

## THE INFLUENCE OF INTERNET ADDICTION AND MOBILE PHONE DEPENDENCY ON ACADEMIC ACHIEVEMENT OF PUBLIC UNIVERSITY STUDENTS IN ANAMBRA STATE

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### Abstract

*Internet addiction and mobile phone dependency has become a serious social problem in the school systems. The ugly development has given much concern to parents, lecturers and stakeholders in Education. As technology becomes increasingly integrated into daily life, understanding its impact on students' academic success is paramount. This study examined the influence of internet addiction and mobile phone dependency on academic achievement among University students in Anambra State, Nigeria. The study was guided by three specific purposes: To examine the influence of internet addiction on academic achievement of university students in Anambra State. To ascertain the influence of mobile phone dependency on academic achievement of university students in Anambra State. Two research questions guided the study and two null hypotheses were tested at 0.05 level of significant. Conceptual, theoretical and empirical studies were reviewed. The study adopted a descriptive survey design. The population of the study comprised 40,000 University undergraduates in Anambra State. The sample of the study comprised 365 university students of Anambra state origin. Standardized scales, Internet Addiction Test (IAT) and Test of Mobile Phone Dependence (TMP), were employed to measure levels of addiction and dependency. Academic achievement was assessed with students' cumulative grade point averages (CGPAs). Three instruments were used to collect data for the study. The reliability of the instrument was measured using Cronbach alpha. The reliability test yielded coefficient values of 0.86 for Internet Addiction Test scale and 0.76 for the Test of Mobile Phone Dependence. Mean and standard deviation were used to answer the research questions while hypotheses testing was done with analysis of variance (ANOVA). The findings revealed a significant negative influence of internet addiction, mobile phone dependency, on academic achievement. The study also revealed a significant gender difference in the influence of internet addiction on academic achievement, but did not show a significant gender difference in the influence of mobile phone dependency on academic achievement. Based on the finding of the study, it was recommended that educational institutions should integrate digital literacy programs into the curriculum to equip students with essential skills for responsible technology use.*

**Keywords:** Internet Addiction, Mobile Phone Dependency and Academic Achievement.

### Introduction

Academic achievement is an important index for education and assessment. The main goal of this system is reaching this aim. The society and specially education system are interested in destination, successful development and accomplishment, and person's status in society. They anticipate that everyone reaches his optimum progress in cognitive dimensions and acquisition of skills, and also have progress in personality, affective and behavioral aspects. This is because academic achievement occupies an important role in students' development. It reflects students' cognitive ability as well as shape their academic and career paths. Students who are satisfied with their school performance and achievement tend to show higher self-esteem, confidence, and motivation. Information and communication technology have offered many benefits and services for human beings, but its negative impact on the community increases daily. One of these aspects is dependency or addiction to these technologies. Academic achievement is the outcome of an educational activity. It represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of activities in instructional environments. It is one of the major goals of a school and it plays a very important role in the life of a student. Therefore, academic achievement defines whether the university student will be able to do well in their career paths. Academic achievement may refer to completing educational benchmarks such as a bachelor's degree. It is often measured through examinations or continuous assessments.

Academic achievement is the extent to which a student or institution has achieved either short or long term educational goals. Achievement may be measured through students' grade point average, whereas for institutions, achievement may be measured through graduation rates. It is a measure of knowledge gained in

