

The effect of cyberloafing on employee productivity

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ABSTRACT

The aim of this paper is to explore the cyberloafing behavior and its effect on employees' productivity. A total of 250 employees were asked to participate in a survey of 20 companies in Saudi Arabia, in which a controlled experiment was conducted to collect and analyze data. From the results, the odds of a person spending zero hours using the internet were seen to be more productive. An increase of 1 hour using the internet for educational activity will increase the odds of being productive by three times. It is deemed important to allow an employee to engage in recreational activities. In addition, employers who restrict Internet services on Social Networking and Web Browsing will see an increase in the Work/Educational activities from their employees.

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1. Introduction

Several research papers have been proposed to help characterize the use and nature of the Web and user surfing behavior (Adamic, 1999; Taylor, 2013; Burford and Park, 2014; Church and Oliver, 2011). Other researchers tried to justify the common belief amongst employers that workers who use the Internet for personal reasons during work hours are engaging in recreation activity (Anandarajan and Simmers, 2004; Anandarajan et al., 2006). During the early years of the Internet, it was not uncommon for workers to be punished or even fired for personal Internet usage at work. It is intuitive to believe that too much Web surfing will negatively affect productivity. Web surfing is not necessarily bad and may be positively correlated with employee productivity. This research argues that allowing for reasonable amounts of online recreation during work hours can indeed have considerable advantages. This argument is supported by prior literature that has made similar predictions. Seymour and Nadasen (2007) noted that higher levels of Internet access in the workplace are correlated with perceptions of information literacy and information access. Other researchers saw it as an added benefit and a way to reduce stress and a method of informal learning. In addition, Internet accessibility while on the job helps in achieving a

balance between the personal and work life (Coker, 2011)

The purpose of this paper is to explore the cyberloafing behavior and its effect on employees' productivity. In addition, this research will also investigate the activities that employees do when they are cyberloafing and analyze these activities to determine whether they are work-related. Categorical data were collected through surveys and analyzed using logistic regression to measure productivity. A Multinomial logistic regression model was applied to the same dataset to explain the effect on "Work/Educational" when restricting Internet services for employees.

The paper is organized as follows. In section 2, background information and literature review are presented. The design methodology was discussed in section 3. Section 4 discusses the findings and the results of the surveys while also introducing answers to questions relating to cyberloafing. In section 5, we drew some final conclusions about cyberloafing.

2. Literature review and background

Cyberloafing behaviors are categorized into two dimensions: Minor and serious. Minor is relating to the use of personal emails, i.e., viewing other sites that are not work-related. On the other hand, serious cyberloafing behaviors are the use of unsecured sites that might damage the organization system. Male employees engage further with cyberloafing than female employees and lack of self-control could play a factor in deviant behavior (Ahmad and Omar, 2017).

Previous research has acknowledged the serious consequences of cyberloafing and it identified what

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led to cyberloafing behaviors. Employees who feel powerless in their work environment are more likely to engage in interactive forms of cyberloafing, including playing games. In contrast, job satisfaction and organizational justice perceptions are identified as restraining factors of cyberloafing. However, we still lack an understanding of the antecedents of cyberloafing. In particular, the lack of research attention to the role of personality is astonishing such that individuals' dispositions significantly predict job attitudes over a time span (Kim et al., 2016).

Cyberloafing does not only depend on the psychological factors but also on the work environment and personal needs. Different studies have shown the relationship between employee satisfaction and cyberloafing. The results of these studies suggested that the theory of planned behavior is effective for modeling cyberloafing and that cyberloafing is not related to task performance and employee satisfaction (Banerjee and Thakur, 2016).

In terms of cyberloafing in education, university students are likely to use mobile technologies for leisure than for school or work. It is noted that cyberloafing behaviors of male students are significantly higher than those of female students (Yilmaz et al., 2015).

Khansa et al. (2017) examined the varying relationship among cyberloafing behaviors and its antecedents after the announcement of enforcement of formal controls by organizations. They proposed a model which examines the change in cyberloafing behaviors before and after the announcement. Two surveys were conducted with the difference of one month in which respondents were requested to assume that their organization had put formal controls on cyberloafing and they will be monitored. Respondents were asked the same questions before and after the announcement of imposing formal controls and the results were quite different. The results of post announcement surveys show that perceived risk becomes important to employees.

