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Social Networks Addictions and Academic Performance of Students at the University of Kinshasa

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Abstract: This study is part of the policy of preventing addictive behaviors in the academic environment in order to ensure the integral well-being of students. Its aim was to relate social network addiction to the academic performance of students at the University of Kinshasa. To this end, a social network addiction test was administered to a sample of 91 graduate students from several faculties at the University of Kinshasa. This test was coupled with a documentary technique that provided us with the students' academic performance at the end of the 2020-2021 academic year. The social network addiction test divided the sample into two groups: (1) social network addicts (23 subjects or 25.3%)

and (2) social network non-addicts (68 subjects or 74.7%). In terms of academic performance, three student profiles emerged: (1) 57 students or 62.6% of subjects demonstrated average quality achievement (60-69%); (2) 30 students or 33% of subjects demonstrated low quality achievement (50-59%), (3) 4 students or 4.4% of subjects demonstrated higher quality achievement. Comparing the academic grades of subjects addicted to social networking with those of non-addicts, a statistically significant difference was found. The non-addicts performed better academically than the addicts. Thus, we can conclude that addiction to social networks negatively affects the performance of understudy students. These results can serve as a basis for raising students' awareness of the dangers of abusing social networks. They can help in any attempts to regulate the use of telephones in the academic environment. Last but not least, they can be used as a frame of reference for the University's policy on addiction prevention.

Keywords: addiction to social networks, academic performance, students, University of Kinshasa, addiction.

Introduction

These days, information and communication technologies (ICT) are an integral part of people's daily activities. No sector of national life can survive without recourse to ICT. It's against this backdrop that a number of strategies for integrating ICT are being put in place in different professional fields (teleworking, telemedicine, tele-science, tele-health and e-health, online or distance learning...). Indeed, according to several researchers quoted by Bofula Lobebe et al. (2023), ICTs facilitate the performance of certain tasks and contribute to improving the quality of human life.

For this reason, their use is seen as one of the means enabling every human being to enjoy and exercise his or her right to information and freedom of expression, as enshrined in the Universal Declaration of Human Rights (1948). All areas of national life are thus positively affected by the use of ICT. In the field of education, the contribution of ICT is illustrated in particular by the arrival of online or distance learning, which is one of the variants of computer-assisted teaching (Bullat-Koelliker, 2003).

With this type of teaching, the contribution of ICT to education can be summed up in three aspects: (1) training and learning object (computer knowledge), (2) learning tool and channel, and (3) learning support (Bofula Lobebe et al., 2023).

In this integration of ICTs in the education sector, several means are used by both teachers and learners. These include computers, tablets and telephones. Of these three, the telephone is the most widely used by both teachers and learners in African universities (Bofula Lobebe et al., 2023; Ngnoulaye & Gervais, 2015). Its use in the academic environment is the subject of several studies because of its effects on learner adaptation. In fact, several studies (Baron & Bruillard, 2006; Fotsing et al., 2017; Gueudet et al., 2008; Puimatto, 2014) have shown that the issue of smartphone use is central to the problem of integrating ICT into the school or academic environment.

Moreover, the smart phone (through its functionalities, including the Internet) is one of the essential and indispensable tools of the University of the Future. This position is justified not only by the fact that it will be increasingly present, but also by the fact that its uses can have a considerable impact on students' lives. On this subject, the Agence de la Transition Ecologique Française cited by Bofula Lobebe et al. (2023) asserts that in future universities, we would witness two digital-related

phenomena: (1) an increase in the amount of time allocated in a day to the use of digital tools by students, in time slots that did not previously incorporate this type of usage. (2) The parallelization of tasks associated with digital use, which enables students to multiply the use of equipment and applications in the same time slot.

Research Problem

In the Democratic Republic of Congo (DRC), as in many countries around the world, students' use of their phones is not limited to academic activities, but extends to distracting Internet-related activities. These activities, generally linked to social networks, seem to capture learners' attention to the detriment of educational activities. In this respect, the study by Bofula Lobebe et al. (2023) and that by Mupoyi Nlandu (2020) revealed that more than half of students at the University of Kinshasa preferentially used their phones for distracting activities via social networks.

