



## RELATIONSHIP BETWEEN INTERNET ADDICTION AND STUDENTS' ACADEMIC ACHIEVEMENT IN PUBLIC SENIOR SECONDARY SCHOOLS IN ANAMBRA STATE

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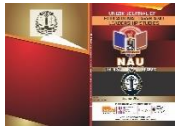
### ABSTRACT

*The world today revolves around internet usage as both young and old engage actively with their internet. The students are not exempted, as they utilize the internet for academic purposes alongside their social entertainment. The poor usage of internet by the students may be one of the causes of underachieved academic goals set by both the ministry of education, parents and the student. The study examined the relationship between internet addiction and students' academic achievement in public senior secondary schools in Anambra state. Two research questions and two hypotheses guided the study. The sample of the study comprised 420 SS1 students (210 males, 210 females) drawn from using proportionate random sampling technique. Two instruments were used for data collection: Internet addiction test (IAT), and basic examination result. Pearson's Product Moment Correlation were used as tools for data analyses. The hypotheses were tested at 0.05 level of significance. The two core subjects' English language and Mathematics in Basic External Certificate Examination (BECE or junior WAEC) result of senior secondary school one students were used to assess their academic achievement. The findings showed that there was a very low negative relationship between internet addiction and students' academic achievement in English Language, but, a low negative relationship was found between internet addiction and students' academic achievement in Mathematics. There was a significant negative relationship between internet addiction and academic achievement in Mathematics among male students, however there was no significant relationship between internet addiction and academic achievement in English language among male students. For the female sample, there was a significant negative relationship between internet addiction and academic achievement in English language and Mathematics among female students in public secondary schools in Anambra state. Based on the findings, it was recommended that Schools should have functional school counselors who can assist those students who go through various psychological problems.*

**Keywords:** Academic Achievement, Internet Addiction, public secondary school

### Introduction

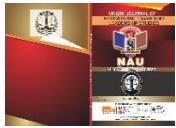
Attaining academic achievement by students is viewed as demonstrating their academic skillset which reflect on their grades. These great grades can lead to ascending to a greater and higher class, winning a scholarship or receiving an academic award. Whereas, an unsuccessful poor academic grades, leads to failure of the students in repeating classes, non-scholarship awards. According to Ricarda et al (2025), academic achievement represents performance outcomes that indicate the extent to which a person has accomplished specific goals that were the focus of



activities in instructional environment, specifically in Schools, Colleges, and universities. Barowski and Carrer (2023), defined academic achievement as the amount of academic content a student learns in a specific time period. This can be any way a student attain short term or long term academic goals within an academic setting. These showed discrepancy in grades as some students may be more successful at attaining academic achievement than others. This can be due to several psychological factors that are beyond the students' control. The psychological factors may be depression, anxiety, internet addiction, and low-esteem among others.

Modernization has influenced academic activities positively and negatively as there are tools that enhance students' academic journey in reaching their set goals. These tools mostly are in digital terms as we now have chat GTP, MetaAI, Billbot, Google, and chrome among others. All these help students attain high academic success. The growth in internet usage among students led to fantastic academic versatility in knowledge, as may unknown questions or hidden knowledge are just a click away. As the internet comes with its numerous advantages towards academic achievement, also the negative challenges these students' face, such as poor time and use of the internet otherwise called internet addiction.

