitney U, and the Kruskal-Wallis tests were applied for data analysis. As a result of the study, it was detected that the teacher candidates' level of cyberloafing in the educational setting was "low," and that they usually accessed social networks and news sites. With regard to gender, it was observed that male teacher candidates, and with regard to departments that Science, Social and Turkish Education students, engaged more in cyberloafing. More than half of the participants defined their internet usage skills on an advanced and expert level, and it was detected that the level of cyberloafing increased as expertise increased. It was determined that the level of cyberloafing increased in conjunction with an increasing frequency of teacher candidates' usage of the internet on their mobile phones during the lesson and increasing grade levels.

Key Words: Cyberloafing, teacher candidates, mobile phone, internet usage.

Introduction

Nowadays, information and communication technologies are developing rapidly and technological devices as well as the internet have become important parts of people's lives. The rapid proliferation of information and communication technology tools, especially the integration of the internet and mobile devices into the daily life, provide people with great convenience in doing their daily work; e.g. visiting daily news sites to obtain information, using social media networks (Facebook, Twitter, Instagram, etc.) to obtain and share information, using mobile or web tools such as WhatsApp and Facebook Messenger to communicate, and doing many daily tasks such as banking transactions and shopping with technological tools. In addition to personal use, the internet is used extensively by employers and employees in the management of business

¹ This study is based on Yusuf Tarık Tatlı's master's thesis, which was completed under the supervision of Fatma SADIK.

processes such as information sharing, human resources management, or purchasing as stated by Demir and Tan (2018). In modern educational settings, the Internet makes notable contributions to education providing students with opportunities to learn languages, access online journals, do research, and visit virtual libraries (Rayan et al., 2016). In other words, the internet, which helps students to obtain the information they need, also enables them to be active and take responsibility in accessing information. However, with the start of utilizing internet access of institutions for personal purposes, a new concept called "cyberloafing, cyberslacking" entered the literature in the 2000s.

The concept of cyberloafing, which was first used by Lim (2002), is generally defined as individuals' usage of the internet access provided by the institution for issues not related to their work or for personal purposes. Cyberloafing is also specified as inefficient time spent on the internet (Ugrin, Pearson & Odom, 2008), using e-mail and the internet for purposes not related to their work (Blanchard & Henle, 2008), and junk computing (Bock & Ho, 2009). Cyberloafing includes different activities such as personal e-mail exchange, surfing the internet, online shopping, engaging with social networks such as Facebook or Twitter, blog pages, accessing news and sports sites, sending and receiving messages, and accessing entertainment as well as gaming sites, and new dimensions continue to be added due to continuous advancements in technology (Candan & İnce, 2016). The undesirable effects of cyberloafing in the workplace are generally described as delaying the completion of work, reducing productivity, and disturbing the environment (Andreassen, Torsheim & Pallesen, 2014; Koay, Soh & Chew, 2017). Therefore, in recent years, the features of workplaces (environment, workload, employees) pushing employees in public and private workplaces to cyberloafing and the demographic characteristics of individuals (such as age and gender) and their psychological needs, habits, as well as computer and internet usage skills have widely been examined (Ahmad & Omar, 2017; Andreassen et al., 2014; Candan & İnce, 2016; Demir & Tan, 2018; Holguin, 2016; Huma, Hussain, Thurasamy, & Malik, 2017; Koay et al. 2017).

In educational settings, cyberloafing is generally defined as students' usage of information technologies for extracurricular purposes during lessons (Akbulut et al. 2016). Cyberloafing behaviors in schools have appeared with the introduction of information technologies and internet usage in educational institutions, and it has been detected that students use the internet for activities that are not related to the lesson especially in computer laboratories (Arabacı, 2017; Şenel et al. 2019). According to recent studies, students' usage of the internet during the lesson for personal purposes distracts them, reduces their interest in the lessons, causing them to deal with extracurricular work, therefore adversely affecting their learning performance. This behavior also affects the effectiveness of the teacher in the lesson and complicates classroom management (Heflin, Shewmaker, & Nguyen, 2017; Lepp, Barkley & Aryn (2015). Therefore, the number of studies on cyberloafing conducted in the educational field has been increasing (Alanoğlu & Karatabak, 2021; Soh, Koay & Lim, 2018; Hayıt & Dönmez, 2016, Sarhangpour, Baezzat & Akbari, 2018; Wu, Mei & Ugrin, 2018). Reviewing related literature reveals that, so far, studies were generally carried out with students enrolled in departments where computer technologies are taught. However, nowadays, it is possible to connect to the internet anytime and anywhere with mobile phones (Baert et al. 2020). According to TURKSTAT (2018) reports, 98% of adults have a mobile phone and 77% use smartphones. The report also reveals that 62% of the population connect to the internet with their mobile phones. Therefore, it is possible to observe students' tendency to do cyberloafing with their mobile phones during classes without the need for a computer in the classroom setting (Çınar & Cinisli, 2018; Hayıt & Dönmez, 2016; Seçkin & Kerse, 2017).