They are," the authors continue, "connected to their phones and exchanging with their friends via social networks wherever and whenever they want. Some take the liberty of logging on to Whatsapp, Facebook and telegram in auditoriums, even while teaching. When these behaviors become very recurrent, they can lead to addictions that can even disrupt students' academic lives.

Research investigating cell phone use and academic performance is limited and methods vary substantially from study to study. Nevertheless, results suggest a relationship exists. Jacobsen and Forste (2011) identified a negative relationship between the use of a variety of electronic media including cell phones and academic performance (self-reported GPA) among first year university students in the United States. Using data collected from a sample of Taiwanese adolescents, Yen et al. (2009) found an association between cell phone use (calling and texting) and participants' self-assessment of whether or not they had allowed cell phone use to interfere with "important social, academic, or recreational activities" during the previous year. Hong et al. (2012) found daily cell phone use (calling and texting) to be correlated with a self-reported measure of academic difficulty among a sample of female, Taiwanese university students. Finally, Sánchez-Martínez and Otero (2009), using a sample of Spanish high school students, found a relationship between "intensive" cell phone use and school failure. School failure was operationalized as having repeated the previous year's grade level or failing four or more courses during the previous academic year. Although these studies utilized a variety of self-reported measures, academic performance was consistently and negatively associated with cell phone use.

Several researchers have pointed to multi-tasking as an explanation for the negative relationship identified between cell phone use and academic performance (Jacobsen & Forste, 2011; Junco & Cotton, 2011; Junco & Cotton, 2012). Jacobsen and Forste (2011) reported that over two-thirds of the university students in their study used electronic media (including cell phones) while in class, studying, or doing homework. Likewise, Sánchez-Martínez and Otero (2009) found that although cell phone use was typically prohibited in the classroom, half of the students in their sample reported bringing the device to school and keeping it on during class. In two studies specifically targeting multi-tasking and academic performance, Junco and Cotton examined large samples of college students and found that sending text messages and checking Facebook while studying or doing homework was common behavior.

Furthermore, this behavior interfered with schoolwork and was negatively related to overall college GPA. Wood et al. (2012) measured the influence of multitasking with an array of digital technologies (texting, e-mail, Facebook, MSN messaging) on real-time learning. Participants were randomly assigned to various conditions (multi-tasking with one of the four technologies or no

multitasking) while participating in classroom learning activities. After the learning activities were complete, a 15-item multiple choice test was used to assess learning. Results showed that multi-tasking with any of the technologies examined had a negative impact on learning. Finally, Rosen et al. (2013) observed the study behaviors of a sample of middle school, high school, and university students and found participants typically became distracted by media such as Facebook and texting in less than 6 min after initiating a studying session.

In the DRC, studies assessing students' addiction to social networks and its effects on their academic lives are very rare. Although rare in the DRC, such studies have been carried out all over the world and attest to the presence of social networking addictions. In this regard, Haddouk et al. (2019) attest that problematic Internet use (equivalent to Internet addiction) is common among university students in Canada. In Tunisia, Messedi et al. (2018) revealed a high prevalence of addiction to the Facebook social network among medical students.

In Madagascar, Razafilisy et al. (2020) found that more than half of Madagascar's high school students were problematic users of the Internet, with damaging consequences for their health. What's more, this addiction was having a detrimental effect on their academic performance.

In the DRC, the scarcity of studies evaluating network addiction among students is due to the difficulty of assessing addiction to social networks because of the non-adaptation of tests evaluating it. For this reason, researchers have, in most cases, confined themselves to relating the use of social networks to academic performance on the basis of students' opinions (Bofula Lobebe et al., 2023; Galekwa, 2010).

Among the few Congolese studies to have assessed social network addiction among students in the DRC, we can cite the study by Mupoyi Nlandu (2020), which set out to assess the effect of the coronavirus pandemic on social network addiction among students at the University of Kinshasa. This study had the merit of having laid the foundations for the validation of the French version of Young's test (Young, 1998) in the context of Congolese university education. The present study therefore sets out to make up for this lack of information by assessing the effects of social network addiction on the academic career of students at the University of Kinshasa.

