

**An Investigation of Cyberloafing Behavior and
Internet Addiction Level of Undergraduate Students:
An Example of Eastern Mediterranean University**

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ABSTRACT

Today technology is widely used in all fields, including education. A rapid increase and misuse of the internet and digital technologies led to the investigation of such phenomena as cyberloafing and internet addiction (IA). The aim of this research was to analyze the cyberloafing behavior and internet addiction among undergraduate students of Eastern Mediterranean University (EMU). Additionally, a relationship between the cyberloafing and different variables like students' gender, age and faculty, between the IA and students' gender, age and faculty, as well as relationship between cyberloafing and internet addiction were explored. The quantitative research and survey method comprised of Cyberloafing Scale and short version of Internet Addiction Test (IAT) were used to carry out this research. The study included 550 undergraduate students enrolled at EMU in Spring 2021-2022 semester.

The results of this study revealed that EMU undergraduate students engage in the cyberloafing on a very low level and have a very low level of IA. Moreover, it was found that cyberloafing behavior is different depending on students' gender in terms of sharing and gaming/gambling factors, age in terms of gaming/gambling factor and faculty in terms of all 5 factors. On the other hand, the results showed that there is no significant relationship between participants' age, gender and IA scores, while the faculty of the participants is seen as the significant determinant of IA level. In conclusion, a moderate correlation between cyberloafing and IA was found.

Keywords: cyberloafing, internet addiction, sharing, shopping, real-time updating, accessing online content, gaming/gambling.

ÖZ

Günümüzde teknoloji, eğitim de dâhil olmak üzere her alanda yaygın olarak kullanılmaktadır. İnternet ve dijital teknolojilerin hızlı bir şekilde artması ve kötüye kullanılması, siber aylaklık ve internet bağımlılığı (İB) gibi kavramların araştırılmasına yol açmıştır. Bu araştırmanın amacı Doğu Akdeniz Üniversitesi (DAÜ) lisans öğrencilerinin siber aylaklık davranışı ve internet bağımlılığı durumlarını incelemektir. Ek olarak, siber aylaklık ile öğrencilerin cinsiyeti, yaşı ve fakültesi gibi farklı değişkenler arasındaki ilişkinin yanı sıra İB ile öğrencilerin cinsiyeti, yaşı ve fakültesi gibi değişkenler arasındaki ilişki ile siber aylaklık ve İB arasındaki ilişki de araştırılmıştır. Çalışma, nicel bir araştırma ve tarama yönteminde gerçekleştirilmiştir. Çalışmada veri toplama araçları, Siber Aylaklık Ölçeği ve İnternet Bağımlılığı Testi (İBT) kısa versiyonu kullanılmıştır. Çalışmaya, DAÜ'ye 2021-2022 Bahar döneminde kayıtlı olan 550 lisans öğrencisi katılmıştır.

Çalışma sonuçlarına göre, DAÜ lisans öğrencilerinin düşük düzeyde siber aylaklık ve çok düşük İB düzeyine sahip olduklarını söylenebilir. Ayrıca, siber aylaklık davranışının öğrencilerin paylaşım ve oyun / kumar faktörleri açısından cinsiyetine, oyun / kumar faktörü açısından yaşına ve tüm 5 faktör açısından fakülteye bağlı olarak farklı olduğu tespit edilmiştir. Öte yandan, sonuçlar katılımcıların yaş, cinsiyet ve İB puanları arasında anlamlı bir ilişki olmadığını gösterirken, katılımcıların fakültesinin İB düzeyinin önemli belirleyicisi olduğu görülmüştür. Ek olarak çalışma sonuçlarına göre, siber aylaklık ile İB arasında orta düzeyde bir korelasyon olduğu belirlenmiştir.

Anahtar Kelimeler: siber aylaklık, internet bağımlılığı, paylaşım, alışveriş, gerçek

zamanlı güncelleme, çevrimiçi içeriğe erişim, oyun / kumar.

DEDICATION

To the Great and Almighty God, always merciful and giving me strength. To my beloved family for their support and faith in me.

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Chapter 1

INTRODUCTION

The emergence of digital technologies led to the creation of “global village” phenomenon which appeared in the connection with the development of media when personal computers were not yet widespread, however, television has already begun to prevail over books, newspapers and other pre-existing media, which ultimately had a profound impact on every field including business, politics, education, entertainment and the general way of our lives (Lule, 2021).

As McLuhan predicted, the media has transformed the world into a global village as people from various walks of life are connected and interact with each other through different types of media (McLuhan, 1962). With the introduction of the internet, the notion “global village” has become much more relevant, as it has become a reality, so a citizen of one country may easily contact, converse, receive news, and exchange information with a resident of another country. The boundaries between continents, countries, cities, and individuals have been effectively obliterated, therefore turning the world to a connected global sphere (Kumar, Singh, Choudhury, & Gupta, 2019). As McLuhan foresaw the world print culture has been replaced by new types of media (McLuhan, 1962). In comparison to printed materials, electronic resources are now considerably easier to access, navigate, store a large amount of data and cheaper. That is why e-books are being progressively promoted at university libraries (Johnston & Ferguson, 2020). The research of Santoso, Siswandari and Sawiji (2018) showed that

even the rural schools have been affected by the digitalization process, as indicated by the better efficacy of employing e-books than printed ones.

With the capabilities that technologies provided, such as the reduction of time and space, collection, sharing, exchange, control and management of information, all areas of people's life have been changed both professionally and personally. The educational sphere was not left behind in the global changing process. The methods of teaching, learning styles have been altered, innovative changes have been introduced into the education system (Ghory & Ghafory, 2021). Web-technologies started to be widely applied in teaching-learning process.

Undoubtedly, web-technologies had a positive effect as they provided access to various learning materials, created a network where students and teachers could share and enrich their experience supporting one another, assisting in the development of subject-specific and personal skills, improving students' academic performance, and increasing their motivation and study involvement (Redecker, 2009; Shanmugam & Balakrishnan, 2019).

Another benefit of the web-technologies is that both teachers and students can save their time and budget in terms of distance learning (Potapchuk, 2018). Web 2.0 tools provide the flexibility which means that teachers and learners can easily communicate and access the needed data from 'anywhere' 'anytime' (Bugawa & Mirzal, 2018). Such types of education as distance and online are widely spread nowadays. As the Distance Education Enrollment Report demonstrated, almost thirty percent of all students are enrolled in at least one online learning course (Allen & Seaman, 2017).

Moreover, web technologies provided an opportunity to create a virtual environment where students can be active rather than passive learners (Tawafak, Romli, bin Abdullah Arshah, & Almaroof, 2018). Now students can create, exchange, navigate, interact and cooperate through different media technologies for the purpose of learning (Bugawa & Mirzal, 2018). Even those types of technologies such as social networks or video games which were firstly created for non-studying goals, nowadays are used in the educational process to enhance students' motivation and involvement (Hortigüela-Alcalá, Sánchez-Santamaría, & Abella-García, 2019; Chapman & Rich, 2018).

Furthermore, Apuke's and Iyendo's research (2018) demonstrated that learners find internet technology beneficial since it allows them to complete several assignments in advance, expand the horizons of reading and learning, promotes independent learning, increases peer learning, and helps to prepare for examinations.

Some scholars state that Web 2.0 technology has changed the generally accepted teaching approach and promoted "student-centered" learning, therefore encouraging autonomy of students and improving their creativity (Bugawa & Mirzal, 2018). A new learning environment has emerged because of independence from distance, time zone, status, and geographical location. Students are gaining more and more control over the learning process, picking the option that is most convenient for them. The Covid-19 pandemic demonstrated that web based teaching-learning can be just as effective as face-to-face instruction, and that all traditional classroom activities such as providing course materials, assignments, discussions, assessment, giving feedback and teacher-student interactions can be seamlessly transitioned to the remote learning (Ghazi-Saidi, et al., 2020).

On the other hand, with the emergence of Web 2.0 technology and its integration in the educational settings tutors faced a colossal challenge since in order to achieve the corresponding goals, the teacher should choose correct methodology, understand technological tools (Thomas, 2020) and effectively use them in teaching and learning (Semerci & Aydin, 2018). Despite the fact that in the 21st century students became more self-educated and self-controlled (Bugawa & Mirzal, 2018) the role of the teacher is still on the high level of importance in order to make the learning process effective (Semerci & Aydin, 2018). Teachers now face a difficult task not only in transferring knowledge, but also in teaching students how to find knowledge on their own, due to the rapid changes in the modern technological world (DeCoito & Richardson, 2018). This accordingly demands congruent professionalism and requisite abilities from the instructors.

Moreover, technology may has a detrimental impact on the educational process. Learners may be disillusioned and demotivated if they do not have access to appropriate technology and tutor assistance, as well as well selected content (Woodfine, Nunes, & Wright, 2008). Upadhyaya (2021) states that technostress or “inability to cope with new technologies” negatively influences on students’ academic performance. While researching online education, Abu Talib, Bettayeb and Omer (2021) distinguish such disadvantages as economic and social inequality as students from rural areas may have trouble connecting to the internet and limited access to smart gadgets; deterioration in the quality of communication; technical difficulties such as low internet speed or network instability; mental problems including stress and workload; lack of technological skills among educators; difficulties with students motivation, participation and distraction; work-life balance as in the transition to online-work and study the boundaries between different aspects of life are blurred.

Although online education and technology allow to overcome distances and adapt to diverse learning paces and cognitive styles (El-Sabagh, 2021), such problems as students isolation, lack of engagement, ineffective explanations and interpretations, difficulties with the development of social and communication skills, and probably more difficult control of students' activities such as cheating during examinations occur (Arkorful & Abaidoo, 2015). Furthermore, with the advent of technology and, in particular, the growth of e-learning, the risk of accessing unsupportive, scientifically non-validated material has grown, teacher participation has drastically diminished or vanished, negatively impacting students' academic performance due to the lack of personal interaction (Al Rawashdeh, Mohammed, Al Arab, Alara, & Al-Rawashdeh, 2021).

Consequently, taking into account all the advantages and disadvantages of technology and internet, obviously they have tremendously impacted all the spheres of life such as business, communication, and the field of education by creating a plethora of opportunities and use for individuals in the society such as vast access to unlimited research materials, easy transmission of information, connectivity between individuals from different parts of the world, easy communication, social support, different types of entertainment, self-development, easy management of financial issues, travelling and shopping etc (Gatto & Tak, 2008; Pawlikowski, Altstötter-Gleich, & Brand, 2013).

However, due to the potential for both positive and bad effects, the use of technical equipment and internet is a contentious issue. Today's generation is considered as digital natives, therefore the fact that students have portable gadgets easily connected to the internet is hardly surprising (Masadeh, 2021). Initially, the use of technology in

education was expected to improve the effectiveness of instruction when learners appropriately utilize internet and technological devices, however, as a result of the internet's and digital technology's fast growth and their misuse, such phenomena as cyberloafing and internet addiction (IA) are rising at an alarming rate (Akgün, 2020; Moreno-Guerrero, Gómez-García, López-Belmonte, & Rodríguez-Jiménez, 2020).

Cyberloafing is defined as the misuse of the internet at locations such as workplace and classrooms for non-work or class-related activities that include but are not limited to chatting, listening to music, playing games, writing personal letters and messages, watching movies, videos, programs and news feeds on the social networks (Yaşar & Yurdugül, 2013; Li & Chung, 2006).

Contrary to the plethora of researches that shed negative light on the impact of cyberloafing (Santos, 2016; Saleh, Daqqa, AbdulRahim, & Sakallah, 2018), Kim and Christensen (2017) postulate that users often perceive cyberloafing as a coping mechanism for relieving stress, recovery, distracting from boring work, study processes for a short time, as well as maintaining a work-life balance.

Nevertheless, according to Koay (2018) as stated earlier in the works of Sipior and Ward (2002), cyberloafing negatively influences both business and educational fields by decreasing the productivity level of individuals and organizations. Furthermore, the findings of Saritepeci's research (2020) showed that cyberloafing leads to a decrease in students' focus which affects their comprehension of information. Thus, cyberloafing becomes serious and increasingly troubling issue in the learning environment (Koay, 2018).

In addition to cyberloafing as a prominent effect on the misuse of internet technologies, internet addiction has also become a severe problem attracting the attention of many researchers (Seki, Hamazaki, Natori, & Inadera, 2019; Shen, et al., 2020; Bener, et al., 2019). People use the internet on a daily basis nowadays, but while the internet is not a negative invention by itself and has offered great benefits, its abuse has resulted in the problem of internet addiction which can be defined as a psychological disorder in the users manifested due to the uncontrollable usage of the internet and desire to be constantly online (Wan Ismail, et al., 2020).

Internet addiction has significant consequences on users such as depression, memory impairment, anxiety, decrease in concentration, aggressive behavior, distress, suicidal and crime thoughts (Stanković, Nešić, Čičević, & Shi, 2021; Obeid, et al., 2019). People become more unsociable and their personal communication with friends and family decrease (Li, Yu, Zhen, & Zhang, 2021). Besides psychological problems, internet addiction may also cause physical health problems such as trouble sleeping or insomnia followed by decrease in academic and job performance; eyestrain; weakening of the immune system, problems with the neck, headache; weight loss or gain, and carpal tunnel syndrome resulting from a prolonged sitting at the computer or other device (Hairollizam, Masrom, & Hashim, 2020; Savolainen, Oksanen, Kaakinen, Sirola, & Paek, 2020; Alimoradi, et al., 2019; Thakur, et al., 2018; Güzel, Kahveci, Solak, Cömert, & Turan, 2018).

Masadeh (2021) explored the prevalence of nomophobia and cyberloafing behaviors among undergraduate students at Najran University in Saudi Arabia. The primary goal of the research was to investigate whether the undergraduate students have nomophobia and cyberloafing behaviors, by utilizing the Nomophobia Scale and

Cyberloafing Scale. At the end of the investigation, the findings indicated that the level of nomophobia among the students is moderate while the level of cyberloafing is quite high. The most frequently practiced cyberloafing activities were posting status updates on social networks, chatting with friends, reading tweets, retweeting a tweet they like and downloading applications they needed.

