

Investigation of Cyberloafing Behaviours of University Students: Sakarya University Case

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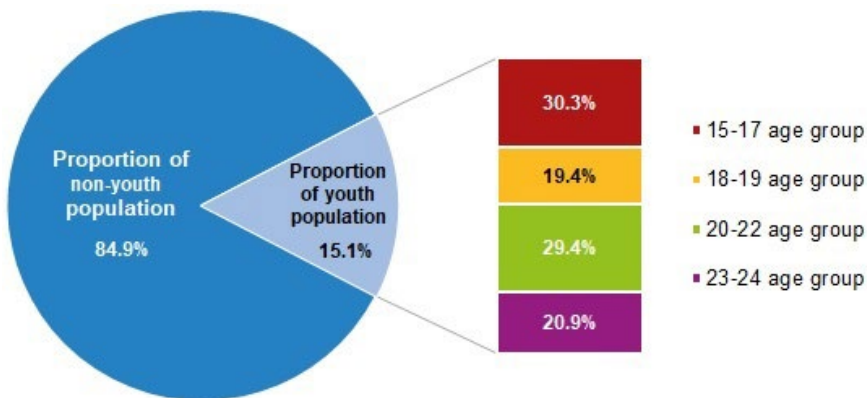
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Abstract: Cyberloafing refers to students using the Internet for personal reasons during academic activities, affecting their academic performance. This study investigates the prevalence, causes, and effects of cyberloafing among Sakarya University students. The aim is to explore the frequency of cyberloafing behaviors and their impact on students' academic performance at Sakarya University. Data were collected from 344 students at Sakarya University through a convenience sampling method. The study included students from Vocational Schools, Faculties, and Institutes. Data were collected between June 8, 2023, and January 12, 2024. There were no missing data. 66.9% of the students spend 3 hours or more daily on social networks, with the majority using smartphones (73.2%) or tablets (13.9%). Science department students exhibited less cyberloafing compared to social sciences students, likely due to hands-on experiments and application-based learning in their courses. Universities should update course content to engage students and enforce stricter technology use policies. Mentoring and behavioral change programs could help improve students' digital habits. Expanding this research to other universities is recommended for broader insights.

Keywords: Cyberloafing, Smart Devices, IT, Higher Education, University Students

1. Introduction

According to the annual market bulletin report for 2023 prepared by ICTA, the number of 4.5G subscribers and the total number of mobile subscribers have increased over the years. Although the increase between 2019 and 2023 is considered normal, the continuous movement of devices using mobile connection brings with it a line gap. In 2023, the number of mobile subscribers is 84.92%. According to the report published by Statista in December 2023, a significant portion of the web traffic in Türkiye is on smartphones and tablet devices. The main feature of these devices is that their ergonomic design allows easy transport and use and they do not need a cable for an internet connection. In order to support the this statistics, in the comparative statistics of TurkStat covering the years 2013-2023, the internet usage rate of young people is 98.4%. Based on this fact, we can argue that almost all of the young people who make up the population of Türkiye use the internet. Based on the report published by TurkStat, the ratio of the young population to the total population is 15.2%. In addition, it is reflected in the statistics that approximately 80 per cent of the young population is in the education age. According to TURKSTAT data, approximately 93% of the population in this age range attend educational institutions. The rate of students studying in higher education institutions is 29% as well.

Figure 1*Proportion of Young Population by Age Group*

Based on all the statistics, graphs and tables shared above, we can say that portable devices, especially smartphones and tablets, are with users at all hours of the day and regardless of the environment. It provides 24/7 internet connection in a wide range from workplaces to public transport vehicles, from food and beverage venues to schools. This situation leads to uncontrollable internet usage and loss of efficiency by using these devices and the opportunities they provide during the time that should be allocated to daily routine tasks (education, work, social life, etc.). In workplaces, the use of devices/internet or personal devices and connections provided by the workplace during working hours outside of the work done limits employee productivity and affects motivation and work performance, and the reflection of a similar situation on schools negatively affects education and training activities. According to Kim and Byrne (2011), cyberloafing is the use of web access resulting from lack of self-control in work environments and regularly engaging in non-work-related activities. Rusiya and Tolani (2018) define cyberloafing as the misuse of the internet, an action that employees take by using the company's access during working time, such as exploring non-work-related websites and sending and receiving personal emails. The author states that this is a reaction to situations such as employees' perception that their employers are unfair and unfair wage deductions. In addition, although it is foreseen that low-wage and status employees exhibit cyberloafing behaviours, he argues that high-wage and status employees also exhibit this behaviour. Varol and Yildirim (2019) state employees chatting outside of work for a short time next to the water cooler or coffee machine before the use of technology in workplaces and defined as "loafing", it has turned into "cyberloafing" in workplaces with the use of technology-intensive processes. In addition, he argues that technology-intensive processes are used not only in business life but also in education, and that similar behaviours of employees are also exhibited by students, and that this is achieved through the use of laptops in classrooms for different purposes such as taking notes, viewing course materials, doing research, playing games, sending instant messages, watching movies, etc. outside of the main element of the classroom environment. Based on this definition, it is thought that tablets and mobile phones should also be included in this definition as mobile devices become widespread and ergonomic, and it is suggested that not only laptops but also mobile devices such as mobile phones and tablets should be defined as cyberloafing. Information-intensive employees present cyberloafing behaviours more intensely, which is not in line with their work. Cyberloafing is an act of distraction (Lim & Chan, 2012). However, knowledge-intensive employees have to focus more on the task at hand (Aghaz & Sheikh 2016). At a copper mining and refining facility in Iran, 500 employees and managers were found to engage in cyber slacking behaviors such as visiting investment and banking websites, making online purchases and payments, and sending and receiving irrelevant emails (Sheikh at al., 2015). Buntarangin and Frantzen (2022), in their study on cyberloafing behaviours among employees in telecommuting processes, found that the degree of monitoring and restrictions imposed on employees by workplaces can possibly affect the degree of

cyberloafing, in addition, the characteristics of the work tasks imposed on employees can affect the degree of cyberloafing. Boredom and heavy workload were found to affect cyberloafing. Wang et al. (2023) found that the decreased sense of control that emerges on employees in the process of working from home encourages cyberloafing. Koch and Nafziger (2016) argue that unrestricted internet use at work triggers cyberloafing and that restricted internet use would be a more effective solution. On the other hand, Luo et al. (2022) argue that computer monitoring and internet usage policies can give inconsistent results in use, and this is due to ignoring personal differences. Glassman et al. (2015) propose a filtering system to prevent cyberloafing in workplaces. This system is blocked sites that the employee can never enter, which are also visualised with traffic signs and colouring. These sites are on the black list and users are not allowed to access them. On the other hand, the white list is a filtering system that does not impose any restrictions on the use of the internet by employees and allows access to all sites. Between these two extremes, from the whitelist to the blacklist, there are sites where the content of the site cannot be fully determined, but which are considered potentially work-related. It is a filtering method in which the user is asked about the nature of the site visit in the context of content approval. Finally, although it is known that it is not work-related, there is a filtering procedure that employees need motivation and can be characterised as a free space, but this can also be used within a certain quota.