formal education usually indicated by test scores, grade, average and degrees. It can also be explained as the amount of knowledge gained from academic process, demonstrated in terms of skills and competency, and measured by successes attained or merited in courses taught in school (Ajiboye&Telia, 2021). Completion of educational benchmarks such as secondary school, diplomas and bachelor's degrees represent academic achievement. The definition of academic achievement depends on the indicators used to measure it. Among the many criteria that indicate academic achievement, there are very general indicators such as procedural and declarative knowledge acquired in an educational system, more curricular-based criteria such as grades or performance on an educational achievement test, and cumulative indicators of academic achievement such as educational degrees and certificates. Academic achievement as measured by the GPA (grade point average) or by standardized assessments designed for selection purpose such as the SAT (Scholastic Assessment Test) determines whether a student will have the opportunity to continue his or her education (e.g., to attend a university). Therefore, academic achievement defines whether one can take part in higher education, and based on the educational degrees one attains, influences one's vocational career after education. Besides the relevance for an individual, academic achievement is of utmost importance for the wealth of a nation and its prosperity. The strong association between a societies' level of academic achievement and positive socioeconomic development is one reason for conducting international studies on academic achievement, such as Programme for International Student Assessment (PISA), administered by the Organization for Economic Co-operation and Development (OECD). The results of these studies provided information about different indicators of a nation's academic achievement; such information is used to analyze the strengths and weaknesses of a nation's educational system and to guide educational policy decisions. The definition of academic achievement is the amount of academic content a student learns in a specific period. This can be any way a student has achieved short-term or long-term academic goals within an academic setting. Academic achievement must be measurable, which is why distinct goals are used as a defining characteristic. There is a time parameter that measures the amount of academic success a student has garnered. Testing and assessments are usually performed to gauge a student's academic achievement. GPA along with SAT scores are two examples of assessments used to assess for academic achievement.

To ascertain academic achievement therefore, tests on subjects learned could be given, and scores or marks are assigned by the teacher's. This could be in a form of class examination, test or school general evaluation of the classroom work on the basis of the grades awarded. The performance in the form of achievement in these evaluations can relate to positive or negative identity structures of individual student's intellectual capacity.

Besides its relevance for an individual, academic achievement is of utmost importance for the wealth of a nation and its prosperity (Anja, 2021). Giving the individual and societal importance of academic achievement, it is not surprising that the knowledge of the factors that influence the outcome of academic achievement are to be clear to the educators, parents, students and the society so that the standard of academic achievement could be enhanced. A number of factors have been suspected to have influence on academic achievement of students in the university. Some of these factors include parental influence, peer pressure, intelligence, mass media and technological development.

The pervasive use of the internet and the increasing dependency on mobile phones have given rise to concerns about internet addiction and mobile phone dependency, both of which can significantly impede academic achievement among university students. Students today face the challenge of balancing their academic responsibilities with the constant allure of social media, online entertainment, and other digital distractions. The easy accessibility of the internet and the ubiquitous presence of smartphones make it tempting for students to succumb to prolonged periods of non-academic screen time, diverting their attention away from essential study tasks and adversely affecting their academic performance (Cheng & Li, 2022; Hilao&Wichadee, 2021; Fathia & Sabra, 2020).

Moreover, mobile phone dependency can exacerbate the issue by fostering a constant need for connectivity and instant gratification (Tian et al, 2021). The incessant notifications and the addictive nature of social media platforms can lead to a cycle of distraction, reducing the time and mental focus students allocate to their studies. This dependency can contribute to poor time management, decreased productivity, and heightened stress levels, all of which are detrimental to the academic success of university students (Mei et al, 2022). As educational institutions adapt to the digital age, addressing these challenges requires a holistic approach that encompasses awareness programs, counselling services, and the promotion of healthy technology habits to help students strike a balance between the benefits of technology and their academic pursuits. Consequently, technological adventures have been variously employed to aid students' academic

achievement especially in the contemporary times. One of such adventures is the internet, which has been described as a communication super highway that links, hooks and focuses the entire world into a global village, where people of all races can easily get in touch, see, or speak to one another and exchange information from one point of the globe to another (Shitta, 2021). It has also been explained as playing an increasingly significant role in transforming peoples' lives and allows wide range of materials to be accessed by people across the globe irrespective of their location (Qadri, Esmaili, & Ahmad, 2020). Hence, the internet has made for the accessibility of a large pool of information that were not possible in the past, thereby reducing the information gap between the students in developed and developing countries. It is also user friendly, fast and enable access to information from anywhere around the world with no time limitation. With the invention of internet, a new channel for communication, information sharing and networking has emerged. This new channel has been so excessively used all over world that it has started to invade not only social but also academic aspects of student lives. In this respect, students, are reported to spend a significant part of their days on the Internet for various purposes (Ito, Horst, Bittanti, Boyd, Herr-Stephenson & Lange, 2020). Some studies have shown the positive impacts of the Internet on students' academic life as an aid to complete homework more effectively and efficiently (Borzekowski & Robinson, 2019; Jackson, 2018). Despite the positive effects of internet use, literature reported that many a student are found to be obsessed with the excessive use of the internet, which in turn affect their daily functioning, especially their academic achievement (Frangos, 2020; Young, 2020; Leung & Lee, 2022).