Internet addiction is one of the challenges some students face that interfere in the academic activities which end up affecting their grades and set goal (Valenrica, 2023). Internet addiction differ depending on the specific online which a person engages. These activities range from porn and cybersex, social media, gaming, online relationships, compulsive information seeking, and online compulsions. Secondary school students tend to relate more in their social media, and gaming activities, along with online relationships. This unconsciously may take their time away from their academic activities. According to Susanne (2025), internet addiction refers to someone compulsively using the internet to the point that it becomes a problem, negatively affecting how they function in life. Most students often argue that their engagement with the internet is mostly for home work and research, but they may end up engaging in other online activities rather than their academic work. Research has shown that teens who go on line frequently, releases endorphins which serves as a brain chemicals that trigger feelings of pleasure (Katey, 2023). Hence, they enjoy the pleasure they derive from their online activities rather than reading and researching academic work. According to Arslaan et al (2020), an individual's inability to control his or her use of the internet which eventually causes psychological, social, school, and / or work difficulties in person's life is referred to internet addiction as a student who do not use internet excessively has a better academic grades and increased learning satisfaction as compared to heavy internet users. Orhan and Nadir, (2017), noted that psychological impact of internet addiction which includes: Lack of social engagement and decreased productivity as well as physical impacts such as back/neck muscular problems, carpal tunnel syndrome and sleep disorder which damages the brains of the students and young adults. Nevoeneh and Owo (2022) stated that people who exhibit characteristics of internet addiction may isolate themselves for extended period of time away from others and the social world, focusing exclusively on the gadget with which the internet is linked rather than general life activities. Day to day observations and experiences, have shown that some secondary school students who have access to phone may be facing challenges with their daily



chores, relationship with family members, mood fluctuations, and performance at school as they may not have time for their academic pursuits (Parke, 2015).

Internet activities have drastically increased students' level of distraction, which competes with academic interest (Michael & John, 2024). This also may have negative impacts on their students' engagements, learning and persistence in higher education, as they enjoy speeding time on social media or video games rather than study. Hence, this study tends to find out the relationship between internet addiction and students' academic achievement in public senior secondary schools in Anambra state.

### **Purpose of the study**

The general purpose of the study includes the following:

- 1) To find out the relationship between internet addiction and academic achievement of students in public secondary school in Anambra State.
- 2) To determine the relationship between internet addiction and academic achievement of male and female students in public secondary schools in Anambra State.

### **Research questions**

The study was guided by the following research questions:

- 1) What is the relationship between internet addiction and academic achievement of students in public secondary schools in Anambra State?
- 2) What is the relationship between internet addiction and academic achievement of male and female students in public secondary schools in Anambra State?

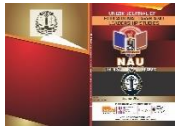
### **Hypotheses**

The following hypotheses were tested at 0.05 level of significance.

- 1) There would be no significant relationship between internet addiction and academic achievement in English language and Mathematics of students in public secondary schools Anambra state.
- 2) There would be no significant relationship between internet addiction and academic achievement of male and female students in English language and Mathematics in public secondary schools in Anambra State.

### **Method**

The correlational research design was used for this study. Correlation research design according to Nworgu (2015) seeks to establish the relationship that exists between two or more variables. The design also indicates the direction and magnitude of the relationship between the variables being studied. The design was considered most appropriate because this study was a correlational study that sought to ascertain the relationship between independent (internet addiction) and dependent variable (academic achievement) of secondary school students in public secondary schools in Anambra state. The study was carried out in Anambra state which is one of the 36 states of the federation and is located in south-east zone of Nigeria. The population of this study comprised 10,895 senior secondary one (SS I) students in public secondary schools in Anambra

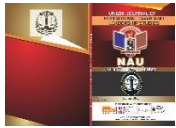


state (6,524 female, and 4,650 males). SS1 students were chosen in other to use the most current result of their basic external certificate examination. Anambra state has 267 public secondary schools, with six education zones. viz; Aguata, Awka, Ogidi, Onitsha, Nnewi and Otuocho. (Ministry of Education, Headquarters, Awka zone, 2024). The sample of the study was 420 (210 males, 210 females) SS 1 public secondary school students. The sample size was drawn using Cochran's formula. Cochran's formula was used to select the sample size as it is used for dealing with large population as it helps balance between precision and sample size as this grantee a reliable result.