Today, one of the important educational goals is to train qualified teachers Jiang, Lin & Mariano, 2016). Students' tendency to cyberloafing during lessons may negatively affect not only their own performance but also the performance of others by diverting their attention resulting in a decrease of the effectiveness of the teaching process. This might be an issue in training qualified teachers as well. However, when the related literature was reviewed, it was observed that there is a limited number of research on teacher candidates or teacher candidates enrolled at education faculties (Arıkan & Özgür, 2019; Doğusoy et al., 2020) and existing studies were mostly carried out with computer and instructional technology teacher candidates (Çınar & Cinisli, 2018; Şenel et al., 2019; Varol & Yıldırım, 2018; Yıldırım, 2016). For these reasons, it was necessary to conduct research examining teacher candidates' cyberloafing behavior by using their mobile phones during the lesson based on different variables to find answers to the following questions:

1. What are teacher candidates' habits of using the internet on their mobile phones (MP)?
2. What is the level of teacher candidates' cyberloafing behavior during the lesson?
3. Do teacher candidates' cyberloafing levels during the lesson show significant differences according to gender, age, department, grade level, and their habits of using the internet on their mobile phones?

Method:

Research Design

This is a descriptive study examining teacher candidates' cyberloafing behaviors in terms of different variables in the survey model. In descriptive research, the reality is objectively observed, measured, and analyzed. The important thing is to observe and determine the reality appropriately.

Population and Sample

The study population consists of teacher candidates enrolled at different departments of an education faculty at a state university, namely Primary Education, Mathematics and Science, Turkish and Social Sciences, Fine Arts Education and Educational Sciences during the academic year 2017-2018. In order to form the sample of the population, students were randomly chosen from all class levels of single program departments or from randomly chosen class levels of multiple program departments. The questionnaires were delivered to the participants during their classes by the department instructors, and participation was voluntary. A total of 918 teacher candidates participated in the study. Demographic information of the participants of the study is presented in Table 1.

Variable	Groups	f	%
Gender	Male	268	29.2
	Female	650	70.8
	Total	918	100.0
Age	18-20 years	394	42.9
	21-23 years	446	48.6
	24-27 years	78	8.5
	Total	918	100.0
Department	Primary School Education	112	12.2
	Preschool Education	170	18.5
	Science Education	113	12.3
	Social Sciences Education	135	14.7

Grade level	Turkish Education	136	14.8
	Art-work Education	79	8.6
	Guidance and Psychological Counseling	173	18.8
	Total	918	100.0
	1 st grade	231	25.2
	2 nd grade	230	25.1
	3 rd grade	284	30.9
	4 th grade	173	18.8
	Total	918	100.0

Table 1.

Teacher Candidates' Demographic Information

As seen in Table 1, more than two thirds of the participants are female. Approximately half of the participants (48.6%) are aged 21-23, followed by the 18-20 age group with 42.9% and the 24-27 age group with 8.5%. There are more participant students from Guidance and Psychological Counseling (%18.6) and Preschool Education (%18.5) departments compared to other departments and the lowest number of participants is 79 from Art-work Education (%8.6). Of the participants, more than half are younger students (25.2% first-grade and 25.1% second-grade) while 30.9% are enrolled at third-grade and 18.8% are fourth-grade students.

Data Collection Tools

The Scale of Cyberloafing Activities (SCA); developed by Blanchard & Henle (2008), adapted into Turkish by Kalaycı (2010) and updated by Yaşar (2013), and the Personal Information Form developed by the researchers were used to collect the data.

The Scale of Cyberloafing Activities. Consists of four subscales including Personal Business (9 items), Search (4 items), Socialization (6 items) and News Follow-up (4 items), in total 23 items. As a result of a confirmatory factor analysis performed by Yaşar (2013), the fit indices between the four-factor model and the data were as follows: GFI=0.92; CFI=0.92; NNFI=0.90; RMSEA=0.08. The item load value of an item in the socialization subscale is .30, while the item load values of all items in the other subscales vary between .41-.88. The scale's Cronbach's alpha reliability coefficients are .94 in the "Personal business" subscale, .77 in the "Search" subscale, .84 in the "Socialization" subscale, and .76 in the "News follow-up" subscale. A 5-point Likert spectrum (never, rarely, occasionally, usually, always) was used for the Rating. The scale includes statements such as "I visit social networks (Facebook, Twitter, etc.), I pursue interesting topics in search engines." The scale's Cronbach's alpha reliability, recalculated in line with the data obtained with this study, is .84 in the "Personal business" subscale, .84 in the "Search" subscale, .80 in the "Socialization" subscale, and .85 in the "News follow-up" subscale.

The Personal Information Form. It was designed to obtain information about teacher candidates with a total of 13 questions determining the demographic information of the students (gender, age, department, grade level) and their general mobile phone usage habits.

Data Collection

The research data was collected during the fall semester of the Academic Year 2017-2018. The data collection process was performed in a way that would not disrupt the lectures. The students were asked to respond voluntarily in approximately 20 minutes.