Internet addiction is regarded in this study as an individual's inability to control his or her use of the internet, which eventually causes psychological, social, school, and work difficulties in a person's life (Chao & Hsiao, 2020). It references an uncontrollable use of the internet, which is remarkably distressing, time-consuming, and resulting in social and functional difficulties, and not solely present during hypomanic or manic clinical episodes (Shapira, Goldsmith, Keck, Jr., Khosla, & McElroy, 2020). Internet addiction is when a person has a compulsive need to spend a great deal of time on the Internet, to the point where other areas of life such as education, relationships, work or health are allowed to suffer.

According to Griffiths (2021), internet addiction described as factor in students' live that cause neurological complications, psychological disturbances and relational chaos. It covers a variety of impulse-control problems. These problems among others include cyber relationship addiction, net compulsions, information overload, and computer addiction (Joanna, Melinda, Lawrence & Jeanne, 2019). Andrea, Frédéric, Marie-Emmanuelle and Guillaume (2021) further explained that internet addiction is a psychosocial disorder, the features of which include lack of patience, symptoms of isolation and emotional disorders and interruption of social relations, excessive or poorly controlled preoccupations, urges or behaviors regarding computer use and Internet access that lead to impairment or distress. Internet addiction is defined as an unhealthy behavior that interferes with and causes stress in one's personal, school, and work life. Like other addictions, compulsive Internet usage completely dictates a person's life. Addicts struggle to control their behavior, causing a sense of despair, leading them to dive further in their addictive pattern. After some time, addicts become dependent on cyberspace to feel normal. It also reflects in symptoms such as anger, tension and anxiety (Goldberg, 2019), and a significant threat to one's health in that it enforces eyesight weakness, disturb sleep, back strain and other different disorders. It tends to make a person more introvert and away from family and society.

Owing to the availability of telecommunication technology, mobile phone becomes more and more important in daily lives of users. Mobile phone does not only serve as tools for communication, but also as tool for people working and emotional interaction. People rely more on mobile phones now than ever before; this consequently leads to mobile phone dependence which is one of the standpoints of this study. As mobile phone use gained popularity, researchers began to study the ways in which individuals used this technology to interact with others, and it quickly became obvious that people were becoming reliant on their mobile phones. In the last decade, the rate of mobile phone dependency has become alarming as it causes problems in students' lives like such as insufficient sleep, financial bankruptcy and other compulsive behavior.

Mobile phone has metamorphosed from being a business tool to a personal communication device. The adoption of this modern device and its growth has been observed to correlate positively and highly with the rate of dependence on it. The device has also graduated from the level of being a status symbol to a tool of apparent necessity. This is because the new generations of mobile phones are not just for talking; they are loaded with facilities for multi-media messaging, and Internets access. Elliot and Urry (2020) posits that the pervasiveness of its usage has been linked to the mobile lifestyle of the modern society. Recent technological development has turned mobile phones into multifunctional machines for everyday use. The arrival of the

smart phone brought convenience to interpersonal conversation, social networking, agenda management, entertainment, shopping, and other personal activities, probably no other modern device is embedded into our lives as deeply as the mobile phone. However, an alarming consequence of this embedding has begun to emerge. Excessive dependency upon this technology leads to serious psychological and behavioral impediments on mobile phone users especially the students.

Additionally, the dependency on mobile devices for academic tasks may contribute to a decline in critical thinking and analytical skills, as students may be more inclined to accept readily available information without thoroughly evaluating its credibility or engaging in deeper reflection. As universities continue to integrate technology into education, striking a balance that harnesses the benefits of mobile phones for learning while mitigating their potential negative impact on academic achievement becomes a critical consideration for both educators and students alike.

