## Research article

#### FACEBOOK ADDICTION AMONG GREEK STUDENTS

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#### Abstract

In recent years, Social Networking Sites have become a huge and basic way of communication in all societies. Facebook has become the most popular social networking site with more than 2.2 billion users. The satisfaction that Facebook has brought has led to some addictive behaviors among its users. This research studied Facebook addiction among secondary education students (gymnasium and lyceum). More specifically, this research investigates the frequency of Facebook addiction among students. The survey sample consisted of one hundred and forty-five (145) secondary students from public schools in the region of Larisa, in Greece. Even though we expected a high percentage of Facebook-addicted students, the results indicate that only 13,1% of students are considered Facebook addicts, according to the Bergen Facebook Addiction Scale. In addition, we observed that most Facebook addicts were gymnasium students. Furthermore, our results indicate that the vast majority of Facebook Addicts spend 2-4 hours or at least 4 hours daily online. No gender differences found from the results.

Key words: Facebook, addiction, social media, students, secondary education,

### Introduction

In the middle of the 21st century, new technologies and the internet have taken a dominant role in people's daily lives. The number of internet users is increasing daily at a rapid rate, having now reached 2.27 billion users. A number that is constantly expanding, in contrast to traditional media, such as television, radio, newspaper, etc. (Global Internet Population Hits 2.27 Billion, 2012) The main protagonists of the digital society are social networks. No one doubts the unstoppable power they have already acquired and the importance they have. At some point, as creators of new global trends, who knows if they will create new and complex social associations that we cannot even imagine (Van Dijck, 2013). To understand these networks, we need to define and frame them according to their origin and, with all their potential both in today's world and in the future, but also with the effects they will cause, in the short and long term (O'Keeffe, et.al., 2011).

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Because the Internet world is constantly and rapidly evolving, the networks of a few years ago, the original ones, are completely different from the social networks managed by the Internet users of 2024. The boundaries defined by the old social networks have been eliminated and redefined. It remains a difficult task to distinguish these new formations (Van Dijck, 2013). However, we dare to collect the basic and main characteristics of social networks and project a strict and clear idea of what they are (Stelzner, 2014).

Even though human needs are gradually differentiating, the internet can anticipate developments and constantly adapts to new data. Distances have been eliminated, communication has become more direct, now there is quick and easy access to all kinds of information and a multitude of other advantages enjoyed by every user, of every age (Fricker, Schonlau, 2002).

But how well do people use new technologies and the internet? How many dangers lurk in the reckless use of new technologies and the Internet? According to research on the addiction of young people to the internet, Greece holds 8.2%, a percentage which gives it the first place worldwide, compared to Norway which holds respectively 1.98%, Italy with 5.4%, South Korea with 1.6%, and China, which according to the results of two surveys, appears to hold 2.4%. (Johnson, 2015).

#### What is it and how does it work?

Facebook is the main social network that exists in the world. A network of virtual connections, with the main objective of providing support for the production and sharing of content. It came to expand the possibilities of social relationships and caused a revolution in the world of communications. Marketing was no stranger to this change, thus finding a fertile ground for new ideas and approaches.

Facebook is the largest social network and has more than 2 billion active users worldwide and completed 14 years of existence on February 4, 2018. In it one can find known people, join interest groups, share content, send and receive messages, make contacts, search, announce, etc. Among social networks, it is the one that users choose most often. Facebook is today the most accessible website in the world. Thanks to its success, the network is considered to directly influence politics, culture and public opinion of its users (Burgess, Green, 2018).

Therefore, when one is on Facebook, understanding how it works and the resources it offers is a fundamental step for those looking to expand their business or exposure, expand their reach and digital marketing strategies. In it, one can create a personal profile or Fanpage and interact with other people connected to the website through instant messaging.

In addition to performing these functions, it also allows joining groups according to people's interests and needs in the social network. Currently, it is one of the most used forms of connection and is also used to quickly search for information. in addition to working as a kind of contact centralizer (Burgess, Green, 2018).

Facebook is basically divided into two worlds - the world of people and the world of companies. That is, it offers two profile options to choose from: personal profile or Fanpage.

Yearbook of Psychology

The personal profile allows contact with friends, posting images, texts, videos. Fanpage, in turn, is the page of a business, it is the presence of the company on Facebook. The type of profile one chooses should be related to their goal when using Facebook (O'Keeffe, 2011).