Data Analysis

First of all, the obtained results from the SCA and the arithmetic mean as well as standard deviation of these scores were calculated to determine the cyberloafing behavior levels of teacher candidates. The results obtained were interpreted by evaluating them according to intervals of 1.00–1.80 as "Never", 1.81–2.60 as "Rarely", 2.61–3.40 as "Sometimes", 3.41–4.20 as "Usually", and 4.21–5.00 as "Always". Then, a Kolmogorov-Smirnov test was performed on the scale scores, and it was examined whether their distribution met the assumption of normality or not. Table 2 presents the normality test analysis results of the data obtained from the SCA.

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Personal business	.120	918	.000	.920	918	.000
Search	.076	918	.000	.960	918	.000
Socialization	.048	918	.000	.989	918	.000
News follow-up	.070	918	.000	.964	918	.000
Scale total score	.040	918	.001	.985	918	.000

Table 2.

Normality Test Analysis for the SCA scores

As seen in Table 2, the significance levels of the Kolmogorov-Smirnov and Shapiro-Wilk tests are less than .05. Therefore, non-parametric tests instead of parametric tests were used for comparing the scale scores of the participants, a Mann-Whitney U test was performed for paired comparisons, and a Kruskal-Wallis test was conducted for multiple comparisons (Büyüköztürk, 2020). To see in favor of which groups the difference was in cases when there were significant differences as a result of the Kruskal-Wallis test, the Mann-Whitney U test was repeated on the paired comparisons of the groups, and the level of significance was accepted as .05.

Findings:

1. Teacher candidates' Behavior of Using the Internet on a Mobile Phone (MP)

Descriptive statistics on the internet usage behavior on MP of the teacher candidates participating in the study are presented in Table 3.

	Groups	f	%
The duration of internet service usage on MP	1-4 years	430	46.8
	5-9 years	444	48.4
	10-13 years	44	4.8
	Total	918	100.0
Data connection time to the internet on MP	Less than 1 hour	62	6.8
	2-3 hours	326	35.5
	4-5 hours	266	29.0
	More than 5 hours	264	28.8
	Total	918	100.0
Internet usage skills on MP	Medium	425	46.3
	Advanced	368	40.1
	Expert	125	13.6
	Total	918	100.0
	Never	139	15.1

The frequency of using the internet on MP during the lesson	1-2 times	542	59.0
	3-4 times	134	14.6
	5-6 times	32	3.5
	At each opportunity	71	7.7
	Total	918	100.0
The time spent on the internet (without interruption) using MP during the lesson	Less than 1 minute	359	39.1
	2-3 minutes	299	32.6
	3-4 minutes	136	14.8
	5-6 minutes	55	6.0
	More than 6 minutes	69	7.5
	Total	918	100.0
Perception of the appropriateness of using the internet on MP behavior during the lesson	Definitely inappropriate	307	33.4
	Inappropriate	402	43.8
	Undecided	139	15.1
	Appropriate	47	5.1
	Definitely appropriate	23	2.5
	Total	918	100.0

Table 3.

Descriptive Statistics on Teacher Candidates' Internet Usage Behavior on MP

As seen in Table 3, 48.4% of the teacher candidates have been using internet service on MP for 5-9 years. While 35.5% of the participants stated the daily internet access time from MP as 2-3 hours, 29.0% stated that they used the internet for 4-5 hours, and 28.8% for more than five hours a day. 46.3% of the participants described their internet usage skills on MP as "medium," 40.1% as "advanced," and 13.6% as "expert." 59.0% of the participants stated that they use the internet on MP during the lesson 1-2 times, 14.6% 3-4 times, and the percentage of those who stated that they did not use the internet on their mobile phones at all during the lesson was 15.1%. While 39.1% of the students defined the time spent on the internet using MP during the lesson as less than 1 minute, 32.6% stated that it took 2-3 minutes. When Table 3 is examined, it is observed that more than three quarter of the teacher candidates do not find it right to use the internet on MP during the lesson.

2. Teacher candidates' Cyberloafing Levels

Table 4 demonstrates the descriptive statistics of the participants' scores from the SCA.

	\bar{X}	Sd
Personal business	1.87	.74
Search	2.51	1.02
Socialization	2.73	.86
News follow-up	2.73	1.08
Scale total score	2.36	.76

Table 4.

Descriptive Statistics of The SCA Scores (N=918)

Upon examining Table 4, it is observed that teacher candidates obtained the highest score in the scale's "Socialization" (\bar{x} =2.73) and "News follow-up" (\bar{x} =2.73) subscales, which was followed by the "Search" (\bar{x} =2.51) subscale. Teacher candidates received the lowest score in the "Personal business" subscale (\bar{x} =1.87), and the arithmetic mean of the scale total score was 2.36.

This indicates that cyberloafing behaviors are mostly in the form of socializing and following the news.

Investigation of Teacher candidates' Cyberloafing Levels According to Different Variables

Table 5 presents the results of the Mann-Whitney U test of the participants' SCA scores according to gender.