### **Instrument for Data Collection**

The study used Internet Addiction Test (IAT) developed by Kimberly (1998). The researcher adopted the instrument. The questionnaire contained 15 items which summed it information on internet addiction of the respondents. The items were placed on a 4-point scale of Always (4), frequently (3), Occasionally (2), and Rarely (1). The ranges of the scores were weighted as 4, 3, 2, and 1 respectively. For the academic achievement, basic external certificate examination was used. The face validation of the instruments was ascertained by three experts. The instruments were given to two experts in educational psychology and one expert in measurement and evaluation, all from faculty of education, Chukwuemeka Odumegwu Ojukwu University for validation. The research topic, purpose of the study, research questions, hypotheses and copies of the questionnaire were given to these experts. They were requested to examine the items in terms of contents coverage, relevance and clarity as well as to ascertain if the items were related to the purpose of the study. They were also asked to check clarity of language and to find out if all the relevant areas were covered. The experts recommended that the double barred items should be re-casted. They also suggested that the source of the instruments should be written at the bottom of each instruments. Inputs from the validators helped in the modification of the items before the final production.

The instruments were trial-tested in a simple administration on a representative sample of 20(10 males and 10 females) SS1 students randomly selected from two public secondary schools in Enugu state. Enugu state was chosen because it shares similar education characteristics with Anambra state. The responses of the respondents were collated to determine the internal consistency of the items in each of the instruments. This was done using Cronbach alpha reliability coefficient. The choice of Cronbach alpha is in line with Teber (2018) who recommended Cronbach Alpha as a proper and accurate statistical tool for determining the internal consistency of items of the instruments. Cronbach Alpha method was also used because the items of the instruments were not dichotomously scored. They gave co-efficient values of 0.76 for internet Addiction Test. The co-efficient values were considered high because they fall within very high and high reliability indices as described by Creswell (2021) in that 0.00 – 0.20 is very low, 0.21 – 0.40 is low, 0.41 – 0.60 is moderate, 0.61 – 0.80 is high, while 0.81 – 1.00 is very high. The high coefficient values indicated that the instruments were reliable to be used for the study.



The researchers administered the instruments to the respondents with the help of five research assistants. The research assistants were briefed on how to administer and retrieve copies of the questionnaire such as mannerism and time management. On the spot delivery method was adopted for the administration and retrieval of the instruments from the respondents to ensure high return rate. However, follow up visits were made in order to collect the copies of questionnaire from those who were unable to complete theirs at the first visit. The administration and retrieval of the instrument lasted for two weeks. Out of 400 copies of questionnaire administration, 383 returned were properly completed and used for data analysis. This gave a return rate of 95.75%.

Pearson Product Moment Correlation Co-efficient (PPMCC) was employed to answer research questions and tested the null hypotheses at 0.05 level of significance. Above all, the statistical package for social science (SPSS) version 26 was employed for data analysis. The guide lines for describing the nature of the relationship between variables were based on Nworgu (2015) as follows;

- +0.00 to 0.19 - Very Low Relationship
- +0.20 to 0.39 - Low Relationship
- +0.40 to 0.59 - Moderate Relationship
- +0.60 to 0.79 - High Relationship
- +0.80 & above - Very high Relationship

While the negative co-efficient indicated a negative relationship, positive co-efficient indicated positive relationship between variables. For hypothesis, where the probability (P-value) is equal or less than 0.05, the null hypothesis was rejected, which implied that there was a significant relationship between variables. However, when the obtained P- value is greater than 0.05, the null hypothesis was not rejected which implied that the relationship between the variables was not significant.

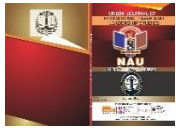
### Results

The data collected were statistically analyzed in line with the research questions and hypotheses that guided the study and the results were presented in tables.

**Research Question One:** What is the relationship between internet addiction and academic achievement in English Language and Mathematics of students in public secondary schools in Anambra state?

**Table 1: Pearson’s Correlation Between Internet Addiction and Academic Achievement in English Language and Mathematics of Students in Public Secondary Schools in Anambra State**

Variables	N	R	Remarks
Internet Addiction English language	383	-0.13	Very low negative relationship
Internet Addiction Mathematics	383	-0.29	Low negative relationship



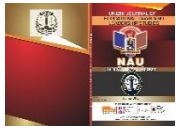
Pearson’s (r) presented in Table 1 indicated that  $r = -0.13$  was obtained from the correlation between internet addiction and academic achievement in English Language while  $-0.29$  was obtained from the correlation between internet addiction and academic achievement in Mathematics. These values indicated that there was a very low negative relationship between internet addiction and students’ academic achievement in English Language, but, a low negative relationship was found between internet addiction and students’ academic achievement in Mathematics. This suggested that as internet addiction increases, students’ academic achievement in English Language and Mathematics decreases. However, the rate was greater in Mathematics compared to English Language.

