Internet Addiction And Self-Learning: The Impact Of Uncontrolled Smartphone Use On Teenagers' Educational Outcomes

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Abstract:

The study aimed to reveal the relationship between indiscriminate use of smartphones and academic achievement among high school adolescents aged between 15 and 19, for a sample of 52 girls and boys. We employed a correlational descriptive approach to explore the association between two variables, using both the Pearson correlation coefficient and the T-test for analysis of the Internet Addiction Test (IAT) of Youg and the forward digit span test to measure the phonological loop, the reverse digit span test to measure the central administrator, and the Corsi block test to provide a framework for the theoretical and methodological analysis of blind uses of the digital tool among adolescents, to verify the existence of a statistically significant correlation between the uncontrolled use of smartphones and academic success.

Keywords: Self-learning, M-learning, Artificial intelligence, E-learning, Teenagers

INTRODUCTION

The world is experiencing today, technological developments like never before, especially the means of communication, which have

been increasingly developed, Its spread is due to the accessibility of the Internet by smartphones, which has allowed the speed of completion, the reduction of time, effort and distances, through its scientific, academic, commercial, entertainment and communication applications and portals, because the world has benefited from the services that it provides, such as artificial intelligence, the distance study and work, reading free books, knowing the news and the latest scientific developments and communicating with people through social networks, in addition to playing directly with several people from all parts of the world, as well as watching programs and movies. It is also an indicator of the progress and prosperity of countries because it is impossible to catch up with other countries without digital progress, It is the bridgehead to achieving a better economy because the marketing of products through the Internet increases the profitability overall and in a short time [5]-[14].

And since the Internet has become the language of the age, we've become entirely dependent on it in our daily activities, which has led to the spread of excessive smartphone use over the past two decades. We notice it clearly through our gatherings or family reunions and coffee lovers, where dialogue and discussion were absent, and replaced by the smartphone. Statistics have revealed that teenagers are the segment that uses smartphones the most, due to their tendency to withdraw and take risks, their lack of maturity, and their love of discovering everything new. All the more so as information is available anytime and anywhere, in addition to the problems and pressures to which they are exposed during adolescence, which gradually makes them immerse themselves in the virtual digital world and fall into smartphone addiction.

Literature review

Artificial intelligence has become an important part of our current era, due to the speed of reasoning information and the technological development and wide distribution it has undergone, mainly thanks to the explosive spread of smartphones and tablets, as they have become more developed and closer to the consumer and part of our daily lives. The world has become like a small village whose inhabitants look out of the world's window through which they transmit and exchange information, learn, and play in seconds. The virtual digital world has become our

real world, fulfilling all our desires and needs. We no longer use our memory to store information, because the smartphone stores everything on it, such as phone numbers, photos, and shopping lists, and we also rely on it as a geographical map to reach all the places we want to reach via GPS. Social networks such as Facebook, Twitter, Instagram, and WhatsApp have also made it possible to communicate with people, as well as store and buy products [7].

The fast-paced social system we live in today, which now forces us to deal with the Internet, makes us dependent on it daily, as demand for the Internet increases due to its low cost. The global market of the International Telecommunication Union (ITU) statistics for February 2021 for the last ten years showed that (4.9) billion Internet users for the year 2021 against (2.2) billion users for the year 2011. It also explained that 62% of men use the Internet on average, compared with 57% of women worldwide on average, 71% of the world's population aged 15 And 24% use the Internet, compared with 57% of all other age groups [9] [12].

On a national level, statistics from Hootsuite, in collaboration with the 'We are Social' company, revealed in its report for January 2021 that the average daily time spent by each Internet user in Morocco surfing the web via their smartphone reached three hours and 31 minutes per day, which is higher than the global average Estimated at three hours and 21 minutes. Morocco's Internet penetration rate has reached 74.4%. A study carried out by the Economic, Social and Environmental Council (CESE) in 2020 showed that the study sample included 102 teenagers aged 13 to 19, found that smartphone use for communication networks accounts for 93.1%, watching movies 89.2%, electronic games 43.1% and for learning 7.8%. The study also revealed that 40% of those surveyed use the Internet at a "problematic" rate [8]-[10]-[13].

Material and methods:

Initially, the research carried out an exploratory study to ascertain students' everyday use of the Internet as a source of information. 20 copies of the Internet Information Reliability Scale were distributed, and the researcher explained the scale items.

