Do University Students Cyberloaf with Their Smartphones in Class? A Descriptive Study

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Abstract

Aim: Nowadays, students' smartphone use during their lessons for non-class-related purposes has become an issue that educators have trouble controlling. The purpose of this study is to determine the level of cyberloafing that university students perform during lessons through their smartphones.

Method: This descriptive study was conducted with 892 students studying in health-related undergraduate programs at two-state and two foundation universities. The data was collected through a face-to-face survey using a question form and the Smartphone Cyberloafing Scale in Classes (SPCSC) adapted to Turkish by Polat (2018).

Results: The smartphone cyberloafing level of university students participating in the research has been determined to be low (2,33±1,11). The smartphone cyberloafing levels during lessons were significantly higher for male students participating in the study compared to female students; for students aged 21 and over compared to students aged 20 and under; for students in the Marmara region compared to students in the Mediterranean region; and for students studying in the Department of Nutrition and Dietetics compared to students studying in the Department of Nursing ($p<0.05$).

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ETHICAL STATEMENT: Before initiating the study, written consent was obtained from the Clinical Research Ethics Committee of Istanbul Yeni Yuzyıl University, Institute of Health Sciences (Date:13.02.2018 Number: 2018/10), verbal consent was obtained from the institutions where the study was conducted, and verbal consent was obtained from the students once informed about the research. In addition, permission for the use of the scale was obtained by e-mail from Murat Polat, who adapted the validity and reliability of SPCSC to Turkish.

Conclusion: The frequency of smartphone cyberloafing behavior in class is affected by gender, age, geographical region, and the department of the students. This study provides educators with basic knowledge to guide planning for effective teaching and learning settings.

Keywords: Cyberloafing, smartphone, students.

Üniversite Öğrencileri Derste Akıllı Telefonla Siber Aylaklık Yapıyor mu?: Tanımlayıcı Bir Çalışma

Öz

Amaç: Günümüzde öğrencilerin akıllı telefonlarını ders sırasında ders dışı amaçlarla kullanmaları eğiticilerin kontrol etmekte zorlandıkları bir konu haline gelmiştir. Bu çalışmanın amacı, üniversite öğrencilerinin ders esnasında akıllı telefon üzerinden gerçekleştirdikleri siber aylaklık düzeylerini belirlemektir.

Yöntem: Tanımlayıcı türdeki bu araştırma iki devlet ve iki vakıf üniversitesinde sağlıkla ilgili lisans programlarında öğrenim gören 892 öğrenci ile yürütülmüştür. Veriler, Soru Formu ve Polat (2018) tarafından Türkçe'ye uyarlanan Derslerde Akıllı Telefon Siber Aylaklığı Ölçeği (DATSA) kullanılarak yüzyüze anket tekniği ile toplanmıştır.

Bulgular: Araştırmaya katılan üniversite öğrencilerinin derslerde akıllı telefon siber aylaklığı düzeylerinin düşük (2,33 ± 1,11) olduğu belirlenmiştir. Çalışmaya katılan kadın öğrencilerin erkek öğrencilere; 21 ve üzeri yaşa sahip öğrencilerin 20 ve altı yaşa sahip öğrencilere; Marmara bölgesinde okuyan öğrencilerin Akdeniz bölgesinde okuyan öğrencilere; Beslenme ve Diyetetik bölümünde okuyan öğrencilerin Hemşirelik bölümünde okuyan öğrencilere göre derslerde akıllı telefon siber aylaklığı düzeyleri anlamlı şekilde yüksek bulunmuştur ($p<0,05$).

Sonuç: Derste akıllı telefonla sanal aylaklık davranışının sıklığı cinsiyet, yaş, coğrafi bölge ve öğrencilerin okudukları bölümden etkilenmektedir. Bu çalışma, etkili öğretme ve öğrenme ortamlarına yönelik planlamalara yol göstermesi bakımından eğiticilere temel bir bilgi sağlar.

Anahtar Kelimeler: Siber aylaklık, akıllı telefon, öğrenciler.

