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Examination of cyberloafing studies in education: A content analysis

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Abstract

Mobile technologies are useful. However, several mobile technologies also have disadvantages for students besides their advantages. Cyberloafing is one of these critical situations that the students could experience. Several studies on cyberloafing were conducted worldwide. The present study aimed to analyse these studies based on variable frequency, workgroups, data collection instruments, research methods and distribution of studies among countries. This study aimed to evaluate the results of the publications found in the Google Scholar, Web of Science, Science Direct, Scopus, ProQuest, Sage, Taylor and Francis databases with a search using 'cyberloafing' keyword and published between 2013 and March 2018. The present study would provide insight into existing studies and their shortcomings and it would also provide guidance for further research

Keywords: Cyberloafing, document analysis, educational setting.

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1. Introduction

In addition to providing access to information, the Internet, an entertainment source, is used to make life easier and to spend time. This form of Internet use (spending time) is called cyberloafing. The concept of cyberloafing was first introduced with relation to professional life. The concept of cyberloafing in the workplace means utilising the corporate Internet access to spend time on non-business sites and to peruse personal accounts (Lim, 2002). Personal e-mailing, web-surfing, online shopping, social networking and text messaging are typical cyberloafing behaviours (Blanchard & Henle, 2008; Hayit & Donmez, 2016; Lim & Teo, 2005; Piotrowski, 2013; Ugrin, Pearson & Odom, 2008). A survey by websense.com found that the average American employee spent about 24% percent of his/her working hours on cyberloafing activities in 2006 (Schings, 2014). Phillips and Reddie (2007) have pointed out that cyberloafing behaviours lead to inefficient use of time and problems of not fulfilling their duties. In addition, cyberloafing is costing employers billions of dollars in lost productivity (Weatherbee, 2010).

Today, cyberloafing is not limited to non-professional use of corporate Internet access. Along with the increasing use of technology in schools, the concept of cyberloafing has become a problem that also concerns educational environments. With the declining age of use of mobile devices, the problem of cyberloafing began to be felt more in schools. For students, it is defined as spending long hours on Internet applications that are not related to educational content in the classroom (Kalayci, 2010). In literature, cyberloafing studies are often conducted on the work environment. Since the classroom and the work environments have quite different dynamics, the factors and findings that cause cyberloafing behaviour in professional environments could not be transferred to the classroom environment. The negative effects of cyberloafing behaviour on individuals were also reported in various studies. Some researchers believed that these behaviour would lead to negative consequences such as loss of production, susceptibility to future attacks from the Internet (Blanchard and Henle, 2008; Lim, 2002), while others argued that cyberloafing may not always be harmful, but that individuals may be vulnerable to stressful situations, and it may help increase their flexibility (Blanchard & Henle, 2008; Kim, del Carmen Triana, Chung & Oh, 2015). In the classroom, waste of time due to cyberloafing can reach to unpredictable amounts. Cyberloafing is not only experienced in education but it can also be a challenge in online learning. With the popularisation of mobile technologies, there has been an increase in cyberloafing cases as individual's access and use the Internet more (Kim et al., 2015).

It is seen when the studies related to cyberloafing and education are examined, the most common cyberloafing behaviours in educational environments are the use of e-mail, visiting discussion groups/virtual communities, downloading files, using blogs, banking, shopping online, visiting auction sites and chat rooms, making travel reservations and visit news sites (Brubaker; 2006; Kalayci, 2010; Lauricella & Kay, 2010). Ergun and Altun (2012) categorise the causes of cyberloafing as motivational, goal settings, teacher, environment and time-related. Furthermore, studies show that there is a positive relationship between social norms, multitasking, cognitive absorption (Gerow, Galluch & Thatcher, 2010), effort, socialisation (Kalayci, 2010), addictive behaviour (Gokcearslan, Kuskaya Mumcu, Haslaman & Demiraslan Cevik, 2016; Gokcearslan, Uluyol, & Sahin, 2018; Yasar & Yurdugul, 2013) and cyberloafing. Although many studies emphasise the negative aspects of cyberloafing, some studies have shown positive effects in terms of stress, creativity, flexibility, friendship, encouraging the learning environment and facilitating access to information (Blanchard & Henle, 2008; Vitak, Crouse & LaRose, 2011).