After completion, the researcher presented an overview of Internet information dependency and the psychological, social, and cognitive problems that arise from it, and outlined some solutions for increasing its reliability.

The article focused on systematic procedures, addressing study methodology, the study population, the research sample through its description and characteristics, study data collection tools discussed, and statistical methods.

Research sample by school level

School level	Number	Percentage
Core curriculum	16	30.8 %
First baccalaureate	24	46.2 %
Second bac	12	23.1 %
Total	**52**	**100%**

Table 1: Sample characteristics by school level

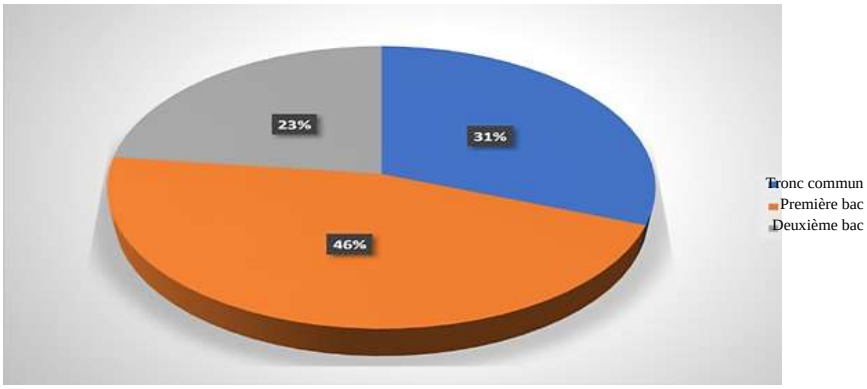

Figure 1: Sample characteristics by type

Gender	Number	Percentage
Girls	22	42.3
Boys	30	57.7
Total	**52**	**100%**

Table 2: Sample characteristics by type

Study tools

In this study, the researcher relied on tests designed to measure learners' reliance on digital information to solve their homework and its relationship to their academic performance (IAT (Kimberly Young (1998)), which are:

Learning level tests :

Regular Digit Amplitude Test: Task Span Digit Forward is one of the pioneers of the Wechsler intelligence scale (1991). This test is designed to measure the ability of the phonological episode, by presenting different sequences of numbers (from two to nine digits, at a rate of one number per second) and the number of units increases after each successful attempt, and the test stops after the respondent fails twice to retrieve the units provided. Consequently, the subject's task is to remember and recall the units presented by the experimenter in the same order. Each correct answer receives one point and zero for each incorrect answer, and the points obtained are collected.

Field research procedures

Young's Internet Addiction Scale (1998) is considered one of the most reliable and internationally validated scales and has been endorsed in most international studies. Young developed 20 items to measure eight symptoms of Internet addiction. It is suitable for all ages. The scale is evaluated using a 1 to 5-point Likert scale, as follows:

Strongly disagree	**Do not object**	**Neutral**	**Agree**	**Strongly agree**
1	2	3	4	5

Results

As a first step, the researcher carried out the exploratory study to ensure that students were using the Internet daily, with the person in charge of psychological and social support gathering

several students to participate and allocating a room to carry out the exploratory study. Twenty copies of the digital information dependency scale were distributed, and the researcher explained the elements of the scale. Once completed, the researcher provided an overview of digital information addiction and the psychological, social, and cognitive problems that arise from it, and presented solutions to increase its reliability.

In the second stage, the research was conducted in a room dedicated to psychological and social support, so that the test was applied individually for each student, and the researcher explained the paragraphs and instructions of the scale and test and its purpose, and that the information provided would be confidential, and each student was asked to fill in the data under the scale, which included participant type And age and academic level so that there would be no shortage of information used in the study. Applying the scale and taking the test took an average of 10 minutes for each student over 8 days. After this, the scale was corrected and the test results collected, with the data classified in tables and analyzed using the Statistics Package for Social Sciences "SPSS" program, thanks to statistical processing that adopted the correlation coefficient of T Student and Person

One of the most important results the research achieved was to analyze the data collected in the baseline study, present the results, and then interpret and discuss them based on the findings and according to the hypotheses formulated at the start of the study.