Introduction

The possibilities offered by smartphones cause individuals to display cyberloafing behavior, which is the tendency to use the technology, especially for personal purposes (checking personal email, social network use, internet browsing, etc.) in both workplaces and educational settings over time[1,2]. Today, smartphone cyberloafing behavior is frequently encountered in classroom settings as well as in workplaces[3–5]. Studies have reported that cyberloafing behavior is common among university students[6–8].

With the developing features, smartphones have changed the habits of people of all ages by offering access to the internet, social media, smart applications, and information[9]. The number of people using smartphones and their features in the world and Turkey increases every year. According to the "Digital 2021 Global Overview Report" published by the global digital media agency "We Are Social", the number of people using mobile phones in the world is 5.22 billion, the number of internet users is 4.66 billion, and the number of active social media users is 4.20 billion. In addition, 97.1% of internet users between the ages of 16-64 have mobile phones (any type), 96.6% have smartphones and 9.0% have non-smartphone mobile phones. According to the data presented in the same report for Turkey, which has a population of 84.69 million, it is stated that 97.7% of internet users between the ages of 16-64 have mobile phones (any type), 97.2% have smartphones and 7.8% have non-smartphone mobile phones. On the other hand, it is stated that the number of internet users is 65.80 million, the number of active social media users is 60.00 million, and the number of active social media users accessing via mobile phones is 59.10 million[10].

The developments in mobile information and communication technologies have affected educational settings in all areas, and the use of smartphones has become an indispensable element of daily life for university students[11,12]. University students perform cyberloafing behavior mostly through smartphones during lessons. Considering this situation, determining the level of behaviors that prevent students from participating in course activities during lessons is important in terms of giving an idea about creating more effective teaching and learning settings[13].

In the literature review, a limited number of studies were found regarding the determination of smartphone cyberloafing behavior in university students in Turkey[6,7,14]. This study aims to determine university students' smartphone cyberloafing levels. The questions to be answered in this research are "What is the level of smartphone cyberloafing that university students perform in class?" and "Whether the level of smartphone cyberloafing in university students significantly differs according to age, gender, grade, the department they study in and the geographical region of the university?".

Material and Method

Type of Research

This research is a descriptive study.

The Universe and Sampling

The research population consisted of university students in health-related undergraduate programs of universities in Marmara and Mediterranean regions in Turkey. There are seven

geographic regions in Turkey. The sample of the study consisted of 892 individuals who voluntarily participated in the study with random sampling between March 15, 2019 and April 15, 2019 and completed the survey.

Data Collection

The data were collected between March 15, 2019 and April 15, 2019, from the students studying at two public universities and two foundation universities in Marmara and Mediterranean regions using a face-to-face survey after explaining the purpose of the research. The survey used in the collection of the data consisted of two parts, including a “Question Form” and “Smartphone Cyberloafing Scale in Classes (SPCSC)”.

Question form: In the first part, there are a total of five questions, including age, gender, the department, grade, and the geographical region where the university is located.

Smartphone Cyberloafing Scale in Classes (SPCSC): The "Cyberloafing Scale" developed by Blau, Yang, and Ward-Cook (2006) is used to determine the level of cyberloafing at work[15]. The “Cyberloafing Scale” was adapted to Turkish by Polat (2018) to determine the level of cyberloafing that university students perform via their smartphones in classes. The scale consists of a total of 16 items and three sub-dimensions. A 6-point Likert scale was used for scoring never (1); rarely (2); occasionally (3); frequently (4); mostly (5) and always (6).

The score ranges for the overall assessment of the scale are as follows: 1.00-1.83 (Never); 1.84-2.67 (Rarely); 2.67-3.50 (Occasionally); 3.50-4.33 (Frequently); 4.33-5.17 (Mostly) and 5.17-6.00 (Always). Here, ranges for “Never and Rarely” indicate “*low-level smartphone cyberloafing*”; ranges for "Occasionally and Frequently" indicate "*moderate-level smartphone cyberloafing*", and ranges for "Mostly and Always" indicate "*high-level smartphone cyberloafing*". *Browsing-Related Cyberloafing Sub-Dimension (BCSD)* includes 7 items (1, 2, 3, 4, 5, 6, 7). The browsing-related cyberloafing sub-dimension includes behaviors of the students to frequently check personal messages, randomly browse websites on different topics, and especially view the latest news and chat notifications outside of the course content during lessons. *Interactive Cyberloafing Sub-Dimension (ICSD)* includes 6 items (8, 9, 10, 11, 12, 13). The interactive cyberloafing sub-dimension includes behaviors that allow the student to go beyond browsing during lessons, to check and reply to non-class-related emails, and even interact with professional or recreational websites. The *Entertainment Cyberloafing Sub-Dimension (ECSD)* contains 3 items (14, 15, 16). The entertainment cyberloafing sub-dimension includes the behavior of students browsing websites related to sports and similar activities on their smartphones, downloading online games, and even playing these games during lessons. The Cronbach’s alpha value of the scale adapted to Turkish was found to be 0.88 by Polat (2018). The values for sub-dimensions were determined as