Figure 2

Categorical Filtering



Rahimnia and Mazidi (2015) found that organisational control elements do not affect cyberloafing and only self-control has an effect on this behaviour. Wang et al. (2013) conducted a study with the participation of 209 Chinese civil servants to control cyberloafing behaviours in public institutions and found that internet usage policy is more effective on employees with higher self-esteem than employees with lower self-esteem, and electronic monitoring is more effective on employees with higher job satisfaction. Muthuswamy and Varshika (2023) conducted a study on 219 employees and found that electronic monitoring policies of organisations increase the performance of employees by reducing cyberloafing. Shekher and Joshi (2018) grouped cyberloafing into major and minor cyberloafing and emphasised that while actions such as sending and receiving personal e-mails are used to exemplify minor cyberloafing, major cyberloafing is more comprehensive processes such as online gambling and browsing adult websites. In addition, the positive and negative effects of cyberloafing and argued that while cyberloafing has negative consequences such as privacy issues, misuse of network resources and non-competitive organisation. Cyberloafing also has positive aspects that cannot be ignored as it reduces boredom and stress caused by working and helps to be creative and flexible. Employees who encounter the success/achievements of their colleagues on various social media platforms show cyberloafing behaviours as a result of the suitable environment for making negative comparisons (Chen et al., 2024). Durak and Saritepeci (2019) argue that although the wired and wireless internet connections provided for the interactive boards integrated into educational institutions and the education system with projects such as the FATİH project are not used for their intended purpose, cyberloafing behaviours are exhibited by overcoming the obstacles with VPN services. It has been

determined that the use of technological devices and the internet during classes by 274 undergraduate students attending a state university in the northeastern United States has an impact on cyber loafing and that students are prone to this behavior (Taneja et al., 2015). Ozdamli and Ercag (2021) conducted a study on 150 university students studying in the Turkish Republic of Northern Cyprus and found that students engaged in cyberloafing during the course via mobile devices. A study conducted on a research group consisting of 1,339 students and 996 employees revealed that both groups used their own devices and data networks during class or working hours. This behavior can be considered cyber loafing as it is disruptive and inefficient (Akbulut et al., 2017). Baturay and Toker (2015) conducted a study on 282 high school students and found that male students cyberloaf more than female students, advanced expert users -which is stated to be 9 years of internet experience- exhibit more cyberloafing behaviour than novice and intermediate users. In addition, advanced and expert internet skills along with daily internet use cause cyberloafing. In his study on 143 students, Green (2019) found that when students are motivated, they use their mobile devices as a means of obtaining information and taking notes on class participation, access to course materials and discussion topics, and when educators cannot provide the necessary motivation, students exhibit cyberloafing behaviours. Marumpe et al. (2023) conducted a study on the cyberloafing behaviours of Tanjungpura University Faculty of Economics and Business Administration students and found that students' honesty and self-control prevented them from exhibiting cyberloafing behaviours. Derin and Gökçe (2016) conducted a study on 152 employees at Malatya İnönü University and suggested that managers should strike a balance between work efficiency and employee needs instead of struggling to completely eliminate cyberloafing. The misuse of smartphones in classroom environments negatively affects learning, triggers cyberloafing behaviours, and simultaneously increases smartphone addiction. Additionally, university students' cyberloafing behaviours negatively influence their feelings about the meaning of life. Based on these findings, appropriate measures should be taken to control and restrict internet use and to help reduce students' anxiety through guidance (Gökçearsan et al., 2016; Li et al., 2022). Şenel et al. (2019) revealed in their study among 124 university students that the biggest reason for cyberloafing is that students are reluctant to learn. Other reasons include receiving notifications on the phone and their desire to communicate, their sense of curiosity and their desire to spend time more fun. Tepe and Ergüney (2023) conducted a study among 222 university students and found that students performed cyberloafing actions with the dimensions of content access, sharing and gaming/betting. Bağrıaçık Yılmaz (2017) conducted a study on 168 graduate students and found that students mostly engage in cyberloafing through messaging activities, followed by social networking sites, personal interests and news sites. Çınar and Cinisli (2018) conducted a study on 112 university students and found that instant messaging came first in the ranking of students' cyberloafing behaviors, followed by visiting sports websites and talking on the phone in the third place. Sinap (2023) lists the reasons why 391 higher education students exhibit cyberloafing behavior in distance education as follows: (1) student-related reasons, (2) instructor-related reasons, (3) distance education-related reasons, and (4) other reasons. Ross (2018) approaches cyberloafing from the perspective of healthcare professionals and defines cyberloafing as an important risk for patient safety. Healthcare providers, who always carry their personal phones with them, check their personal e-mails, share social media posts and follow the posts during the day. Even referring to a news published in the New York Times, he argues that 55% of perfusionists use their mobile phones during the operation, which poses a great risk for patient safety.

This study was designed to determine the cyberloafing behaviours of Sakarya University students. cyberloafing is defined as the misuse of technology during and in the classroom, has negative effects on education and training activities. However, it would be insufficient to think and examine cyberloafing behaviours only with the student dimension. Although the basis of the behaviour in question is the students' use of technologies during the lesson and in the lesson environment, there are also various reasons that push them to this behaviour. In addition to the course durations and contents that will keep

the motivation of the students high, it is essential that the lecturers and instructors who are responsible for teaching the course carry out their educational activities by following methods that will not lead to this behaviour. Revealing the reasons that push Sakarya University students to cyberloafing behaviours is considered as the first condition for the solution of the problem. For this reason, this study was designed to focus on the causes of this emerging behaviour and to offer solutions to prevent this behaviour from being under control with what kind of measures, even if it cannot be completely prevented, to prevent it from being to the extent that it will disrupt educational activities. It is thought that the results and suggestions presented as the output of the study will benefit all stakeholders, especially educators and students involved in educational activities. It is thought that outputs such as determining the reasons that push students to cyber loafing, determining their sources (lack of interest in the course, attitude towards the course instructor, outdated course content, etc.), supporting stakeholders who need support in the context of the result, optimal use of resources, and the establishment of mentoring programmes will be an effective management, especially in terms of students.