Tateno, Teo, Shiraishi, Tayama, Kawanishi and Kato (2018) conducted a research on defining the level of internet addiction among Japanese students applying Young's IAT (1998). The aim of the study was to investigate the prevalence of internet addiction by performing two cross-sectional studies with an interval in two years, and to reassess the acceptable cut-off points for the self-rating scale identifying probable internet addiction. At the end of the study, more than 21% of participants admitted that they have internet addiction and researchers proposed to reconsider the cut-off point of possible internet addiction from 40 to 50 as both of their surveys in 2014 and 2016 demonstrated higher than 40 mean IAT scores.

The relationship between cyberloafing and internet addiction was examined by Keser, Kavuk and Numanoglu (2016). The researchers conducted a survey on 139 preservice teachers at Ankara University in Turkey using "Cyberloafing Activity Scale" adopted by Kalayci (2010) and updated by Yasar (2013) on the basis of Blanchard and Henle (2008), and "Internet Addiction Scale" developed by Sahin and Korkmaz (2011). The findings of the study revealed a correlation between internet addiction and individual, search and social cyberloafing activities. These three cyberloafing activities rise as the level of internet addiction increases, whereas news cyber-loafing activities remain unchangeable.

Previously research on cyberloafing were mostly conducted among employees at the workplace, however, limited amount of research has focused on the cyberloafing in educational settings (Varol & Yildirim, 2019). The investigation of cyberloafing among EMU students was conducted by Umaru (2020), however, it was limited only to the undergraduate students from the Faculty of Education. Ozdamli and Ercag (2021) examined cyberloafing in the Turkish Republic of Northern Cyprus, however, only university students participated in this research. Moreover, the relationship between problematic Internet usage and academic procrastination behavior was investigated by Tezer, et al (2020) but constrained only to high school students. Banwar examined internet addiction among EMU students, however that study included students only from School of Computing and Technology (2016). Though some studies have explored the cyberloafing and internet addiction in Northern Cyprus and EMU but their number is very limited, and mostly such variables as students' age and faculty were not considered. Conclusively, there are only few studies on the association between internet addiction and cyberloafing, and there is an urgent need for research on this topic among students (Keser, Kavuk, & Numanoglu, 2016).

1.1 Aim of Study

The main aim of this research is to investigate cyberloafing behavior and internet addiction among university students of EMU.

1.2 Research Questions

This thesis attempted in answering the following research questions:

1. What is the cyberloafing behavior among EMU students?
 - 1.1. Does cyberloafing behavior of EMU students vary based on their gender?
 - 1.2. Does cyberloafing behavior of EMU students vary based on their age?
 - 1.3. Does cyberloafing behavior of EMU students vary based on their faculty?

2. What is the level of internet addiction among EMU students?
 - 2.1. Does the level of internet addiction among EMU students vary based their gender?
 - 2.2. Does the level of internet addiction among EMU students vary based their age?
 - 2.3. Does the level of internet addiction among EMU students vary based their faculty?
3. Is there any relationship between cyberloafing and internet addiction among EMU students?

1.3 Significance of Study

The study has significant implications for the future research, academic research and educational field. This study is essential because it provides more information on students' levels of cyberloafing behavior and internet addiction in the literature, thereby providing potential solutions and contributions to the effective utilization of internet technology in educational settings reducing its negative impact. Furthermore, this research is significant as it demonstrates the relevance of cyberloafing and internet addiction problems in the educational settings, emphasizes the issue of technology and internet misuse, and encourages educators to consider how to utilize technology and the internet properly to increase efficiency rather than decrease it.

1.4 Limitation of Study

The study was conducted among the undergraduate students of Eastern Mediterranean University located in Famagusta, North Cyprus. In addition, the research has spanned for the duration of Spring Semester 2021-2022.

1.5 Definition of Research Key Terms

- **Cyberloafing:** the use of the internet for non-job-related, non-class-related purposes (Lim, 2002).
- **Internet addiction (IA):** a psychological disorder in the users manifested due to the uncontrollable usage of the internet and desire to be constantly online (Wan Ismail, et al., 2020).
- **Sharing:** creation and sharing of content, including status updates, posting photos, videos and commenting on them, creating personal profiles and sharing blogs ((Brandtzæg, Lüders, & Skjetne, 2010; Karahasanović, et al., 2009).
- **Shopping:** purchasing of needed or wanted things (Shaw J. , 2010);
- **Real-time updating:** updating of people's status about what they are doing, weather and news reports (Kaul, Yates, & Gruteser, 2012).
- **Accessing online content:** downloading of any other materials than can be digitally stored, listening to music online, watching videos online (Furendal, 2007).
- **Gaming/gambling:** an activity included playing online games, wagering in casinos, on lotteries, and sporting events (Potenza, Fiellin, Heninger, Rounsaville, & Mazure, 2002).

Chapter 2

LITERATURE REVIEW

2.1 World Global Village

The phenomena of globalization is currently ubiquitous, and not only scientists are interested in it: a vast area of non-scientific understanding of contemporary social processes provides its own alternatives for comprehending the effects and prospects of globalization (Asabina, 2014). In the context of globalization the term "global village" has become extremely popular representing a type of vision about mankind's future growth and is closely related to the advent of electronic means of communication and their influence on society. According to McLuhan (1962), the one who coined this term, the global electronic auditory-visual media, i.e. non-written, but oral-electronic forms of communication, which diminish space and time will play a crucial role. In his book "The Gutenberg Galaxy," he describes how electronic communications have transformed the globe into a kind of village, allowing information to be transmitted instantly from any spot on the planet to any other arbitrary location. With the shift from print to electronic media, interpersonal contacts have been dramatically revolutionized, uniting individuals from all walks of life, nationalities, and races into a single communicative society, dubbed "electronic community" by McLuhan (1962).

This concept has become especially relevant with the advent of the internet. As McLuhan predicted, that in terms of the global village all inhabitants are connected to

each other, with the assistance of the internet it has become our present reality. People can communicate with each other without any effort thanks to the network that has been created. The barriers between towns, countries, and continents have been obliterated, as people may now communicate not just through handwritten letters, telegrams, landlines, or cross-country trips from but simply being at home with a computer or any other device with internet connectivity (Van Alstyne, 1996).

In addition, the concept of the global village can be considered in the sense that through the media, since the invention of television, there has been not only an exchange of information, but also the adoption of one culture by another country (Mikos, 2019). Thus, Antekol's study (1997) illustrates how people observe the social standards of behavior and clothes of another nation while watching television, and subsequently apply these behavioral frameworks that are acceptable or disapproved by the surrounding society. As satellite television overcomes physical space, the experience of one nation might become the norm of another nation through television programs. The transfer of cultural characteristics including values occurs through globalization from one group to another (Magu, 2015). The emergence of social media has had as much impact as television because people now have an opportunity to create and share their own content. The entire globe interacts and is connected with each other (Kumar, Singh, Choudhury, & Gupta, 2019).

2.2 Technology in Education

Everything has changed as a result of globalization and the effect of technologies on how people work, interact, behave in society, have fun and study (Ghory & Ghafory, 2021). Educational institutions have been forced to respond effectively to technological developments as information and communications technology has had a

significant impact on schools and opened up a plethora of options for instructors and learners, considering individual teachers' and students' requirements (Ratheeswari, 2018). Overcoming time and space boundaries has led to the widespread use of technology in the field of education, as well as the emergence of new learning formats. Currently such types of education are available as face-to-face, distance and blended learning (Bamiah, Brohi, & Rad, 2018). If distance education is inseparable from the use of telecommunication technologies and internet resources, and is not limited to the location of students and teachers, and their time zone (Guseynova, 2019), blended learning supposes combination of online and face-to-face learning (Weightman, Farnell, Morris, Strange, & Hallam, 2017), traditional (face-to-face) education did not previously imply mandatory use of technology. However, it is impossible to envisage any type of education today without use of technology.

According to Raja and Nagasubramani (2018) the employment of technology in the sphere of education has yielded several benefits. Learning has become more interactive, convenient, and full of interesting fields, students may receive knowledge in a more accessible and effective manner. The researchers Raja and Nagasubramani (2018) have identified the following four roles of technology in education:

1. As a part of the curriculum
2. As an instructional delivery system
3. As a means of aiding instructions
4. As a tool to enhance the entire learning process (Raja & Nagasubramani, 2018).

Based on the earlier research of Tinio (2002) they have also stated that ICT promotes the following types of learning, thereby influencing educational field (Raja & Nagasubramani, 2018):

- Active learning
- Collaborative and Cooperative learning
- Creative Learning
- Integrative Learning
- Evaluative learning.

The first type supposes that with the assistance of ICT, students are not just passive recipients of knowledge but active participants in the process, since they are more involved in scenarios that are analogous to real life.

Collaborative and Cooperative learning means that both students and teachers can communicate with each other even if they are from different cultures and are at a distance from each other. It allows students in improving their conversational abilities and global awareness. They learn how to communicate and cooperate effectively considering distinctive features of different nations and individuals.

The third type states that ICT opens up more possibilities for providing a creative environment in which students are encouraged to generate their own ideas and produce based on their gained knowledge.

The use of technology helps to bridge the gap between theory and practice, in other words integrates them.

The last type promotes student-centered learning that is closely related to constructivism and take into consideration learner's background such as his/her

knowledge, beliefs and abilities (Ratheeswari, 2018) by allowing students to receive helpful feedback.

As it can be noticed all these types of learning significantly influence the education improving its quality and helping both instructors and students to acquire and assimilate the knowledge.

Among the visible benefits that technology has brought are the following:

1. Independence from time and place (Ghazi-Saidi, et al., 2020). Distance education and online courses have become quite popular as they provide flexibility, so there is no need to attend lessons at a precise time. Furthermore, learning has become mobile and flexible. For example, one of the type of e-learning is asynchronous learning in which students are independent from time of the provided training (Kayalar, 2021). Instructors can record a video of a lecture/lesson and students can see the recording at a later date. In recent years, the globe has been exposed to such an experience and has been persuaded of its efficiency. During the pandemic, all countries and educational institutions were forced to switch to online learning and make extensive use of various application such as Skype, Zoom, and Teams to conduct lessons.
2. Enrichment of teaching and learning (Shatri, 2020). A lot of modern equipment provide new opportunities enhancing the educational process and making it easier and more enjoyable. Whereas it used to be difficult for students to comprehend complicated concepts, they may now quickly witness real instances thanks to numerous tools.

3. Increased students' motivation (Shanmugam & Balakrishnan, 2019).
Technology creates more interactive learning environment, enhancing student engagement and, as a result, improving learning outcomes.
4. Enhancing group collaboration (Talebian, Mohammadi, & Rezvanfar, 2014).
Learners and teachers can communicate being in completely different places through virtual classrooms, video and audio conferences.
5. Access to the wide range of information (Borysiuk, 2013). A vast amount of information is available from various resources, including digital libraries.
6. Supporting different learning styles (Raut & Patil, 2016). With the help of technology multiple methods of presenting information with the option for learners to select the most appropriate one for them are available.

Overall, the use of technology improves the teaching-learning process by making it more interesting, dynamic and effective (Borysiuk, 2013). If technology is applied properly it helps educators and learners to enhance their productivity, efficiency, and organization, and improves students' cognitive performance and achievements (Sarkar, 2012). However, despite the positive impact of technology the implementation of ICT into schools is a complicated and challenging process, and according to Ratheeswari (2018) certain requirements must be fulfilled in order to improve learning:

- Digital technologies and the internet should be freely available to students and teachers in education institutions;
- Teachers and students need an access to the relevant and high-quality digital content;
- Instructors should be well-trained in the use of new technology and tools to help students meet their academic objectives (Ratheeswari, 2018).

If any of the above factors are not met, technology may have the opposite effect, making the teaching-learning more difficult rather than enhancing it. Teachers can be under stress and have a negative attitude towards technology as a result of limited financial resources, lack of support and constant modification of online tools with a breakneck pace. This obstructs the effective implementation of ICT in education (Njiku, Maniraho, & Mutarutinya, 2019).

Another issue is that a lot of useful education applications are paid and not every school allocates sufficient budget for this purpose. In addition, educators should constantly monitor that their material is up to date as the internet is dynamic; different tools and programs rapidly change, and material quickly becomes obsolete (Chicioreanu, Ianos, & Danielienė, 2019).

Furthermore, the broad use of technology in education and the popularity of social media among students have its drawbacks. Many students are accustomed to checking their social networks such as Instagram, Facebook or Twitter during class, which leads to distraction from their studies and decrease their academic performance (Talaue, AlSaad, AlRushaidan, AlHugail, & AlFahhad, 2018).

Raut and Patil in their paper (2016) described the following negative effects of technology in education:

1. The literacy and spelling skills of students have deteriorated as they are used to the computer checking and pointing out spelling mistakes.
2. Learning focus and the capacity to recall and retain information reduced as a lot of learners are used to receive quick ready answers from the internet.

3. People are less eager to spend time searching for needed information and conducting research since they are accustomed to having information readily available on social media. As a result, their capacity to recall knowledge has decreased.
4. The distractions provided by YouTube, Facebook, and Twitter dramatically diminish students' concentration ability and negatively affect their academic performance because learners try to multitask accessing social networking sites while studying.
5. Students increasingly prefer communication in social networks, in which there are no body language, non-verbal signals, intonation, to personal communication. In this regard, the ability of interpersonal face-to-face communication is reduced.
6. Students stopped filtering published information, forgetting about the easy accessibility of personal information in social networks, which can lead to negative consequences.
7. Students are losing social skills as they become increasingly reliant on cell phones and various applications (Raut & Patil, 2016).

On the one hand, the availability of computers, mobile devices, and the internet motivates students, engages them in the learning process, assist in achieving academic success (Durak, 2020); on the other hand, students overuse these tools and often to their detriment. Cyberloafing and internet addiction, for example, are becoming increasingly common problem (Akar & Coskun, 2020; Lebni, et al., 2020).

2.3 Cyberloafing

Loafing existed a long ago before the invention of technology and could be observed during the breaks when employees chatted while serving themselves water, tea, or smoking cigarettes (Whitty & Carr, 2006). However, the spread of the internet and technology has led to a new kind of loafing called cyberloafing.

Cyberloafing was initially introduced and studied mainly in the context of the work environment. Later on, the cyberloafing drew more attention of different scholars in the educational settings (Coskun & Gokcearslan, 2019; Twum, Yarkwah, & Nkrumah, 2021).