The advantages and disadvantages of Facebook can vary depending on whether its use is personal, educational, or corporate. A good use can provide great advantages, but if its use is not correct, it can lead to difficulties and dangers for the user. Facebook is the social network with the largest number of users in the world - precisely 1.5 billion - which translates to one sixth of the total population. Its function is to keep us connected, apart from allowing us to post news, information or photos (O'Keeffe, 2011).

Teenagers tend to have more access to this social network (although usage by younger children is increasing dangerously). The main dangers of Facebook for children and teenagers:

- 1) They share data that makes them vulnerable: It's useful to know that when you post a photo on Facebook, you can tag where it was taken. This information may seem harmless, but there are people who could use it to determine a pattern of personal activities and abuse this knowledge (Ybarra, et. al., 2007).
- 2) Cyberbullying: School bullying has always existed (although recently the occurrence of cases around the world has increased) and this abuse has reached the Internet and especially Facebook. Facebook participation makes children potential victims of online harassment (Law, et.al., 2012).
- 3) Addiction: Although they admit that addiction is not unique to Facebook, it is one of the social networks that can create more addiction, mainly because of the ease with installing the application on the mobile for use and because of its visual nature. It is known that the youth today love everything that is visual, and this can make them addicted (Hinduja, Patchin, 2010).
- 4) Tendency to stress and mental problems: a study by the Royal Society of Public Health of University of Cambridge showed that "young people who spend more than two hours a day on social networks such as Facebook, Twitter or Instagram are more likely suffer mental health problems, especially anxiety and depressive symptoms." This is because many people upload edited photos online and this can create insecurity (especially for girls and teenagers) to find that their bodies do not meet social standards. #hashtag #sinfilter is added to most photos, even if a program has been used to "enhance" the image. Also, not getting enough "likes" can cause distress to young people (Wachs, et.al., 2012).

#### Purpose of the research

Greek students as all students all over the world face the challenge of balancing social media use with other responsibilities. While Facebook can be a fun and entertaining way to connect with friends and family, students must set boundaries and limit their time on the platform to avoid becoming addicted. This can include scheduling designated times for checking and using Facebook, finding alternative activities to engage in, and seeking help if needed (Floros, Siomos, 2013).

It is known that social media addiction can have a negative impact on students' academic performance, social life, and mental health. Studies have shown that Greek students' excessive use of social media can lead to decreased attention span, sleep disturbances, and increased stress and anxiety levels. To combat this issue, it is recommended that students should limit their daily usage, engage in other activities and look for support if they feel they are unable to control their usage (Dadiotis, et al., 2021).

Studies on Greek students indicate high rates of Facebook addiction, which can negatively impact their academic performance, mental health, and social relationships. It is essential for individuals to monitor their use of social media and seek support if needed to maintain a healthy balance.

This research studied Facebook addiction among secondary education students.

More specifically, this research investigates the following:

- ✓ the frequency of Facebook addiction among students.
- ✓ the role of gender in Facebook addiction behaviors.
- ✓ the difference in Facebook addiction between Gymnasium and Lyceum students.

### Procedure and data collection instrument

The survey sample consisted of one hundred and forty-five (145) secondary students from public schools in the region of Larisa, Greece. The sample of students was gathered from two high schools and two high schools in the Prefecture of Larissa, in Greece. The participants were asked to complete a questionnaire, which was given to them by hand from their educators, after the parental consent of the guardians of the minor students was ensured. A criterion for selecting the sample of students was their willingness and availability to participate anonymously in the survey. For the students, a set of data concerning their individual characteristics was recorded, such as: gender and type of school (Gymnasium or Lyceum). In addition, students were asked to answer how many hours (on average), they spend browsing Facebook daily.

A questionnaire was used to collect the research data since it is a basic instrument for collecting it and it is widely used in social science research. In addition, the Bergen Facebook Addiction Scale was used.