2. Method

2.1. Research design

Quantitative research method was used in this study. Quantitative research method is a research tradition that focuses on the relationships and differences between variables and makes predictions for the future with the aim of generalization (Garip, 2023). The fact that the researcher aims to reach a large group of participants, wants to statistically analyze the data obtained and can generalize the results (Patton, 2014) requires the preference of quantitative research method. In addition, if it is aimed to verify the relationships between factors within the scope of the subject studied, to focus on the causes of human relations and to try to determine these causes (Büyüköztürk et al., 2016), quantitative research method will be appropriate. The convenient sampling method was used to select university students who constituted the quantitative dimension of the research. Hence, we have enhanced the reachability of our sample and be able to include variety of subjects from different schools and institution at Sakarya University. Sakarya University has a large student population and comprises individuals studying in various academic units from different geographical regions of Türkiye. The university includes faculties, vocational schools, and institutes, encompassing students from diverse academic disciplines. This diversity allows the study to be conducted on participants with different academic backgrounds, interests, and educational levels. Consequently, though the generalizability is still limited to university students, we can use the study's findings to a broader student population that would increase the validity of the obtained data in different contexts. The research group consists of students from Sakarya University. According to data obtained from the university's official website, the total student population at Sakarya University for the 2023-2024 academic year is 54,530. According to MacCallum and Widaman (1999), the sample size should be between 5 to 10 times the number of variables used in the study. The scale utilized in this study initially consisted of 30 items (including those removed due to insufficient factor loadings). After eliminating items that did not meet the factor loading criteria, the final number of items was reduced to 20. Based on MacCallum and Widaman's study, the sample size in this research can be considered sufficient. The study includes students enrolled in Vocational Schools, Faculties, and Institutes. A convenience sampling method was employed. According to Golzar and Tajik (2022), convenience sampling allows data to be collected from the target population easily, quickly, and cost-effectively.

Table 1*Findings Related to Demographic Characteristics*

		f	%			f	%	
Gender	Female	151	43.9	Daily Time Spent on Social Networks	Less than hour	22	6.4	
	Male	193	56.1		1-2 hours	92	26.7	
Department	MIS	156	52		3-4 hours	132	38.4	
	Economics	30	8.7		5-6 hours	72	20.9	
	Buseiness	14	4.1		7 hours or more	26	7.6	
	Econometrics	10	2.9		Device used when connecting to the Internet	Smartphone	252	73.2
Class	Preparation	2	0.6			Laptop	30	8.7
	Grade 1	122	35.5			Desktop	14	4.06
	Grade 2	100	29.1		Tablet	48	13.9	
	Grade 3	35	10.2		Discipline	Social Sciences	269	%78.4
	Grade 4	85	24.7	Natural Sciences		75	%21.6	
Lessons from Previous Periods	None	212	61.6					
	1-3	96	27.9					
	4-6	26	7.6					
	7-9	4	1.2					
	10+	6	1.7					

According to the data in Table 1, 151 of the students participating in the study are female and 193 are male. The students from the Department of Management Information Systems constitute the majority with 156 students, while 30 students from the Department of Economics, 14 students from the Department of Business and 10 students from the Department of Econometrics participated in the study. In addition, students from different faculties and departments of the university also participated in the study. Students from different departments participated in varying numbers. However, the table shows the departments and the number of students who participated the most. In addition, 269 students from the social sciences discipline and 75 students from the science discipline participated. 1st and 2nd year students are 122 and 100 respectively. In addition, 35 3rd year students and 85 4th year students participated in the study. The number of students who did not have any courses from previous semesters (from the bottom) was 212. There are 96 students between 1-3 courses and 26 students between 4-6 courses. 38.4% of the students participating in the study spend between 3-4 hours a day on social networks. While 20% of them spend between 5-6 hours, 7,6% of them spend 7 hours or more on social networks. One of the striking data here is the time students spend on social networks. A total of 66.9% of the students spend between 3 hours and 7 hours or more on social networks. It is possible that such long periods of time continue during class hours and naturally in the classroom environment. These data are even more meaningful when evaluated together with the device used by the students while going online. When the responses of the participants are analysed, it is observed that 73.2% of them use their smartphones and 13.9% use their tablet devices when going online. Considering the mobile functions of these devices, it is possible to use these devices for various legal excuses (taking notes, reviewing course materials, etc.) during the course and in the classroom environment.

2.2. Data collection tools

The data collection tool consists of four sections. In the first part, there are questions about the participants' gender, the department they are studying, their grade level, the courses they took in the previous semester, the devices they prefer to connect to the internet and the time they spend on social networks. In the second section, 7-point categorical variables were used to determine the reasons for using mobile devices during the course. Borgers et al. (2004) stated that the number of response alternatives has a nonlinear effect on scale reliability. Accordingly, an increase in the number of response alternatives enhances the reliability of the scale up to a certain point; however, beyond this