Cyberloafing behaviours are also increasing in parallel with the development of technology (Weatherbee, 2010). Considering the effects of cyberloafing on education and business environments, it can cause serious problems in the future with rapidly changing technologies. It is considered that it would be beneficial to investigate the educational environment based on the specific characteristics of studies on cyberloafing in particular and to create a specific perspective on that topic. Examination of studies on a specific topic provides general knowledge on the topic, as well as providing in-depth

information and the limits of that topic (Cohen, Manion, & Morrison, 2007). The document analysis that would be conducted on the scrutinised topic would provide a basis for future studies in the field.

Starting from this point, in this study, the studies conducted on the cyberloafing behaviours in education in the last 5 years have been examined according to different criteria. The data obtained are valuable in terms of showing the tendencies of the studies on the behaviour of cyberloafing in education. In addition, research data are imported to determine the missing side of studies about cyberloafing in education and to contribute to the literature by working on this issue. Researchers in the future could guide their studies about cyberloafing in education by utilising the data of this study.

2. Method

The present study was conducted with document analysis to examine the papers on cyberloafing published between 2013 and March 2018. Document analysis is a systematic process where printed and digital documents are evaluated (Bowen, 2009). Document analysis provides compact and summative resources to the literature.

Various keywords were defined to search the papers on cyberloafing. These keywords were education and cyberloafing, student and cyberloafing, learning and cyberloafing, and university/school and cyberloafing. Different databases were searched with these keywords. The search was conducted on ERIC, Saga, Google Scholar, Taylor & Francis, Web of Science, Scopus, ProQuest and Science Direct databases.

The search revealed 28 papers on cyberloafing and these papers were analysed based on the themes presented below.

1. Listed journals and frequencies
2. Researches by years and by journals
3. Variables and frequencies
4. The characteristics of the participants in the research and the variables
5. Study group size
6. Frequency distribution of countries
7. The measurement tools used in the studies
8. Methods

While determining the themes, two criteria have been considered. One of them is that the themes reveal the information that would guide the researcher in the future. The other is the common information which is included in 28 works. For the study reliability, the authors examined the papers based on the categories separately and the inter-rater agreement percentage was calculated with the data obtained by the two authors. It was found that the agreement rate was 95%. This ratio should be over 75% for reliability (Sencan, 2005).

3. Findings

The present study aimed to examine the papers on cyberloafing based on different variables. Listed journals and frequency of the publication of papers on cyberloafing are presented in Table 1.

Table 1. Listed Journals and frequencies

Journals List	n	f
Computers in Human Behavior	6	21.43
Turkish Journal of Teacher Education	2	7.14
Ahi Evran University Journal of Kırşehir Education Faculty	1	3.57
College Student Journal	1	3.57
Contemporary Educational Technology	1	3.57
Cyberpsychology, Behavior and Social Networking	1	3.57

Cypriot Journal of Educational Sciences	1	3.57
Ecopsy Journal	1	3.57
Fırat University Journal of Social Science	1	3.57
Journal of Education and Practice	1	3.57
Journal of Physical Education and Sports Studies	1	3.57
Journal of Research in Education and Teaching	1	3.57
Journal of Strategic Research in Social Science	1	3.57
Lifelong Learning Teacher Education, University	1	3.57
Mersin University Journal of Faculty of Education	1	3.57
Online Journal of Technology Addiction & Cyberbullying	1	3.57
Pertanika Journal of Social Sciences and Humanities	1	3.57
Procedia—Social and Behavioral Sciences	1	3.57
Technology, Knowledge and Learning	1	3.57
The Turkish Online Journal of Educational Technology	1	3.57
Turkish Online Journal of Qualitative Inquiry	1	3.57
11th International Conference on Service Systems and Service Management	1	3.57
Total	28	100

Table 1 demonstrates that most studies on cyberloafing were published in Computers in Human Behavior (21.43%). In addition, while searched publications about cyberloafing, it was found three studies (7.14%) published in the Turkish Journal of Teacher Education. Other 20 studies were published on 20 different journals, as shown in Table 1. Although the journal titled 'Computers in Human Behavior', which gives the greatest weight to studies related to cyberloafing, many different journals have been working on this issue between 2013 and March 2018.

Distributions of research studies by years and journals are given in Figure 1.