	Group	N	Mean Rank	Rank Sum	U	P
Personal business	Male	268	540.57	144872.50	65373.500	.000*
	Female	650	426.07	276948.50		
Search	Male	268	549.67	147312.00	62934.000	.000*
	Female	650	422.32	274509.00		
Socialization	Male	268	531.87	142540.50	67705.500	.000*
	Female	650	429.66	279280.50		
News follow-up	Male	268	562.21	150672.50	57056.500	.000*
	Female	650	417.15	271148.50		
Scale total score	Male	268	562.21	150672.50	59573.500	.000*
	Female	650	417.15	271148.50		

Table 5.

The Mann-Whitney U Test Results according to Gender

When Table 5 is examined, it is observed that the mean scores of male teacher candidates in all subscales as well as overall are statistically higher than the mean scores of female teacher candidates ($p < .05$). The Kruskal-Wallis test results of the participants' SCA scores according to age are given in Table 6.

	Group		N	Mean Rank	χ^2	Sd	p	Sign. difference
Personal Business	18-20 (A)	years	394	421.63	16.474	2	.000*	A < B, C
	21-23 (B)	years	446	495.34				
	24-27 (C)	years	78	445.84				
Search	18-20 (A)	years	394	432.94	7.865	2	.020*	A < B
	21-23 (B)	years	446	484.03				
	24-27 (C)	years	78	453.40				
Socialization	18-20 (A)	years	394	442.73	9.969	2	.007*	A, C < B
	21-23 (B)	years	446	485.08				
	24-27 (C)	years	78	397.92				

News follow-up		18-20 (A)	years	394	426.45	12.148	2	.002*	A < B
		21-23 (B)	years	446	489.98				
		24-27 (C)	years	78	452.17				
Scale score	total	18-20 (A)	years	394	425.37	14.268	2	.001*	A < B
		21-23 (B)	years	446	493.30				
		24-27 (C)	years	78	438.62				

Table 6.

Kruskal-Wallis Test Results According to Age

As seen in Table 6, the mean scores of the teacher candidates in the 18-20 age range were significantly lower compared to the others ($p < .05$). Table 7 shows the Kruskal-Wallis test results for the SCA scores of the participants according to their departments.

	Group		N	Mean Rank	χ^2	Sd	P	Significant difference
Personal business	PSE	(1)	112	430.92	16.997	6	.009*	1,2,6,7 < 3
	PE	(2)	170	431.00				2,6 < 5
	SE	(3)	113	513.62				6 < 4
	SSE	(4)	135	489.67				
	TE	(5)	136	496.40				
	AE	(6)	79	399.17				
	GPC	(7)	173	445.66				
Search	PSE	(1)	112	440.49	18.000	6	.006*	1,2,6,7 < 5
	PE	(2)	170	423.76				6 < 4
	SE	(3)	113	465.60				
	SSE	(4)	135	485.01				
	TE	(5)	136	527.29				
	AE	(6)	79	399.87				
	GPC	(7)	173	456.97				
Socialization	PSE	(1)	112	421.96	13.500	6	.036*	1,6 < 2,3
	PE	(2)	170	496.66				7 < 2
	SE	(3)	113	502.76				
	SSE	(4)	135	449.79				
	TE	(5)	136	474.22				
	AE	(6)	79	405.23				
	GPC	(7)	173	439.83				
News follow-up	PSE	(1)	112	399.91	21.517	6	.001*	1,6 < 3,4,5
	PE	(2)	170	449.56				7 < 4,5
	SE	(3)	113	498.90				
	SSE	(4)	135	505.38				
	TE	(5)	136	501.29				
	AE	(6)	79	392.96				
	GPC	(7)	173	443.84				
Scale	PSE	(1)	112	417.02	18.816	6	.004*	1,6 < 3,4,5

PE	(2)	170	445.78	2,7< 5
SE	(3)	113	506.35	
SSE	(4)	135	486.81	
TE	(5)	136	505.85	
AE	(6)	79	387.34	
GPC	(7)	173	445.09	

Table 7.

Kruskal-Wallis Test Results According to Departments

PSE= Primary School Education, PE= Preschool Education, SE= Science Education, SSE= Social Sciences Education, TE= Turkish Education, AE= Art-work Education, GPC= Guidance and Psychological Counseling Department

Table 7 shows that the department attended creates a significant difference in the participants' cyberloafing levels. According to the results of the Kruskal-Wallis test conducted on the binary combinations of the groups, the mean scores of SE, SSE, and TE students in the "Personal business," "News follow-up" subscales and overall of the scale and the mean scores of TE, SSE students in the "Search" subscale and the mean scores of PE and SE students in the "Socialization" subscale were statistically significantly higher ($p<.05$). Table 8 presents the Kruskal-Wallis test results of the participants' SCA scores according to grade levels.

