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Effects of Student's Use of Social Media on Academic Performance (A case study of Secondary School students in Onitsha)

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Abstract

The impact of social media use on academic achievement in science subjects among senior secondary school students in Anambra State, Nigeria, was studied using a descriptive survey design. The study's goals are to determine the relationship between social media usage and academic performance in science subjects among Anambra State Senior Secondary School students, as well as to determine whether there is a difference in the relationship between social media usage and academic performance in science subjects between male and female Anambra State Senior Secondary School students. The study's participants are all Senior Secondary School students in Onitsha, Anambra State. The population in its entirety is 1,450. According to the research advisers' requirements, the study's sample size is two hundred and sixty (260) senior secondary school students from Onitsha North and South. To test hypothesis one, the data was analyzed using Pearson product moment correlation (r). The use of PPMC was based on the assumption that it can be used to form relationships. Because hypothesis two had multiple independent variables, regression analysis was utilized to test them. There is no significant association between social media usage and Academic Performance in Science Subjects among Anambra State Senior Secondary School Students, although there is a significant difference

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between male and female Senior Secondary School Students in Anambra State. The following recommendations were made based on the study's findings: teachers should encourage students to use social media positively for academic activities, teachers and school counselors should treat both male and female students with social media disorder equally, adequate ICT facilities should be provided to both local governments, and secondary school teachers should use the same motivational measures for using social media for academic purposes.

Keywords: Social media, Academic performance, Social Networks

1. Introduction

People's use of social media is growing, presenting them with incredible opportunity to communicate through social networking. Social media refers to web-based and mobile applications that enable individuals and organizations to create, interact in, and share new or existing context in a digital world via multi-way communication. The widespread usage of social media among youths, who dominate most Nigerian tertiary institutions, is aided by the internet's accessibility via mobile phones. Many students, on the other hand, willingly spend numerous hours on social media rather than on their schoolwork every day. Students routinely use social media in class (during class hours), in the cafeteria, on their walk to or from college, both inside and outside the school grounds, and even in the library. The worst thing is that some students use social media to write their examinations, which has a clear impact on both male and female students' academic performance. Because education is considered a first step for every human activity in this era of globalization and technological revolution, it plays a vital role in the development of human capital and is linked to an individual's wellbeing and opportunities for better living.

2. Literature Review

The widespread use of social media has worried not only parents and teachers, but also academicians and researchers, because in this era of globalization and technological revolution, education is considered a first step for every human activity, it plays a vital role in the development of human capital and is linked (Geremew & Abdissa , 2015)**.** Social Media has been given a lot of definition by different authors. According to the definition of social media by (Anjugu, 2013) "As that method that leverages mobile and web-based technology to develop highly interactive plat forms in which individuals and communities share, co-create, discuss, and modify users generate context," (Wang, Chen, & Liang, 2011), on the other hand, defines social media as the relationships that exist between people's networks. (Dewing, 2012) defines social media as "web-based and mobile services that enable users to participate in online exchanges, contribute user-generated content, and join online communities." According to (Junco, Heibergert, & Loken, 2010), social media is a collection of online websites, services, and activities that promote cooperation, participation, and sharing.

Users construct online communities to share information, ideas, personal messages, and other content, and social media are described as forms of electronic communication such as web sites for social networking and micro blogging (KIM, SIN, & YOO-LEE, 2014).

Social networking is used by students for a variety of reasons. According to (Buhari, Ahmad, & Ashara, 2014), as well as (Mccord, et al., 2016), the most commonly used social media among students is Facebook, Whatsapp, Instagram, and Snapchat, and they also discovered that students are least likely to use social media platforms that allow them to build professional networks or categorize media content into categories.

Gender disparities in social media site preferences and usage can be seen. Facebook and Twitter are the most popular sites among teenagers and young adults of both genders (Nishi, Shivani, & Sanaya, 2015). Their findings demonstrate that there is a gender gap in how teenagers utilize the internet and social media; however this tendency

shifts over time. In 2007, teenage girls were more active bloggers than boys (in the United States), according to (Nishi, Shivani, & Sanaya, 2015), whereas boys were more likely to upload videos and use video sharing applications. Boys also spent more time on computers, particularly playing video games and going to websites like YouTube. Girls, on the other hand, make and share more videos and are more inclined to video chat. This is also true of (Chun, 2013) study, in which he performs additional research on gender differences in social media adoption. He points out that males and females have different perspectives on email and how they use it, as well as different levels of technology adoption. The study's goal is to determine the link between social media use and academic performance in science subjects among Anambra State senior secondary school students and to also see if there is a difference between male and female students in terms of their use of social media and their academic performance in science subjects.