Cyberloafing impacts the organizations financially and it appears to happen when the workload on the employee is low. System control alone cannot prevent cyberloafing; managers must make policies to raise the awareness among employees of internet usage. Studies estimated that employees' browsing the Internet can cost organizations \$183 billion every year. This amount relates to the damages to productivity, problems in broadband, legal issues, and other associated costs and problems. Employees, on average, spend six hours of their time per week using the Internet for personal aims (Jandaghi et al., 2015).

Previous studies conducted by Keser et al. (2016) investigated the relationship between cyberloafing and Internet addiction. Results in their study revealed that male participants had a higher level of Internet addiction and cyberloafing than female participants. However, there was not any difference between the genders in term of Web search and

social networking (Keser et al., 2016). A different study conducted by Kalaycı (2010) found that male participants had a high level of cyberloafing in terms of searching for news but there was not any difference in terms of social networking (Kalaycı, 2010).

3. Research design and methodology

3.1. Materials and method

A total of 250 employees participated in a survey of 20 companies in Saudi Arabia, in which a controlled experiment was conducted to collect and analyze data. Interview method was also used. A questionnaire, comprising eight core categories was designed to address employees' use of the internet, while a questionnaire, comprising five core categories was designed to address employers Internet use policy and access restriction of the internet use.

This research was undertaken between September 2016 and October 2017. A controlled experiment was conducted to collect and analyze data of employers and their employees Internet behaviors. A total of 250 employees were asked to participate in a survey of 20 companies in Saudi Arabia. After the surveys, the researchers interviewed the employers and employees.

Interviews were semi-structured with managers and employees, many of the interviews were conducted over the phone. Each of the managers and the employees who were interviewed was screened to ensure that they were involved in the surveys.

The interview protocol, covered the precise mechanisms used to establish what a company defines as a fair use policy of the Internet; and what penalty, if any, established by the company for any violation of the policy. It is important to note that the researchers collected data about the role of employees from both perspectives while the information are kept as confidential from each party.

The analysis of this research is based on surveys and the interview samples comprised 250 Internet users, 25 years of age or older. To qualify for the employer's survey, members who participated were managers or directors of mid-size to large companies. Participants of the employees' survey were employees in the 20 selected companies who meet the following two criteria:

1. Those who use the Internet during work hours
2. Those who use the Internet for work and other unrelated work activities.

3.2. Employers survey questions

A questionnaire, comprising eight core categories was designed to address employees' use of the internet during working hours and blocked access to sites deemed irrelevant to the job. The participants were mostly from the top or middle management of

major companies of the Kingdom of Saudi Arabia. Secondly, the questionnaires were completed by managers or directors who are familiar with the company's Acceptable Use policy. Businesses that participated in the survey were from various organizations ranging from local to foreign to multinational and from conglomerates to Small and Medium Enterprises. The core questions addressed during the survey were as follows:

1. Limiting Internet access or blocking services deemed irrelevant to the job
2. What sites are deemed irrelevant to the job?
3. Monitoring employees access to certain services
4. Allowing employees to use the internet for personal purpose
5. Do you regard the internet as a massive time-waster?
6. Is the internet a venue for professional development and other aspects of getting the job done?
7. Reprimanding of employees for unacceptable use of the Internet
8. Acceptable Use Policy

3.3. Employees survey questions

A questionnaire, comprising five core categories was designed to address employers Internet use policy and access restrictions to sites deemed irrelevant to the job. The participants were companies that participated in the surveys. The core questions during the survey were as follows:

1. Number of hours spent on the Internet
2. Location and type of devices used for Internet access
3. Hours spent on the Internet for fun and play
4. Employees activities on the Internet
5. The employer's Acceptable Use Policy

6. Effect of the Internet on the Job

4. Findings

The results of the employers' survey revealed that more than 90% of employers monitor the use of the internet during working hours and they block access to sites that deemed irrelevant to the job. However, employees were not affected by the blocked sites.

The results of the employees' survey revealed that 62% of the respondents were male and 38% were female. All participants require the use of the Internet on the job. More than 75% of the participants are using the Internet with their mobile device. In addition, the results revealed three characteristics of employee behaviors. First, the majority of employees are using their mobile devices for social media and games while they are at the job. Secondly, they use the company provided computer for Web browsing, shopping, and access to news. Thirdly, employees were not affected by the blocked sites. Internet usage on the job is categorized into eight main categories. Descriptive statistics are applied to the sample to analyze the usage. Table 1 shows the descriptive statistics.