point, reliability begins to decline. Emphasized that the most optimal options for researchers are Likert-type scales with six or seven response alternatives. Besides, by incorporating 7 point Likert Scale, we were able to do fine tuned and more exact analysis in our study, which further enhanced our interpretations. In the third section, the "Cyberloafing Scale" was used. 7 point scales is only used in demographic questions to finly eleobared mobile phone checking habbits for all other teoritecal scales we used 5 point like scales as proposed by the authers. In the last part of the data collection form, a qualitative data collection question was asked to determine in detail the reasons why students use mobile devices during the lesson. The data of the study were collected with the Cyberloafing Scale prepared by Akbulut et al. (2016). In the statements in the scale, a 5-point Likert scale was used and designed to be in the range of 1- Strongly Disagree to 5- Strongly Agree. The scale consists of 5 factors and 30 statements. The factors are sharing, shopping, real-time update, access to online content and gaming/betting, respectively. The scale consisting of 5 factors and 30 statements was used in the study, but 10 of the statements were removed because they did not meet the factor loadings. In the original scale, the internal consistency coefficient (Cronbach's Alpha) was determined as 0.93 for sharing, 0.87 for shopping, 0.93 for real-time applications, 0.94 for online access, and 0.80 for gaming/gambling, while the overall scale had a reliability coefficient of 0.95. Exploratory Factor Analysis (EFA) was applied to confirm the factor structure of the scale and to test its validity in the sample in our study. EFA was preferred in order to explore the factor structures underlying the existing items and to determine which factors the statements in the scale were significantly grouped under. Although the scale has been developed previously, it is recommended that the factor structure be retested and its fit be reviewed in different samples and cultural contexts (Costello & Osborne, 2005). Based on the data obtained from the present study, the internal consistency coefficient (Cronbach's Alpha) was calculated as 0.834 for sharing, 0.857 for shopping, 0.885 for real-time applications, 0.741 for online access, and 0.836 for gaming/gambling, while the overall scale had a reliability coefficient of 0.884. According to Taber (2018), data with a Cronbach's Alpha value between 0.84 and 0.90 are reliable data. Based on this, it can be said that the data is reliable. Factor analysis was performed for the statements in the study and it was seen that the loads were collected in 5 items. The KMO value was found to be .844. According to Kaiser (1974), in the interpretation of KMO, values of 0.90 and above are considered excellent, values of 0.8 and above are considered high, values of 0.7 and above are considered moderate and mediocre, values of 0.5 and above are considered weak, and values of 0.5 and below are considered unacceptable. In the light of these data, it is concluded that the KMO value obtained is high.

2.3. Data collection

The data were collected between 08.06.2023 and 12.01.2024 with the ethics committee permission approved by the decision numbered "24" taken at the meeting of Sakarya University Social and Human Sciences Ethics Committee dated 07.06.2023 and numbered 58. The data collection tool was uploaded to an online platform (forms.google.com) and the link was shared with the pre-service teachers. Participants were informed about the content and purpose of the study and their consent was obtained before participating in the study.

2.3. Data analysis

In this study, which was prepared to examine the cyberloafing behaviors of Sakarya University students, SPSS 23.0 statistical program was used for data analysis. First of all, Kolmogorov-Smirnov and Shapiro-Wilk analyzes were performed to determine whether the data (game-betting, sharing, shopping, real-time application and online access) were normally distributed or not; as a result of the analyzes, it was determined that the data were not normally distributed (Table 2). Therefore, nonparametric tests were conducted.

Table 2

Distribution Analysis

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Betting	.299	344	.000	.705	344	.000
Sharing	.063	344	.002	.974	344	.000
Shopping	.192	344	.000	.902	344	.000
Real Time Apps	.118	344	.000	.925	344	.000
Online Access	.134	344	.000	.907	344	.000

Frequency was used to analyze the demographic characteristics of the students and the reasons for using phones during class. In addition, the averages of the reasons for using the mobile phone during the lesson were taken. In addition, students' responses to the statements were analyzed by factor analysis and the factors in which the statements were collected were determined. Then, Mann-Whitney U test was conducted to determine the relationships between the factors and the time spent on social networks, the grade they were in and the factors. Kruskal-Wallis H test was applied to analyze the relationships between the factors and the discipline, gender and whether or not they have taken lower courses. In addition, the chi-square test was applied for the relationship between gender and the time spent on social networks (Table 5).

3. Findings

In the Findings section, the inferences obtained as a result of the analysis of the data collected from the participants through the data collection form are shared.

Table 3

Reasons for Using the Mobile Phone During the Lesson

	Never		Occasionally		From time to time		Usually		Frequently		Most of the time		Always		\bar{X}
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
Doing research related to courses	32	9.3	73	21.2	96	27.9	59	17	36	10.5	28	8.1	20	6	3.5
Other	67	20	84	24.4	57	16.6	58	17	18	5.2	29	8.4	31	9	3.3
Messaging with friends	51	15	111	32.3	70	20.3	56	16	29	8.4	20	5.8	7	2	3
Boredom	69	20	114	33.1	74	21.5	36	11	19	5.5	15	4.4	17	5	2.8
Reading news from the internet	129	38	85	24.7	47	13.7	31	9	21	6.1	17	4.9	14	4	2.5
Lack of interest in the lessons	96	28	111	32.3	65	18.9	40	12	7	2	19	5.5	6	2	2.5
Desire to surf social networks	113	33	96	27.9	59	17.2	33	9.6	21	6.1	14	4.1	8	2	2.5
Negative attitude towards the lecturer	234	68	62	18	20	5.8	12	3.5	5	1.5	5	1.5	6	2	1.6

In Table 3, students use their mobile phones to do research about the lessons during the lesson. At this point, it is likely that students' spending time on their mobile phones, even if it is for doing research related the class, this may negatively affect the learning process of students. Students, researching a certain part of the subject or examples related to class they will miss the rest of the subject and the integrity will be disrupted as well. Instead of doing research about the course by themselves, it would be an effective method to try to solve the problem by talking to the course instructor. Here, it can be assumed that a cyberloafing behaviour has developed due to a judgement against the lecturer, but the low average of mobile phone usage behaviour during the lesson triggered by the negative attitude towards the lecturer makes this possibility not a strong alternative. Based on the assumption that cyber loafing behaviours such as looking at the clock, playing games, listening to music, family communication, messaging with friends, reading news from the internet are exhibited as a manifestation of boredom during the lesson, these actions may develop due to the fact that the lessons are not interesting.

Table 4*Distribution of Factor Loadings*

	Sharing	Real-Time Apps	Shopping	Betting	Online Access	Mean	Std. Deviation	Cronbach' s Alpha
I make status updates on social networks	0.792							
I mark my friends in the photos	0.747							
I share content such as photos and videos on social media	0.732					2.54	0.942	0.834
I comment on shared photos	0.709							
I check the social media profiles of my friends	0.534							
I check my friends' posts	0.523							
I retweet the tweets I like		0.853						
I add the tweets I like to favourites		0.852						
Tweeting		0.809				2.44	1.182	0.885
Reading tweets		0.789						
I comment on trending topics		0.564						
I visit online shopping sites			0.857					
I shop online			0.855					
I use online banking services			0.746			3.69	1.026	0.857
I visit sites that offer opportunities			0.719					
I visit betting sites				0.955				
I bet online				0.942		1.62	0.094	0.836
I check online sports sites				0.676				
Downloading video					0.847			
Downloading music					0.804	2.77	1.357	0.741

According to Table 4, the statements used in the data were grouped under 5 factors. These factors are betting, shopping, sharing, real-time applications and online access. There are 3 statements under the betting factor, 4 statements under the shopping factor, 6 statements under the sharing factor, 5 statements under the real-time applications factor, and 2 statements under the online access factor. While there are no hard and fast rules for the number of items to retain, there are some useful heuristics.