0.86 for BCSD, 0.81 for ICSD, and 0.68 for ECSD[13]. In our study, these values were determined as 0.95 for SPCSC, 0.90 for BCSD, 0.91 for ICSD, and 0.87 for ECSD. According to Cronbach's alpha coefficient, it is seen that the reliability level of the scale is high.

Data Evaluation

The SPSS 22.0 program was used to analyze the research data. Frequency, arithmetic mean, standard deviation, and independent t-test were used to analyze the demographic characteristics of the students. T-test and one-way ANOVA and Kruskal Wallis tests were performed to evaluate the difference between SPCSC sub-dimensions and independent variables. The significance level was taken as $p<0.05$ for all data. The normality of the distributions and the conditions for subgroup size were taken into consideration while determining the test technique. T-test analysis was performed for age, gender, university region, and grade variables. Regarding the normal distribution for the subgroup variable, it was determined that the skewness and kurtosis values were between ±2 for SPCSC, BCSD, and ICSD sub-dimensions, while they were outside the ranges for the ECSD sub-dimension. For this reason, a one-way ANOVA test was performed for the SPCSC, BCSD, and ICSD sub-dimensions, and the Kruskal-Wallis test was performed for the ECSD sub-dimension.

Ethics of Research

Before initiating the study, written consent was obtained from the Clinical Research Ethics Committee of Istanbul Yeni Yuzyıl University, Institute of Health Sciences (Date:13.02.2018 Number: 2018/10), verbal consent was obtained from the institutions where the study was conducted, and verbal consent was obtained from the students once informed about the research. In addition, permission for the use of the scale was obtained by email from Murat Polat, who adapted the validity and reliability of SPCSC to Turkish.

Results

The mean age of the students participating in the study was 20.9±2.17 of which 72.1% were women and 33.9% were first-year students. The mean score for the smartphone cyberloafing of university students was found to be 2.33±1.11 and determined to be at a low level. When the sub-dimension mean scores were examined, the interactive cyberloafing mean score was found to be 2.12±1.19 and the entertainment-related cyberloafing mean score was 1.96±1.30, both of which were at low levels and the browsing-related cyberloafing mean score was 2.68±1.15 which was determined to be at a moderate level (Table 1).

Table 1. Distribution of university students' overall spcsc and sub-dimension scores (n:892)

SPCSC and Sub-Dimensions	Smartphone Cyberloafing Scores of University Students in Classes (n=892)		
	Mean ± SD	Min Score	Max Score
Overall total	2,33 ± 1,11	1	6
Browsing-Related Cyberloafing	2,68 ± 1,15	1	6
Interactive Cyberloafing	2,12 ± 1,19	1	6
Entertainment Cyberloafing	1,96 ± 1,30	1	6

In the research, it was found that overall SPCSC and sub-dimension mean scores of university students showed statistically significant differences according to age and gender ($p < 0.05$). The overall SPCSC and sub-dimension mean scores were found to be higher for male students compared to female students and for students aged 21 and over compared to students aged 20 and under (Table 2). In addition, it was found that there was a statistically significant difference in the overall SPCSC mean score, BCSD, and ICSD sub-dimension mean scores according to the region where the university is located, and the mean scores of students studying in the Marmara region were higher than those studying in the Mediterranean Region ($p < 0.05$) (Table 2).