The correlation matrix in Table 2 is showing the different behaviors. The activities of users browsing the internet are following three patterns:

1. Interacting with social networking sites, a correlation of 0.903
2. Searching for News, a correlation of 0.883
3. Using the Internet for education a correlation of 0.726637
4. The activities of social networking are mostly for news, a correction of 0.935.
5. File sharing is used for music, a correction of 0.370.

Table 1: Descriptive statistics

Description	Education	Gaming	File Sharing	Music	News	Shopping	Social Network	Browsing
Mean	2.944	2.86	2.944	2.56	3	3.112	3.108	3.004
Std. Error	0.09794	0.106	0.0884	0.0764	0.0971	0.0822	0.1088	0.1128
Median	3	3	3	3	3	3	3	3
Mode	1	1	4	3	5	3	5	5
Std. Deviation	1.548	1.676	1.3988	1.2084	1.5367	1.3000	1.7216	1.784
Sample Variance	2.398	2.811	1.9566	1.4602	2.3614	1.6902	2.9641	3.184
Kurtosis	-1.43	-1.68	-1.253	-1.007	-1.496	-0.945	-1.720	-1.79
Skewness	0.048	0.006	-0.130	0.2231	0.0334	-0.065	-0.016	0.075
Range	4	4	4	4	4	4	4	4
Minimum	1	1	1	1	1	1	1	1
Maximum	5	5	5	5	5	5	5	5

4.1. Effect of cyberloafing on productivity

The analyzed data is categorical data with a binary variable that describes the effect of cyberloafing on employee productivity. This research applied logistic regression to analyze the data.

The employee's survey recoded the variable "In general, how do you think the internet has affected you at work?" to be 0 if "The Internet has not affected my productivity" and 1 if "Made me more

productive". Fig. 1 shows the result of the logistic regression:

$$\begin{aligned}
 \text{Logit}(Y_1) = & \beta_0 + \beta_1 \text{Education} + \beta_2 \text{Gaming} \\
 & + \beta_3 \text{FileSharing} + \beta_4 \text{Music} \\
 & + \beta_5 \text{News} + \beta_6 \text{Shopping} \\
 & + \beta_7 \text{SocialNetworking} \\
 & + \beta_8 \text{WebBrowsing}
 \end{aligned}$$

From the results above, we can interpret $\beta_0 = 5.29$ or $\exp(\beta_0) = 198.3$ are the odds of a person spending 0 hours using the internet to be more

productive at work. $exp(\beta_1) = exp(1.0012) = 2.722$, an increase of 1 hour using the internet for education will increase the odds of being more productive by 2.72 (almost triple). While $exp(\beta_2) = exp(-0.4827) = 0.6171$ means that an increase of 1

hour in using the internet for gaming will decrease the odd of being productive by 0.3829 (1-0.6171). And so on we can see the effects of each category on the productivity.

Table 2: Correlation matrix

Category	Education	Gaming	File Sharing	Music	News	Shopping	Social Network	Browsing
Education	1							
Gaming	-0.59	1						
File Sharing	-0.75	0.289	1					
Music	0.407	-0.05	0.37	1				
News	0.777	-0.76	-0.35	0.233	1			
Shopping	0.050	0.263	0.149	0.115	-0.08	1		
Social Net.	0.755	-0.70	-0.27	0.329	0.933	0.03	1	
Browsing	0.726	-0.71	-0.11	0.438	0.883	-0.15	0.905	1

Deviance Residuals:					
Min	1Q	Median	3Q	MAX	
-1.7088	-0.8261	0.3223	0.7882	1.8575	
Coefficients					
	Estimate	Std. Error	t. value	Pr(> t)	
(Intercept)	5.2915	1.2403	4.266	1.99e-05	***
Education	1.0012	0.2306	4.341	1.42e-05	***
Gaming	-0.4827	0.1781	-2.711	0.006711	**
File Sharing	-0.6723	0.1864	-3.606	0.0000311	***
Music	-0.7398	0.1723	-4.294	1.75e-05	***
News	-0.5194	0.3447	-1.507	0.131901	
Shopping	0.2142	0.1475	1.452	0.146434	
Social Network	-0.8568	0.3338	-2.567	0.010256	*
Web					
Browsing	0.3015	0.2820	1.069	0.285053	