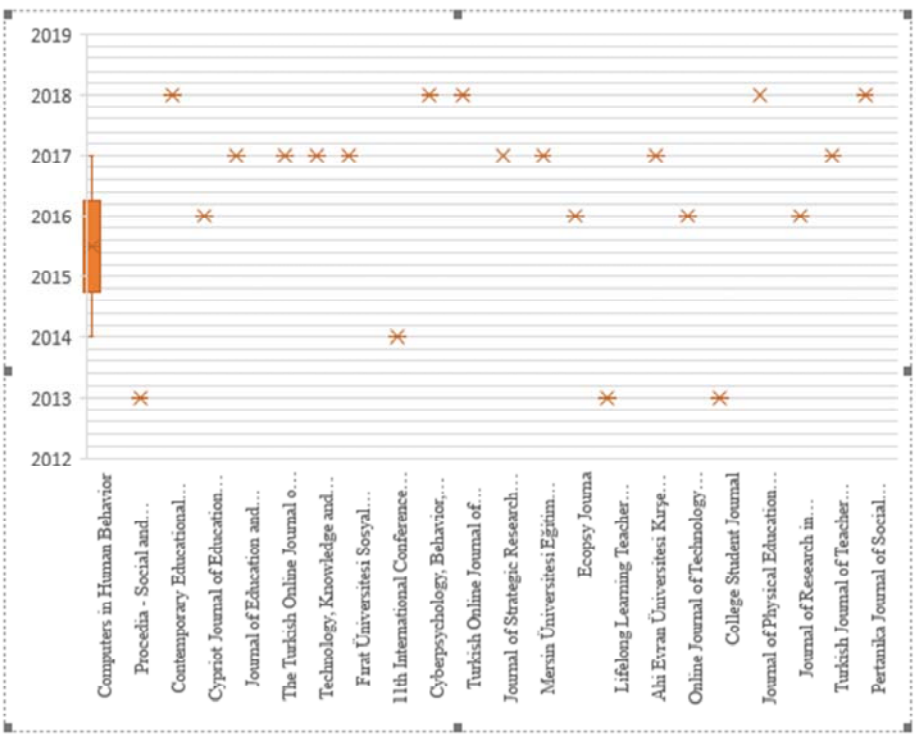

Figure 1. Distributions of research studies by years and journals

When Figure 1 is examined, it is seen that the studies related to cyberloafing and education have increased gradually in recent years. Three studies in 2013, two studies in 2014 and two studies in 2015 were conducted for cyberloafing and education. After 2015, the frequency of study has increased and it is observed that this number has increased to 7 in 2016 and to 10 in 2018. In addition to this, in the time period until March of 2018, seven studies were conducted.

Table 2 presents the variables and variable frequencies that the studies on cyberloafing emphasised.

Table 2. Variables and frequencies

Variables	n	f	Variables	n	f
Gender	13	19.7	Trait procrastination	1	1.52
Grade	5	7.58	Academic performance	1	1.52
Reasons	3	4.55	Role of conscientiousness	1	1.52
Scale development	3	4.55	Personal web use	1	1.52
Internet skills	3	4.55	Cognitive absorption	1	1.52
Seniority	3	4.55	Time management	1	1.52
Department	2	3.03	Educational status	1	1.52
Locations to connect to the internet	2	3.03	Grade point average	1	1.52
Daily duration of time on the internet	2	3.03	Socioeconomic status	1	1.52
Grade level	2	3.03	Online social networking habits	1	1.52
Ownership of mobile device	2	3.03	Age	1	1.52
Internet addiction levels	2	3.03	The tendency of compulsive internet use	1	1.52
Solutions	2	3.03	Academic performance out-of-class	1	1.52
Social desirability	1	1.52	Mobile personnel web use	1	1.52
Internet usage	1	1.52	Justification	1	1.52
Internet experience	1	1.52	Effects	1	1.52
Smartphone usage	1	1.52	Internet usage seniority	1	1.52
Cyberbullying	1	1.52	Total	66	100

Table 2 demonstrates that the most studied variables in papers on cyberloafing were gender (19.7%) and grade (7.58%). Furthermore, variables studied with a moderate frequency were reasons (4.55%), Scale development (4.55%), Internet skills (4.55%), Seniority (4.55%), Department (3.03%), Locations to connect to the Internet (3.03%), Daily duration of time on the Internet (3.03%), Grade level (3.03%), Ownership of mobile device (3.03%), Internet addiction levels (3.03%) and Solutions (3.03%). Furthermore, variables such as social desirability, Internet usage, Internet experience, smartphone usage, cyberbullying, trait procrastination, academic performance, role of conscientiousness, personal web use, cognitive absorption, time management, educational status, grade point average, socioeconomic status, online social networking habits, age, the tendency of compulsive Internet use, academic performance out-of-class, mobile personnel web use, justification, effects and Internet usage seniority were also studied. The present study findings demonstrated that 35 different variables were studied in papers written on cyberloafing. Research studies are mostly focused on the representation of cyberloafing through demographic variables. Psychological variables are less focused on research. In addition, there are limited number of studies on intervention and finding solutions.