Today, as mobile phones become increasingly sophisticated and multifunctional, students are becoming increasingly “addicted” to this technology, not only for interpersonal communication through voice or text (i.e. short messaging service-SMS) but also as a tool for seeking gratification, cybercrime, searching for information, entertainment, relaxation, passing time, picture and video taking, and expressing status and identity, which takes more of their time, leaving them with little or no time for their academic activities which may adversely affect their academic achievement. It is against this background that the study attempts to investigate the influence of internet addiction and mobile phone dependency on the academic achievement of students in public universities in Anambra State.

### **Statement of the Problem**

Recently, there has been alarming poor academic achievements of graduates in Nigeria and in Anambra State in particular. This has become obvious in the labor market as a lot of graduates are unemployable. They have nothing to offer to the wider society who rely heavily on them for a better tomorrow, they find it very difficult to get a well-paid job due to the fact that they fail during interview and other recruitment exercises. There have been a lot of distraction and loss of interest in academics owing to the fact that we are in technological world and these goes a long way to adversely affect their end point achievement in schools. With the widespread use of technology, especially the internet and mobile devices, students have easier access to information and means of communication. However, excessive use of technology also impedes their career as it leads to negative consequences, such as decreased academic performance and decreased attention spans. The widespread use of the internet and mobile devices among university students have led to growing concerns about the potential negative impacts on their academic achievement. The problem of internet addiction and mobile dependence has become more prevalent in recent years, particularly among university undergraduates. There is a need to investigate the relationship between internet addiction and mobile dependence on academic achievement among university students as the use of these devices have adverse effects on their cognitive, social, and emotional well-being, which can ultimately affect their academic achievement. Also, students frequently use their digital devices during lectures, leading to lower engagement and comprehension. These days, students depend on their mobile devices and the internet for a deadline delivery of their assignments which in turn affect the time and attention that should have been given to that academic work. This approach defeats the essence and limit the knowledge impact of such assignment. Additionally, students who are overwhelmed by their devices are more likely to experience difficulty in academics. It is against this background that the researcher decided to embark on this study, to ascertain the extent to which internet addiction and mobile phone dependency among university undergraduates relate to their academic achievement.

### **Purpose of the Study**

The general purpose of the study is to examine the influence of internet addiction and mobile phone dependency on academic achievement of public university students in Anambra State. Specifically, the study seeks to:

1. Examine the influence of internet addiction academic achievement of university students in Anambra State.
2. Ascertain the influence of mobile phone dependency on academic achievement of university students in Anambra State.

### **Research Questions**

The study was guided by the following research questions:

1. What is the influence of internet addiction on academic achievement of university students in Anambra State?
2. What is the influence of mobile phone dependence on academic achievement of university students in Anambra State?

### **Hypotheses**

1. The internet addiction will not significantly influence students' academic achievement in public universities students in Anambra State.
2. The use of mobile phones will not significantly influence students' academic achievement in public universities students in Anambra State.