	Group	N	Mean Rank	χ^2	Sd	P	Significant difference
Personal business	1 st grade	231	394.98	27.332	3	.000*	1<2,3,4
	2 nd grade	230	495.27				2<3
	3 rd grade	284	446.81				3<4
	4 th grade	173	518.92				
Search	1 st grade	231	412.35	12.979	3	.005*	1<2,4
	2 nd grade	230	483.08				
	3 rd grade	284	455.17				
	4 th grade	173	498.22				
Socialization	1 st grade	231	420.54	8.374	3	.039*	1<2,4
	2 nd grade	230	483.92				
	3 rd grade	284	456.98				
	4 th grade	173	483.19				
News follow-up	1 st grade	231	415.43	16.246	3	.001*	1<2,4
	2 nd grade	230	480.07				3<4

Scale score	total	3 rd grade	284	444.99	22.140	3	.000*	1<2,3,4 3<4
		4 th grade	173	514.83				
		1 st grade	231	402.54				
		2 nd grade	230	490.47				
		3 rd grade	284	446.73				
		4 th grade	173	515.35				

Table 8.

Kruskal-Wallis Test Results According to Grade Levels

According to the Kruskal-Wallis results in Table 8, as the grade levels increase, the mean scores of students in the "Personal business" subscale also increase statistically significant ($p < .05$). The significant difference observed in the "Search" and "Socialization" subscales is in favor of 2nd and 4th grade students among 1st, 2nd and 4th grade students ($p < .05$). The significant differences observed in the "News follow-up" subscale were in favor of 2nd and 4th grade students among 1st, 2nd, and 4th grade students and in favor of 4th grade students among 3rd and 4th grade students ($p < .05$). When Table 8 is examined in terms of the total score of the scale, it is observed that the mean scores increase significantly toward the upper grades ($p < .05$). In Table 9, the Kruskal-Wallis test results of the teacher candidates' SCA scores are given according to the duration of using internet service on MP.

		Group	N	Mean Rank	χ^2	Sd	P
Personal business		1-4 years	430	455.27	2.675	2	.262
		5-9 years	444	457.31			
		10-13 years	44	522.99			
Search		1-4 years	430	460.83	2.153	2	.341
		5-9 years	444	452.83			
		10-13 years	44	513.81			
Socialization		1-4 years	430	450.07	5.437	2	.066
		5-9 years	444	459.89			
		10-13 years	44	547.74			
News follow-up		1-4 years	430	474.51	5.119	2	.077
		5-9 years	444	440.31			
		10-13 years	44	506.53			
Scale score	total	1-4 years	430	458.12	4.623	2	.099
		5-9 years	444	452.61			
		10-13 years	44	542.49			

Table 9.

Kruskal-Wallis Test Results According to The Duration of Using Internet Service on MP

As observed in Table 9, the duration of internet service usage on MP did not create statistically significant differences in the cyberloafing levels of teacher candidates ($p>.05$). The Kruskal-Wallis test results of the participants' SCA scores according to the daily connection time to the internet with MP are shown in Table 10.

	Group	N	Mean Rank	χ^2	Sd	p	Sign. difference
Personal business	Less than 1 hour (A)	62	420.90	6.227	3	.101	
	2-3 hours (B)	326	458.12				
	4-5 hours (C)	266	440.11				
	More than 5 hours (D)	264	489.81				
Search	Less than 1 hour (A)	62	391.69	11.210	3	.011*	A,B,C<D
	2-3 hours (B)	326	448.56				
	4-5 hours (C)	266	448.76				
	More than 5 hours (D)	264	499.76				
Socialization	Less than 1 hour (A)	62	377.10	27.485	3	.000*	A<C, D B,C<D
	2-3 hours (B)	326	425.60				
	4-5 hours (C)	266	455.44				
	More than 5 hours (D)	264	524.80				
News follow-up	Less than 1 hour	62	434.76	5.176	3	.159	
	2-3 hours	326	456.10				
	4-5 hours	266	440.52				
	More than 5 hours	264	488.64				
Scale total score	Less than 1 hour	62	396.75	12.641	3	.005	A,B,C<D
	2-3 hours	326	447.88				
	4-5 hours	266	443.73				
	More than 5 hours	264	504.48				

Table 10.

Kruskal-Wallis Test Results According to The Daily Connection Time to The Internet with MP

When Table 10 is examined, it is observed that the daily connection time with MP to the internet creates significant differences in the "Search" and "Socialization" subscales and the total score of the scale. According to the analysis conducted, the significant differences observed in the "Search" subscale and the total score of the scale are in favor of teacher candidates with more than five hours of daily connection to the internet with MP ($p<.05$). Similar results were obtained in the "Socialization" subscale, and it was determined that the significant differences observed between the scores were in favor of students who were connected to the internet with MP for 4-5 hours and longer during the day ($p<.05$). Table 11 demonstrates the Kruskal-Wallis test results of the participants' SCA scores according to their perception of their internet usage skills on MP.