Kalayci (2010) defines cyberloafing as internet use for unassociated with the course activities during lesson hours. According to Saritepeci (2020) cyberloafing refers to utilization of internet technologies for entertainment and social communication purposes instead of performing assigned tasks. O'Neill, Hambley and Chatellier (2014) identify cyberloafing or cyberslacking as browsing the internet for personal needs while working hours. Other researchers refer the internet use for non-job-related purposes as cyberloafing (Lim, 2002). It includes such activities as writing personal e-mails, chatting, gaming, banking, online shopping, and reading news (Blanchard & Henle, 2008). In schools, especially in computer laboratories, similar activities occur (Varol & Yildirim, 2019).

2.3.1 The Positive Side of Cyberloafing

Cyberloafing has both negative and beneficial impacts, according to several studies. People may be under great pressure because of the tasks assigned to them, projects and deadlines, and as a result, experience a lot of stress. Cihan's (2018) and Gulduran's

(2018) studies demonstrate that cyberloafing behavior reduces the level of stress. The study of Koay (2018) also revealed that cyberloafing is a method for ostracized workers to cope with workplace stress and emotional exhaustion. Especially when employees experience lack hope, resilience, optimism, and self-efficacy, cyberloafing can help them avoid losing resources and replenishing new ones (Agarwal & Avey, 2020).

Wu, Mei, Ugrin, Liu and Wang (2020) believe that cyberloafing might help people recover by providing psychological detachment and relaxation. According to Pindek, Krajcevska, and Spector (2018), cyberloafing should not be viewed solely as a negative phenomenon exhibiting unproductive behavior, but rather as a coping mechanism for dealing with a boredom at work.

Furthermore, Akar and Coskun (2020) argue that cyberloafing allow people to generate new creative ideas as well as develop problem critical thinking skills. The results of Rahman's, Shah's, and Zahir's study (2020) demonstrate that minor cyberloafing has a positive effect on innovative work behavior. Koay, Soh and Chew (2017) discovered that cyberloafing does not have a strong relationship with employees' performance.

2.3.2 The Negative Effect of Cyberloafing

Other studies find that that cyberloafing activities hinder deeper education (Heflin, Shewmaker, & Nguyen, 2017), distract learners in the classroom and negatively affect students' academic performance (Wu, Mei, & Ugrin, 2018).

Many students mistakenly believe that it is possible to perform multiple tasks at the same time, and as a result miss out on learning material because it is difficult to focus on two things correspondingly (Twum, Yarkwah, & Nkrumah, 2021).

Furthermore, while the low level of cyberloafing has a beneficial impact on innovative work, the excessive cyberloafing significantly influences people in a negative way (Rahman, Shah, & Zahir, 2020). The research of Wu, Mei, Liu and Ugrin (2020) demonstrated that although cyberloafing can help to detach mentally, it can also lead to fatigue and poor mental health.

The survey of Nwakaego and Angela (2018) showed that 72% of students were dissatisfied with their studies due to cyberloafing. Furthermore, more than 35% of respondents stated that social networks involved them more in cyberloafing, distracting from the studies. Learners who spend too much time cyberloafing tend to underperform or fail in their study. However, the researchers note that cyberloafing does not directly lead to negative consequences for students, but excessive cyberloafing on a long-term basis can be devastating (Nwakaego & Angela, 2018).

Some studies claim that the IA level is related to the level of cyberloafing (Turan, Özer, & Atan, 2020). This shows the need to study both of these phenomena.

2.4 Internet Addiction

Although there are still not enough of internet addiction diagnostic criteria (King, et al., 2018) and the definition of maladaptive internet use is controversial (Fernandes, Maia, & Pontes, 2019), a lot of studies show a great concern of this issue (Li, et al., 2021; Li, et al., 2018). In the ICD-11 beta draft, the World Health Organization (WHO) has included only "Gaming Disorder" as addictive disorders (WHO, 2018), however,

internet addiction has become a significant public health problem (Fineberg, et al., 2018).

“The internet addiction disorder” was initially applied by Goldberg (1995) to identify the individual with problems in using internet. Other different terms such as “problematic internet use” (Hinojo-Lucena, Aznar-Díaz, Cáceres-Reche, Trujillo-Torres, & Romero-Rodríguez, 2019), “compulsive internet use” (Gmel, Khazael, Studer, Baggio, & Marmet, 2019), “pathological internet use” (Wang & Zhang, 2020), “excessive internet use” (Kumar, et al., 2019), “internet dependence” (Kheyri, et al., 2019) are applied. Young (1998) defined internet addiction as a compulsive use of internet and classified it into five categories: cybersexual addiction (spending too much time in the websites for cybersex and cyberporn), cyber-relationship addiction (uncontrolled involvement in online relationships), net compulsions (excessive online gambling or shopping), information overload (compulsive navigation and surfing the internet), computer addiction (obsessive online game playing).

Addiction is generally characterized with an uncontrolled craving, which is frequently followed by a lack of control, an obsession with usage, and persistent use despite the issues caused by the practice. Abuse is a milder kind of addiction that also cause difficulties for the individuals, but the person has greater control over their conduct and is better able to establish limits and manage their usage. Both addiction and internet abuse can have negative effects (Young, 2004).

2.4.1 The Prevalence of Internet Addiction in Different Countries

Various studies demonstrate that the number of people addicted to the internet is increasing throughout the world. The prevalence of IA in Gulf Cooperation Council countries is 33% resulting in every three individuals classified as addicted to the

internet (Al-Khani, et al., 2021). The total prevalence of IA in China is more than 35%, with 33.9% having a moderate level of addiction and 2.8% having a severe level of addiction which is higher than before COVID-19 pandemic (Li, et al., 2021).

The level of IA in Turkey has also increased after 2013 and varies between 3% and 7% (Avci, 2021). About a fifth of high school pupils in Hungary are addicted to the internet (Kapus, et al., 2021). The number of high-school students in Japan having addiction equal to 4.3% and possibly addicted equal to 26.3% in 2018 was much higher than in 2014 equal to 2% classified as addicted and 21.7% as possibly addicted (Kawabe, Horiuchi, Nakachi, Hosokawa, & Ueno, 2020). In Nigeria, 14.1% of students are online addicted, implying that one out of every seven undergraduate students has problems with uncontrolled internet use (Omoyemiju & Popoola, 2021).

The research of Błachnio, Przepiorka, Benvenuti, Mazzoni and Seidman (2019) revealed that compulsive use of Facebook was connected with better life happiness in Italy, whereas IA was associated with worse life satisfaction in the United States.

The diagnosis and treatment of internet addiction may differ based on cultural background. Therefore, Chen and Nath conducted a study in which they compared three regions with vastly different cultures, levels of economic growth, and technological advancement: the Americas, China, and Africa, and concluded that the IA issue is not limited to the countries having high internet availability (Chen & Nath, 2016). Understanding cultural variations and levels of IA in different countries can aid in finding and development of effective techniques for diagnosing and treating IA (Chen & Nath, 2016).

2.4.2 The Impact of Internet Addiction

The issue of internet addiction is becoming increasingly relevant now not only because internet technologies are widely used in all fields, including education, but also because people were forced to completely transit from offline to online work, learning, shopping, entertaining and communication during recent COVID-19 pandemic (Vargo, Zhu, Benwell, & Yan, 2021). Today people are even more engaged with the internet activities watching television, utilizing social media for reading news and talking to others, using new applications for ordering food, goods and online education (Nielsen, 2020). According to Li, et al., (2021) the time spent using the internet, and in particular as a means of entertainment, has become much higher during the pandemic, and also, a significant percentage of respondents reported the increase of internet addiction. This, in turn, leads to a number of negative consequences.

Alimoradi, et al. (2019) concluded that internet addicts have problematic sleep patterns because they do not get enough sleep or their sleep is of poor quality, resulting in issues including emotional distress and fatigue. The study of Baturay and Toker (2019) indicated that excessive internet use impacts negatively on individuals' self-esteem, self-confidence, social self-efficacy and academic self-efficacy. Addicted people may be unable to self-manage themselves resulting in social isolation, and to perform the chores in both the academic and personal lives.

Furthermore, according to Jafariharandi and Bahrami (2019) students' productivity suffers as a result of their excessive internet use, and they feel distressed if they are disconnected. Indeed, such mental illnesses as depression, loneliness, and a loss of meaning in life may also be consequences of the internet addiction and have negative effects for society and the institution. Other studies also found that students addicted

to the internet have more social anxiety, less satisfaction with life, lower level of self-esteem and are more depressed than those who are not addicted to the internet (Yücens & Üzer, 2018; Andrade, et al., 2020).

2.5 Related Research

Since the inception of cyberloafing and internet-addiction, several studies have been conducted to explore these concepts. This section aims to shed the light on several related researches and their conclusions on cyberloafing and internet addiction.

Metin-Orta and Demirtepe-Saygılı (2021) explored cyberloafing behaviors among students in two universities in Ankara, Turkey. The aim of the study was to explore the relationship between students' cyberloafing activities and positive and negative impact. 267 undergraduate students participated in the research answering the Cyberloafing survey (2016). Positive and negative influence was measured by Positive and Negative Affect Schedule (PANAS) developed by Watson, Clark and Tellegen (1988) and adapted by Gençöz (2000). In conclusion, the findings of the study demonstrated that the scores of male respondents in shopping, accessing online content and gaming/gambling were higher than females' among 172 females, 94 males and 1 unreported students. Accessing online content and gaming/gambling were revealed to be positively connected with positive affect, whereas sharing was found to be positively correlated with bad affect.

Varol and Yıldırım conducted the research on cyberloafing behaviors from students' perspectives (Varol & Yıldırım, 2019). The study's primary purpose was to examine undergraduate students' cyberloafing habits in terms of both instructor and learner-based concerns, and how these behaviors might be avoided to maximize student

attention on the course. The respondents participated in this research consisted of 228 undergraduate students from the Elementary School Teaching Program at the Faculty of Education of state Turkish university. The study was conducted using a qualitative design of case study and open-ended questions, which were later analyzed using the qualitative method of research. According to the findings of the study, one of the reasons for students' cyberloafing behaviors is that teachers delivered the course in a monotonous and boring manner, utilizing limited methods and techniques of instruction.

El Din and Baddar (2019) investigated the cyberloafing among nursing students in Damanhour National Medical Institute located in Egypt. The research was aimed to investigate the frequency of cyberloafing, the level of procrastination and conscientiousness, and how cyberloafing affects procrastination and conscientiousness. The study applied a survey collecting the data from 157 respondents. IBM SPSS software package version 20.0 was used for analyzing gathered data. At the conclusion of the study, a positive significant correlation between cyberloafing frequency and conscientiousness was discovered, while between cyberloafing frequency and procrastination it came to light as negative. In addition, it was found that females had higher scores than males in terms of conscientiousness, cyberloafing variety and frequency. According to scientists, this could be owing to the fact that the majority of Egyptian nurses are women rather than men.

The study of Metin-Orta and Demirutku (2020) was aimed to explore the relationships between values, cyberloafing attitudes and behaviors. 427 students from 3 Turkish universities were selected through convenience sampling and survey method was applied for conducting the research. The results of their study revealed that men had a

higher level of cyberloafing behaviors than women while gender distinction did not play a significant role in relation to cyberloafing and time spent on the internet. Furthermore, a positive correlation between cyberloafing attitudes, behaviors and Hedonistic-Stimulation value which involves pursuing pleasure and fulfillment of the senses, as well as values reflecting excitement, novelty, and change was noticed.

The prevalence of internet addiction and the factors influencing it was investigated by Lan, et al. (2020). The study included 431 college students from 3 Vietnamese universities and scale method was applied for collecting the data. Data were gathered in person and analyzed using Stata version 16 (Stata Corp, College Station, TX). At the end of the study, the researchers concluded that 25.5% of the respondents could be classified as internet addicted and gender, living circumstances, self-esteem, life satisfaction, depression and anxiety did not have a considerable influence on the proportion of internet addiction. Moreover, academic performance, stress, loneliness and daily internet usage time have all been found to be significant predictors of internet addiction.

Rosliza, Ragubathi and Shaharuddin (2018) conducted a cross-sectional research on the internet addiction involving 322 college students aged 19 to 24 years among which more than 64 % were females. The goal of this study was to investigate the prevalence of internet addiction among undergraduate students at a Malaysian public institution, as well as the variables that contribute to it. The data were collected using survey and analyzed through SPSS version 22. At the end of the study, the outcome demonstrated that the prevalence of addicted internet usage was 7.8% represented by 25 students, whereas the prevalence of problematic internet use was more than 56% represented by 182 students which means that one in every thirteen students has the potential to

become an obsessive internet user. In addition, male students were found to be more likely internet addicted or engaged in the problematic internet use than female students. When compared to those on scholarships, individuals who received study loans and other sorts of support, such as financial aid from family, were observed to have a greater prevalence of problematic and addictive internet use.

The prevalence of internet addiction in Tunisia and its predictors was investigated by Mellouli, et al. (2018). They applied a questionnaire and collected data from 556 students in 5 colleges among which more than 51% were females. Data were analyzed using statistical tools. The researchers' findings concluded that 18 participants have a high level of internet addiction, 196 respondents were classified as having a mild degree of addiction while 42 participants are not internet addicted. The strong relationship between lifetime use of tobacco, illicit drugs, young age, low level of parental education and problems controlling internet use has been also revealed.

The role of self-control and identity style in the relation to internet addiction was investigated by Agbaria and Bdier (2021). The aim of the study was to reveal if there is a correlation between internet addiction and self-control skills; and between identity and internet addiction. The participants were represented by 500 Israeli-Palestinian college students, aged from 19 to 30 and 30% of which were boys. The researchers applied survey questionnaires for data collection, correlational analyses and a multiple regression model for examination the results. At the end of the study, their findings proved that self-control abilities help prevent high level of IA, high identity status is also negatively associated with the internet addiction while low identity statuses can lead to the higher rate of IA.