Signif. Codes:	0 '***'	0.001 '**'	0.01 '*'	'.' 0.1	' ' 1

Fig. 1: Logistic regression

The employee survey recoded a question for the number of hours spent on the Internet for Fun/Play. The categorical values were fitted to numerical

values. The following linear regression function is applied:

$$FileSharing = \beta_0 + \beta_1 FunPlay + \beta_2 Education$$

Fig. 2 shows the results of the different usages of the Internet. The baseline for the model shows the effect when employees spend zero hours on fun/play and education activities. The following was noted:

- Using the Internet for “File Sharing” will increase to 2.47 hours when the number of hours spent on education and on fun/play is 0 hours.
- An increase of one hour in using the internet for “fun/play” will significantly increase the number of hours spent for “File Sharing” by 0.2269
- An increase of one hour in using the internet for “Education” will increase the number of hours spent for “File Sharing” by 0.04185. This increase is not significant since the p-value > 0.05.

Coefficients					
	Estimate	Std. Error	t. value	Pr(> t)	
(Intercept)	2.47593	0.26574	9.317	<2e-16	***
FunPlay	0.22629	0.06421	3.524	0.000506	***
Education	0.04185	0.06406	0.653	0.514195	

Fig. 2: Liner regression results for FileSharing

Similarly, by fitting the linear regression for “Gaming”, we get the following results:

$$Gaming = \beta_0 + \beta_1 FunPlay + \beta_2 Education$$

Fig. 3 shows that $b_1=0.06280$: an increase of 1 hour in using the internet for “fun/play” will increase the number of hours spent for “Gaming” by 0.0628, which is not significant.

$b_2=-0.609$: An increase of 1 hour in using the internet for “Education” will significantly decrease the number of hours spent for “Gaming” by 0.609 .

By fitting the linear regression for “Music”, we get the following results:

Coefficients					
	Estimate	Std. Error	t. value	Pr(> t)	
(Intercept)	4.55720	0.26366	17.285	<2e-16	***
FunPlay	0.06280	0.06371	0.986	0.325	
Education	-0.60900	0.06356	-9.582	<2e-16	***

Fig. 3: Liner regression results for gaming

$$Music = \beta_0 + \beta_1 FunPlay + \beta_2 Education$$

Fig. 4 shows that $b_1=-0.2119$: an increase of 1 hour in using the internet for “fun/play” will significantly decrease the number of hours spent for “Music” by =0.2119.

$b_2=0.21475$: An increase of 1 hour in using the internet for “Education” will significantly increase the number of hours spent for “Music” by 0.21475.

By fitting the linear regression for “Shopping”, we get the results below:

$$Shopping = \beta_0 + \beta_1 FunPlay + \beta_2 Education$$

Coefficients					
	Estimate	Std. Error	t. value	Pr(> t)	
(Intercept)	2.25072	0.20813	10.814	<2e-16	***
FunPlay	-0.21190	0.05029	-4.215	3.533e-05	***
Education	0.21475	0.05017	4.280	2.67e-05	***

Fig. 4: Liner Regression results for Music

Fig. 5 shows that $b_1=0.09886$: an increase of 1 hour in using the internet for “fun/play” will increase the number of hours spent for “Shopping” by 0.09886 which is not significant.

$b_2=0.09093$: An increase of 1 hour in using the internet for “Education” will insignificantly increase the number of hours spent for “Shopping” by 0.09093.

Coefficients				
	Estimate	Std. Error	t. value	Pr(> t)
(Intercept)	2.69356	2.5217	10.682	<2e-16 ***
FunPlay	0.09886	0.06093	1.622	0.106
Education	0.09093	0.0079	1.496	0.136

Fig. 5: Liner Regression results for shopping

Now, when fitting the linear regression for “Social Networking”, we get the following results:

$$\text{SocialNetworking} = \beta_0 + \beta_1 \text{FunPlay} + \beta_2 \text{Education}$$

Here $b_1=-0.15029$: an increase of 1 hour in using the internet for “fun/play” will significantly decrease the number of hours spent for “Social Networking” by 0.15029 as in Fig. 6.