	Group	N	Mean Rank	χ^2	Sd	p	Significant difference
Personal business	Medium	425	422.18	16.496	2	.000*	M < A, E
	Advanced	368	484.86				
	Expert	125	511.04				

Search	Medium	425	432.95	12.311	2	.002*	M, A < E
	Advanced	368	467.97				
	Expert	125	524.83				
Socialization	Medium	425	400.38	50.577	2	.000*	M < A, E
	Advanced	368	487.32				A < E
	Expert	125	578.60				
News follow-up	Medium	425	425.03	15.063	2	.001*	M, A < E
	Advanced	368	480.43				
	Expert	125	515.10				
Scale total score	Medium	425	411.68	31.117	2	.000*	M < A, E
	Advanced	368	484.59				A < E
	Expert	125	548.20				

Table 11.

Kruskal-Wallis Test Results According to Internet Usage Skills on MP

As seen in Table 11, significant differences were observed in all sub-scales among the participants based on their internet usage skills. The participants who perceive themselves as advanced level and users who perceived themselves as expert level skilled users tend to perform more cyberloafing behavior during lectures ($p < .05$). The Kruskal-Wallis test results of the teacher candidates' SCA score according to the frequency of using the internet during the lesson are given in Table 12.

	Group	N	Mean Rank	χ^2	Sd	p	Significant difference
Personal business	1-2 times (A)	542	360.60	31.313	3	.000*	A<B,C,D
	3-4 times (B)	134	446.55				
	5-6 times (C)	32	460.97				
	At each opportunity (D)	71	475.74				
Search	1-2 times (A)	542	355.29	56.376	3	.000*	A<B,C,D
	3-4 times (B)	134	428.65				B,C<D
	5-6 times (C)	32	460.28				
	At each opportunity (D)	71	550.36				
Socialization	1-2 times (A)	542	359.65	35.166	3	.000*	A<B,C,D
	3-4 times (B)	134	438.74				
	5-6 times (C)	32	487.58				
	At each opportunity (D)	71	485.75				
News follow-up	1-2 times (A)	542	369.20	23.309	3	.000*	A, B < D
	3-4 times (B)	134	407.30				
	5-6 times (C)	32	425.92				
	At each opportunity (D)	71	499.92				
Scale total score	1-2 times (A)	542	355.44	47.599	3	.000*	A<B,C,D
	3-4 times (B)	134	441.72				B<D
	5-6 times (C)	32	471.27				
	At each opportunity (D)	71	519.58				

Table 12.

Kruskal-Wallis Test Results according to the Frequency of Using the Internet on MP in The Educational Setting

As Table 12 represents, the frequency of using the internet on MP in the educational setting creates significant differences in the SCA scores of teacher candidates ($p < .05$). According to the

analysis, the cyberloafing behavior levels of the students who used the internet on MP 1-2 times during the lesson were significantly lower compared to the teacher candidates using the internet more frequently in the all subscales ($p < .05$). The Kruskal-Wallis test results of the SCA scores of the participants according to how much time without interruption they spend on the internet using MP in the educational setting are shown in Table 13.

	Group	N	Mean Rank	χ^2	Sd	p	Significant difference
Personal business	Less than 1 min (A)	359	389.68	46.774	4	.000*	A<B,C,D,E
	2-3 min (B)	299	484.87				B<E
	3-4 min (C)	136	511.71				
	5-6 min (D)	55	512.91				
	6 min + (E)	69	567.35				
Search	Less than 1 min (A)	359	401.40	47.296	4	.000*	A<B,C,D,E
	2-3 min (B)	299	463.07				B,C,D<E
	3-4 min (C)	136	503.89				
	5-6 min (D)	55	516.05				
	6 min + (E)	69	613.78				
Socialization	Less than 1 min (A)	359	399.39	43.503	4	.000*	A<B,C,D,E
	2-3 min (B)	299	480.52				B,C<E
	3-4 min (C)	136	476.19				
	5-6 min (D)	55	518.22				
	6 min + (E)	69	601.49				
News follow-up	Less than 1 min (A)	359	391.13	54.234	4	.000*	A<B,C,D,E
	2-3 min (B)	299	478.64				B,C,D<E
	3-4 min (C)	136	494.94				
	5-6 min (D)	55	522.02				
	6 min + (E)	69	612.57				
Scale total score	Less than 1 min (A)	359	386.13	61.038	4	.000*	A<B,C,D,E
	2-3 min (B)	299	478.27				B,C,D<E
	3-4 min (C)	136	505.74				
	5-6 min (D)	55	522.77				
	6 min + (E)	69	618.33				

Table 13.

Kruskal-Wallis Test Results according to the Time Spent on the Internet on MP in the Educational Setting

As seen in Table 13, as the time that teacher candidates spend on the internet using MP in the educational setting increases, their cyberloafing levels also increase in all subscales and the overall scale ($p < .05$).

Discussion:

As a result of this study, it was determined that 48.4% of the teacher candidates had been using the internet service on their mobile phones for 5-9 years, 35.5% accessed the internet for 2-3 hours during the day, and 28.8% used the internet on MP for more than five hours a day. Of the participants, 46.3% expressed their internet usage skill on MP as "medium," and 40.1% as

"advanced." These results were similar to the results of the research by Çakmak and Yalçın (2013), which detected that the mobile phone usage experience of university students was an average of seven and a half years, and by Doğan, Kalkan and Aydın (2017), which determined that 80 % of the participants used the internet for 5-6 years. Furthermore, many studies show that university students spend an average of 1-5 hours a day on the internet (Alan, 2019; Yazgan & Yıldırım, 2020; Salıcı & Öcal, 2020) and define their internet usage skills on mobile phone as medium and advanced (Çok & Kutlu, 2018). Therefore, it can be said that nowadays, when information and communication technologies are developing rapidly, technological devices and the internet have become an important part of daily lives, and the usage of mobile phones and the internet in daily life is spreading rapidly.