Table 2. Comparing SPCSC and sub-dimension scores of university students according to various variables (n:892)

	Age		Gender		University Region		Grade	
	17-20	**21 and ↑**	**Female**	**Male**	**Marmara**	**Mediterranean**	**1 and 2**	**3 and 4**
	Mean ±SD (n)	**Mean ±SD (n)**	**Mean ±SD (n)**	**Mean ±SD (n)**	**Mean ±SD (n)**	**Mean ±SD (n)**	**Mean ±SD (n)**	**Mean ±SD (n)**
Overall SPCSC	2,17±1,04 (366)	2,44±1,15 (369)	2,22±1,06 (643)	2,64±1,16 (249)	2,51±1,13 (234)	2,27±1,09 (658)	2,25±1,04 (302)	2,30±1,15 (277)
	t=3,29; **p<0,05***		t=4,97; **p<0,05***		t=2,83; **p<0,05***		t=0,57; p>0,05	
BCSD Sub-Dimension	2,50±1,09 (366)	2,79±1,19 (369)	2,59±1,13 (643)	2,92±1,18 (249)	2,93±1,17 (234)	2,59±1,13 (658)	2,61±1,07 (302)	2,63±1,20 (277)
	t=3,43; **p<0,05***		t=3,93; **p<0,05***		t=3,85; **p<0,05***		t=0,17; p>0,05	

ICSD Sub-Dimension	1,97±1,11 (366)	2,21±1,22 (369)	2,02±1,16 (643)	2,36±1,24 (249)	2,27±1,25 (234)	2,06±1,16 (658)	2,01±1,14 (302)	2,11±1,23 (277)
	t=2,86; **p<0,05***		t=3,79; **p<0,05***		t=2,26; **p<0,05***		t=1,08; p>0,05	
ECSD Sub-Dimension	1,80±1,16 (366)	2,05±1,34 (369)	1,74±1,16 (643)	2,53±1,46 (249)	2,01±1,38 (234)	1,94±1,27 (658)	1,89±1,23 (302)	1,92±1,31 (277)
	t=2,69; **p<0,05***		t=7,68; **p<0,05***		t=0,76; p>0,05		t=0,24; p>0,05	

It was determined that there was a significant relationship between the browsing-related cyberloafing sub-dimension mean scores of the university students and their departments (p<0.05) (Table 3). According to the results of the Tukey test performed to identify the departments with a significant difference, the mean scores of Nutrition and Dietetics students (X=2.89) were found to be significantly higher than the mean scores of nursing students (X=2.54) (p <0, 05) (Table 3).

Table 3. SPCSC, BCSD and ICSD mean scores of university students by department variable (n:892)

	Nursing	**Nutrition and Dietetics**	**Physical Therapy and Rehabilitation**	**Occupational Health and Safety**	**Healthcare Management**	**Disaster Management**	**Midwifery**	**F ; p**
	Mean ±SD (n)	**Mean ±SD (n)**	**Mean ±SD (n)**	**Mean ±SD (n)**	**Mean ±SD (n)**	**Mean ±SD (n)**	**Mean ±SD (n)**	
Overall SPCSC	2,22±1,12 (358)	2,45±1,03 (153)	2,38±1,09 (180)	2,25±1,94 (34)	2,42±1,00 (18)	2,31±1,19 (79)	2,59±1,21 (70)	1,654 ; 0,129
BCSD Sub-Dimension	2,54±1,18 (358)	2,89±1,06 (153)	2,71±1,13 (180)	2,60±1,00 (34)	2,69±1,02 (18)	2,64±1,25 (79)	2,94±1,15 (70)	2,363 ; 0,029
ICSD Sub-Dimension	2,01±1,17 (358)	2,24±1,15 (153)	2,16±1,15 (180)	2,04±1,06 (34)	2,25±1,05 (18)	2,10±1,31 (79)	2,32±1,38 (70)	1,162 ; 0,324

In the research, there was no statistically significant difference between the mean scores of the entertainment cyberloafing sub-dimension of the university students and their departments (p>0.05) (Table 4).