### **Method**

This study adopted descriptive survey research design which involves observing and collecting data on a given topic without attempting to infer cause-and-effect relationships. The goal of descriptive research is to provide a comprehensive and accurate picture of the population or phenomenon being studied and to describe the relationships, patterns, and trends that exist within the data (Sirisilla, 2023). This blends quantitative and qualitative data to provide the relevant and accurate information. The use of a descriptive survey design is justified in this study as it captures a comprehensive understanding of the phenomenon, allowing for the collection of both quantitative and qualitative data. The approach facilitates the exploration of patterns and trends within the target population, University undergraduates, without attempting to infer cause-and-effect relationships. By employing this design, the researcher aims to provide an accurate depiction of the prevalence and characteristics of internet addiction and mobile phone dependency among University students. The area of the study is Anambra state. There are six educational zones in Anambra State which includes Aguata, Awka, Nnewi, Ogidi, Onitsha and Otuocha. The population of the study comprised 40,000 undergraduate students as respondents. The sample size is 396 undergraduate students. There six educational zone in Anambra State which are Aguata, Awka, Nnewi, Ogidi, Onitsha and Otuocha. The population of the study comprised 40,000 university undergraduates from two public universities; Nnamdi Azikiwe University Awka (UNIZIK) and Chukwuemeka Odumegwu Ojukwu University (COOU) as respondents. The sample size is 396 undergraduate students. The researcher adopted multi-staged sampling procedure and Taro Yamane's formula method to determine the sample size for the survey. The instrument for data collection for the study was adopted structured questionnaire titled (IATTMD) questionnaire, titled "(SDPSRSSJPS) The instrument has two section A-B. Section A deals with the personal data of the respondents, while section B, is divided in clusters with 20 items, section. The instrument has five-point scale response options with response format of Strongly Disagree (SD), Disagree (D), Neutral (N) Agree (A) and Strongly agree (SA) and numerical value of 1, 2, 3, 4 and 5 respectively. The instrument was validated by three experts two from Educational Management and one from Educational Measurement and Evaluation, all from Department of Educational Foundations, Faculty of Education, Chukwuemeka Odumegwu Ojukwu University, Igbariam Campus. The questionnaire was administered to the respondents with the help of two research assistants. A total number of 365 copies were retrieved in good condition. The 265 copies of the questionnaire amounted to 90 percent return rate and 10 percent lost rate.

The reliability of the instrument was determined using Cronbach Alpha formula and reliability coefficient was 0.78 and was considered highly reliable and suitable for the study. Data collected were analyzed using Statistical Package for Social Sciences (SPSS) version 26. The research questions were analyzed using mean and standard deviation and the hypotheses formulated was tested using t-test at 0.05 level of significance. Hypothesis testing was done with analysis of variance (ANOVA). Probability value (*p*-value) was used to take decision on whether to reject or not reject any null hypothesis. Where a *p*-value was greater than 0.05, the null hypothesis was not rejected but where it was less than 0.05, the null hypothesis was rejected.

### **Research Question 1**

What is the influence of internet addiction on academic achievement of University students in Anambra state?

Table 1

*Mean and Standard Scores on Academic Achievement in English Language by Internet Addiction of university students in Anambra state*

| <b>Internet addiction category</b> | <b>N</b>   | <b>Mean</b>  | <b>SD</b>    |
|------------------------------------|------------|--------------|--------------|
| Internet addicted                  | 298        | 51.17        | 12.91        |
| Non-internet addicted              | 56         | 58.50        | 9.04         |
| <b>Total</b>                       | <b>354</b> | <b>52.33</b> | <b>12.66</b> |

The mean and standard deviations scores presented in Table 1 showed that the mean achievement in English Language for the internet addicted category group was 51.17 while the mean score for non-internet addicted category was 58.50. This shows a mean difference of -7.33 against those in internet addicted group. These values suggested that there is negative influence of internet addiction on academic achievement since students in internet addicted group had lower academic achievement than those in non-internet addicted group.

### Research Question 2

What is the influence of mobile phone dependence on academic achievement of University students in Anambra state?

Table 2.

*Mean and Standard Scores on Academic Achievement in English Language by Mobile Phone Dependence Category of University Students in Anambra state*

| <b>Mobile phone dependency</b> | <b>N</b>   | <b>Mean</b>  | <b>SD</b>    |
|--------------------------------|------------|--------------|--------------|
| Dependent group                | 269        | 50.90        | 13.73        |
| Non-dependent group            | 85         | 56.88        | 6.62         |
| <b>Total</b>                   | <b>354</b> | <b>52.33</b> | <b>12.66</b> |

The mean and standard deviations scores presented in Table 2 showed that the mean achievement scores in English language for the dependent group was 50.90 while the mean score for non-dependent group was 56.88. This shows a mean difference of -5.98 against those in mobile phone dependent group. This indicated that those in dependent group had lower achievement than those in non-dependent group which suggests that mobile phone dependency has negative influence on university students' academic achievement.

### Hypothesis Testing

The results for testing of hypotheses 1 and 2 are presented in Tables 5 and Table 6.