The findings demonstrate that 77.2% of the teacher candidates do not approve of using the internet on MP instead of dealing with the lesson in the educational setting; however, more than 90 % of the participants used the internet at least 1-2 times during the lesson. Similar results were found in the research studies done by Arabacı, 2017; Tindell and Bohlander, 2012. In addition to communication services, modern mobile devices also provide opportunities such as accessing social networks, e.g. Facebook or Twitter, playing online and offline games, and surfing the internet. The constant updating of both mobile phones and social media, being open to multiple usage, and allowing virtual sharing have made them one of the most effective tools in terms of interpersonal communication. Therefore, mobile phones and social media have become an indispensable part of life for individuals of almost every age in almost every field and environment, from the social environment to the business environment, from politics to education (Akgün, 2020; Altay& Özerbaş, 2020; Büyükbayraktar, 2020).

According to the results obtained from the overall scale, teacher candidates rarely do cyberloafing during the lesson. It is an expected behavior for the participants, who will take a significant place in shaping the future, to be sensitive about cyberloafing, which is generally accepted as an undesirable behavior. The reviewed studies indicate that the cyberloafing level of university students was medium and above medium (Çok & Kutlu, 2018; Seçkin & Kerse, 2017; Şenel et al., 2019). These differences in the results might originate from the fact that the studies were conducted with students from different universities, faculties, and departments. It can be said that this result is due to direct interaction with computers, considering that most studies on cyberloafing behavior in the educational setting are carried out with students from programs in which computer technologies are used extensively.

The findings demonstrate that teacher candidates' cyberloafing behavior mostly occur in the form of socializing (visiting virtual communities and social networks such as Facebook or Twitter) and following news (visiting news sites and newsgroups). Relatively more frequent behavior in the "Personal business" subscale includes downloading files and reading blog pages, while in the "Search" subscale, searching for interesting topics and searching for interesting sites (pictures, videos, quotations) not related to the lesson are included. Many studies indicate that university students mostly do cyberloafing within the areas of messaging, visiting social networking sites and news sites (Arabacı, 2017; Cha & Seo, 2018; Çok & Kutlu, 2018; Seçkin & Kerse, 2017; Şenel et al. 2019; Twum, Yarkwah, & Nkrumah, 2021; Yıldırım, 2016). In the study conducted by Özdem and Demir (2015), the most frequent cyberloafing behavior of school administrators was to participate in social networks like Facebook and Twitter. In the study carried out by Bağrıaçık Yılmaz (2017) with graduate students, the majority of whom were teachers, the most frequent cyberloafing behavior was visiting Facebook. In the study performed by Özücü and Yıldız (2014) among academicians, it was observed that the behavior of visiting news websites (newspapers, online news TV, and other news websites) on the internet was at a high level. Therefore, the reason for the fact that the most frequently observed cyberloafing activities in the

studies are messaging and visiting social networking sites may be the desire of people to check their social media accounts and to follow what is happening by staying online. This view is supported by a significantly higher cyberloafing level of students with a greater number of social media accounts who are more frequently checking their social media accounts during the lesson compared to other students (Arıkan & Özgür, 2019; Gezgin, et al. 2018). The fact that students regarded short-term internet access as an unimportant/ordinary behavior that could not adversely affect learning or the classroom environment may have led to this result. As stated by Şenel et al. (2019), students see the internet as a savior when they are bored during the lesson to distract them or when they are curious about something. Considering that mobile phones are nowadays always with students, notification sounds/or signals coming from mobile phone may be unconsciously directing students to cyberloafing.

As a result of this study, it was observed that the cyberloafing level of male participants was significantly higher than that of female teacher candidates. This can be interpreted as male students' reflecting their fondness for technology and the internet (Salıcı & Öcal, 2020) in the classroom environment. However, there are no definite results indicating whether cyberloafing differs by gender or not. In related literature, there are studies reaching results similar to this study (Arıkan & Özgür, 2019; Çok & Kutlu, 2018; Hayıt & Dönmez, 2016) while other studies indicate that women's cyberloafing levels are higher (Knight, 2017) or that cyberloafing does not depend on gender (Bağrıaçık Yılmaz, 2018; Doğuşoy et al., 2020; Tanrıverdi & Karaca, 2018).