Gökçearsan, Uluyol and Şahin (2018) explored smartphone addiction, cyberloafing and social support among students. The main goal of their study was to research how smartphone addiction, cyberloafing, stress, and social support are linked. 885 students were from a public university in Ankara participated in the study. For data collection, an online questionnaire consisting of 4 scales was employed, for analysis of data acquired SPSS was used. The convincing results of the researchers indicated that class level, family wealth, and area of residence had no significant influence on smartphone addiction, cyberloafing, perceived stress, or social support among students. Furthermore, the researchers discovered that smartphone addiction will rise as cyberloafing behavior increases, and stress had a strong positive impact on smartphone addiction, implying that increased stress causes a rise in smartphone addiction.

Savci, Damar, Comez and Bilik (2021) conducted a descriptive, cross-sectional study aimed to explore the effects of smartphone addiction and cyberloafing behavior of nursing students on their clinical decision-making during clinical practice. A total of 379 students of two nursing schools in Turkey participated in this investigation. Survey method consisting of four parts was applied for gathering the data and later the data were analysed using SPSS. Conclusively, the researchers' findings indicate that there is significant negative relationship between smartphone addiction and clinical decision-making, between cyberloafing and clinical decision-making while the correlation between smartphone addiction and cyberloafing is significant positive. Moreover, their results revealed that almost half of observed students are addicted to the smartphones.

As it can be seen from the research examines, the topics of cyberloafing and internet addiction have been sufficiently studied, and however, there is a missing gap in the

literature on the topic of correlation between internet addiction and cyberloafing, and only a few studies examined the variety of cyberloafing behavior and IA based on students' faculties.

Chapter 3

METHODOLOGY

This chapter of the thesis is focused on the research method of the study. This section includes: the data collection tools, participants, data analysis, and the validity and reliability of this research. Moreover, this section will highlight how the data gathered was analyzed.

3.1 Research Method

The research was conducted using the quantitative approach together with the survey method. Holton and Burnett (2005) defined the quantitative method of research as a phenomenon in which the data is analyzed and numerically rated. Survey method is a type of research which is defined as the collection of information from a definite number of participants by gathering their replies on the suggested questions (Check & Schutt, 2011), which is often used to explore human behavior (Singleton & Singleton, 1988). The survey method was used to observe the prevalence of the cyberloafing and internet addiction among students.

3.2 Sample

Sampling is used to collect data that is assumed to represent the target group when it is not possible for the whole population to participate in a research. Convenience sampling is a nonprobability technique that consists of a set of items that are easily available to a researcher (Clark, 2007). In this sample participants voluntarily express their desire to participate in the study after the researcher announces the topic and purpose of the study (Stratton, 2021). Convenience sampling is popular among

researchers because it is simple, inexpensive and takes less time than other sample methods. It is effective for generating a prospective hypothesis or study aim. However, the analysis of this sample method cannot be applied to the entire target group (Stratton, 2021).

A total of 550 students from all Faculties, registered in the Spring semester of 2021-2022 academic year at EMU participated in this research.

Table 3.1 below indicates the gender of the participants.

Table 3.1: Gender of participants

Gender	Frequency (n)	Percent (%)
Female	261	47,5
Male	289	52,5
Total	550	100,0

As it is shown in Table 3.1 above, a total of 550 students took part in the study, with 47.5% of them being Female (261 students) and 52.5% belonged to the Male gender (289 students).

The following Table 3.2 shows the age range of respondents.

Table 3.2: Age range of participants

Age Range	Frequency (n)	Percent (%)
18-20	300	54,5
21-25	230	41,8
26-30	18	3,3
31+	2	0,4

As illustrated in Table 3.2 the age range of the participants was distributed as follows: 54.5% (300 students) were 18-20 years, 41.8% (230 students) aged 21-25, 3.3% (18 students) belonged to the age range of 26-30 and 0.4% (2 students) were in the age 31+.

Table 3.3 below indicates the number of answered students from each Faculty.

Table 3.3: Faculty of participants

Faculty	Frequency (n)	Percent (%)
Architecture	57	10,4
Arts & Sciences	68	12,4
Business & Economics	52	9,5
Communication and Media Studies	47	8,5
Dentistry	11	2,0
Education	43	7,8
Engineering	64	11,6
Health Sciences	36	6,5
Law	19	3,5
Medicine	19	3,5
Pharmacy	25	4,5
Tourism	38	6,9
Computing and Technology	71	12,9

As it is seen in Table 3.3 the Faculty of participants out of which 10.4% (57 students) were from the Faculty of Architecture, 12.4% (68 students) were from the Faculty of Arts & Sciences, 9.5% (52 students) were from the Faculty of Business & Economics, 8.5% (47 students) were from the Faculty of Communication and Media Studies, 2% (11 students) were from the Faculty of Dentistry, 7.8% (43 students) were from the Faculty of Education, 11.6% (64 students) were from the Faculty of Engineering, 6.5% (36 students) were from the Faculty of Health Sciences, 3.5% (19 students) were from the Faculty of Law, 3.5% (19 students) were from the Faculty of Medicine, 4.5% (25

students) were from the Faculty of Pharmacy, 6.9% (38 students) were from the Faculty of Tourism and 12.9% (71 students) were from the Faculty of Computing and Technology.

Table 3.4 represents the frequency of the internet usage by the participants.

Table 3.4: Internet usage

Internet usage	Frequency (n)	Percent (%)
Everyday	545	99,1
2-4 days in a week	4	0,7
Rarely	1	0,2

Table 3.4 above shows the frequency of internet usage by the participants. 99.1% (545 students) answered they use the internet on a daily basis, 0.7% (4 students) answered they access to the internet 2-4 days in a week and 0.2% (1 student) answered that they rarely use the internet.

Table 3.5 below indicates the type of devices which the participants prefer to use.

Table 3.5: Kind of devices

Kind of Devices	Frequency (n)	Percent (%)
Mobile Phone	489	88,9
Tablet	7	1,3
PC	54	9,8

As illustrated in Table 3.5, the questionnaire shows that 88.9% (489 students) prefer mobile phone, 1.3% (7 students) chose tablet and 9.8% (54 students) prefer personal computers.

3.3 Data Collection Tool

The data collection tool was a survey that comprised of three parts: the first part was the demographic section, the second section was the Cyberloafing Scale and the third section was the short version of Internet Addiction Test. Additionally, the demographic section was developed by the researcher and was used to gather information about respondents' gender, faculties, internet usage and preferably type of devices. The second section 'Cyberloafing Scale' was developed by Akbulut, Dursun, Dönmez, and Şahin (2016) comprised of 30 items that was used to measure students cyber activities under five different factors which are: sharing which consists of 9 items; shopping consists of 7 items; real-time updating consists of 5 items; accessing online content consists of 5; and gaming/gambling consists of 4 items. The third section which is short version of Internet Addiction Test (IAT) by Young (1998) adapted by Pawlikowski, Altstötter-Gleich, and Brand (2013) consists of 12 items under two factors was taken to explore the internet addiction situation among the students. These two factors are named "loss of control/time management" and "craving/social problems". IAT has Likert-type rating from 1 (rarely) to 5 (always). Prior to data collection, permission for the use and distribution of the questionnaires from the developers of the Cyberloafing Scale and the short version of the IAT was obtained. At the same time the approval from EMU's Scientific Research and Publication Ethics Board was received. After obtaining the necessary permissions, hard copies of the questionnaire were distributed to all Faculties of EMU. Before filling out the questionnaire, a short information about the purpose of the study was explained to the participants, and they voluntarily answered the questionnaire provided. In March 2022, the data gathering procedure was completed.

3.5 Data Analysis

The descriptive data analysis technique was used in analyzing the data gathered with the use of statistics software named SPSS 22.0. Furthermore, the T-test was used to analyse the data having only two variables, and ANOVA was employed for the data with more than two variables. Additionally, to show the obtained result in relation to each study question variable, descriptive analysis and frequency were applied. Correlation was used to find out whether there is a relationship between cyberloafing and internet addiction.

While analyzing the data obtained from the five-point Likert-type scales used to determine the cyberloafing behavior and internet addiction level of the undergraduate students participating in the research, the interval coefficient was calculated as 24 $((4/5) \times 30)$ for the Cyberloafing Scale and 9.6 $((4/5) \times 12)$ for the IAT by using the formula $((\text{Range} / \text{Likert Type}) \times \text{Number of Items})$ suggested by Baltaci (2021).

Table 3.6 shows the range of interval coefficients for cyberloafing behavior and internet addiction.

Table 3.6: Coefficient for Cyberloafing and IAT (Baltaci, 2021)

Scale Type	Evaluation Criteria	Evaluation Rangers for Cyberloafing	Evaluation Rangers for IAT
Five-level Likert scale	Very Low	30 – 53.99	12.00 – 21.59
	Low	54 – 77.99	21.60 – 31.19
	Medium	78 – 101.99	31.20 – 40.79
	High	102 – 125.99	40.80 – 50.39
	Very High	126 – 150.00	50.40 – 60.00

Based on the Table 3.6 the level of cyberloafing behavior and IA will be determined according to the received results.

3.6 Validity and Reliability

In Akbulut's research (2016) the Cronbach's alpha value of sharing factor was determined as 0.926, for the shopping factor 0.87, for the real-time updating 0.928, for the accessing online content 0.944, and for the gambling/gaming it was determined as 0.796. However, for this study, an internal consistency on the reliability coefficient of the Cyberloafing scale was conducted and the results were determined as 0.902 for the sharing factor, 0.863 for the shopping, 0.87 for the real-time updating, 0.801 for the accessing online content and 0.786 for the gaming/gambling factor, which are close to 1 and demonstrate the consistence of the Cyberloafing Scale's values (Table 3.7).

Table 3.7: Cyberloafing reliability

Factors	Akbulut's Research	Current Research
Sharing	0.92	0.90
Shopping	0.87	0.86
Real-time updating	0.92	0.87
Accessing online content	0.94	0.80
Gaming/gambling	0.79	0.78

In the research of Pawlikowski's, Altstötter-Gleich's and Brand's (2013) the Cronbach's alpha value was determined as 0.876 for the first factor which is loss of control/time management and 0.836 for the second factor which is craving/social problems. However, for this study, the Cronbach's alpha value of 12-items was tested and found 0.800 for the loss of control/time management factor, and 0.827 for the craving/social problems. All of the factors having values ranging from 0.682 to 0.958, which is satisfactory for proving internal consistency of factors (Kline, 2013) prove the Cyberloafing scale and IAT are reliable and the items in these scales are consistent (Table 3.8).

Table 3.8: IAT reliability

Factors	Pawlikowski's Research	Current Research
Loss of control / time management	0.87	0.80
Craving / social problems	0.83	0.82

Chapter 4

FINDINGS AND DISCUSSION

This section presents the results of the data analysis. The following information demonstrates the cyberloafing behavior of the participants' and their level of internet addiction.

4.1 Cyberloafing Behavior among EMU Students

Table 4.1 shows the mean and standard deviation of the students' cyberloafing based on 5 factors.

Table 4.1: Averages related to cyberloafing behavior during lesson

Factors	Items	N	Min	Max	$\bar{X}$	$\bar{X}/I$	S.D
Sharing	9	550	9	45	19.89	2.21	7.85
Shopping	7	550	7	35	11.20	1.60	4.99
Real Time Updating	5	550	5	25	7.97	1.59	4.01
Accessing online content	5	550	5	25	8.66	1.73	4.12
Gaming/ Gambling	4	550	4	20	5.73	1.43	2.89
Total	30	550	30	121	53.46	1.78	18.13

The total mean value was found as 53.46, which is quite close to 54 indicating “low” level of cyberloafing behavior. Some questions from various factors are presumably no longer relevant, which reduces the possible frequency of such cyberloafing behavior among students. For example, the questions pertaining to Twitter or questions about downloading of music and videos might be irrelevant to modern undergraduate

students because Twitter is not as popular as Facebook, Instagram or instant messaging applications, and current undergraduate students do not download material; instead, they access it online. Conversely, the findings of Simanjuntak, Nawangsari, and Ardi (2019) revealed that more than 90% of students admitted practicing cyberloafing behavior during the class which demonstrates the high level of cyberloafing behavior. The average mean of each sub-dimension was calculated as 19.89 for sharing, 11.20 for shopping, 7.97 for real time updating, 8.66 for accessing online content, and 5.73 for gaming/gambling. While students' cyberloafing tendencies during lesson in general are "low" ($\bar{X}/I = 1.78$), it is noticed that mostly students use their devices for sharing ($\bar{X}/I=2.21$) in terms of the cyberloafing factors, followed by accessing online content ($\bar{X}/I=1.73$), shopping ($\bar{X}/I=1.60$) and real-time updating ($\bar{X}/I=1.59$), while the lowest result is for gaming/gambling factor ($\bar{X}/I = 1.43$). When the rate of gaming/gambling examined, it can be supposed that most of the students prefer to play games using their computers, which are usually not available at the lessons, rather than using their mobile phones. For the gambling, it can be supposed that more than half of EMU students are from Islamic countries where gambling is not allowed, and secondly, the majority of the respondents are young students who report all the financial issues to their parents. The first two factors are in line with Saritepeci's results (2020) revealing accessing online content and sharing to have the highest scores.

Table 4.2 represents students' cyberloafing behavior.