✓ **Bergen Facebook Addiction Scale (BFAS)** was created to measure the extent to which behavioral addiction symptoms may be connected with social network sites (Andreassen et al., 2012). The instrument includes 6 items, one for each of the six basic dimensions of addiction, drawn from clinical research: salience – the activity dominates thinking and behavior, mood modification – the activity improves mood; tolerance – increasing amounts of the activity are required to achieve the previous effect, withdrawal – unpleasant feelings occur when the activity is stopped or suddenly reduced, conflict – the activity causes conflict in relationships, work, or education, and relapse – a tendency to revert to earlier patterns of the activity after abstinence or control. Items are set on 5-point Likert-type answer options.

# Nikolova, Simona & Kourta, Georgia Reliability

(Andreassen et al. (2012) found the original measure to be reliable at one time ( $\alpha$  = .83), as well as in a three-week test-retest reliability check ( $\alpha$  = .82). In addition to Cronbach's estimates, subsequent research has also performed confirmatory factor analysis on the scale, indicating acceptable model fit as a unidimensional construct ( $\chi$ 2 = 291.88, df = 118, p < 0.001, RMSEA = .061, CFI = .95, GFI = .92, IFI = .95, and SRMR = .040; Satici & Uysal, 2015).

## **Validity**

"The BFAS has shown face validity in its items reflecting behavioral-addictive symptoms, such as using Facebook to forget about personal problems or trying to cut down on time spent on Facebook without success. BFAS has shown convergent validity when correlated with the Wilson, Fornasier, and White (2010) addictive tendencies scale (r = .69; Andreassen et al., 2012). When compared to the similar construct of "problematic Facebook use", which also considers preference for online versus face-to-face social interactions in addition to compulsive behavior, the BFAS and the problematic Facebook use scale showed strong, positive associations (r = .79; Marino et al., 2016). Predictive validity has also been demonstrated with Neuroticism ( $\beta = .25$ ) and Extraversion ( $\beta = .22$ ) constructs of the Big Five personality inventory, showing that certain personality constructs predict BFAS (Andreassen et al., 2012). Divergent validity has been established with BFAS, such as the negative relationship between BFAS and Conscientiousness ( $\beta = .23$ ). Andreassen et al. propose that the "Big Five" support the scales' validity, as individuals who are high in neuroticism would be more likely to be sensitive to addictive behaviors, while those who are conscientious would be less likely to become addicted. (Bowman, Gordon, 2019).

Comments "Some debate has been raised surrounding the applicability of BFAS to other social networking sites (SNS) outside of Facebook, arguing that Facebook addiction could generally be applicable to Internet addiction or online social interaction compulsions because there are many activities that a person can engage in on the Facebook website (e.g., messaging friends, playing games like Farmville). However, in a follow-up article, the scales' creators argue that its applicability is limited to the context of Facebook as a platform, as people engage with Facebook differently than they may other SNS, such as online dating websites, where the users may have different goals (Andreassen, et.al. 2013) – this opinion seems to contrast with the genesis of the scale as one that borrows from established clinical addiction behaviors, such as gambling and gaming (Bowman, Gordon 2019).

#### **Results**

According to data in Table 1, 75 students in the total sample were male (51,7%), and 70 were female (48,3%).

## Table 1. Data distribution of students in the total sample by gender.

Gender	Frequency (v)	Percentage %
Males	75	51,7%
Females	70	48,3%
Total	145	100,0%

More specifically, of the 69 gymnasium school students, 45 were boys and 24 were girls. While in Lyceum, 30 were boys and 46 were girls. (Table 2).

Table 2: Data for Education and Gender

School	Males	Females
Gymnasium	45	24
Lyceum	30	46
Total	75	70

According to data in Table 3, 69 students of the sample attended Gymnasium (47,6%), and 76 were Lyceum students (52,4%).

Table 3. Data presentation of students in the sample by type of school.

School	Frequency (v)	Percentage %
Gymnasium	69	47,6%
Lyceum	76	52,4%
Total	145	100,0%

According to Table 4, 83 (57,2%) of students do not use Facebook at all, 33 (22,8%) of students spend 30 to 60 minutes daily on Facebook., 20 (13,8%) of students spend 1-2 hours daily at the platform, 5 (3,4%) students use Facebook between 2-4 hours per day and 4 (2,8%) students spend at least 4 hours on Facebook daily. Based on table 4, we see that in our sample, a small percentage of 6.2% of students are Facebook addicts as they access Facebook daily for two to four hours or for more than four hours.