Research Aim and Research Questions

The objective of this study is to assess the nature of the effect of addiction to social networks on the academic performance of students at the University of Kinshasa. This general objective gave rise to three specific objectives : (1) to assess addiction to social networks among students at the University of Kinshasa ; (2) assess the academic performance of students at the University of Kinshasa and (3) evaluate the effect socio-demographic variables on addiction to social networks and the academic performance of the subjects surveyed.

Research Methodology

General Background

To carry out this study, we used the survey method supported by the Social Network Addictions Assessment Test and the documentary technique. The documentary technique was used to obtain students' academic performance at the end of the 2020-2021 academic year.

Sample / Participants / Group

The study focused on the population of finalist graduate students from six faculties of the University of Kinshasa enrolled for the 2020-2021 academic year, with a total enrolment of 2,101 subjects: 298 from the Faculty of Medicine, 210 from the Faculty of Psychology and Educational Sciences, 391 from the Faculty of Economics and Management, 338 from the Faculty of Law, 276 from the Faculty of Petroleum and 588 from the Faculty of Science. To determine our sample size and ensure its representativeness, we used the Krejcie and Morgan (1970) table. According to this table, for a population of 2101, we need to draw a sample of 327 subjects. Our initial concern was to have a sample of 327 subjects, but several constraints led us to settle for a sample of 91 subjects.

The first of these constraints was the refusal of several subjects to take part in our survey, due to a number of academic commitments they had. Secondly, to obtain the academic marks, the subjects were obliged to accept that we break the anonymity of the test in order to obtain the complete identities that would enable us to consult the points lists. Several subjects refused to give in to this demand, despite all the assurances we gave them about the confidentiality of their personal data. Thus, in line with ethical principles requiring respect for subjects' consent to participate in the study, we were forced to make do with a limitedly representative sample of 91 students (Corbière & Larivière, 2014; Hugonot-Diener et al., 2008). This sample varies according to the following socio-demographic characteristics: (1) faculty, (2) gender, (3) age group and (4) place of residence.

In terms of faculty, we find 19 subjects from the Faculty of Human Medicine, 20 from Psychology and Educational Sciences, 18 from Economics and Management, 12 from Law, 10 from Oil and Gas as well as 12 from Science. In terms of gender, our sample comprised 55 males and 36 females. In terms of age, there were 58 subjects aged 20-24 and 33 aged 25 and over. Finally, in terms of place of residence, we have 44 subjects residing in the Lukunga district, 9 in Funa, 31 in Mont-Amba and 7 in Tshangu.

Instrument and Procedures

An instrument (psychological test) and a technique were used for data collection. These were the social network addiction test and the documentary technique.

Social Network Addiction Test. The Social Network Addiction Test used in the present study is an adaptation of the French version of the Internet Addiction Test by Khazaall et al. (2008). The Internet Addiction Test is a questionnaire designed by Young (1998) based on DSM-IV criteria for pathological gambling. It is designed to diagnose and assess the intensity of Internet addiction in the respondent. The items assess different aspects of Internet addiction, such as loss of control over Internet use, the predominance of the Internet in different areas of the respondent's life, withdrawal symptoms, certain negative consequences of Internet use, and so on.

It comprises 20 items corresponding to twenty situations for which the subject must indicate the frequency with which he or she is confronted on a scale of 1 (rarely) to 5 (always). In line with the numerous studies carried out on specific internet addictions and using this test in a modified version adapted to the specific purpose of the addiction (Brand, 2011; Chan & Rabinowitz, 2006; Kim et al., 2008; Pawlikowski & Brand, 2011), we decided to make the same adaptation. Thus, each term "internet" in the statements of the 20 items was replaced by the term "social networks".

Subjects are classified as social network addicts when their test score is greater than or equal to 50. Otherwise, the subject is considered non-addictive. In order to validate the test in the Congolese

context, we carried out an internal consistency study to verify its unidimensional structure. The results showed that the test had good internal homogeneity, given that the overall value of Cronbach's alpha (72) was above the minimum acceptability threshold (.70) for the reliability coefficient.

Documentary Technique. The documentary technique enabled us to obtain information on the marks obtained by the subjects in the study at the end of the 2020-2021 academic year (second session) through the points ranking.