Table 4.2: Students' cyberloafing behavior

	Items	$\bar{X}$	SD
1	"I check my friends' posts during lesson"	2.44	1.17
2	"I check my friends' social networking profiles during lesson"	2.26	1.15
3	"I share content on social networks during lesson"	2.02	1.14

4	“I like posts that are interesting during lesson”	2.40	1.19
5	“I comment on shared photos during lesson”	1.96	1.14
6	“I post status updates on social networks during lesson”	1.91	1.12
7	“I tag friends on photos during lesson”	1.79	1.11
8	“I chat with friends during lesson”	2.95	1.27
9	“I watch shared videos during lesson”	2.13	1.15
10	“I shop online during lesson”	1.62	1.01
11	“I visit deal-of-the-day websites during lesson”	1.61	0.96
12	“I visit online shopping sites during lesson”	1.61	0.94
13	“I visit auction sites (e.g. e-bay) during lesson”	1.52	0.92
14	“I use online banking services during lesson”	1.79	1.04
15	“I visit online shops for used products during lesson”	1.48	0.91
16	“I check job advertisements during lesson”	1.54	0.92
17	“I retweet a tweet I like during lesson”	1.58	0.98
18	“I favourite a tweet I like during lesson”	1.64	1.07
19	“I post tweets”	1.45	0.85
20	“I read tweets during lesson”	1.72	1.08
21	“I comment on trending topics”	1.57	0.93
22	“I download music during lesson”	1.59	1.09
23	“I watch videos online during lesson”	1.87	1.19
24	“I listen to music online during lesson”	1.73	1.05
25	“I download videos during lesson”	1.55	1.00
26	“I download applications I need during lesson”	1.90	1.17
27	“I visit betting/gambling sites during lesson”	1.27	0.76
28	“I bet/gamble online during lesson”	1.24	0.72
29	“I check online sport sites during lesson”	1.57	1.06
30	“I play online games during lesson”	1.63	1.08

Based on the data received from Table 4.2, results from Item 8 “I chat with friends during lesson” showed that the majority of the students answered negatively towards commenting on chatting with friends during a lesson. Additionally, the mean value of 2.95 and standard deviation 1.27 indicate that while the lesson is in session, most of the students do not chat with friends. Despite the results showed that the majority of the students have low level of cyberloafing behavior when it concerns chatting with friends while a class is in session, Item 8 is in the first rank which means that in

comparison with other items students practice chatting with friends during the lesson more than any other activities. This activity does not require a special concentration, such as betting or playing games and helps students easily get distracted if the lesson is boring for them. Similarly, the findings of Ayebi-Arthur, Arhin, & Aidoo (2021) demonstrated instant messaging as the highest cyberloafing activity practiced by the participants. In addition, the results of Sivrikova, Ptashko, Roslyakova, Sokolova and Dimuhametov (2021) showed that pupils communicate online and search for information during classes more often than other types of cyberloafing behavior. Item 1 “I check my friends’ posts during lesson” is in the second rank and indicates that most of the respondents behave negatively towards checking their friends’ posts during the lesson. Moreover, the mean value of 2.44 and standard deviation 1.17 demonstrate that participants do not check their friends’ posts while the lesson is in progress. Subsequently, the results show that the level of students’ cyberloafing behaviors is low when it comes to checking their friends’ posts during the lesson. The findings from Item 4 “I like posts that are interesting during lesson” with the mean value 2.40 and standard deviation 1.19, indicate that the majority of participants do not practice such cyberloafing behaviors as liking interesting posts while the lesson is in session. Probably many people are driven by fear of missing something out or expressing gratitude to their friends through liking their posts, and perhaps this creates a sense of involvement in the lives of friends and acquaintances, so that is why Item 1 and 4 are one of the most practiced cyberloafing activities. Though these three highest scores reflect the low level of cyberloafing behavior, it is indicative that these three activities (chatting with friends, checking friends’ posts and liking interesting posts) are in the top three practiced by students which is similar to the Koay’s results (2018).

In addition, the results from Table 4.2, Item 28 “I bet/gamble online during the lesson” demonstrated the lowest score among all items, indicating that the highest number of students responded negatively towards betting/gambling during the lesson. As a result, the mean value of 1.24 and standard deviation 0.72 show that while the lesson is in progress, the students do not bet or gamble. Similarly, the conclusion that students mostly do not visit betting/gambling sites has been reached according to results from Item 27 “I visit betting/gambling sites during lesson” with the mean value 1.27 and standard deviation 0.76. Subsequently, it can be noticed that visiting betting/gambling websites is the second minor cyberloafing behavior among the participants. The reason for Items 27 and 28 having the lowest results might be that many students at EMU came from Muslim religious countries where the gambling is forbidden. These findings converge with the previous research which indicated that students display other types of cyberloafing behavior more frequently than betting and gambling (Sarioğlu Kemer & Dedeşin Özcan, 2021) while according to Umaru (2020) more than half of the students (50.4%) answered positively on visiting gambling sites with a varying frequency. Item 15 “I visit online shops for used products during lesson” with the mean value of 1.48 and standard deviation 0.91, is one of the three least practiced cyberloafing behavior by students. This indicates that most of the students do not shop online for used products during the lesson which is similar to the findings of Masadeh’s (2021) indicating the low level of shopping online. The current findings may be explained by the fact that participants do not visit online shops for used products even outside school hours.

4.1.1 Cyberloafing Behavior Based on Students’ Gender

The findings presented in this section indicate if any connection between EMU students’ cyberloafing behavior and their gender was found. The relationship between

male and female genders and students cyberloafing behavior was discovered using a statistical analysis known as independent sample T-test. 2 factors out of 5 were revealed as significantly different in respect to the students' gender.

Table 4.8 below shows the difference among gender and sharing factor of Cyberloafing Scale.

Table 4.8: Sharing factor and gender

Gender	N	$\bar{X}$	S	df	t	p
Female	261	20.90	8.44	548	2.87	0.00
Male	289	18.98	7.16			

As indicated in Table 4.8, a significant difference [$p < 0.05$, $t(548) = 2.87$] between sharing factor of cyberloafing behavior and students' gender was found. It can be noted that female respondents with the mean value of 20.90 display cyberloafing behavior in terms of sharing more than males with the mean value of 18.98 and standard deviation 7.16, which proves that the gender of students affects their cyberloafing behavior when it concerns sharing the content on the social media. Perhaps the reason is that females are naturally more sociable, emotional and ready to share while men usually keep their feelings and emotions inside. That is why females are more willing to maintain contact with their families, friends and relatives through social networks. Although this study showed that girls are more engaged in sharing, the reverse findings of Twum, Yarkwah and Nkrumah (2021) indicate that male students are more involved in chatting online and visiting social networks which is referred to the sharing factor.

Table 4.9 below demonstrates the difference among students' gender and gaming/gambling factor of Cyberloafing Scale.

Table 4.9: Gaming/gambling factor and gender

Gender	N	$\bar{X}$	S	df	t	p
Female	261	5.00	2.27	548	-5.75	0.00
Male	289	6.39	3.22			

According to Table 4.9, there is a significant relationship between gaming/gambling ($p < 0.05$) and female (mean= 5.00, S=2.27), and male (mean=6.39, SD=3.22) genders, $t(548) = -5.75$. Findings indicate that the gender of the participants is related to their behavior towards gaming and gambling. Furthermore, when it concerns gaming/gambling, male students have higher level of gaming/gambling behavior than female. Males also usually interested in sports at a higher level than females and that, perhaps, make them more prone to the gambling. When it comes to gaming, probably the majority of men find gaming as a way to relieve stress. These results are similar to Akgün (2020) who determined a significant difference between the average scores of females and males in gambling/gaming in favor of male participants.

Statistically meaningful relationship between other factors of cyberloafing behavior (shopping, accessing online content, real-time updating) and gender, and between cyberloafing in general and gender of the students have not been revealed. Similarly, there was no statistically significant difference between gender and cyberloafing in other researches (Durak, 2020; Tanrıverdi & Karaca, 2018; Gökçearsan, Uluyol, & Şahin, 2018).

4.1.2 Cyberloafing Behavior Based on Students' Age

For determining the connection between cyberloafing behavior and students age a One Way ANOVA and Post hoc test were used. The results indicate that only one factor which is gaming/gambling was significantly different when it concerned the

students' age and their cyberloafing behavior. Analysing the rest factors of Cyberloafing Scale (sharing, shopping, real time updating and accessing online content), the significant difference between EMU students' age and their cyberloafing behavior was not revealed.

Table 4.10 shows EMU students' cyberloafing behavior based on their age for the gaming/gambling factor.

Table 4.10: Mean values for the gaming/gambling factor

Age	N	$\bar{X}$	SD
18-20	300	5.46	2.76
21-25	230	6.16	3.08
26-30	18	4.94	1.92
31+	2	4.00	0.00
Total	550	5.73	2.89

Table 4.11 demonstrates the relationship between gaming/gambling factor of Cyberloafing scale and students' age.

Table 4.11: Gaming/gambling factor and students' age

Variable Source	Sum of Squares	df	Mean Square	F	p	Significant Difference	
Gaming/ Gambling	Between Groups	80.58	3	26.86	3.24	0.02	21-25 –18-20
	Within Groups	4526.65	546	8.29			
	Total	4607.24	549				

As demonstrated in Table 4.11, the mean value for the gaming/gambling factor was different in age groups from 21-25 to 18-20, which is supported by the p value shown in Table 4.13 above. A significant difference was noticed in the age groups (21-25 to

18-20) based on students cyberloafing behavior for the gaming/gambling factor ($p < 0.05$) for three constraints [$F(3, 546) = 3.24, p = 0.02$].

Moreover, the results derived from the Post Hoc test show that the mean value of the students in age range 21-25 ($\bar{X} = 6.16, SD = 3.08$) is significantly different to that of the students in age range 18-20 ($\bar{X} = 5.46, SD = 2.76$). The explanation for this might be that the period of the Covid-19 pandemic started in 2019-2020 affected the behavior of students. That is, students aged 21-25 now began their university courses just during the pandemic, therefore they studied online and their classroom behavior was less supervised.

Conclusively, these findings are in line with the results of Yildirim, En, Karatepe, Çalikoğlu, and Polat (2022) which also demonstrated that students aged 21 and above are observed to engage in much more smartphone cyberloafing in class than students aged 20 and younger. However, in this study the significant difference between cyberloafing behaviors in general and students' age was not found.

4.1.3 Cyberloafing Behavior Based on Students' Faculty

In order to measure the relationship between students' Faculty and their cyberloafing behavior, a One Way ANOVA and Post hoc test were carried out. The results indicate that all 5 factors of Cyberloafing Scale were significantly different when it concerned the students' Faculty and their cyberloafing behavior.

Table 4.12 below illustrates the descriptive statistics of EMU students' cyberloafing behavior based on their Faculty for the sharing factor.

Table 4.12: Mean values for the sharing factor

Faculty	N	$\bar{X}$	Sd
Architecture (A)	57	28.04	10.51
Arts&Sciences (A&S)	68	19.74	6.33
Business&Economics (B&E)	52	19.98	7.93
Comm.&Media Stu. (C&M)	47	18.96	6.70
Dentistry (D)	11	19.64	5.35
Education (Ed)	43	19.21	5.47
Engineering (Eng)	64	20.28	8.05
Health Sciences (HS)	36	19.08	7.03
Law (L)	19	15.58	5.96
Medicine (M)	19	17.42	5.44
Pharmacy (Ph)	25	18.96	5.58
Tourism (T)	38	18.03	6.35
School of Comp.&Tech. (C&T)	71	17.72	7.66

Table 4.13 below demonstrates the relationship between EMU students' Faculty and their cyberloafing behavior for the sharing factor.

Table 4.13: Sharing factor and students' Faculty

Variable Source	Sum of Squares	df	Mean Square	F	P	Significant Difference	
Sharing	Between Groups	4835.69	12	402.97	7.45	0.00	A – A&S A – B&E
	Within Groups	29018.97	537	54.03			A – C&M A – D A – Ed A – Eng A – HS A – L A – M A – Ph A – T A – C&T
	Total	33854.67	549				

As demonstrated in Table 4.12, the mean value for the sharing factor was different in each Faculty, which is supported by the p value shown in Table 4.13 above. A

significant difference was noticed in the different Faculties based on the students cyberloafing behavior at EMU ($p < 0.05$) for three constraints [$F(12, 537) = 7.46, p = 0.00$].

Moreover, for the sharing factor, the results derived from the Post Hoc test show that the mean value of the students in the Faculty of Architecture ($\bar{X} = 28.04, SD = 10.51$) is significantly different to that of the students in Arts & Sciences ($\bar{X} = 19.74, SD = 6.33$), which proves that students in the Faculty of Architecture have higher level of cyberloafing behavior in terms of sharing factor. The mean value of students in the Architecture Faculty ($\bar{X} = 28.04, SD = 10.51$) is also significantly different to that of students in the Faculty of Business & Economics ($\bar{X} = 19.98, SD = 7.93$), which demonstrates higher tendency of cyberloafing behavior based on the sharing factor among students in the Faculty of Architecture in comparison with the students in the Faculty of Business & Economics. Additionally, the mean value of students in the Faculty of Architecture ($\bar{X} = 28.04, SD = 10.51$) is significantly different to that of students in the Faculty of Communication & Media Studies ($\bar{X} = 18.96, SD = 6.70$) demonstrating that the students in the Faculty of Architecture practice sharing cyberloafing activities more than students in the Faculty of Communication & Media Studies Faculty.

Taking into consideration the Faculties of Architecture and Dentistry, it can be noticed that the mean value of students in Architecture ($\bar{X} = 28.04, SD = 10.51$) is significantly different to the mean value of students in Dentistry ($\bar{X} = 19.64, SD = 5.35$) which mean that Architecture students higher level of cyberloafing behavior in terms of sharing factor. Similarly, the mean value of students in Architecture ($\bar{X} = 28.04, SD = 10.51$) is significantly different to the mean value of students in Education ($\bar{X} = 19.21, SD = 5.47$)

and proves that students in Architecture Faculty like to distract on cyberloafing activities connected with sharing during the lesson more than students in Education faculty. The mean value of students in Architecture Faculty ($\bar{X}$ =28.04, SD=10.51) exceeding the mean value of students in Engineering Faculty ($\bar{X}$ =20.28, SD=8.07) indicates higher level of cyberloafing among Architecture students based on sharing factor.

Moreover, the mean value of students in the Faculty of Architecture ($\bar{X}$ =28.04, SD=10.51) is significantly different to that of students in the Faculty of Health Sciences ($\bar{X}$ =19.08, SD=7.03) and shows that cyberloafing behavior in terms of sharing is more common among students in Architecture than students in Faculty of Health Sciences. The mean value of students in Faculty of Architecture ($\bar{X}$ =28.04, SD=10.51) is significantly different to that of students in Faculty of Law ($\bar{X}$ =15.58, SD=5.96) and proves that students in the Faculty of Architecture have a higher tendency of cyberloafing behavior based on the sharing factor than students in the Faculty of Law.

In addition, the mean value of students in Faculty of Architecture ($\bar{X}$ =28.04, SD=10.51) is significantly different to that of students in Faculty of Medicine ($\bar{X}$ =17.42, SD=5.44) and demonstrates the higher level of cyberloafing behavior in terms of sharing factor among students in Faculty of Architecture. The mean value of students in the Faculty of Architecture ($\bar{X}$ =28.04, SD=10.51) is significantly different to the mean value of students in Pharmacy Faculty ($\bar{X}$ =18.96, SD=5.58) and shows that students in Architecture Faculty practice sharing type of cyberloafing behavior more than students in the Faculty of Pharmacy.