$b_2=0.76661$: an increase of 1 hour in using the internet for “Education” will significantly increase the number of hours spent for “Social Networking” by 0.76661.

Coefficients				
	Estimate	Std. Error	t. value	Pr(> t)
(Intercept)	1.08015	0.21670	4.985	1.17e-06 ***
FunPlay	-0.15029	0.05236	-2.870	0.00446 **
Education	0.76661	0.05224	14.676	< 2e-16 ***

Fig. 6: Liner Regression results for social networking

By fitting the linear regression for “Web Browsing”, we get the following results:

$$\text{WebBrowsing} = \beta_0 + \beta_1 \text{FunPlay} + \beta_2 \text{Education}$$

Here in Fig. 7, $b_1=-0.3514$: an increase of 1 hour in using the internet for “fun/play” will significantly decrease the number of hours spent for “Web Browsing” by 0.3514.

Coefficients				
	Estimate	Std. Error	t. value	Pr(> t)
(Intercept)	1.57800	0.22078	7.147	9.94e-12 ***
FunPlay	-0.35140	0.05335	-6.578	2.68e-10 ***
Education	0.66628	0.05322	12.519	< 2e-16 ***

Fig. 7: Liner regression results for web browsing

$b_2 =0.66628$: An increase of 1 hour in using the internet for “Education” will significantly increase the number of hours spent for “Web Browsing” by 0.66628.

Finally, by fitting the linear regression for “News”, we get the following results:

$$\text{News} = \beta_0 + \beta_1 \text{FunPlay} + \beta_2 \text{Education}$$

Here in Fig. 8, $b_1=-0.08309$: an increase of 1 hour in using the internet for “fun/play” will significantly

decrease the number of hours spent for “social Networking” by 0.08309.

$b_2=0.73147$: An increase of 1 hour in using the internet for “Education” will significantly increase the number of hours spent for “News” by 0.73147.

Coefficients				
	Estimate	Std. Error	t. value	Pr(> t)
(Intercept)	0.97318	0.18725	5.197	4.24e-07 ***
FunPlay	-0.08309	0.04525	-1.836	0.0675 .
Education	0.73147	0.04514	16.205	< 2e-16 ***

Fig. 8: Liner regression results for news

4.2. Predictive analysis of employee activities

Multinomial logistic regression is applied to the same dataset to explain the relationship between restricting Internet services for employees and the effect on “Work/Educational” activities and “Fun/Play” activities. Each participant was free to choose the number of hours spent for fun and play and the number of hours spent for work and educational activities. The factors to determine work and educational activities versus fun and play activities are File Sharing, Music, News, Shopping, Social Networking, and Web Browsing.

Appendix 1, the multinomial logistic Regression, shows the model output as a block of coefficients and a block of standard errors. Each of these blocks has one row of values corresponding to a model equation. Focusing on the block of coefficients, we can look at the first row comparing the effect for “Fun/Play” to “Work/Education”. If we consider our coefficients from the first row to be b_1 and our coefficients from the second row to be b_2 , we can write our model equations:

$$A = \beta_1 \text{FileSharing} + \beta_1 \text{Music} + \beta_1 \text{New} + \beta_1 \text{Shopping} + \beta_1 \text{SocialNetworking} + \beta_1 \text{WebBrowsing}$$

$$B = \beta_2 \text{FileSharing} + \beta_2 \text{Music} + \beta_2 \text{New} + \beta_2 \text{Shopping} + \beta_2 \text{SocialNetworking} + \beta_2 \text{WebBrowsing}$$

$$\ln\left(\frac{m\text{Logit}(y = \text{fun})}{m\text{logit}(y = \text{work})}\right) = \frac{A}{B}$$

The following results were observed:

- A one-unit decrease in “File Sharing”, 0.62078, is associated with an increase in the hours for “Fun/Play” by 0.025259 and a similar increase in hours for “Work/Education” by 0.232958
- A one-unit decrease in “Music”, 0.52601, is associated with a decrease in the hours for “Fun/Play” by 0.1581 but an increase in the hours for “Work/Education” by 0.261247
- A one-unit decrease in “News”, 1.4016, is associated with a decrease in the hours for “Fun/Play” by 0.02856 but an increase in the hours for “Work/Education” by 0.508725
- A one-unit decrease in “Social Networking”, 1.57372, is associated with a decrease in the hours

for "Fun/Play" by 0.02931 but a significant increase in the hours for "Work/Education" by 0.561374

- A one-unit decrease in "Web Browsing", 1.22202, is associated with a decrease in the hours for "Fun/Play" by 0.11966 but a significant increase in the hours for "work/Education" by 0.48375

Therefore, employers who restrict Internet services on "Social Networking" and Web Browsing" will see an increase in the "Work/Educational" activities.