3. Methodology and research questions

The study used a descriptive survey design. This is due to the fact that descriptive research design allows researchers to arrange, summarize, and describe their findings (Ary, Jacobs, & Razavieh, 2002).
The study provided answers to the following questions.

1. Is there a link between social media use and academic performance in science subjects among Anambra State senior secondary school students?
2. What is the difference between male and female students in terms of social media usage and academic performance in science subjects?

3.1. Population and Sample

The study's participants are all Senior Secondary School students in Onitsha, Anambra State and as of 2017, there were 1,450 students. The population is varied in nature, consisting of both sexes and ranging in age from 18 to 22 years. The population is broken down by school, region, and level in Table 1.

As a sample, the researcher used a portion of the population. The sample has characteristics in common with the study's complete population, and it serves as a representation of the population. Two hundred and sixty (260) senior high school students from Onitsha North and South were included in the study.

Table 1. Sample Size

S/NO	NAME OF SAMPLED SCHOOL	REGION	POPULATIONS OF SSS III STUDENTS	SAMPLE SIZE
1	Dennis Memorial grammar school, Onitsha	Onitsha North	370	50
2	Queen of the Rosary College, Onitsha	Onitsha North	220	29
3	St. Charles College, Onitsha	Onitsha North	211	28
4	Eastern Academy, Onitsha	Onitsha North	98	13
5	Inland Girls' Secondary School, Onitsha	Onitsha North	120	16
6	Prince Memorial Secondary School, Onitsha	Onitsha North	113	15
7	Army Day Secondary School, Onitsha	Onitsha North	156	21
8	Christ the King College (CKC), Onitsha	Onitsha South	320	43
9	Metu Memorial Secondary School, Onitsha	Onitsha South	202	27
10	Special Secondary School, Onitsha	Onitsha South	117	16
	TOTAL		**1927**	**260**

3.2. Sampling Techniques

The students in the study were chosen using a purposive sampling technique, often known as a judgmental sample. It is one in which the sample is chosen depending on the researcher's expertise and the study's objective. SSS III pupils who use social media piqued the researcher's curiosity. As a result, those who fit into the category of using social media were purposefully selected from the sample since they fitted the research's criteria.

3.3. Data Collection Instrument(s)

The researcher collected data using two separate instruments which are questionnaires to determine social media usage and the students' Mock Examination results in Chemistry, Mathematics, Physics, and Biology. The questionnaire instrument is divided into two sections. Section one contains the respondent's personal information, such as name, school, level, and gender. Section two of the instrument contained questions which are answered by the respondents. It consists of fifteen (10) items, and also consist of three likert-scale type of questions in form of Rear, Frequently and Always.

3.4. Scoring Procedure

The first instrument was scored by ticking the proper response made by the pupils. Because the information sought was intended to identify respondent demographic information, the data collected in section one of the instruments is in nominal form. The data in section two of the instrument is in ordinal form, which means that numerical values were assigned to students' responses as follows 1, 2, 3 to the responses, Rarely, Frequently and Always. The researcher needs to be able to do numerical analysis, therefore figures are assigned. The inventory has a maximum score of 30 and a minimum score of 10.

SSS III students received mock results in four science subjects: mathematics, physics, chemistry, and biology. The average score of the four subjects was calculated by adding the results of the four subjects together.

3.5. Reliability of the Instrument

The test re-test approach was utilized to determine the instrument's dependability for this investigation. A pilot study was conducted with twenty (20) SSS III students who did not engage in the main study. They were given the instrument for the first and second times within three weeks of each other. Pearson Product Moment Correlation Co-efficient was used in computing the correlation co-efficient of the instrument. The reliability index was found to be 0.68.

4. Summary of Data

The respondents in this study are Anambra State Senior Secondary School Students. Table 2 shows the demographic information of the respondents.

Table 2: Demographic Characteristics of the Respondents

NO	GENDER	FREQUENCY	PERCENTAGE
	Male	146	56.2
	Female	114	43.8
LOCAL GOVERNMENT			
	Onitsha North	191	73.5
	Onitsha South	69	26.5

The gender and local government distributions of the respondents are shown in Table 2. According to the gender breakdown, 146 (56.2%) of the respondents were male and 114 (43.8%) of the respondents were female. According to the distribution of respondents by local government, 191 (73.5%) of the respondents were from Onitsha North, while 69 (26.5%) were from Onitsha South.