**Research question Two:** What is the relationship between internet addiction and academic achievement in English Language and Mathematics of male and female students in public secondary schools in Anambra state?

**Table 2: Pearson’s Correlation Between Internet Addiction and Academic Achievement in English Language and Mathematics Among Male and Female Students Public Secondary Schools in Anambra State(N=383)**

Variables	N	R	Remarks
<b>Male:</b>			
Internet Addiction English language	162	-0.13	Very low negative relationship
Internet Addiction Mathematics	162	-0.30	Low negative relationship
<b>Female:</b>			
Internet Addiction English language	221	-0.15	Very Low negative relationship
Internet Addiction Mathematics	221	-0.30	Low negative relationship

Table 2 presented the Pearson’s r between internet addiction and academic achievement in English Language and Mathematics based on students’ gender. For the male students, the relationship between internet addiction and academic achievement in English Language was  $-0.13$  while that of Mathematics was  $-0.30$  which depicted a very low negative relationship and low negative relationship respectively. Similar values were obtained for female. The values were  $r = -0.15$  and  $-0.30$  for English language and Mathematics respectively.



**Hypotheses**

**Hypothesis One:** There would be no significant relationship between internet addiction and academic achievement of students in public secondary schools Anambra state.

**Table 3: Test of Significance of Pearson’s Correlation Between Internet Addiction and Academic Achievement in English Language and Mathematics of Students in Public Secondary Schools in Anambra State (N=383)**

Variables	N	r	p	Remarks
Internet Addiction English language	383	-0.13	0.010	Significant
Internet Addiction Mathematics	383	-0.29	0.000	Significant

As shown in Table 3, internet addiction had a significant negative relationship with academic achievement in English Language and Mathematics,  $r_s = -0.13$  and  $-0.29$ ,  $p < 0.05$ . The p-values were less than 0.05 level of significance, therefore, the null hypothesis was rejected.

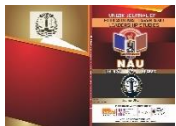
**Hypothesis Two:** There would be no significant relationship between internet addiction and academic achievement of male and female students in public secondary schools in Anambra state.

**Table 4: Test of Significance of Pearson’s Correlation Between Internet Addiction and Academic Achievement in English Language and Mathematics Among Male and Female Students Public Secondary Schools in Anambra State**

Variables	N	r	p	Remarks
<b>Male:</b>				
Internet Addiction English language	162	-0.13	0.110	Not Significant
Internet Addiction Mathematics	162	-0.30	0.000	Significant
<b>Female:</b>				
Internet Addiction English language	221	-0.15	0.026	Significant
Internet Addiction Mathematics	221	-0.30	0.000	Significant

The result displayed in Table 4 showed that there was a significant negative relationship between internet addiction and academic achievement in Mathematics among male students,  $r = 0.30$ ,  $p < 0.05$ , however there was no significant relationship between internet addiction and academic achievement in English language among male students.  $R = 0.13$ ,  $p > 0.05$ .

For the female sample, there was a significant negative relationship between internet addiction and academic achievement in English language and Mathematics among female students in public secondary schools in Anambra state,  $r_s = -0.15$  and  $0.30$ ,  $p < 0.05$ . Since the relationship was



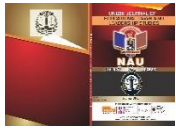
significant for female students and not for the male students in relationship to English language, the hypothesis 5 was accepted

### **Discussion of Findings**

One of the major findings of this study was that there was a very low negative relationship between internet addiction and students' academic achievement in English language and Mathematics. The Pearson's  $r$  presented in Table 1 showed  $r = -0.13$  as the correlation between internet addiction and academic achievement in English language and  $-0.29$  for the correlation between internet addiction and academic achievement in Mathematics. This indicates that as internet addiction increases, students' academic achievement in English language and Mathematics decrease. However, the  $r$  correlation of internet addiction and academic achievement in Mathematics is greater, compared to English language. This finding is in accord with the study carried out by Mishra et al (2019) which stated that excessive internet use have adverse impact on the academic performance of students. The greater decrease in academic achievement in Mathematics could be that the time, concentration and dedication required from the students to succeed in Mathematics is spent on the internet which leads to low academic success. This finding is supported by the research carried out by Orhan and Nadir (2017) who found relationship between internet addiction and academic achievement.