Similarly, the mean value of students in the Faculty of Architecture ($\bar{X}=28.04$, $SD=10.51$) is significantly different to the mean value of students in the Faculty of Tourism ($\bar{X}=18.03$, $SD=6.35$) and demonstrate higher level of cyberloafing behavior in terms of sharing among Architecture students in comparison with students in the Faculty of Tourism. Conclusively, the mean value of students in the Faculty of Architecture ($\bar{X}=28.04$, $SD=10.51$) is significantly different to that of students in School of Computing and Technology ($\bar{X}=17.72$, $SD=7.66$), indicating the students in Architecture Faculty practice sharing cyberloafing activities more than students in School of Computing and Technology.

On the other hand, the Faculty of Arts & Sciences ($\bar{X}=19.74$, $SD=6.33$) is not significantly different to any other faculties. The Faculty of Business & Economics ($\bar{X}=19.98$, $SD=7.93$) is not significantly different to any other Faculties. The Faculty of Communication & Media Studies ($\bar{X}=18.96$, $SD=6.70$) is not significantly different to any other Faculties. In addition, the Faculty of in Dentistry ($\bar{X}=19.64$, $SD=5.35$) is not significantly different to any other Faculties. The Faculty of Education ($\bar{X}=19.21$, $SD=5.47$) is not significantly different to all other Faculties. The Faculty of Engineering ($\bar{X}=20.28$, $SD=8.07$) is not significantly different to any other Faculties. Moreover, the Faculty of Health Sciences ($\bar{X}=19.08$, $SD=7.03$) has no significant difference to any other Faculties. The Faculty of Law ($\bar{X}=15.58$, $SD=5.96$) is not significantly different to any other Faculties. Similarly, the Faculty of Medicine ($\bar{X}=17.42$, $SD=5.44$) is not significantly different to any other Faculties. The Faculty of Pharmacy ($\bar{X}=18.96$, $SD=5.58$) is not significantly different to any other Faculties. The Faculty of Tourism ($\bar{X}=18.03$, $SD=6.35$) is not significantly different to any other Faculties. In conclusion, the School of Computing and Technology ($\bar{X}=17.72$, $SD=7.66$) has no significant difference to any of the Faculties.

Table 4.14 below illustrates the descriptive statistics of EMU students' cyberloafing behavior based on their Faculty for the shopping factor.

Table 4.14: Mean values for the shopping factor

Faculty	N	$\bar{X}$	Sd
Architecture	57	19.89	7.85
Arts&Sciences	68	10.73	4.66
Business&Economics	52	11.44	3.94
Comm.&Media Stu.	47	9.68	3.62
Dentistry	11	9.64	2.69
Education	43	10.97	4.11
Engineering	64	10.98	4.35
Health Sciences	36	10.88	6.27
Law	19	8.89	1.20
Medicine	19	9.63	2.87
Pharmacy	25	12.16	5.87
Tourism	38	11.00	5.39
School of Comp.&Tech.	71	10.31	3.90

Table 4.15 below demonstrates the relationship between EMU students' Faculty and their cyberloafing behavior for the shopping factor.

Table 4.15: Shopping factor and students' Faculty

Variable Source	Sum of Squares	Df	Mean Square	F	P	Significant Difference
Shopping	Between Groups	1637.14	12	136.42	6.06	0.00
	Within Groups	12085.23	537	22.50		
	Total	13722.37	549			
						A – A&S A – B&E A – C&M A – D A – Ed A – Eng A – HS A – L A – M A – T A – C&T

As shown in Table 4.14, the mean value for the shopping factor was different in each Faculty, which is supported by the p value shown in Table 4.15 above. A significant difference was noticed in the different Faculties based on the students cyberloafing behavior at EMU ($p < 0.05$) for three constraints [$F(12, 537) = 6.06, p = 0.00$].

Furthermore, for the shopping factor, the results from the Post Hoc test show that the mean value of the students in Architecture Faculty ($\bar{X} = 19.89, SD = 7.85$) is significantly different to that of the students in Arts & Sciences ($\bar{X} = 10.73, SD = 4.66$), Business & Economics ($\bar{X} = 11.44, SD = 3.94$), Communication & Media Studies ($\bar{X} = 9.68, SD = 3.62$), Dentistry ($\bar{X} = 6.64, SD = 2.69$), Education ($\bar{X} = 10.97, SD = 4.11$), Engineering ($\bar{X} = 10.98, SD = 4.35$), Health Sciences ($\bar{X} = 10.88, SD = 6.27$), Law ($\bar{X} = 8.89, SD = 1.20$), Medicine ($\bar{X} = 9.63, SD = 2.87$), Tourism ($\bar{X} = 11.00, SD = 5.39$) and School of Computing and Technology ($\bar{X} = 10.31, SD = 3.90$). However, there is no significant difference between students in Architecture and Pharmacy ($\bar{X} = 12.16, SD = 5.87$) Faculties. This proves that students in the Faculty of Architecture practice cyberloafing behavior in terms of shopping more than students in all other Faculties with the exception of students in Pharmacy. Conversely, all other Faculties are not significantly different to each other.

Table 4.16 below illustrates the descriptive statistics of EMU students' cyberloafing behavior based on their Faculty for the real time updating factor.

Table 4.16: Mean values for the real time updating factor

Faculty	N	$\bar{X}$	Sd
Architecture	57	9.75	4.45
Arts&Sciences	68	8.31	4.56
Business&Economics	52	7.62	3.89
Comm.&Media Stu.	47	9.02	4.52

Dentistry	11	7.81	2.99
Education	43	6.51	2.00
Engineering	64	8.66	4.60
Health Sciences	36	7.81	3.54
Law	19	5.53	1.17
Medicine	19	6.79	1.99
Pharmacy	25	7.40	2.48
Tourism	38	7.39	4.00
School of Comp.&Tech.	71	7.63	4.19

Table 4.17 below demonstrates the relationship between EMU students' Faculty and their cyberloafing behavior for the real time updating factor.

Table 4.17: Real time updating factor and students' Faculty

Variable Source		Sum of Squares	df	Mean Square	F	P	Significant Difference
Real Time Updating	Between Groups	539,26	12	44.94	2.90	0.00	A – Ed A – L
	Within Groups	8320,27	537	15.49			
	Total	8859,53	549				

Based on Table 4.17, the mean value for the real time updating factor was different in each faculty, which is supported by the p value shown in Table 4.15 above. A significant difference was noticed in the different faculties based on the students cyberloafing behavior at EMU ($p < 0.05$) for three constraints [$F(12, 537) = 2.90$, $p = 0.00$].

Furthermore, for the real time updating factor, the results from the Post Hoc test indicate that the mean value of the students in the Faculty of Architecture ($\bar{X}=9.75$, $SD=4.45$) is significantly different to that of the students in Education ($\bar{X}=6.51$,

SD=2.00) and Law ($\bar{X}$ =5.53, SD=1.17). It proves that students in the Faculty of Architecture have higher level of cyberloafing behavior in terms of real time updating in comparison with students in Education and Law. However, the mean value of the students in the Faculty of Architecture is not significantly different to that of students in the Faculties of Arts & Sciences ($\bar{X}$ =8.31, SD=4.56), Business & Economics ($\bar{X}$ =7.62, SD=3.89), Communication & Media Studies ($\bar{X}$ =9.02, SD=4.52), Dentistry ($\bar{X}$ =7.81, SD=2.99), Engineering ($\bar{X}$ =8.66, SD=4.60), Health Sciences ($\bar{X}$ =7.81, SD=3.54), Medicine ($\bar{X}$ =6.79, SD=1.99), Pharmacy ($\bar{X}$ =7.40, SD=2.48), Tourism ($\bar{X}$ =7.39, SD=4.00) and School of Computing and Technology ($\bar{X}$ =7.63, SD=4.19). Furthermore, the mean values of all other Faculties are not significantly different to each other in terms of real time updating factor.

Table 4.18 below illustrates EMU students' cyberloafing behavior based on their Faculty for the real time updating factor.

Table 4.18: Mean values for the accessing online content

Faculty	N	$\bar{X}$	Sd
Architecture	57	8.68	3.65
Arts&Sciences	68	8.44	3.74
Business&Economics	52	8.80	3.82
Comm.&Media Stu.	47	8.47	3.56
Dentistry	11	8.45	5.56
Education	43	6.79	2.60
Engineering	64	10.56	4.95
Health Sciences	36	9.64	4.57
Law	19	6.11	1.37
Medicine	19	7.53	2.70
Pharmacy	25	8.92	5.05
Tourism	38	8.55	5.11
School of Comp.&Tech.	71	8.77	4.06

Table 4.19 below demonstrates the relationship between EMU students' Faculty and their cyberloafing behavior for the accessing online content factor.

Table 4.19: Accessing online content factor and students' Faculty

Variable Source		Sum of Squares	df	Mean Square	F	P	Significant Difference
Accessing online content	Between Groups	574.50	12	47.88	2.92	0.00	Eng – Ed Eng – L
	Within Groups	8778.91	537	16.35			
	Total	9353.42	549				

As illustrated in Table 4.18, the mean value for the accessing online content factor was different in each faculty, which is supported by the p value shown in Table 4.19 above. A significant difference was noticed in the different faculties based on the students cyberloafing behavior at EMU ($p < 0.05$) for three constraints [$F(12, 537) = 2.92, p = 0.00$].

Furthermore, for the accessing online content factor, the results from the Post Hoc test show that the mean value of the students in the Faculty Engineering ($\bar{X}=10.56, SD=4.95$) is significantly different to that of the students in the Faculties of Education ($\bar{X}=6.79, SD=2.60$) and Law ($\bar{X}=6.11, SD=1.37$). It means that students in the Faculty of Engineering have higher tendency of cyberloafing behavior based on the accessing online content factor than students in Education and Law. However, all other Faculties have no significant difference to each other in terms of accessing online content.

Table 4.20 below shows the descriptive statistics of EMU students' cyberloafing behavior based on their Faculty for the gaming/gambling factor.

Table 4.20: Mean values for the gaming/gambling factor

Faculty	N	$\bar{X}$	Sd
Architecture	57	5.84	3.11
Arts&Sciences	68	5.56	2.80
Business&Economics	52	5.33	3.01
Comm.&Media Stu.	47	5.66	2.81
Dentistry	11	5.00	1.61
Education	43	4.79	1.75
Engineering	64	6.84	2.78
Health Sciences	36	6.61	4.23
Law	19	4.79	2.29
Medicine	19	4.79	2.15
Pharmacy	25	5.40	2.16
Tourism	38	5.37	2.40
School of Comp.&Tech.	71	6.23	3.20

Table 4.21 below demonstrates the relationship between EMU students Faculty and their cyberloafing behavior for the gaming/gambling factor.

Table 4.21: Gaming/gambling factor and students' Faculty

Variable Source		Sum of Squares	df	Mean Square	F	P	Significant Difference
Gaming/ Gambling	Between Groups	221.24	12	18.44	2.25	0.00	Eng – Ed
	Within Groups	4386.00	537	8.17			
	Total	4607.24	549				

As demonstrated in Table 4.20, the mean value for the sharing factor was different in each Faculty, which is supported by the p value shown in Table 4.21 above. A significant difference was noticed in the different Faculties based on the students cyberloafing behavior at EMU ($p < 0.05$) for three constraints [$F(12, 537) = 2.25$, $p = 0.00$].

Moreover, for the sharing factor, the results derived from the Post Hoc test show that the mean value of the students in the Faculty of Engineering ($\bar{X}$ =6.84, SD=2.78) is significantly different to that of students in Education Faculty ($\bar{X}$ =4.79, SD=1.75) which proves that students in Engineering Faculty have higher level of cyberloafing behavior in terms of gaming/gambling than students in the Faculty of Education. However, all other Faculties are not significantly different to each other based on the gaming/gambling factor.

In light of these results, the findings suggest that there is difference of students' Faculties when it comes to cyberloafing behavior, both overall and separately for each factor of cyberloafing. The results received from this study are similar to the findings of Yılmaz, Yılmaz, Öztürk, Sezer and Karademir (2015) which indicate that students' department has a significant effect on their level of cyberloafing behavior.

4.2 The Level of Internet Addiction among EMU Students

Table 4.22 shows the mean and standard deviation of the students IA based on 2 sub-dimensions.

Table 4.22: Averages related to IA during lesson

Sub-dimensions	Items	N	Min	Max	$\bar{X}$	$\bar{X}/I$	S.D
Loss of control/time management	6	550	6	30	16.01	2.67	5.27
Craving/social problems	6	550	6	30	13.32	2.22	5.27
Total	12	550	12	60	29.33	2.44	9.89

According to the Table 4.22, the total mean value was found as 29.33 which is slightly below 31.20, indicating the medium level of IA based on the interval coefficient suggested in Data Analysis, Chapter 3. Conflicting data were found by Shehata and

Abdeldaim (2021) whose study indicated that more than 50% of the included students suffered from severe IA. In addition, Zafari, Rafiemanesh and Balouchi (2018) revealed the moderate and severe prevalence of IA among students. Moreover, the study of Mohamed and Bernous (2020) revealed that 51.5% of students have moderate IA, and 15.80% students have IA. The average mean of each factor was calculated as 16.01 for loss of control/time management and 13.32 for craving/social problems. It proves that students have more problems with loss of control/time management ($\bar{X}/I=2.67$) than craving/social problems ($\bar{X}/I=2.22$).