5. Conclusion

This research shed light on the cyberloafing activities and employees' behavior on the Internet. Different types of activities were investigated to determine the type of behavior. Logistic regression was applied to the dataset to explain the relationship between restricting Internet services for employees and the effect on the activities and employee productivity. It is deemed important to allow employee to engaging in recreational activities. From the results, the odds of a person spending zero hours using the internet were seen to be more productive. An increase of 1 hour using the internet for educational activity will increase the odds of being productive by three times. In addition, employers who restrict Internet services on Social Networking and Web Browsing will see an increase in the Work/Educational activities from their employees.

References

Adamic LA (1999). The small world Web. In the 3rd European Conference on Research and Advanced Technology for Digital Libraries, Springer-Verlag, Paris, France, 99: 443-452.

Ahmad A and Omar Z (2017). Understanding who cyberloafs from the self-control perspective: A study in the public service sector. *International Journal of Advanced and Applied Sciences*, 4(8): 123-128.

Anandarajan M and Simmers C (2004). *Personal web usage in the workplace: A guide to effective human resources management*. IGI Global, Hershey, USA.

Anandarajan M, Paravastu N, and Simmers CA (2006). Perceptions of personal web usage in the workplace: AQ-methodology approach. *CyberPsychology and Behavior*, 9(3): 325-335.

Banerjee S and Thakur S (2016). A critical study of factors promoting cyberloafing in organizations. In the Second International Conference on Information and Communication Technology for Competitive Strategies, ACM, Udaipur, India. <https://doi.org/10.1145/2905055.2905355>

Burford S and Park S (2014). The impact of mobile tablet devices on human information behaviour. *Journal of Documentation*, 70(4): 622-639.

Church K and Oliver N (2011). Understanding mobile web and mobile search use in today's dynamic mobile landscape. In the 13th International Conference on Human Computer Interaction with Mobile Devices and Services, ACM, Stockholm, Sweden: 67-76.

Coker BL (2011). Freedom to surf: The positive effects of workplace Internet leisure browsing. *New Technology, Work and Employment*, 26(3): 238-247.

Jandaghi G, Alvani SM, Matin HZ, and Kozekanan SF (2015). Cyberloafing management in organizations. *Iranian Journal of Management Studies*, 8(3): 335-349.

Kalaycı E (2010). The investigation of relationship between cyberloafing and self-regulated learning strategies among undergraduate students. Unpublished M.Sc. thesis, Hacettepe University, Ankara, Turkey.

Keser H, Kavuk M, and Numanoglu G (2016). The Relationship between Cyber-Loafing and Internet Addiction. *Cypriot Journal of Educational Sciences*, 11(1): 37-42.

Khansa L, Kuem J, Siponen M, and Kim SS (2017). To cyberloaf or not to cyberloaf: the impact of the announcement of formal organizational controls. *Journal of Management Information Systems*, 34(1): 141-176.

Kim K, del Carmen Triana M, Chung K, and Oh N (2016). When do employees cyberloaf? an interactionist perspective examining personality, justice, and empowerment. *Human Resource Management*, 55(6): 1041-1058.

Seymour L and Nadasen K (2007). Web access for IT staff: A developing world perspective on web abuse. *The Electronic Library*, 25(5): 543-557.

Taylor J (2013). Giving kids a break: How surfing has helped young people in Cornwall overcome mental health and social difficulties. *Mental Health and Social Inclusion*, 17(2): 82-86.

Yılmaz FGK, Yılmaz R, Öztürk HT, Sezer B, and Karademir T (2015). Cyberloafing as a barrier to the successful integration of information and communication technologies into teaching and learning environments. *Computers in Human Behavior*, 45: 290-298.