Data Analysis

The statistical processing of the study data was based on the Chi-square test. This enabled us to relate social networking addictions to students' academic performance, based on observed frequencies.

Research Results

Global Results of the Study

The following table shows the number of subjects according to the presence or absence of social network addictions.

Table 1

Distribution of Subjects According to Social Networking Addiction

Addiction	Number (N)	Percentage (%)
Non-addicts	68	74,7
Addicts	23	25,3
Total	91	100,0

Source: author's own development.

Table 1 shows that only 23 of the 91 subjects (25.3%) have developed social network addictions or are addicted to social networks. Specifically, these 23 subjects are more preoccupied with social networks, they need to use social networks for longer and longer in order to be satisfied, they make repeated but unsuccessful efforts to control, reduce or stop social network use, they become agitated or irritated when trying to reduce or stop social networking, they stay online longer than expected, they jeopardize or risk losing important emotional relationships and study opportunities because of social network and, finally, they use social network to escape difficulties or to relieve their mood. The social networks most used by these subjects are: (1) the WhatsApp social network (95%), (2) facebook (90%) and (3) tiktok (70%). This classification of social networks emerged from the informal interviews we had with the study subjects.

The results relating to the academic performance of the study subjects are presented qualitatively. Specifically, point percentages are grouped into three categories providing information on the quality of student achievement as suggested by Ngub'usim Mpey-Nka et al. (2017): (1) category 1 (high degree: best quality achievement): at least 70% points; (2) category 2 (medium degree: medium quality achievement): 60-69% and (3) category 3 (low degree: low quality achievement): 50- 59%. The following table shows the number of subjects in the study according to the quality of their academic performance.

Table 2*Distribution of Sample Subjects by Academic Performance*

Percentages	Number(N)	Percentage (%)
50-59 %	30	33,0
60-69 %	57	62,6
70% and over	4	4,4
Total	91	100,0

Source: personal development of the author.

From Table 2, we see that 30 subjects (or 33.0%) demonstrated low-quality achievement (50-59%), 57 subjects (or 62.6%) demonstrated medium-quality achievement (60-69%) and 4 subjects (or 4.4%) demonstrated better-quality achievement (at least 70%).

Relationship Between Social Network Addiction and Academic Performance

As the aim of our work is to assess the effect of social network addictions on academic performance, we compare the level of academic performance of social network-addicted subjects with that of non-social network-addicted subjects. To do this, we use the chi-square test, the statistical indices of which are presented in the following table.

Table 3*Effect of Social Network Addictions on Academic Performance*

Addiction	Academic performance			Total	Chi-square	Sig.	Dec.
	50-59 %	60-69 %	70% et +				
Non-addicts	17 (25,0%)	47 (69,1%)	4 (5,9%)	68 (100%)	11,50	0,009	Significant
Addicts	13 (56,5%)	10 (43,5%)	0 (%)	23 (100%)			

Source: author's own development, legend : Sig: significant, Dec: decision.

Table 3 shows that the academic percentages of addicts and non-addicts differed. Indeed, addicts showed more low-quality successes (50-59%), while non-addicts achieved more medium-quality successes (60-69%). What's more, only the non-addicts were able to demonstrate better quality success (5.9% of subjects with at least 70% points), whereas no addict subjects were able to fall into this success category.

Statistical comparison with chi-square confirmed these numerical differences ($p < 0.05$). Thus, we can conclude that social network addictions negatively influenced the academic performance of the study subjects.

Differential Analysis of Study Results

At this level, we test the effect of the study's socio-demographic variables (faculty, gender, age and place of residence) on the study's results. To do this, we use the chi-square test, the results of which are presented in the following tables.

Table 4*Effect of Sociodemographic Variables on Addiction to Social Networks*

Variables	Chi-square	Sig.	Dec.
Faculty	14,55	0,70	Not significant
Gender	0,00	0,96	Not significant
Age	2,09	0,55	Not significant
Place of residence	0,44	0,50	Not significant

Source: author's own development.

Table 4 shows that none of the socio-demographic variables in the study influenced the subjects' addiction to social networks ($p > 0.05$).