Table 4: Data showing the time that the students browse Facebook platform daily

Hours	Frequency in students (v)	Percentage %	
None	83	57,2%	
30-60 minutes	33	22,8%	
1-2 hours	20	13,8%	
2-4 hours	5	3,4%	
At least 4 hours	4	2,8%	
Total	145	100,0%	

"As suggested by BFAS creators, a polythetic scoring scheme was used to determine the Facebook addicts in the sample. This scheme means that those who answer 3 or above on at least four of the six items are Facebook addicts". (Jafarkarimi, H., Sim, A., Saadatdoost, R., & Hee. J., 2016, pp. 466-467). In our research study, 19 out of 145 students were Facebook addicts, which shows a low ratio of 13,1% among the studied sample (**Table 4**). Non-addicts students are 126 (86,9%) out of 145 in the total sample. In Tables 5, 6, 7 we summarize the frequency and percentage of Facebook addicts based on the different characteristics of respondents. We can see that 12 (17,4%) of Facebook addicts are Gymnasium students, while 7 (9,2%) are Lyceum students (**Table 5**). Female addicts represent 10 (14,3 %) of them, while male addicts are 9 (12,0 %) (**Table 6**). We can also see that 4,3 % (1,4% and 2,9%) of Gymnasium students and 7,9 % (5,3% and 2,6%) of Lyceum students are Facebook addicts because they tend to spend either 2-4 hours per day or at least 4 hours online daily (**Table 7**). Additionaly, from the total sample of students, the addicted ones are those with a 3,4% percentage (browsing Facebook platform from 2-4 hours daily) and a 2,8% percentage of students (browsing Facebook platform at least 4 hours per day).

Table 4. Data presentation of Facebook addicts and non-addicts out of the total sample, according to BFAS.

BFAS	Frequency (v)	Percentage %
Addicts	19	13,1%
Non - Addicts	126	86,9%
Total	145	100,0%

Table 5. Data presentation of Facebook addicts and non-addicts in the sample by type of education.

		QSUM		
		0	1	TOTAL
Education	Gymnasium	57	12	69
		82,6%	17,4%	100,0%
		45,2%	63,2%	47,6%
		39,3%	8,3%	47,6%
	Lyceum	69	7	76
		90,8%	9,2%	100,0%
		54,8%	36,8%	52,4%
		47,6%	4,8%	52,4%
Total		126	19	14
				5
		86,9%	13,1%	100,0%
		100,0%	100,0%	100,0%
		86,9%	13,1%	100,0%

Table 6. Data distribution of Facebook addicts and non-addicts in the sample by Gender.

		QSUM		
		0	1	Total
Gender	Boy	66	9	75
		88,0%	12,0%	100,0%
		52,4%	47,4%	51,7%
		45,5%	6,2%	51,7%
	Girl	60	10	70
		85,7%	14,3%	100,0%
		47,6%	52,6%	48,3%
		41,4%	6,9%	48,3%
Total		126	19	145
		86,9%	13,1%	100,0%
		100,0%	100,0%	100,0%
		86,9%	13,1%	100,0%

Table 7. Data distribution of Facebook addicts in the sample by hours spent on Facebook in Gymnasium and Lyceum students.

			Hours				
		None	30-60	1-2 hours	2-4	at least 4	Total
			minutes		hours	hours	
Education	Gymnasium	44	10	12	1	2	69
		63,8%	14,5%	17,4%	1,4%	2,9%	100,0%
		53,0%	30,3%	60,0%	20,0%	50,0%	47,6%
		30,3%	6,9%	8,3%	0,7%	1,4%	47,6%
	Lyceum	39	23	8	4	2	76
		51,3%	30,3%	10,5%	5.3%	2,6%	100,0%
		47,0%	69,7%	40,0%	80,0%	50,0%	52,5%
		26,9%	15,9%	5,5%	2,8%	1,4%	52,4%
Tot		83	33	20	5	4	145
al							
		57,2%	22,8%	13,8%	3,4%	2,8%	100,0%
		100%	100%	100%	100%	100%	100,0%
		57,2%	22,8%	13,8%	3,4%	2,8%	100,0%

## **Discussion**

The new generations, from the very first years of their lives, meet technology. Whether with television, with mobile phones, with gaming machines, with mp3 players and with other technological devices. Therefore, the life of young people / teenagers is completely intertwined with technology, since they were born and grew up with it and consider it an integral part of their everyday life. For this reason, young people have very developed skills regarding the use of both new technologies and the internet. This fact is proven by related research, according to

which 75% of teenagers (and 58% of 12-year-olds) have a mobile phone. Almost 90% of teenagers who own mobile phones send and receive messages daily (Teens, Technology and Social Networking, 2010).