A measurement instrument is internally consistent and concise when it contains the minimum number of items that adequately cover the domain it is intended to assess (Hinkin et al., 1997). Statements that did not carry factor loads in the context of the scale used were removed from the analysis. At this point, 3 statements from the sharing factor, 3 statements under the shopping factor, 3 statements from the online access factor and 1 statement from the game/betting factor were not included in the analysis because they did not meet the criteria. Test values obtained as a result of factor analysis: Bartlett's test value $p=0.000<0.05$ and Kaiser-Meyer-Olkin sampling value 0.844, which is within the acceptance limits. The single factor obtained explains 68% of the total variance. When the internal validity of the factors are analysed, the betting factor has a mean value of ,836, the shopping factor has a mean value of ,857, the sharing factor has a mean value of 834, the real-time applications factor has a mean value of ,885, and the online access factor has a mean value of ,741. The averages of the sharing factor show that the participants' use of mobile phones during the course is to check their friends' posts. This action can be interpreted with FoMO (Fear of Missing Out), which has emerged in society in recent years, especially in the context of the development of technology. At the heart of the Fear of Missing Out is the desire to participate in pleasant and pleasurable experiences, the desire not to miss a discount or an invitation, in short, the tendency to be at the center of social interactions and relationships (Doğan & Yıldırım, 2024). Students are curious about the socialising of their friends while they are in class and what kind of activities they are involved in during this time. Again, based on the answers given by the participants, the lowest participation of the sharing factor can be considered as updating the status on social networks during the lesson. Considering that the likelihood of an activity that will attract attention and interaction on social networks during the course is low, the fact that students who check their friends' posts do not share can be evaluated from this perspective. The averages show that students exhibit cyberloafing behaviours by using online banking services during the course. Rather than using online banking services, which can be described as a short-term cyberloafing behaviour for reasons such as bill payment, checking account movements, monitoring investors, etc., the use of mobile phones during the lesson for online shopping is a more striking data. By its nature, shopping involves many processes such as comparison, selection and liking. Students' online shopping during class will not be considered as a short-term cyberloafing behaviour. Although they even buy the products they have previously added to the basket, they will carry out a new research, liking and preference process in case the stock status of the product they have added changes. This will prevent the information shared during the lesson from being learnt and prevent the education and training processes from achieving their goals. The averages of the real-time applications factor are included and it is noticeable from the participants' answers to the statements that they read tweets during the lesson. It is possible to evaluate this action in parallel with the action of checking the posts of their friends and to be curious about the developments in the outside world during the lesson and to satisfy this curiosity. In the averages of the online access factor, it is seen that students download music and videos during the lesson. It is possible to say that this action contains cyber security policy violations along with the negative effects of cyber loafing behaviour on the learning process. The use of unlicensed software from both personal and corporate internet connections plays a role that threatens cyber security. When cyber attack processes are examined, it is known that attackers infiltrate the systems of the victims with unlicensed software they offer to their victims and data theft is carried out. In addition to this, large-sized data downloaded using both corporate and personal internet connections create heavy traffic on the network and cause the network to slow down. The data belonging to the betting/gaming factor presents a worrying situation both during and after the lesson. The fact that online sports sites that provide data for students to play virtual betting/gaming are controlled by students during the lesson is a justified reason for this concern.

Table 5*Time Spent on Social Networks by Gender*

Groups	Gender	Female	Male	Total	χ^2	df	p
Daily Time Spent on Social Networks	Less than 1 hour	5	17	22	14.325	4	.006
	1–2 hours	31	61	92			
	3–4 hours	61	71	132			
	5–6 hours	42	30	72			
	7 hours or more	12	14	26			
Total		151	193	344			

In the analysis, the relationship between the participants' gender and the amount of time they spent on social media daily was examined using the Pearson Chi-Square test. The results show that there is a statistically significant relationship between these two variables, $\chi^2(4) = 14.325$, $p = .006$. Accordingly, a significant difference was observed between the time spent on social media by female and male participants. When examining the frequency distributions, it was observed that female participants used social media at higher rates in the 3–6 hour range, while male participants were more concentrated in the 1–4 hour range.

Table 6*Student's Class and Relationships between Factors*

	Kruskal-Wallis H	df	p
Betting	2.639	4	.620
Sharing	6.082	4	.193
Shopping	1.415	4	.842
Real Time Apps	2.84	4	.585
Online Access	12.097	4	.017 *

Kruskal-Wallis H test was used to analyze the data in Table 6. Table 6 shows that there is a significant relationship between the class in which the students study and the online access factor. In other words, students exhibit cyberloafing behaviour to download videos and music during the lesson. Considering the grade level of the students, it is seen that 1st grade students exhibit this behaviour. Radical changes that occur in the student's life in a short time, such as the newly included institutional culture, course diversity, change in educator style and education model.

Table 7*Time Spent on Social Networks and Relationships between Factors*

	Kruskal-Wallis H	df	p
Betting	0.360	2	.835
Sharing	24.394	2	.000 **
Shopping	1.403	2	.496
Real Time Apps	8.344	2	.015
Online Access	6.783	2	.034 *

Kruskal-Wallis H test was used to analyze the data in Table 7. Table 7 shows that there is a significant relationship between the time students spend on social networks and the factors of sharing, real-time applications and online access. As the time students spend on social networks increases, the frequency of cyberloafing behaviours also increases. It is seen that as the time students spend on social networks increases, they share, retweet the messages they like, add tweets to favorites, tweet, read tweets and comment on trending topics. In addition, it is also seen that they download videos and music.