Number of teenagers who rely on smartphones to prepare homework

Response	**Number**	**Percentage**
Strongly disagree	1	1.92
Disagree	1	1.92%
Neutral	6	1153
Agree	20	38.46%

Strongly agree	24	46.15
Total	**52**	**100%**

Table 3: Number of individuals who rely on smartphones to prepare homework

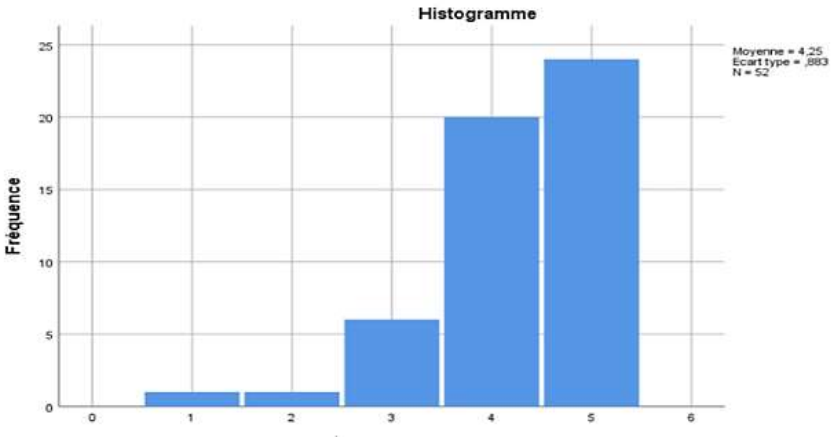

Figure 2: Number of teenagers who rely on smartphones to prepare homework

The graph illustrates the percentage of teenagers who rely on smartphones to complete their homework, with 46.2% of students strongly agreeing and 38.5% agreeing. This indicates that the majority of teenagers spend a significant amount of time with their smartphones to access information due to a compulsive desire, which keeps them captivated. They find it difficult to distance themselves from their smartphones as they succumb to the numerous temptations offered by the Internet, including artificial intelligence, communication platforms, and videos. Additionally, they appreciate the privacy it affords, which fosters a sense of independence.

Do you find it difficult to find information by using the Internet?

Answer	**Number**	**Percentage**
Not at all	2	3.8
Non-opposition	6	11.5

Neutral	16	30.8
Agree	7	13.5
Strongly agree	21	40.4
Total	**52**	**100%**

Table 4: Number of teenagers who have problems finding information on the Internet

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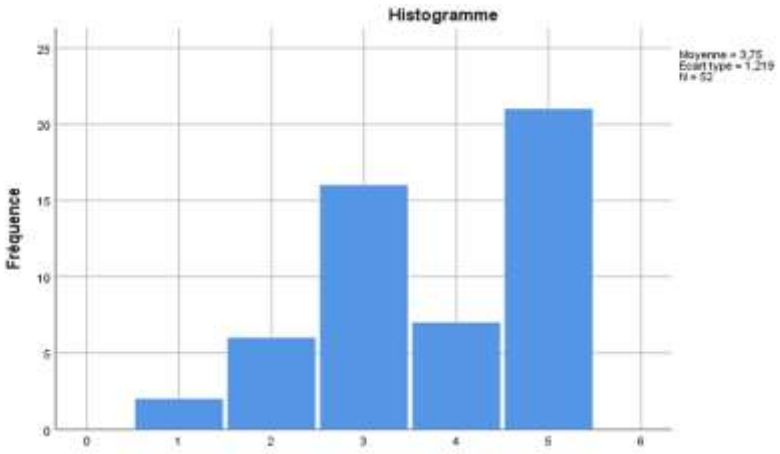

Figure 3: Number of teenagers who have problems finding information on the Internet

Based on the graph depicting the percentage of individuals facing difficulties when seeking information through smartphones, it is evident that 53.9% of respondents encounter issues, while 30.8% remain neutral. This suggests that excessive smartphone usage hinders academic performance. Many students spend a significant amount of time on activities like browsing the internet and relying on Artificial Intelligence for information, often from unreliable sources like Google or YouTube. This habit, coupled with the stress of research, leads to time mismanagement. Consequently, they struggle to complete assignments and study effectively, resorting to late-night cramming, which impairs their ability to retain information.

Have you had poor results due to reliance on random digital information?

Response	Number	Percentage
Strongly disagree	4	7.7
No objection	10	19.2%
Neutral	8	15.4%
Agree	13	25.0%
Strongly agree	17	32.7
Total	**52**	**100%**

Table 5: number of individuals who found that blind smartphone use does not provide reliable information.

The number of teenagers who found that blind smartphone use does not provide reliable information.