Table 3 shows the characteristics of the participants in the research and the variables studied according to the study groups.

Table 3. The characteristics of the participants in the research and the variables

Characteristics of the participants	n	f	Variables
High School	3	8.82	Social desirability, gender, grade, Internet skills, Internet usage and Internet experience, scale development and cyberbullying.
University	21	61.76	Social desirability, scale development, smartphone usage, gender, department, locations to connect to the Internet, daily duration of time on the Internet, grade, level, grade point average, socioeconomic status, ownership of mobile devices and online social networking habits, Internet addiction, period of Internet usage, perceived Internet ability, Internet usage skills, Internet usage seniority, reason, solution, academic performance, role of conscientiousness and cyberbullying.
Teacher	6	17.65	Scale development, gender, seniority, personal web use, mobile personnel web use, justification, education level, time management and educational status.
Doctoral	1	2.94	Gender, age, trait procrastination and the tendency of compulsive Internet use.
Master	2	5.88	Gender, age, trait procrastination, the tendency of compulsive Internet use, education level, reason and effects.
Prelisance	1	2.94	Cyberbullying.
Total	34	100	

When the table is examined, it is seen that most of the studies on cyberloafing in education have been conducted with university students. This group is followed by teachers, high school students, graduate students, associate and doctoral students. Table 4 describes the variables studied according to the study groups. It seems that studies regarding scale development and gender have been made in almost all groups. Studies examining the effects of cyberloafing on academic performance have only been come across at university level.

Table 4 demonstrates the study group sizes that were found in the analysis of the studies on cyberloafing.

Table 4. Study group size

Size	n	f
0–100	2	9.09
101–200	3	13.64
201–300	10	45.45
301–400	1	4.55
401–500	2	9.09
501–600	1	4.55
1000 and more	3	13.64
Total	22	100

The analysis of the study groups demonstrated that most publications were conducted with 201–300 participants (45.45%). This was followed by study groups of 1,000 and more participants (13.64%), 101–200 participants (13.64%), 0–100 participants (9.09%), 401–500 participants (9.09%) and 201–300 participants. The least number of studies were conducted with 501–600 participants (4.55%) and 301–400 (4.55%) participants.

Table 5 demonstrates the frequency distribution of countries where the papers on cyberloafing were conducted.

Table 5. Frequency distribution of countries

Country	n	f
Turkey	16	59.26
U.S.	4	14.81
China	3	11.11
Iran	2	7.41
Indonesia	1	3.7
Spain	1	3.7
Total	27	100

Table 5 clearly demonstrates that the highest number of papers on cyberloafing conducted in education was in Turkey (59.26%). The U.S. was the second-ranking country (14.81%), followed by China (11.11%), Iran (7.41%), Indonesia (3.7%) and Spain (3.7%).

Table 6 shows the measurement tools used in the studies of cyberloafing in education

Table 6. The measurement tools used in the studies

Scale	n	f
Cyberloafing scale by Blanchard and Henle (2008) adapted by Kalayci (2010)	6	22.22
The cyberloafing scale by Blanchard and Henle (2008)	5	18.52
Cyberloafing scale by Akbulut et al. 2016	4	14.81
Cyberloafing scale by Lim (2002)	2	7.41
Cyberloafing Activities Scale by Yasar 2013	2	7.41
Interview form	2	7.41
Cyberloafing Behaviours Scale by Orucu and Yildiz (2014)	2	7.41
Cognitive Absorption Scale by Genc and Tozkoparan, (2017)	1	3.7
POC by Websense (2005)	1	3.7
Cyberloafing scale by Blanchard and Henle (2008) adapted by Kaplan and Cetinkaya (2014)	1	3.7
A questionnaire	1	3.7
Total	27	100

The scale which is the most commonly used for cyberloafing research is the Cyberloafing Scale developed by Blanchard and Henle (2008). The scale was sometimes used in the original language and sometimes with cultural adaptation. When the studies were examined, it was seen that scale was used in five studies in original language, six studies with a version adapted by Kalayci (2010) and one study with a version adapted by Kaplan and Cetinkaya (2014). In addition to this, it is seen that the Cyberloafing scale developed by Akbulut, Dursun, Donmez and Sahin (2016) is the second most used scale with four studies. It is also seen that Cyberloafing Activities Scale developed by Lim (2002), Cyberloafing Scale developed by Yasar (2013) and Cyberloafing Behaviours Scale developed by Orucu and Yildiz (2014) were used in two studies. Data were also collected through interview forms in two studies. It has been determined that the Prevalence of Cyberloafing (POC) scale which is on the Websense and Reasons of Cyberloafing Scale developed by Genc and Tozkoparan (2017) have been used once. In only one study, a questionnaire was used.