Table 8*Relationships between Factors According to the Status of Taking Lower Courses- Discipline and Gender*

	U	Z	p
Taking Lower Course			
Betting	12093.5	-2.328	.020 *
Sharing	13922.5	-0.078	.938
Shopping	12962	-1.158	.247
Real Time Apps	12755.5	-1.384	.166
Online Access	12966	-1.157	.247
Discipline			
Betting	9888	-0.095	.925
Sharing	9392	-0.744	.457
Shopping	7860.5	-2.793	.005 **
Real Time Apps	9198	-1.004	.316
Online Access	8168	-2.39	.017 *
Gender			
Betting	10375.5	-5.041	< .001 ***
Sharing	11039.5	-3.865	< .001 ***
Shopping	10918	-4,025	< .001 ***
Real Time Apps	12174.5	-2.63	.009 **
Online Access	14281	-0.321	.748

Table 8 shows the relationships between the factors and the status of taking lower courses, departments and gender. When the participants' answers to the statements are analysed, it is observed that there is a significant relationship between the factors and whether the students have a lower course or not, only with the game-betting factor. Accordingly, it is seen that the game-bet factor is loaded more intensely by students with lower courses. The fact that students who failed in the previous semester/semesters exhibit cyberloafing behaviour by playing game-betting during the lesson instead of focusing on both their new courses and their courses from the previous semester/semesters and achieving the necessary success stands before us as an inference that should be taken into consideration. It is an important problem whether the course/lessons are not interesting for them or whether the negative thoughts brought against the lecturer are effective on their inability to focus or their preference for this. From another point of view, it is possible that the cyber loafing behaviors that they get into the habit from the very beginning may also be considered as a possible reason for this failure. Depending on the shopping factor, it is seen that students studying in social departments show more intense cyberloafing behaviors than those studying in science departments. At this point, we can infer that students studying in science departments direct their attention to the learning processes that are their real work in the course time and environments because their courses are based on more intensive practice/experimentation and these practices are often not possible to carry out practice/experiments outside of application areas and laboratories. On the other hand, it is thought that this judgement can be reached by referring to the statement in Table 2 that one of the reasons for using mobile phones during the lessons is that the lessons are boring, since the students studying in social sciences-oriented departments do not have an intensive application medium due to the nature of their departments and the lessons are mostly theoretical. The relationships between gender and factors are visible. According to the table in question, there is a significant relationship between gender and the other four factors except online interaction. In terms of factors, male students are dominant in the game-betting factor, while female participants are dominant in the sharing, shopping and real-time applications factors. While the cyberloafing behavior of male students during the course is playing games-betting, women exhibit behaviors such as sharing and shopping, tweeting, reading, adding to favorites, commenting on trending topics.

4. Discussion and Conclusion

This study, which was designed based on the question of how the concept of cyberloafing, which is one of the negativities that emerged with the conveniences provided by the changes in the possibilities of technology, affects education at the university level, tried to determine the attitude of university students to cyberloafing behavior. The findings of the study, which was created with Sakarya University students and ready-made scale limitations, are remarkable. First of all, it is seen that smart phones and then tablet computers are the devices that the students participating in the study connect to the internet. This output, which is in parallel with the cited statistics, graphs and tables, is evaluated based on the reasons that make cyberloafing behavior possible and difficult to control (personal, not being aware of its use under the desk or on the table due to its ergonomic design). In addition, when we look at the reasons put forward by students who use cell phones in class, details such as boredom, lack of interest in the lessons, texting with friends, looking at the time are noteworthy. This outcome of the study supports the research conducted by Taneja et al. (2015). In addition, the results are similar to the study conducted by Ozdamli and Ercag (2021). In parallel with the results of the study conducted by Akbulut et al. (2017), it is seen that students exhibit cyberloafing behaviors. The act of exhibiting cyberloafing behavior in the context of gender revealed by the study differs from the study conducted by Baturay and Toker (2015). In the study in question, it was stated that male students exhibited more intense cyberloafing behavior than female students, while in the outputs of this study, it is seen that while male students' cyberloafing behavior during the lesson is playing games-betting, women exhibit behaviors such as sharing and shopping, tweeting, reading, adding to favorites, commenting on trending topics. Çınar and Cinisli (2018) also found that female students download more files such as music, software, and videos over the internet and shop more, which is similar to the data of this study. Considering and evaluating these reasons together will help in solving the problem. The fact that a student experiences boredom during the lesson, except for personal reasons, suggests that either his/her predisposition to the lesson is not sufficient or the ways and methods of teaching the lesson are not attractive to the student. In both cases, the necessary corrective efforts should be made to increase the student's predisposition and the instructor should update his/her methods to ensure the motivation of the students. The outcomes obtained at this point overlap with the studies conducted by Şenel et al. (2019) and Güngör (2021). Although negative attitude towards the instructor ranks last among the reasons for spending time with a cell phone in class, the existence of this possibility should not be overlooked. Green (2019) and İlhan and Önal (2024) argue that students do not exhibit cyberloafing behavior when they are motivated for the lesson, but they perform such an action in the opposite situation. When the results of the study are examined, it is seen that it coincides with this determination. It was also revealed that students share, use real-time applications, shop, bet and play games, and use applications that provide online access. This output is similar to the study conducted by Gökçearsan et al. (2016). Although all these actions pose a danger, especially betting and gaming behavior does not only threaten education and training activities, but also has the possibility of causing students to face bigger problems. Another striking finding in the study is the cyberloafing behaviors of science and social studies students. It was found that social studies students who participated in the research exhibited cyberloafing behaviors more frequently than science students. This difference is interpreted to be related to course content and processing. In the course content of science department students, a process of experimentation and application is followed, so active participation in the course is required, and the presence of experiments and applications prevents students from cyberloafing behavior. From the perspective of social departments, the absence of such experiments and applications causes students to lose their motivation and attention in the course and exhibit cyberloafing behaviors. These outcomes are similar to the studies conducted by Gülnar and Ünsal (2020) and Tatlı and Sadık (2021). Considering that this study was conducted among Sakarya University students, expanding the participation in the context of all universities will support the diversity of results and data and will allow more general comments and

judgments to be made. If the course instructors conduct education and training activities with more creative techniques and methods, it will eliminate the reasons such as boredom and lack of interest in the course, which emerged during the course and were also included in the data of the research. In particular, it would be beneficial for social departments to update their course content in a similar way, although not with experiments and applications as in science departments, and to evolve to a method based on student participation. Although USOM stops the access of websites labeled as illegal for cyber security purposes from within the country, this obstacle can be overcome with VPN applications. Preventing illegal access for individual use by preventing the access, download and installation of these applications would be a supportive measure. In corporate use, firewall devices in the network backbone fulfill this task.

In addition, in the light of the findings obtained from the study, a process can be developed and monitored within the framework of the following recommendations. These recommendations include a combination of various strategies to reduce cyberloafing behaviors in the university environment. It is important to tailor each recommendation to the needs of the students and the resources of the institution.

5. Recommendations

Internet Access Controls and Filtering Systems: Universities can install more sophisticated filtering and monitoring systems to control student internet use. In addition to preventing students from accessing harmful content, these systems can also be used to limit internet use during non-academic hours. For example, access to non-educational sites could be banned during certain time zones. In addition, internet usage data should be monitored regularly and students should be educated on cybersecurity habits.