Another important result obtained from the study is that the cyberloafing level of teacher candidates who are aged 18-20 and in their first year are lower than those in other age groups and grade levels. Students in this age group (18-20 years) are at the beginning of their university education. Their high motivation, being more interested in the lessons, and possibly being more careful about obeying the classroom rules, or their hesitation to do cyberloafing in the classroom may have caused this result. In related literature, there are further studies showing that university students in the 21-23 age group are more dependent on their mobile phones (Kuyucu, 2017) and that excessive use and virtual-oriented relationships are more common among people aged 21-25 (Minaz & Çetinkaya Bozkurt, 2017). In their study performed on university students, Seçkin and Kerse (2017) concluded that lower-grade students do less cyberloafing than upper-grade students. Similar results were obtained in studies carried out by Arabacı (2017) and Yaşar (2013), and it was determined that 4th-grade students engage more in cyberloafing than students at other grade levels. This result may be caused by the fact that students toward the end of their studies think that they have basic knowledge about their profession or that their interests change and diversify with increasing age. However, there are also studies indicating that grade levels do not have a significant effect on cyberloafing behavior (Keser et al., 2016; Gezgin et al., 2018).

While there were no statistically significant difference in the participants' cyberloafing behavior levels according to the duration of using internet service on their mobile phones, the level of cyberloafing was higher for teacher candidates whose daily connection time to the internet from their mobile phones was more than five hours. As a result of their study, Kumar and Mondal (2018) observed that individuals with internet addiction stayed online for 3-4 hours per day. Sağar and Kök Eren (2018) stated that 46.7% of university students used the internet for 4-6 hours, 18.4 % for 7-9 hours, and 16.9 % used it for 10 hours and more. Approximately 37% of the participants used the internet for 5 hours and more a day. Another finding obtained in the research is that the participants who defined their internet usage skill on mobile phones as "advanced" or "expertise" had higher levels of cyberloafing in the "Personal business" and "Socialization" subscales as well as the overall scale. In other words, students with higher skill levels can easily perform their daily personal business activities (banking transactions, online shopping, etc.), e-mail control, and file-sharing on their mobile phones when they have access to the internet. According to the studies

carried out by Yaşar (2013) and Kalaycı (2010) with university students, students with "expert" internet usage skills exhibit more "Personal business" and "News follow-up" cyberloafing behavior than students with "medium" skills. In this case, it can be concluded that internet access as well as students' internet usage habits and skills trigger cyberloafing. The fact that as the frequency of using the internet during the lesson and the duration of staying on the internet increase, the cyberloafing behavior level of teacher candidates also increase, according to the findings of this study, supports this view and shows that the research findings are consistent. According to the study performed by Gökdaş et al. (2014) with teacher candidates, 80.1% of the participants use mobile phones during the lesson and 46.5% of them frequently check their messages. In line with these results, it is expected that even having a smartphone is sufficient to increase cyberloafing (Seçkin & Kerse, 2017), that students who have more features/applications on their mobile phones spend more time on the internet and that students with higher internet skills do more cyberloafing.

This study revealed that students at the Science Education, Social Sciences Education, and Turkish Education Departments did relatively more cyberloafing during the lesson than teacher candidates from other departments. While there is no significant difference in most related literature regarding the cyberloafing scores of teacher candidates according to their departments and their department satisfaction levels (Arıkan & Özgür, 2019; Doğusoy et al., 2020; Polat, 2018), the study carried out by Çok & Kutlu (2018) concluded that the cyberloafing behaviors of university students varied significantly according to their level of satisfaction with the department. This result may be due to differences in career plans, educational objectives, and academic satisfaction with their education of the students in the study sample and the structural characteristics of the curricula of the departments where the study was conducted.

Conclusion:

As a result, this study revealed that more than half of the teacher candidates used their mobile phones at least 1-2 times during the lesson and stayed on the internet for 2-3 minutes, that more than half of the participants defined their internet usage skills as advanced or expert, and as their expertise increased, the level of cyberloafing also increased. Furthermore, it was determined that the more experienced teacher candidates in the third and fourth year have a higher frequency of using the internet on the mobile phone during the lesson and the level of cyberloafing increased compared to younger students. Accordingly, it may be recommended that instructors try to reduce teacher candidates' desire to engage in cyberloafing by planning activities that will activate their internet usage skills within the teaching process (such as doing research on the internet, game-based learning, encouraging them to search on the internet by asking curious questions). The correct use of the internet in the educational setting may be effective in controlling cyberloafing behavior and increasing the efficiency of the lesson. To reduce the frequency of mobile phone usage during the lesson, it may be suggested to review the rules and procedures regarding mobile phone usage and to reorganize them in line with the activities. Especially in the third and fourth grades, it may be suggested to focus on teaching practices rather than theoretical knowledge, and activities such as discussions, brainstorming, and evaluation of school practices to involve students actively in the process and share their thoughts and experiences.

The results of this study should be evaluated to the extent of its limitations. This study was conducted with students attending different departments of the education faculty at a state university. To achieve generalizations on this subject, comparative studies could be carried out with students attending different faculties and departments of the same university. The condition regarding the Turkish sample can be revealed by collecting data from state and private universities. The data in this study were collected from teacher candidates by applying a survey/scale to them.

The opinions of instructors with regard to students' cyberloafing level in the educational setting could also be examined.

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