A majority of the studies on cyberloafing utilised quantitative methods (85.12%) and the remaining papers utilised qualitative methods (14.81%).

4. Results and discussion

Cyberloafing has become a popular concept recently with the use of increasing technology. It is generally defined as the use of institutional resources by employees for personal purposes that are not directly related to the organisation's goals (Blanchard & Henle, 2008; Whitty & Carr, 2006). Although some studies in the literature emphasise the positive aspects of cyberloafing (Anandarajan & Simmers, 2005; Blanchard & Henle, 2008; Seymour & Nadesan, 2007), many studies highlight the negative aspects of this action (Gokcearslan et al., 2016; Gokcearslan et al., 2018). When the literature is examined, it is seen that the large part of the studies related to cyberloafing is related to the working life. However, with the increasing technology use in educational environments, the concept of cyberloafing in education has become a foreground concept. In education, cyberloafing behaviours may negatively affect many behaviours from student learning to teacher motivation and may degrade the quality of education. So cyberloafing should be dealt with important. However, many researchers have focused on cyberloafing behaviours observed in business environments; there are a limited number of studies examining the behaviour of cyberloafing in educational environments (Yildirim, 2016).

Starting from this point, in this study, the studies conducted on the cyberloafing behaviours in education in the last 5 years have been examined according to different criteria. These criteria are the distribution of researches according to years, the distribution of studies according to the journals, the characteristics and size of working groups, the most studied variables and the distributions of study groups related to variables and the methods of researches. Obtained findings are important in terms of showing the studies about cyberloafing in education. It will also lead the researchers.

There were 28 studies on cyberloafing behaviours in education in the examined databases. Based on the study findings, The Computers in Human Behavior journal published the most papers on cyberloafing. A total of 27 articles were published in other journals. When the distributions of the studies are analysed according to years, it is seen that the acceleration has an increasing population.

When the distribution of studies according to years is examined, it is seen that they have an increased momentum. Especially, in recent years, the number of cyberloafing in education studies has been increased. It was determined that most publications were conducted with 201–300 participants, followed by those conducted with 1,000 and more participants, 101–200 participants, 0–100 participants, 401–500 participants and 201–300 participants. In the papers on cyberloafing, the study groups included undergraduate, high school and graduate students in the order of frequency.

The study findings demonstrated that 26 different variables were used in papers on cyberloafing. Studies are often used to describe the current situation. In papers on cyberloafing, the most investigated variables were gender, grade, Internet use and Internet experience. Studies that focus on the causes of cyberloafing behaviours are seen to be very few. In a similar way, there is a limited number of studies about interference and producing the solution. This suggests that there is a lack of literature on the mentioned issues. In the future, researchers would be able to carry out studies of what importance can be placed on preventing cyberloafing behaviour, which is seen as a problem. In the future, researchers could carry out studies involving measures to prevent cyberloafing behaviour, which is seen as a problem. In the research, scale development and scale adaptation studies were also frequently encountered. In addition, studies focusing on psychometric variables are also quite a little in the literature. Such studies are important in terms of revealing the relationship of cyberloafing with psychological variables. Turkey, America and China were the countries where most papers on cyberloafing were conducted. Turkey has more studies from other countries studies in cyberloafing in education. Studies could be carried out to investigate unbalanced distributions of research studies on cyberloafing in education. The majority of the studies on cyberloafing utilised quantitative methods.

While smartphones offer various opportunities in learning environments, negative impacts should also be investigated in studies. It could be stated that there is a limited number of studies on

cyberloafing. The positive and negative aspects of cyberloafing should be investigated. It is useful to focus on other variables rather than gender and grades in studies. When the study groups were examined, it was found that most studies were conducted with undergraduate students. It can be recommended to work with different study groups and in different countries. It is recommended to utilise qualitative methods in these studies.

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