Strengthening Technology Use Policies: Universities can review their technology use policies for students and set stricter rules. These rules can provide guidance on how students should use internet resources, especially outside of class. For example, it is important for faculty members to set a clear policy on the use of mobile devices during lectures and clearly communicate this policy to students. Furthermore, these policies need to be continuously updated to make students' internet usage habits more responsible.

Internal Audit and Feedback Mechanisms: Universities can regularly assess students' cybersecurity habits by establishing internal audit mechanisms to monitor digital behavior. These mechanisms can provide individual feedback to students to help them improve their digital habits. For example, at the end of each semester, students' internet usage habits can be assessed and feedback can be provided at both individual and community levels. This would encourage students to become more careful and responsible digital citizens.

Mentoring Programs and Digital Ethics Training: Upperclassmen or alumni can mentor incoming students on digital ethics and safety. These mentoring programs can be an effective tool to teach students how to use the internet more responsibly. In addition, cybersecurity awareness-raising seminars can be organized within these programs to help students use their time online more efficiently.

Behavioral Change Programs: Psychology or communication faculties can develop behavioral change programs for students to change their cybersecurity habits. Such programs can help students analyze their digital habits and avoid negative behaviors. For example, offering psychological counseling services can intervene in students' problems that may be related to attention deficit or excessive internet use. In such a program, strategies can be suggested for students to reduce their cyberloafing behaviors.

Suggestions for Future Research: By expanding the scope of this research, similar analyses can be conducted in different educational institutions. In particular, research conducted by independent

organizations or the Council of Higher Education (YÖK) to externally evaluate the relationship between university faculty members and students may help to obtain more objective results. Such research would provide a more objective understanding of students' attitudes towards faculty members.

These recommendations aim to take concrete steps towards more effective mitigation of cyberloafing behaviors in the university environment. Such practices will strengthen universities' digital security strategies and encourage students to use the internet more efficiently and ethically.

References

- Aghaz, A., & Sheikh, A. (2016). Cyberloafing and job burnout: An investigation in the knowledge-intensive sector. *Computers in Human Behavior*, 62, 51-60. <https://doi.org/10.1016/j.chb.2016.03.069>
- Akbulut, Y., Dönmez, O., & Dursun, Ö. Ö. (2017). Cyberloafing and social desirability bias among students and employees. *Computers in Human Behavior*. 72, 87-95. <https://doi.org/10.1016/j.chb.2017.02.043>
- Bağrıacık Yılmaz, A. (2017). Investigation of cyberloafing levels of graduate students in terms of various variables: A mixed method study. *Ahi Evran University Journal of Kirsehir Education Faculty*, 18(2), 113-134.
- Baturay, M. H., & Toker, S. (2015). An investigation of the impact of demographics on cyberloafing from an educational setting angle. *Computers in Human Behavior*, 50, 358-366. <https://doi.org/10.1016/j.chb.2015.03.081>
- Borgers, N., Sikkels, D., & Hox, J. (2004). Response effects in surveys on children and adolescents: The effect of number of response options, negative wording, and neutral mid-point. *Quality and Quantity*, 38, 17-33. <https://doi.org/10.1023/B:QUQU.0000013236.29205.a6>
- Buntaragin, B., & Frantzen, F. (2022). *Cyberloafing while working from home: Exploring the conceptualisation, drivers and implications*. University of Agder.
- Büyüköztürk, Ş., Çakmak, E. K., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2016). *Bilimsel araştırma yöntemleri (22. Baskı)*. Pegem Akademi.
- Chen, L., Xu, Y., & He, Y. (2024). Social media use in the workplace: The role of social comparison in negative behaviors. *Acta Psychologica*, 243, 1-13. <https://doi.org/10.1016/j.actpsy.2024.104144>
- Costello, A. B., & Osborne, J. W. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment, Research, and Evaluation*, 10(7), 1-9. <https://doi.org/10.7275/jyj1-4868>
- Çınar, O., & Cinisli, Z. (2018). In-class cyberloafing among undergraduate students of physical education and sports teaching department. *Journal of Physical Education and Sports Studies*, 10(1), 39-48. <https://doi.org/10.30655/besad.2018.3>
- Derin, N., & Gökçe, S. G. (2016). Are cyberloafers also innovators? A study on the relationship between cyberloafing and innovative work behavior. *Procedia - Social and Behavioral Sciences*, 235, 694-700. <https://doi.org/10.1016/j.sbspro.2016.11.070>
- Doğan, T., & Yıldırım, Y. (2024). The effect of consumers' fear of missing out (fomo) and hedonic consumption behavior on counterfeit product purchase behavior. *The Journal of Academic Approaches*, 15(3), 1575-1598. <https://doi.org/10.54688/ayd.1478288>
- Durak, H. Y., & Saritepeci, M. (2019). Occupational burnout and cyberloafing among teachers: Analysis of personality traits, individual and occupational status variables as predictors. *The Social Science Journal*, 56(1), 69-87. <https://doi.org/10.1016/j.soscij.2018.10.011>
- Garip, S. (2023). A theoretical study on the quantitative research tradition in social sciences. *International Journal of Social Science Research*, 12(1), 1-19.
- Glassman, J., Prosch, M., & Shao, B. B. M. (2015). To monitor or not to monitor: Effectiveness of a cyberloafing countermeasure. *Information & Management*, 52(2), 170-182. <https://doi.org/10.1016/j.im.2014.08.001>