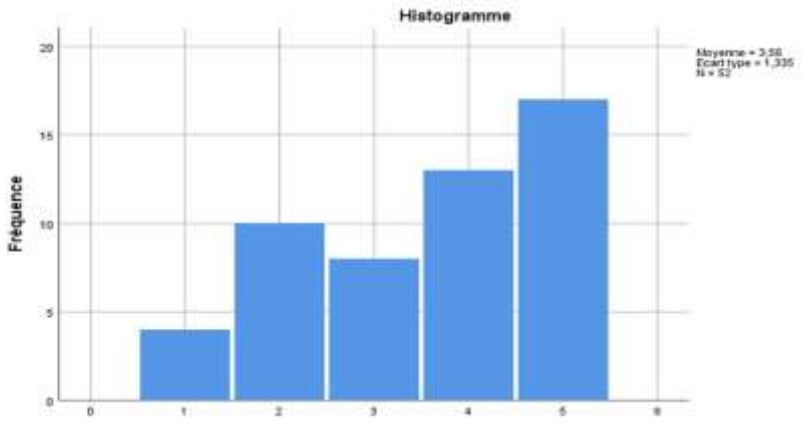

Figure 4: Number of teenagers who found that blind smartphone use does not provide reliable information.

Based on the graph, it is evident that 57.7% of teenagers agree that their low scores are a result of random smartphone use, while 15.4% remain neutral. This indicates that uncontrolled smartphone usage hurts academic performance. As we are aware, students require a focused and secure digital environment at home to access in-depth information for their homework. Without reliable information resources, they cannot fulfill this essential function, leading to incomplete assignments and a decline in cognitive abilities.

The Pearson correlation is based on the following equation:

$$r = \left(\sum xy - nx - y\right) / \left(\sqrt{\left(\sum x\text{^}2 - nx - \text{^}2\right)}\sqrt{\left(\sum y\text{^}2 - ny - \text{^}2\right)}\right)$$

X: The total degree of dependence on uncontrolled smartphone use

Y: Degree Total school success

$$r = \frac{\sum xy - nx - y}{\sqrt{\sum x^2 - nx^{-2}}\sqrt{\sum y^2 - ny^{-2}}}$$

r= -0.20

Discussion

The Correlation Between Smartphone Addiction and Academic Achievement

Significance level	**Sample volume**	**Mean**	**Normative deviation**	**Person correlation coefficient**	**Indication level**
The total degree of dependence on uncontrolled smartphone use	52	64.94	11.35	-0.20	At indication threshold (0,05)
The total degree of school success		19,67	2,99		

Table 6: The correlation between smartphone addiction and academic success

It is clear from the above table which shows the relationship between addiction to uncontrolled smartphone use and academic achievement, where the value of Person's correlation coefficient was r=-0.20. This means that there is a weak inverse correlation between addiction to random smartphone use and academic achievement, that is. the higher the addiction to uncontrolled smartphone use, the higher the academic achievement. weak. Thus, the validity of the hypothesis has been proven, which states that there is a statistically significant correlation between addiction to random digital resources and academic achievement among the study sample, the percentage of certainty is (95 %), with a probability of making an error of 5%.

Conclusion

The Internet offers students flexible access to numerous digital resources while creating new ways of learning, and many obstacles can be avoided in front of students thanks to digital information, but the unreliability of its random information remains worrying [5]-[12].

Yes, we can say that it's time to start using smartphones as a pedagogical tool and take advantage of their many benefits. Still, we must also consider the disadvantages of their random impacts.

- Students can't do without digital information.

- Teachers are no longer obliged to explain for hours on end because they know how to rely on the Internet, which can lead to opposite results.

In concrete terms, the Internet has become an essential element in the teaching/learning process, which is likely to give students great energy to make more effort, requiring rapid adaptation to the new situation and the creation of an oriented and secure digital learning space, to limit the negative effects of random digital information, which prevent the success of a quality digital educational process [2]-[11].

Despite its drawbacks, the dependence on digital information provided by smartphones will continue to evolve among teenagers due to several factors, however, there is still a long way to go before discussing the overall success of digital education in Morocco, as well as integrating digital resources into an educational system requires quality pedagogical flexibility, it depends not only on the techniques used but also financial requirements, disciplinary and mastery of didactic and pedagogical skills, which could also be exercised without expulsion of digital tools [3] [15].

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