#### Hypothesis One

Ho<sub>1</sub>. The internet addiction will not significantly influence students' academic achievement in public universities students in Anambra State.

Table 3.

*Summary of Analysis of Variance of the Main influence of Internet Addiction Category and Interaction Effect of Gender on University Students' Achievement*

| <b>Source of variation</b> | <b>SS</b>   | <b>Df</b> | <b>Mean Square</b> | <b>F</b> | <b>p-value</b> | <b>Remark</b> |
|----------------------------|-------------|-----------|--------------------|----------|----------------|---------------|
| Internet Addiction         | 2278.322    | 1         | 2278.322           | 14.82    | .000           | S*            |
| Gender                     | 9.133       | 1         | 9.133              | .059     | .808           | NS            |
| Internet Addiction* Gender | 64.806      | 1         | 64.806             | .421     | .517           | NS            |
| Error                      | 53812.660   | 350       | 153.750            |          |                |               |
| Total                      | 1026074.000 | 354       |                    |          |                |               |

\*S = Significant; NS = Not Significant

The analysis of variance presented in Table 3 shows that there was a significant effect of internet addiction on university student's academic achievement in English Language,  $F(1,350) = 14.82$ ,  $p < 0.05$ . Therefore, the null hypothesis was rejected.

#### Hypothesis Two

Ho<sub>2</sub>. The use of mobile phones will not significantly influence students' academic achievement in public universities students in Anambra State.

Table 4.

*Summary of Analysis of Variance of the Main influence of Mobile Phone Dependency Category and Interaction Effect of Gender University Students' Achievement*

| Source of variation      | SS         | Df  | Mean Square | F     | p-value | Remark |
|--------------------------|------------|-----|-------------|-------|---------|--------|
| MobilePhone Dependency   | 1758.23    | 1   | 1758.23     | 11.55 | .001    | S      |
| Gender                   | 24.41      | 1   | 24.41       | .16   | .689    | NS     |
| Mobile dependency*Gender | 801.14     | 1   | 801.14      | 5.26  | .022    | S      |
| Error                    | 53295.63   | 350 | 152.27      |       |         |        |
| Total                    | 1026074.00 | 354 |             |       |         |        |

As shown in Table 4, there was a significant effect of mobile phone dependency on university students' academic achievement in English Language,  $F(1,350) = 11.55$ ,  $p < 0.05$ . Since the p-value was less than 0.05 level of significance, the null hypothesis was rejected.

### Discussion

This study examined the influence of internet addiction and mobile phone dependency on academic achievement of public university students in Anambra State. The findings revealed that smartphone addiction had negative direct effect on academic achievement, as well as completely mediating effect through academic anxiety. The result of this study agree with Frangor (2020) who opined that mobile phone dependence influence the academic achievement.

These behaviors lead to distractions, mental and physical fatigue, financial strain, and psychological distress, which collectively contribute to diminished academic performance. The study's results are consistent with existing literature, reinforcing the idea that Internet addiction negatively affect academic achievement.

Attribution theory further explains how students' perceptions of their addiction influence their academic behaviors. Students often attribute their academic struggles to external factors related to their addiction, leading to a diminished sense of personal responsibility and motivation. The outcomes of this study agree with Tian et al (2021) who contended that internet adduction influence academic achievement negatively.

The observed negative relationships between internet addiction, mobile phone dependency, and academic achievement emphasized the pressing need for proactive measures.

### Conclusion

Based on the results of this study, it is concluded that internet addiction and mobile phone dependency such as smartphone addiction had negative direct effect on academic achievement of undergraduates in public universities. The excessive use of internet and mobile phone leads to decreased academic performance, reduced study time, distractions and increased procrastination which collectively contribute to diminished academic performance.

### Recommendations

Based on the findings of the study, the following recommendations are made:

1. Educational institutions should integrate digital literacy programs into the curriculum to equip students with essential skills for responsible technology use.
2. Educators should foster a culture of responsible technology usage, including awareness programs which can mitigate distractions and enhance academic focus.

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