Table 5*Effect of Sociodemographic Variables on Academic Performance*

Variables	Chi-square	Sig.	Dec.
Faculty	17,33	0,07	Not significant
Gender	2,77	0,25	Not significant
Age	3,06	0,80	Not significant
Place of residence	6,52	0,03	Significant

Source: author's own development.

Table 5 shows that only the environment variable significantly influenced the academic performance of the subjects surveyed, as the probability associated with it was below the critical probability ($p < 0.05$). In concrete terms, subjects living in the Lukunga district scored higher than those in other districts (Funa, Mont-Amba and Tshangu). This district groups together the most affluent communes, including the famous commune of Gombe, considered to be the seat of the country's institutions.

Discussion

The results of the study indicate that 23 subjects out of 91 (25.3%) have developed a social network addiction or are addicted to social networks. We can expect this prevalence to increase significantly in the future, as studies have shown that, in the universities of the future, teaching will be more virtual than traditional. In these virtual teaching environments, social networks will play a crucial role in the teaching- learning process. One might therefore think that this heavy use of social networks for academic purposes could also give rise to a high prevalence of social networking addictions.

The prevalence of social networking addictions also varies from country to country, and is far from the same everywhere. For example, in the USA, Siomos et al. (2008) identified only 4% of students as cyber- addicted. In Madagascar, the situation seems even more serious: Razafilisy et al. (2020) identified 40.55% of learners addicted to social networks.

Our addicted subjects thus spend more time on the social networks WhatsApp, Facebook and Tiktok for entertainment. We can thus understand that their use of social networks or the internet is purely entertaining in place of academic use. Specialized literature has that excessive use of social networks has a negative influence on academic performance (Michaut & Roche, 2017; Ngnoulaye &

Gervais, 2015). This conclusion was verified as our results demonstrated a significant difference between the academic performance of subjects addicted to social networks and that of non-addicted.

Two main hypotheses may account for this negative relationship between social networking addictions and the academic performance of the study subjects. The first hypothesis is linked to the tendency of students to use social networks at the same time as they are engaged in academic activities. Indeed, observation of students in universities reveals that they are connected on social networks while they are attending lectures. This shared attention can only be detrimental to their academic efficiency. This finding was also made by Junco and Cotton (2012) among students at a public institution in the northeastern United States (N = 3866). These authors found that texting and checking Facebook while studying or doing homework were common behaviors. Moreover, this behavior interfered with schoolwork and was negatively related to overall university GPA.

The second hypothesis relates to the psychological effects of social networking addictions, which can, in certain contexts, affect students' academic careers. Indeed, studies have shown that social networking addictions negatively affect the psychological and physical dimensions of subjects. On the physical level, these include fatigue, insomnia, musculoskeletal disorders and visual disturbances. On the psychological side, these include attention deficit hyperactivity disorder, depression and anxiety... All these physical and psychological effects are bound to disrupt academic activities, significantly reducing student performance.

Our results thus reinforce Junco's (2012) findings that multitasking with certain technologies (Facebook and text messaging) negatively affect semester average. Gaudreau et al. (2014) conclusion that certain behaviors (surfing the internet for entertainment or social network, texting during class) are detrimental to student performance is, likewise, confirmed in our study.

Our results seem to reinforce Endrizzi's (2012) conclusion that the effects of social network addictions on academic performance vary from one educational context to another. Our results, in fine, call into question the conclusion of Appel et al. (2020) where it was found that the use of social networks does not seem to have a significant negative impact on learners' academic grades.

The results in terms of academic grades reveal that 30 subjects (i.e. 33.0%) demonstrated low-quality achievement (50-59%), 57 subjects (i.e. 62.6%) demonstrated medium-quality achievement (60-69%) and 4 subjects (i.e. 4.4%) demonstrated higher-quality achievement (at least 70%). These results show that the substudy subjects are performing well academically and could make a positive contribution, where possible, to meeting the country's challenges.

Differential analysis revealed that none of the four sociodemographic variables in the study influenced study subjects' social network addiction. The non-influence of the age group variable on social network use among the students in the study calls into question Bofula Lobebe et al. (2023) conclusion that young people use social networks more excessively than older people. The non-influence of the gender variable calls into question Bofula Lobebe et al. (2023) conclusion that women are the primary users of social networks, whatever the reason. The lack of influence of the variables faculty and place of residence on the social networking addiction of the study subjects calls into question the conclusions of Appel et al. (2020) where these variables are identified as determinants of social network use.