Table 3, showed the null hypothesis between internet addiction and academic achievement in English language and Mathematics of students in public secondary school indicated that internet addiction has a significant negative relationship with academic achievement in English language and mathematics,  $r_s = -0.13$  and  $-0.29$  respectively, hence the null hypothesis was rejected. These results showed that this relationship could be the cause of poor academic achievement of students who are addicted to the internet as such time dedicated to the internet adversely affected their academic performance. The results showed that students who are internet addict do slightly well in their academic achievement in English language than in their academic achievement in Mathematics and this findings is strongly supported by Orhan and Nadir (2017). Their study equally found a negative significant correlation between internet addiction and students' GPA thereby buttressing the findings of the present study. The present study has proven that students need to manage their time with the use of internet in order to have a successful academic achievement in Mathematics as Mathematics requires time and attention which mostly are used for internet activities, and which negatively affects their academic achievement. Not much study has been carried out to ascertain the relationship between internet addiction and academic achievement in English language and Mathematics, to know how it affects these students in these subject areas, and this is the gap this study sought to fill.

The relationship between internet addiction and academic achievement in English language and Mathematics of male and female students in public secondary school in Anambra State showed that for male students, the relationship between internet addiction and academic achievement in English language was  $-0.13$ , while that of Mathematics was  $-0.30$  which depicts a low negative relationship. From this finding, it shows that as internet addiction increases, academic achievement in English language and Mathematics for the male and female students' decreases. A study carried



out by Eiona (2016) supported the findings as it noted that the rate of severe internet addiction is greater in female students than in male students. This finding contradicts Rita et al., (2016) that found more prevalence of internet addiction in male than in female students.

It was hypothesized that there would be no significant relationship between internet addiction and academic achievement in Mathematics among male and female students. But the relationship was  $r = -0.20$  for male students, but there was a significant positive relationship between internet addiction and academic achievement in English language among male students,  $r = 0.13$   $p > 0.05$ . The low and weak relationships indicate that there was no strong relationship between internet addiction and academic achievement in mathematics among public secondary school students in Anambra States. However, the low positive relationship also suggests that internet addiction has some influence on academic achievement of students in English language and Mathematics, but further research is necessary to determine whether other factors are influencing this relationship.

For the female sample, there was a significant negative relationship between internet addiction and academic achievement in English language and Mathematics among female students in public secondary schools  $r = -0.15$  and  $0.30$   $p < 0.05$ . The gender differences which have been observed in this finding may be attributed to the different ways the two genders frequent and utilize the internet. Sana et al., (2020) contradicts this result as their findings revealed that males have higher internet addiction than females. The negative relationship between internet addiction and academic achievement in English language and Mathematics is simply explained to be the fact that students tend to spend more time with their phones and internet which divert their attention from engaging in academic work. This is evident in the relationship between internet addiction and academic achievement in English language among females. As their internet addiction increases, their academic achievement in English language decreases.

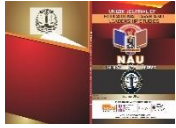
### **Conclusion**

The study has shown the relationship between internet addiction and academic achievement as supported by other studies. Conclusively, it has been revealed that the poor management of the use of the internet had a negative influence on the student academic achievement.

### **Recommendation**

The following recommendations are made based on the findings of the study:

1. Schools should have functional school counselors who can assist those students who go through various psychological problems.
2. Educational psychologists are very vital in the classrooms as they are versed in identifying students with learning problems, as well as identifying the learning strengths and weaknesses of students. The Ministry of Education should ensure that Educational Psychologists are recruited in the teaching staff of each school.



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