Table 4.23: Students' IA

	Items	$\bar{X}$	S.D
1	"How often do you find that you stay online longer than you intended?"	3.20	1.21
2	"How often do you find yourself saying "just a few more minutes" when online?"	3.22	1.27
3	"How often do you neglect household chores to spend more time online?"	2.55	1.22
4	"How often do you try to cut down the amount of time you spend online and fail?"	2.77	1.22
5	"How often do you grades or school work suffer because of the amount of time you spend online?"	2.24	1.21
6	"How often do you lose sleep due to being online late at night?"	2.96	1.31
7	"How often do you choose to spend more time online over going with others?"	2.32	1.25
8	"How often do you try to hide how long you have been online?"	2.05	1.23
9	"How often do you snap, yell, or act annoyed if someone bothers you while you are online?"	2.02	1.18
10	"How often do you feel depressed, moody, or nervous when you are offline, which goes away once you are back online?"	2.09	1.19
11	"How often do you feel preoccupied with the Internet when offline, fantasize about being online?"	2.02	1.12
12	"How often do you become defensive or secretive when anyone asks you what you do online?"	1.84	1.17

Based on the data received from Table 4.23, Item 2 “How often do you find yourself saying “just a few more minutes” when online?” with a mean value of 3.22 and standard deviation 1.27, is in the first rank of IA among EMU students. It means that the majority of participants have issues with finding themselves saying “just a few more minutes”. This is followed by Item 1 “How often do you find that you stay online longer than you intended?” with the mean value of 3.20 and standard deviation 1.21, proving that most of the students stay online longer than they intended. There is always something interesting, bright in social networks, distracting from real everyday life, and this is endless, so students most likely spend more time on social networks than they plan. These results are in line with previous researchers which indicate that most students often stay online longer than intended (Taha, Shehzad, Alamro, & Wadi, 2019; Salubi, Nekhwevha, Oyediran-Tidings, & Ondari-Okemwa, 2019).

According to the Table 4.23, Item 12 “How often do you become defensive or secretive when anyone asks you what you do online?” having the mean value of 1.84 and standard deviation 1.17 is the lowest score among all items of IAT. It indicates that the majority of the students answered negatively towards becoming secretive when somebody asks them about their online activity. The lowest rate of this item may be due to the fact that the majority of students in Northern Cyprus are from foreign countries, and no one actually checks and supervises how long and what they do online. These results are in contrary with Shehata and Abdeldaim’ findings (2021) which showed that more than 50% of respondents answered that at least often they become secretive when someone asks them what they do online. Additionally, Item 9 “How often do you snap, yell, or act annoyed if someone bothers you while you are online?” and Item 11 “How often do you feel preoccupied with the Internet when offline, fantasize about being online?” have the equal mean value of 2.02 but different

standard deviation which is 1.18 for Item 9 and 1.12 for Item 11. As a result, it can be seen that these two Items (9 and 11) are the second lowest scores among IAT items. It proves that most of the students do not snap, yell, or act annoyed if someone bothers them while they are online. This can be partially explained by that most of the students at EMU are left to themselves, they have less responsibilities as they are far away from their homes and families, so hardly anybody bothers them. In addition, it shows that the majority of the students do not feel preoccupied with the internet when they are offline, while the research conducted in Jordan showed that some students often felt more preoccupied with the internet when offline (Mrayyan, Al-Rawashdeh, Khait, & Rababa, 2022).

4.2.1 Internet Addiction Level Based on Students' Gender

A significant difference between students' gender and the level of IA in general was not found. Similarly, the findings of Karaca, Demirci, Caglar, & Unlu (2021) showed that gender variable is not related to the IA score while in the research of Koo and Wang (2021) it was revealed that male students had significantly higher scores of IA than females.

4.2.2 Internet Addiction Level Based on Students' Age

The findings show that the students' age range is not a significant determinant of their IA. Hence, there no relationship exists between the level of IA and age group of the students (18-20, 21-25, 26-30 and 31+). Furthermore, these findings are consistent with the results of Karaca, Demirci, Caglar and Unlu (2021) which revealed that there is not any relationship between the age of the participants and their IA score.

4.2.3 Internet Addiction Level based on Students' Faculty

Table 4.24 below illustrates the descriptive statistics of EMU students' IA based on their Faculty.

Table 4.24: Mean values for the loss of control/time management factor

Faculty	N	$\bar{X}$	Sd
Architecture (A)	57	18.51	6.81
Arts&Sciences (A&S)	68	16.47	4.69
Business&Economics (B&E)	52	14.25	4.96
Comm.&Media Stu. (C&M)	47	17.43	4.63
Dentistry (D)	11	14.91	5.20
Education (Ed)	43	13.72	2.77
Engineering (Eng)	64	16.67	5.13
Health Sciences (HS)	36	14.69	5.39
Law (L)	19	13.00	4.22
Medicine (M)	19	13.10	4.36
Pharmacy (Ph)	25	16.12	5.61
Tourism (T)	38	16.61	5.69
School of Comp.&Tech. (C&T)	71	16.79	4.97

Table 4.25 below demonstrates the relationship between EMU students Faculty and their level of IA based on the loss of control/time management factor.

Table 4.25: Loss of control/time management factor and students' Faculty

Variable Source	Sum of Squares	df	Mean Square	F	P	Significant Difference	
Loss of control/time management	Between Groups	1343.84	12	111.99	4.32	0.00	A – A&S
							A – B&E
	Within Groups	14259.43	537	25.94			A – D
							A – Ed
	Total	15267.68	549				A – Eng
							A – HS
							A – L
							A – M
							A&S – B&E
							A&S – Ed
							A&S – L
							A&S – M
							C&M – B&E
							C&M – Ed
							C&M – L
							C&M – M
							Eng – B&E
							Eng – Ed
							Eng – L
							Eng – M

Ph – L
T – B&E
T – Ed
T – L
T – M
C&T – B&E
C&T – Ed
C&T – HS
C&T – L
C&T – M

As demonstrated in Table 4.24, the mean value for the loss of control/time management factor was different in each Faculty, which is supported by the p value shown in Table 4.25 above. A significant difference was noticed in the different Faculties based on the level of IA at EMU ($p < 0.05$) for three constraints [$F(12, 537) = 4.32, p = 0.00$].

Moreover, the results derived from the Post Hoc test show that the mean value of the students in the Faculty Architecture ($\bar{X}=18.51, SD=6.81$) is significantly different to that of the students in Arts & Sciences ($\bar{X}=16.47, SD=4.69$), Business & Economics ($\bar{X}=14.25, SD=4.96$), Dentistry ($\bar{X}=14.91, SD=5.20$), Education ($\bar{X}=13.72, SD=2.77$), Engineering ($\bar{X}=16.67, SD=5.13$), Health Sciences ($\bar{X}=14.69, SD=5.39$), Law ($\bar{X}=13.00, SD=4.22$) and Medicine ($\bar{X}=13.10, SD=4.36$). It indicates that students in the Faculty of Architecture are more susceptible to the IA than the students in the Faculty of Arts & Sciences, Business & Economics, Dentistry, Education, Engineering, Health Sciences, Law and Medicine. On the other hand, the significant difference between the students in Architecture Faculty and students in the Faculties of Communication & Media, Pharmacy, Tourism and School of Computing and Technology was not found.

Additionally, the mean value of the students in the Faculty of Arts & Sciences ($\bar{X}=16.47$, $SD=4.69$) is significantly different to that of the students in the Faculties of Business & Economics ($\bar{X}=14.25$, $SD=4.96$), Education ($\bar{X}=13.72$, $SD=2.77$), Law ($\bar{X}=13.00$, $SD=4.22$) and Medicine ($\bar{X}=13.10$, $SD=4.36$), proving that students in the Faculty of Art & Sciences have higher level of IA than students in the Faculties of Business & Economics, Education, Law and Medicine. However, there is no significant difference between IA level of students in the Faculty of Art & Sciences and students in the Faculties of Architecture, Communication & Media Studies, Dentistry, Engineering, Health Sciences, Pharmacy, Tourism and School of computing and Technology.

The mean value of the students in Communication & Media Faculty ($\bar{X}=17.43$, $SD=4.63$) is significantly different to that of the students in Business & Economics ($\bar{X}=14.25$, $SD=4.96$), Education ($\bar{X}=13.72$, $SD=2.77$), Law ($\bar{X}=13.00$, $SD=4.22$) and Medicine ($\bar{X}=13.10$, $SD=4.36$) Faculties. It shows that students in Communication & Media Studies Faculty have higher tendency of IA compared to the students in Business & Economics, Education, Law and Medicine Faculties. While the mean value of students in Communication & Media Faculty is not significantly different to that of students in Architecture, Art & Sciences, Dentistry, Engineering, Health Sciences, Pharmacy, Tourism and School of Computing and Technology.

Furthermore, the mean value of the students in the Faculty of Engineering ($\bar{X}=16.67$, $SD=5.13$) is significantly different to that of the students in the Faculties of Business & Economics ($\bar{X}=14.25$, $SD=4.96$), Education ($\bar{X}=13.72$, $SD=2.77$), Law ($\bar{X}=13.00$, $SD=4.22$) and Medicine ($\bar{X}=13.10$, $SD=4.36$). Based on these results, the students in the Faculty of Engineering are more prone to the IA than students in the Faculties of

Business & Economics, Education, Law and Medicine. On the contrary, no significant difference between IA level of students in Engineering and students in the Faculties of Architecture, Art & Sciences, Communication & Media Studies, Dentistry, Health Sciences, Pharmacy, Tourism and School of Computing and Technology was found.

The mean value of the students in the Faculty of Pharmacy ($\bar{X}=16.12$, $SD=5.61$) is significantly different to that of the students in Law ($\bar{X}=13.00$, $SD=4.22$), showing that Pharmacy students have higher level of IA compared to student in the Faculty of Law. Although, there is no significant difference between Pharmacy and Architecture, Art & Sciences, Business & Economics, Communication & Media Studies, Dentistry, Education, Engineering, Health Sciences, Medicine, Tourism and School of Computing and Technology.

The mean value of the students in the Faculty of Tourism ($\bar{X}=16.61$, $SD=5.69$) is significantly different to that of the students in the Faculties of Business & Economics ($\bar{X}=14.25$, $SD=4.96$), Education ($\bar{X}=13.72$, $SD=2.77$), Law ($\bar{X}=13.00$, $SD=4.22$) and Medicine ($\bar{X}=13.10$, $SD=4.36$). As, a result, it can be noticed that students in Tourism are more susceptible to the IA than students in above mentioned Faculties while there is no significant difference between students in the Faculty of Tourism and Faculties of Architecture, Art & Sciences, Communication & Media Studies, Dentistry, Engineering, Health Sciences, Pharmacy and School of Computing and Technology.

Moreover, the mean value of the students in School of Computing and Technology ($\bar{X}=30.90$, $SD=9.56$) is significantly different to that of the students in Business & Economics ($\bar{X}=14.25$, $SD=4.96$), Education ($\bar{X}=13.72$, $SD=2.77$), Health Sciences ($\bar{X}=14.69$, $SD=5.39$), Law ($\bar{X}=13.00$, $SD=4.22$) and Medicine ($\bar{X}=13.10$, $SD=4.36$). It

shows that students in School of Computing and Technology have higher tendency of IA than students in the Faculties of Business & Economics, Education, Law and Medicine.

On the other hand, the mean values of the students in the Faculties of Business & Economics, Dentistry, Education, Health Sciences, Law and Medicine are not significantly different to the mean values of any other Faculties.

Table 4.26: Mean values for the craving/social problems factor

Faculty	N	$\bar{X}$	Sd
Architecture (A)	57	15.60	7.13
Arts&Sciences (A&S)	68	13.66	4.94
Business&Economics (B&E)	52	11.56	4.82
Comm.&Media Stu. (C&M)	47	13.77	4.60
Dentistry (D)	11	11.18	4.42
Education (Ed)	43	12.07	2.93
Engineering (Eng)	64	13.63	4.97
Health Sciences (HS)	36	13.17	5.56
Law (L)	19	10.63	3.71
Medicine (M)	19	10.16	3.69
Pharmacy (Ph)	25	13.24	5.03
Tourism (T)	38	14.32	6.06
School of Comp.&Tech. (C&T)	71	14.11	5.30

Table 4.27 below demonstrates the relationship between EMU students Faculty and their level of IA based on the craving factor.

Table 4.27: Craving/social problems factor and students' Faculty

Table #27: Craving social problems factor and students' Faculty								
Variable Source			Sum of Squares	df	Mean Square	F	P	Significant Difference
Craving/social problems	Between Groups		1008.24	12	84.02	3.16	0.00	A – A&S A – B&E
	Within Groups		14259.43	537	26.55			A – D A – Ed

Total	15267.68	549	A – Eng
			A – HS
			A – L
			A – M
			A&S – B&E
			A&S – L
			A&S – M
			C&M – B&E
			C&M – L
			C&M – M
			Eng – B&E
			Eng – L
			Eng – M
			HS – M
			Ph – M
			T – B&E
			T – L
			T – M
			C&T – B&E
			C&T – Ed
			C&T – L
			C&T – M

As demonstrated in Table 4.26, the mean value for the craving factor was different in each Faculty, which is supported by the p value shown in Table 4.27 above. A significant difference was noticed in the different Faculties based on the level of IA at EMU ($p < 0.05$) for three constraints [$F(12, 537) = 3.16, p = 0.00$].

Moreover, the results derived from the Post Hoc test show that the mean value of the students in the Faculty of Architecture ($\bar{X}=15.60, SD=7.13$) is significantly different to that of the students in Arts & Sciences ($\bar{X}=13.66, SD=4.94$), Business & Economics ($\bar{X}=11.56, SD=4.82$), Dentistry ($\bar{X}=11.18, SD=4.42$), Education ($\bar{X}=12.07, SD=2.93$), Engineering ($\bar{X}=13.63, SD=4.97$), Health Sciences ($\bar{X}=13.17, SD=5.56$), Law ($\bar{X}=10.63, SD=3.71$) and Medicine ($\bar{X}=10.16, SD=3.69$). It indicates that students in the Faculty of Architecture are more susceptible to the IA than the students in the Faculty of Arts & Sciences, Business & Economics, Dentistry, Education,

Engineering, Health Sciences, Law and Medicine. On the other hand, the significant difference between the students in the Faculty of Architecture and students in the Faculties of Communication & Media, Pharmacy, Tourism and School of Computing and Technology was not found.

In addition, the mean value of the students in the Faculty of Arts & Sciences ($\bar{X}=13.66$, $SD=4.94$) is significantly different to that of the students in the Faculties of Business & Economics ($\bar{X}=11.56$, $SD=4.82$), Law ($\bar{X}=10.63$, $SD=3.71$) and Medicine ($\bar{X}=10.16$, $SD=3.69$), proving that students in the Faculty of Art & Sciences have higher level of IA than students in Business & Economics, Law and Medicine. However, there is no significant difference between IA level of students in the Faculty of Art & Sciences and students in the Faculties of Architecture, Communication & Media Studies, Dentistry, Education, Engineering, Health Sciences, Pharmacy, Tourism and School of computing and Technology.