In terms of academic performance, the results of the study revealed that only one of the four variables (place of residence) influenced the academic performance of the study subjects. These results

support the theory of environmental determinism, in which the environment of residence is considered an explanatory factor in academic performance (Enguta Mwenzi et al., 2022). Our results support the conclusion of several studies cited by Enguta Mwenzi and Bayenga Ndibeyang (2023) that learners from affluent backgrounds perform better in learning activities than those from disadvantaged backgrounds. Our results demonstrating the non-influence of gender, age group and study stream on academic performance challenge the conclusions of several studies (Mwenge Muhongo, 2014; Enguta Mwenzi & Bayenga Ndibeyang, 2023) where these variables are considered determinants of academic performance.

Conclusions and implications

The University's mission is not just to impart knowledge to students, but also to ensure that the physical and mental conditions in which teaching takes place are optimal. This means providing psychological support to ensure that students are in the best possible condition to benefit from quality teaching. It is at this level that psychological interventions are needed to reinforce students' sense of well-being at the University. Such a state of well-being requires the management of certain psychological problems that can affect academic learning.

In the list of these psychological problems, addictions in all their forms occupy a prominent place because of their devastating effects on academic life. The present study took up the issue of addictions and sought to assess the effects of social network addictions on the academic performance of students at the University of Kinshasa. To this end, a social network addiction test was administered to a limitedly representative sample of 91 finalist students from a number of faculties at the University of Kinshasa enrolled for the 2020-2021 academic year. In addition to this test, the documentary technique was used to obtain the students' academic grades at the end of the academic year.

The results of the study revealed that 23 of the 91 subjects (25.3%) were addicted to social networking, compared with 68 subjects (74.7%) who were non-addicts. In terms of academic performance, the study identified three student profiles: (1) 30 students (or 33.0%) who demonstrated low-quality achievement (50-59%), (2) 57 students (or 62.6%) who demonstrated medium-quality achievement (60-69%) and (3) 4 students (or 4.4%) who demonstrated higher-quality achievement (at least 70%).

The results obtained demonstrated the negative effect of social network addictions on the academic performance of the study subjects. In other words, addicts achieved lower academic percentages than non-addicts. In future universities in the Democratic Republic of Congo, where wifi access will be totally free, we can expect to see an increase in the prevalence of social networking addictions among students. This could have a major impact on the academic careers of future students. At present, it is thought that the fact that students have to pay for their own Internet subscription may be a protective factor against excessive use of social networking sites. That's why it's important to put in place mechanisms to prevent social networking addictions, based on the Canadian or French models, for example.

In line with these two models, universities have set up listening or support services that provide information or resource people to address issues related to social network addictions, in order to facilitate students' academic success. In addition to this service, universities collaborate with addiction treatment institutions by referring students with strong social networking addictions to them. These services can operate as a guidance and counseling unit, with the aim of offering psychosocial care to

students addicted to social networking sites. In addition to this care, students need to be made aware of the risks of social networking addictions, and encouraged to regulate their use of social networks.

Suggestions for Future Research

As this study is limited to the relationship between social networking addictions and students' academic performance, it does not provide sufficient information on the psychological consequences of social networking addictions. For this reason, the importance for future studies to focus on the relationship between social network addictions and psychological health problems of Congolese university students (life satisfaction, well-being, quality of life, depression, self-esteem...) is visible. Such studies could provide additional information concerning psychological effects of social networking addictions in the Congolese context. In addition, the mediating role of students' self-confidence (self-control) or personality traits in the relationship between academic performance and network addictions should be investigated.

A deep analysis on the effects of social network addictions on motivation in educational activities is also desirable. It would help identifying the motivational factors most affected by social network addiction. A study concerning social network addictions among teachers and, if possible, assess their effects on their professional skills would also be advisable. Finally, it is also possible to extend this study to the various Congolese universities (striving for a high degree of representativeness of the samples) in order to find out whether the results of this study (carried out at the University of Kinshasa) can be applied in these institutions.

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