- Golzar, J., & Tajik, H. (2022). Convenience sampling. *International Journal of Education and Language Studies*, 1(2), 72-77. <https://doi.org/10.22034/ijels.2022.162981>
- Gökçeraslan, Ş., Mumcu, F., K., Haşlamam, T., & Çevik, Y. D. (2016). Modelling smartphone addiction: The role of smartphone usage, self-regulation, general self-efficacy and cyberloafing in university students. *Computers in Human Behavior*, 63, 639-649. <https://doi.org/10.1016/j.chb.2016.05.091>
- Green, M. (2019). Smartphones, distraction narratives, and flexible pedagogies: students' mobile technology practices in networked writing classrooms. *Computers and Composition*, 52, 91-106. <https://doi.org/10.1016/j.compcom.2019.01.009>
- Gülner, M., & Ünsal, H. (2020). A study on the smart phone cyberloafing activities of university students in Turkey. *International Journal of Science and Education*, 3(2), 92-100. <https://doi.org/10.47477/ubed.766531>
- Güngör, A. (2021). An investigation on prospective teachers' cyberloafing behaviours during distance education, and their reasons (The case of Kilis 7 Aralık University, Faculty of Islamic Sciences). *Kilis 7 Aralık University Faculty of Theology*, 8(2), 517-548. <https://doi.org/10.46353/k7auifd.995427>
- Hinkin, T. R., Tracey, J. B., & Enz, C. A. (1997). Scale construction: Developing reliable and valid measurement instruments. *Journal of Hospitality & Tourism Research*, 21(1), 100-120. <https://doi.org/10.1177/109634809702100108>
- İlhan, A. G., & Önal, N. (2024). Reasons for cyberloafing by teacher candidates: Time management in the digital world. *Journal of New Approaches in Education*, 7(2), 243-258. <https://doi.org/10.70325/eyyad.1578662>
- Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika*, 39(1), 31-36.
- Kim, S. J., & Byrne, S. (2011). Conceptualizing personal web usage in work contexts: A preliminary framework. *Computers in Human Behavior*, 27(6), 2271-2283. <https://doi.org/10.1016/j.chb.2011.07.006>
- Koch, A. K., & Nafziger, J. (2016). Gift exchange, control, and cyberloafing: A real-effort experiment. *Journal of Economic Behavior & Organization*, 131, 409-426. <https://doi.org/10.1016/j.jebo.2016.09.008>
- Li, Q., Xia, B., Zhang, H., Wang, W., & Wang, X. (2022). College students' cyberloafing and the sense of meaning of life: The mediating role of state anxiety and the moderating role of psychological flexibility. *Frontiers Public Health*, 10, 1-10. <https://doi.org/10.3389/fpubh.2022.905699>
- Lim, V. K. G., & Chen, D. J. Q. (2012). Cyberloafing at the workplace: gain or drain on work? *Behaviour & Information Technology*, 31(4), 343e353.
- Luo, X., Xu, F., Zhang, J., Xiao, S., & Xue, B. (2022). Effects of organizational controls on employees' cyberloafing: The moderating effects of trait mindfulness. *Advances in Information Systems*, 53(1), 61-79. <https://doi.org/10.1145/3514097.3514102>
- MacCallum, R., C., & Widaman, K. F. (1999). Sample size in factor analysis. *Psychological Methods*, 4(1), 84-99. <https://doi.org/10.1037/1082-989X.4.1.84>
- Marumpe, D. P., Rosnani, T., Fahrana, Y., & Jaya, A. (2023). Factors influencing cyberloafing behaviour in students. *Journal of Economics, Management and Trade*, 29(11), 57-70.
- Muthuswamy, V. V., & Varshika, G. (2023). Employees performance in digital environment: Role of cyber-loafing, electronic monitoring, social media context awareness and job crafting.

- International Journal of Cyber Criminology*, 17(1), 128-145.
<https://doi.org/10.5281/zenodo.4766608>
- Ozdamli, F., & Ercag, E. (2021). Cyberloafing among university students. *TEM Journal-Technology Education Management Informatics*, 10(1), 421-426. <https://doi.org/10.18421/TEM101-53>
- Patton, M. Q. (2014). *Nitel araştırma ve değerlendirme yöntemleri*. Pegem Yayınevi.
- Rahimnia, F., & Mazidi, A. R. K. (2015). Functions of control mechanisms in mitigating workplace loafing; evidence from an Islamic society. *Computers in Human Behavior*, 48, 671-681. <https://doi.org/10.1016/j.chb.2015.02.035>
- Ross, J. (2018). 'Cyberloafing' in health care: A real risk to patient safety. *Journal of PeriAnesthesia Nursing*, 33(4), 560-562. <https://doi.org/10.1016/j.jopan.2018.05.003>
- Rushiya, S., & Tolani, K. (2018). Cyber loafing at work place – A literature review. *Helix*, 8(6), 4316-4317. <https://doi.org/10.29042/2018-4316-4317>
- Sheikh, A., Atashgah, M. S., & Adibzadegon, M. (2015). The antecedents of cyberloafing: A case study in an Iranian copper industry. *Computers in Human Behavior*, 51, 172-179. <https://doi.org/10.1016/j.chb.2015.04.042>
- Shekher, R., & Joshi, R. (2018). Cyberslacking facts of organization: Determinants and impact. *Helix*, 8(6), 4300-4303. <https://doi.org/10.29042/2018-4300-4303>
- Sinap, V. (2023). Determination of cyberloafing levels and reasons of higher education Students in the distance education process. *Journal of Higher Education and Science*, 13(2), 287-302. <https://doi.org/10.5961/higheredusci.1094677>
- Şenel, S., Günaydın, S., Sarıtaş, M. T., & Çiğdem, H. (2019). The factors predicting cyberloafing behaviors of undergraduate students. *Kastamonu Education Journal*, 27(1), 95-105. <https://doi.org/10.24106/kefdergi.2376>
- Taber, K. S. (2018). The use of cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48, 1273-1296. <https://doi.org/10.1007/s11165-016-9602-2>
- 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. <https://doi.org/10.1016/j.compedu.2014.11.009>
- Tatlı, Y., & Sadık, F. (2021). Investigating the reasons of pre-service teachers' cyberloafing during the lesson. *OPUS International Journal of Society Researches*, 18(43), 6530-6563. <https://doi.org/10.26466/opus.933566>
- Tepe, N., & Ergüney, M. (2023). Investigation of the predictive effect of cyberloading and cyberbullying on academic success. *Inönü University Faculty of Communication Electronic Journal (INIF E-Journal)*, 8(1), 30-46. <https://doi.org/10.47107/inifedergi.1247436>
- Varol, F., & Yıldırım, E. (2019). Cyberloafing in higher education: Reasons and suggestions from students' perspectives. *Technology, Knowledge and Learning*, 24, 129-142. <https://doi.org/10.1007/s10758-017-9340-1>
- Wang, J., Tian, J., & Shen, Z. (2013). The effects and moderators of cyber-loafing controls: An empirical study of Chinese public servants. *Information Technology and Management*, 14, 269-282. <https://doi.org/10.1007/s10799-013-0164-y>

Wang, T., Lin, Q., Zong, Z., & Zhou, Y. (2023). Work-related computing at home and nonwork-related computing at work: A self-determination perspective. *Information Technology&People*, <https://doi.org/10.1108/ITP-02-2023-0127>

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