The mean value of the students in the Faculty of Communication & Media ($\bar{X}=13.77$, $SD=4.60$) is significantly different to that of the students in the Faculties of Business & Economics ($\bar{X}=11.56$, $SD=4.82$), Law ($\bar{X}=10.63$, $SD=3.71$) and Medicine ($\bar{X}=10.16$, $SD=3.69$). It indicates that students in the Faculty of Communication & Media Studies have higher tendency of IA compared to the students in Business & Economics, Law and Medicine. While the mean value of students in the Faculty of Communication & Media is not significantly different to that of students in Architecture, Art & Sciences, Dentistry, Education, Engineering, Health Sciences, Pharmacy, Tourism and School of Computing and Technology. Furthermore, the mean value of the students in the Faculty of Engineering ($\bar{X}=13.63$, $SD=4.97$) is significantly different to that of the students in Business & Economics ($\bar{X}=11.56$, $SD=4.82$), Law

($\bar{X}$ =10.63, SD=3.71) and Medicine ($\bar{X}$ =10.16, SD=3.69). Based on these results, the students in the Faculty of Engineering are more prone to the IA than students in the Faculties of Business & Economics, Law and Medicine. On the contrary, no significant difference between IA level of students in Engineering and students in the Faculties of Architecture, Art & Sciences, Communication & Media Studies, Dentistry, Education, Health Sciences, Pharmacy, Tourism and School of Computing and Technology was found.

The mean value of the students in the Faculty of Health Sciences ($\bar{X}$ =13.17, SD=5.56) is significantly different to that of the students in Medicine ($\bar{X}$ =10.16, SD=3.69) which proves that students in the Faculty of Health Science have higher level of IA than students in the Faculty of Medicine. However, the significant difference between Faculty of Health sciences and Faculties of Architecture, Art & Sciences, Business & Economics, Communication & Media Studies, Dentistry, Education, Engineering, Law, Pharmacy, Tourism and School of Computing and Technology was not revealed.

The mean value of the students in the Faculty of Pharmacy ($\bar{X}$ =13.24, SD=5.03) is significantly different to that of the students in Medicine ($\bar{X}$ =10.16, SD=3.69), showing that Pharmacy students have higher rate of IA compared to student in the Faculty of Medicine. Although, there is no significant difference between Pharmacy and Faculties of Architecture, Art & Sciences, Business & Economics, Communication & Media Studies, Dentistry, Education, Engineering, Health Sciences, Medicine, Tourism and School of Computing and Technology.

The mean value of the students in Tourism ($\bar{X}$ =14.32, SD=6.06) is significantly different to that of the students in Business & Economics ($\bar{X}$ =11.56, SD=4.82), Law

($\bar{X}$ =10.63, SD=3.71) and Medicine ($\bar{X}$ =10.16, SD=3.69). As, a result, it can be noticed that students in Tourism are more susceptible to the IA than students in above mentioned Faculties while there is no significant difference between students in the Faculty of Tourism and Faculties of Architecture, Art & Sciences, Communication & Media Studies, Dentistry, Education, Engineering, Health Sciences, Pharmacy and School of Computing and Technology.

Moreover, the mean value of the students in School of Computing and Technology ($\bar{X}$ =14.11, SD=5.30) is significantly different to that of the students in Business & Economics ($\bar{X}$ =11.56, SD=4.82), Education ($\bar{X}$ =12.07, SD=2.93), Law ($\bar{X}$ =10.63, SD=3.71) and Medicine ($\bar{X}$ =10.16, SD=3.69). It shows that students in School of Computing and Technology have higher tendency of IA than students in the Faculties of Business & Economics, Education, Law and Medicine.

On the other hand, the mean values of the students in the Faculties of Business & Economics, Dentistry, Education, Health Sciences, Law and Medicine are not significantly different to the mean values of any other Faculties.

In relation to these findings, a significant difference of students' Faculties on the level of IA for both factors was revealed. These findings may be related to the different quantity of free time available to students in Faculties that expose them to higher or lower level of IA. Conclusively, the findings of this study converge with those of Gammal, Soliman, Elsheikh, & Abozahra (2019) which indicated a high significant relation between different faculties and internet behavior.

4.3 A Relationship between Cyberloafing and Internet Addiction

Table 4.28 shows the correlation between cyberloafing and internet addiction.

Table 4.28 Relationship between cyberloafing and IA

Variables	r	P
Cyberloafing	0.47	0.00
Internet addiction		

According to the Table 4.29, a positive correlation between cyberloafing and IA was found but not the considerable one. Based on the interpretation of the correlation coefficient suggested by Schober, Boer and Schwarte (2018) the correlation between these two variables can be identified as moderate ($r=0.47$, $p=0.00$). Similar findings presented by Keser, Kavuk and Numanoglu (2016) indicated a moderate relationship between the level of IA and some types of cyberloafing behavior such as shopping, planning vacation, searching for non-class-related pictures, videos, online banking, using social networks and chatting.

Chapter 5

CONCLUSION

The research was carried out to investigate the cyberloafing behavior and internet addiction among the undergraduate students of Eastern Mediterranean University. In addition, how the cyberloafing behavior and internet addiction can change depending on students' age, gender and Faculty was explored. To conduct this study the quantitative research and survey method were used. Cyberloafing Scale and short version of IAT were used as data collection tool and applied at EMU. The study group of this research comprised of 550 registered bachelor students enlisted in all Faculties at EMU in Spring 2021-2022 semester who voluntarily participated in the survey. For data analysis, the descriptive analysis method, T-test, ANOVA, frequency (f), percentage and correlation were utilized.

The findings derived from this research demonstrate that EMU students have low level of cyberloafing behavior with average mean value as 53.46. As suggested in this research, EMU students' cyberloafing behavior is different depending on their gender in terms of sharing and gaming/gambling factors ($p=0.00$), age in terms of gaming/gambling factor ($p=0.02$) and Faculty of participants in terms of all 5 factors ($p=0.00$). This proves that gender is seen as a significant factor for the sharing cyberloafing behavior, where females outperformed males; and gaming/gambling, with males having an edge over females. In addition, age has a significant impact on cyberloafing behavior, but only on the gaming/gambling factor, showing the higher

level of cyberloafing behavior in terms of gaming/gambling in the age group 21-25 in comparison with 18-20. Furthermore, it was found that different Faculties of the students have a relationship with their cyberloafing behavior with the highest score in the Faculty of Architecture and the lowest in the Faculty of Law.

Moreover, the research indicates that students of EMU have the level of IA which is quite close to the medium level ($\bar{X}=29.33$) based on the gotten results. As stated in the research, the level of IA in general is not significantly different depending on the age and gender of the participants ($p>0.05$), whereas the Faculty of the students is noticed as a significant factor for the IA level. The Faculty of Architecture was revealed as having the highest level of IA while the Faculties of Law and Medicine demonstrated the lowest scores of IA.

Finally, the results showed that there is a moderate relationship between cyberloafing behavior and IA.

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APPENDICES

Appendix A: Demographic Information

Dear Student,

To answer the questions, please put a checkmark “√” in the corresponding box that best matches the answer you have chosen.

A question can only have one correct answer.

1. Gender :

- ☐ Female
- ☐ Male

2. Age range:

- ☐ 18-20
- ☐ 21-25
- ☐ 26-30
- ☐ 31+

3. Select your faculty:

- | | |
|--|--|
| ☐ Architecture | ☐ Pharmacy |
| ☐ Arts & Sciences | ☐ Tourism |
| ☐ Business & Economics | ☐ School of Computing and Technology |
| ☐ Communication and Media Studies | ☐ School of Health Services |
| ☐ Dentistry | ☐ School of Justice |
| ☐ Education | ☐ Schools of Tourism and Hospitality Management |
| ☐ Engineering | |
| ☐ Health Sciences | |
| ☐ Law | |
| ☐ Medicine | |

4. How often do you access the Internet?

- ☐ Everyday
- ☐ 2-4 days in a week
- ☐ Rarely

5. What kind of devices do you prefer?

- ☐ Mobile phone
- ☐ Tablet
- ☐ PC

6. How often do you access the Internet?

- ☐ Everyday
- ☐ 2-4 days in a week
- ☐ Rarely

7. What kind of devices do you prefer?

- ☐ Mobile phone
- ☐ Tablet
- ☐ PC

Appendix B: “In-class” Technology Use Behavior

Below questions will be answered using 5 point Likert-type scale, varying from: 1 = Never (N) to 5 = Great Extent (GE). All data collected will be analyzed using descriptive analysis techniques.

		N			GE	
		1	2	3	4	5
1	I check my friends’ posts during lesson					
2	I check my friends’ social networking profiles during lesson					
3	I share content on social networks during lesson					
4	I like posts that are interesting during lesson					
5	I comment on shared photos during lesson					
6	I post status updates on social networks during lesson					
7	I tag friends on photos during lesson					
8	I chat with friends during lesson					
9	I watch shared videos during lesson					
10	I shop online during lesson					
11	I visit deal-of-the-day websites during lesson					
12	I visit online shopping sites during lesson					
13	I visit auction sites (e.g. e-bay) during lesson					
14	I use online banking services during lesson					
15	I visit online shops for used products during lesson					
16	I check job advertisements during lesson					
17	I retweet a tweet I like during lesson					
18	I favourite a tweet I like during lesson					
19	I post tweets					
20	I read tweets during lesson					
21	I comment on trending topics					
22	I download music during lesson					
23	I watch videos online during lesson					
24	I listen to music online during lesson					
25	I download videos during lesson					
26	I download applications I need during lesson					
27	I visit betting/gambling sites during lesson					
28	I bet/gamble online during lesson					
29	I check online sport sites during lesson					
30	I play online games during lesson					

Appendix C: Internet Addiction Test

Below questions will be answered using 5 point Likert-type scale, varying from: 1= Never (N) to 5= Very Often (VO). All data collected will be analyzed using descriptive analysis techniques.

		N				VO	
		1	2	3	4	5	
1	How often do you find that you stay online longer than you intended?						
2	How often do you find yourself saying “just a few more minutes” when online?						
3	How often do you neglect household chores to spend more time online?						
4	How often do you try to cut down the amount of time you spend online and fail?						
5	How often do you grades or school work suffer because of the amount of time you spend online?						
6	How often do you lose sleep due to being online late at night?						
7	How often do you choose to spend more time online over going with others?						
8	How often do you try to hide how long you have been online?						
9	How often do you snap, yell, or act annoyed if someone bothers you while you are online?						
10	How often do you feel depressed, moody, or nervous when you are offline, which goes away once you are back online?						
11	How often do you feel preoccupied with the Internet when offline, fantasize about being online?						
12	How often do you become defensive or secretive when anyone asks you what you do online?						

Appendix D: Consent Form

Dear Students,

I am currently a master's student in the Information Communication Technology in Education program in Department of Computer Education and Instructional Technology currently undergoing my thesis on An Investigation of Cyberloafing Behavior and Internet Addiction Level of Undergraduate Students: An Example of Eastern Mediterranean University.

The aim of this research will be to analyze cyberloafing behavior and internet addiction among undergraduate students of Eastern Mediterranean University.

The proposed thesis will attempt in answering the following research questions:

1. What is the cyberloafing behavior among EMU students?
 - 1.1. Does cyberloafing behavior of EMU students vary based on their gender?
 - 1.2. Does cyberloafing behavior of EMU students vary based on their age?
 - 1.3. Does cyberloafing behavior of EMU students vary based on their faculty?
2. What is the level of internet addiction among EMU students?
 - 2.1. Does the level of internet addiction among EMU students vary based their gender?
 - 2.2. Does the level of internet addiction among EMU students vary based their age?
 - 2.3. Does the level of internet addiction among EMU students vary based their faculty?
3. Is there any relationship between cyberloafing and internet addiction among EMU students?

The data collected from this Questionnaire will be used just to investigate the above mentioned questions, and will not be used in any other research.

Your sincere answers to all the questions raised are highly appreciated and very important for this thesis.

The questionnaire includes three parts: demographic, “in-class” technology use behaviors scale and Internet Addiction Test. You may refuse from the participation at any moment. All information collected will be kept confidential and used exclusively for research purposes. Do not hesitate to contact me or my supervisor if you have any questions or need some further information.

Anastassiya Kim
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Prof. Dr. Ersun ISCIOGLU
Thesis Supervisor
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Eastern Mediterranean University
Email: ersun.iscioglu@emu.edu.tr

I have read and understood this form. I have asked my necessary questions and received answers to my questions. I accept to participate in this survey voluntarily.

Date:

Appendix E: Ethics Committee Approval Letter

 Doğu Akdeniz Üniversitesi "Erdem, Bilgi, Gelişim"	Eastern Mediterranean University "Virtue, Knowledge, Advancement"	Galileo Galilei Sk. / Str., 99628, Gazimağusa, KUZZEY KIBRIS / Famagusta, NORTH CYPRUS, via Mersin 10, TURKEY Tel: (+90) 392 630 1327 bayek@emu.edu.tr
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Bilimsel Araştırma ve Yayın Etiği Kurulu (BAYEK) / Board of Scientific Research and Publication Ethics

Reference No: ETK00-2022-0008 06.01.2022

Subject: Your application for ethical approval.

Re: Anastasiya Kim

Faculty of Education.

EMU's Scientific Research and Publication Ethics Board (BAYEK) has approved the decision of the Ethics Board of Education (date: 24.12.2021, issue: 21/107) granting Anastasiya Kim and Prof. Dr. Ersun İşçioğlu from the Faculty of Education to pursue their work titled "An Investigation of Cyberloafing Behavior and Internet Addiction Level of Undergraduate Students: An Example of Eastern Mediterranean University".

Best Regards



Prof. Dr. Yücel Vural

Chair, Board of Scientific Research and Publication Ethics - EMU

YV/ek.

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Appendix F: Originality Report

Turnitin Originality Report

thesis_final_V01 by Anastassiya Kim

From Anastassiya_Kim (SCHOOL OF COMPUTING AND TECHNOLOGY)



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Assignment: valentine
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