Table 4. ECSD mean scores of university students by department variable (n:892)

Sub-Dimension	Department	N	AverageRank	sd	χ^2	p	Difference
ECSD Sub-Dimension	Nursing	358	431.73	6	5.088	.533	-
	Nutrition and Dietetics	153	449.63				
	Physical Therapy and Rehabilitation	180	461.68				
	Occupational Health and Safety	34	447.99				
	Healthcare Management	18	447.86				
	Disaster Management	79	429.14				
	Midwifery	70	494.70				

Discussion

The overall SPCSC mean score is 2.33±1.11 in this research. The smartphone cyberloafing level of university students was found to be low. The mean score of the ICSD sub-dimension was 2.12±1.19 and the mean score of the ECSD sub-dimension was 1.96±1.30, both of which were at low levels, while the mean score of BCSD was 2.68±1.15 and it was found to be at a moderate level. In similar studies, it was determined that students conduct cyberloafing behaviors through computers or smartphones in classes[5,14,16]. In another study conducted by Çok and Kutlu (2018), it was found that the cyberloafing level of students in classes was at a moderate level[6].

It was found that the overall SPCSC mean score and sub-dimension mean scores significantly differ according to the gender of the students participating in the study, with higher mean scores in male students ($p<0.05$) (Table 2). This result was found to be consistent with the findings of the studies in the literature[14,17]. This result may be expected considering that men, in general, are more fond of sports and similar activities, games, games of chance, etc.

In the study, a significant difference was determined between overall SPCSC and sub-dimension mean scores and the age group of the participants ($p<0.05$) (Table 2). Students aged 21 years old and over are found to have significantly higher levels of smartphone cyberloafing in classes than those aged 20 and under. In the study conducted by Çok and Kutlu (2018) with university students, it was determined that the cyberloafing behavior of students was significantly higher in the "21-24 age" group compared to the "17-20 age" group [6]. In another study, it was determined

that there was a significantly positive relationship between the increase in the age of the students and the use of smartphones in theoretical classes and clinical practices[7].

The level of smartphone cyberloafing in classes was found to be significantly higher in the Marmara region. There was no data on region comparison in the literature. However, this difference may be especially due to the fact that Istanbul Province is a metropolitan city hosting people from different socio-cultural and economic levels and offering a rich variety of social activities compared to Anatolia. It has been determined that the browsing-related cyberloafing levels of nutrition and dietetics students are significantly higher than those of nursing students. Employment opportunities for students graduating from the nutrition and dietetics department are less compared to graduates of the nursing department. For this reason, it is more common for graduates of nutrition and dietetics to make their living as bloggers or influencers on social media. The significant increase in the cyberloafing levels of nutrition and dietetics students may be related to this situation. In addition, the intensive nursing curriculum and a large number of practical courses make students pay more attention to lessons.

Whether there is a significant difference according to the grade variable was also examined within the scope of this research. However, there was no significant relationship between the mean scores and grade levels. Similar results were found in a study with university students[6]. Considering that the prevalence of smartphone and internet usage is seen at every grade level today, it may be the reason why grade level does not make a significant difference in the cyberloafing behaviors of university students.

Today, in schools providing education at all levels, the method of expression where the student sits and listens while the teacher explains is accepted as a valid class teaching method. However, innovations brought by technology have also affected teaching and learning settings, making it compulsory to improve traditional learning settings and to make learning methods efficient[18]. The studies demonstrated that students are willing to use instructional technologies defined as mobile learning and they have positive perceptions about the settings in which this practice takes place[19–23]. Classrooms with poor physical conditions and poor planning and educational approaches lacking instructional technologies can be effective in the cyberloafing behaviors of students. Considering this fact, it can be suggested to follow the innovations in instructional technologies in universities and organize training programs for academicians in this regard.

This research is limited to the voluntary participation of students studying at four universities in two regions. For this reason, it is recommended to conduct more comprehensive studies to determine the level of cyberloafing behaviors that students perform on smartphones in classes and the affecting factors.

Conclusion

In this study, it was determined that university students had low levels of smartphone cyberloafing in class, and among the sub-dimensions, the browsing cyberloafing levels were moderate and the others were low. In addition, the frequency of cyberloafing behavior is affected by age, gender, department, and geographical region. Today, it has become an important problem for educators that students use their smartphones for extracurricular purposes during class. This study provides educators with basic knowledge to guide planning for effective teaching and learning settings.

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