Unfortunately, any technological progress, to become beneficial in human daily life, should be used correctly and in moderation. Elements that are not observed by young people, who in the majority do not use the internet, but abuse it, follow wrong actions, influenced by digital media and especially the internet, many times they even go as far as suicide (O'Keeffe, et.al, 2011).

Social media platforms ignite the same reaction in the brain as gambling, and recreational drugs do. They provide a constant stream of validation, instant gratification and connection, which can be addictive for some students. When using social media, the brain releases dopamine, a feel-good chemical, leading to a desire for more (Ebrahim, 2023).

Dopamine levels are increased when a person receives certain social media notifications, such as a like, retweet, or comment. This could cause a person to experience a pleasurable feeling, positively reinforcing further social media use (Steers, et.al., 2016).

The contribution of the internet to people's daily lives is becoming extremely important. The benefits of cyberspace are expanding, everyday life is becoming easier, and horizons are constantly evolving, through online navigation which offers a multitude of advantages, such as: Immediate information and training on any subject, communication, freedom of expression and exchange of opinions (Social Media), entertainment Services (Games, Music, Movies, etc.), commercial and financial transactions (E-Shop), facilitating interpersonal communication (E-Mail) (Gupta, et.al., 2019).

It is important to mention, however, that all the above benefits can act as a deterrent when the use of the Internet turns into abuse. Disadvantages that affect those people who waste their time recklessly, not looking for useful information, but instead wasting time on useless news and playing games. People of all ages, who turn into highly antisocial beings, adopting a virtual reality, defying real daily life, real contact and communication with the outside world and gradually leading to addictive use of the internet (Filippidis, 2020).

Indicatively, the pointless use of cyberspace can result in: Disorientation due to over-information, confusion due to misinformation, electronic crime, violation of personal data, isolation, removal from the social environment, addiction (Filippidis, 2020).

Internet addiction is a new form of dependence, which has begun to make its presence felt more and more worldwide. It is the compulsive, excessive use of the Internet, as well as the irritability or dysthymic behavior that occurs when deprived of Internet use (Mitchell, 2000). Alternatively, "Internet addiction" is defined as the inability to control the use of the web, which leads to feelings of pressure, anxiety and dysfunctional behaviors in daily activities" (Shapira et al., 2003). In general, it is a situation in which the addicted user neglects his social, professional or academic life to an alarming degree and, in general, his functionality is affected.

As a term, it was defined for the first time by Goldberg, in 1995 (Goldberg, 1996) and then became widely known, through the pioneering research of Young in 1996 (Young, 1996).

However, this form of addiction has not been officially recognized as a clinical entity, except in China, S. Korea and Taiwan (Internet Addiction, 2013). Although the term "addiction" is mainly used for the process of biological addiction to substances, alcohol, etc., it is now beginning to be used for "online" addiction as well, as it is strongly observed that, more and more often, psychologists are called upon to approach cases of Internet addiction.

#### **Conclusion**

Although we expected a high percentage of Facebook-addicted students, the results indicate that only 13,1 % of students are considered Facebook addicts, according to the Bergen Facebook Addiction Scale. A possible reason for this is that social media are constantly changing. Newer social media, such as Instagram and TikTok, are more popular among students of these ages. Research must be done including Instagram, TikTok or social media in general, that will outline different outcomes.

Moreover we can see that there are no big differences in relation to addiction and gender. Instead there is a statistically important difference between addictive behavior and gymnasium and lyceum students. More specific, gymnasium students are found to be more addicted to Facebook platform than the lyceum ones. Though, Lyceum students tend to spend more time browsing facebook platform, they found to be less addicted in accordance to BFAS Scale. To conclude the type of education seems to be in correlation with addictive behaviors.

#### **Limitations-Future Research**

A major limitation of the conducted research is the fact that only students from the area of Larissa, Greece were included in the sample.

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