5.0. Data Analysis

Inferential statistics are used to present the data analysis in this study. The outcome is interpreted in accordance with the criteria.

Research Question One: What are the relationships between social media usage and Academic Performance in Science Subjects among Senior Secondary School Students of Anambra State?

Table 3. Relationship of Social Media Usage and Academic Performance in Science Subjects

Variables	N	Mean	SD
Academic Performance	260	47.52	14.91
Social Media Usage	260	28.70	6.22

The mean score and standard deviation for the link between social media usage and Academic Performance in Science Subjects among Anambra State Senior Secondary School Students are shown in Table 3. Students' Academic Performance mean score is (47.52), while their Social Media Usage mean score is (28.70), with a mean difference of (18.82). This demonstrates that there is no link between social media use and academic performance in science subjects among Anambra State senior secondary school students.

Research Question Two: What are the differences in the relationship between social media usage and Academic Performance in Science Subjects between male and female Senior Secondary School Students of Anambra State?

Table 4. Relationship of Social Media Usage and Academic Performance in Science Subjects between Male and Female Students

Variables	N	Mean	SD
Gender	260	1.44	0.497
Academic Performance	260	47.52	14.91
Social Media Usage	260	28.70	6.22

Table 4 illustrates the mean score and standard deviation for the difference in social media usage and Academic Performance in Science Subjects between male and female Anambra State Senior Secondary School Students. The mean score for both genders is (1.44) with a standard deviation of (0.497), while students' Academic Performance mean score is (47.52) and their Social Media Usage mean score is (47.52). (28.70). This clearly demonstrates the disparity in gender, academic achievement, and social media usage in Science subjects among Anambra State Senior Secondary School Students.

5.1. Summary of Findings

The following is a synopsis of the findings:

1. Among Anambra State Senior Secondary School Students, there is no significant association between social media use and academic performance in science subjects.
2. There is a significant disparity between male and female senior secondary school students in Anambra State in terms of social media usage and academic performance in science subjects.

6. Discussions

The purpose of this study was to determine the impact of social media usage on academic performance in science subjects among senior secondary school students in Nigeria's Anambra State. The findings of this study are compared to those of other studies,

expert opinions, and other well-founded assertions. The study's initial finding is that there is no correlation between social media use and academic performance in science subjects among Anambra State senior secondary school students. The current research aligns with a study by (Martha, 2009) on how social network participation affects students' linguistic habits, which found that many students indicated that their linguistic habits had not changed as a result of their constant communication on the social network. This demonstrates that using social media does not increase their academic accomplishment in language habits, which is a foundation of academic achievement, and that the majority of respondents believe that using social media has harmed them. However, contrary to the findings of the current study, a study published by Ohio State University found that college students who use Facebook spend less time studying and have lower grades (academic success) than those who do not use the social networking sites (Kalpidou, Costin, & Morris, 2011). Furthermore, according to another study, there was no significant difference in grades between those who were heavy users of social media and those who were moderate users. There was no association between grades and the social media site used in this study. That is, almost the same percentage of heavy and light Facebook and YouTube users obtained higher and lower scores (Lenhart & Madden, 2007).

This study contradicts the findings of (Mishra, Draus, Goreva, Leone, & Caputo, 2014) who found a moderate negative connection between G.P.A. and time spent on social media in their studies. The G.P.A. of students who spent more time on social media was lower. It also contradicts the findings of (O'Dell, 2011), who discovered that students who utilize social media had a lower G.P.A than those who do not. This finding, however, differs from that of (Al-Rahmi, Othman, & Yusuf, 2015), who reported a favorable association between social media and academic achievement. (Al-Rahmi, Othman, & Musa, 2014) stated that there is no doubt that social media has achieved wider acceptance and usage, and that it is now one of the most essential communication tools among students, particularly at the higher levels of educational pursuit. This study is being carried out in order to highlight the potentials of social media in the academic setting by collaborative learning and improve students' academic

performance on the basis of its influence, benefits, and drawbacks. The findings reveal that collaborative learning has a favorable and significant impact on peer interaction, teacher interaction, and engagement, all of which have an impact on students' academic performance.

The second finding, regarding whether there is a gender difference in the relationship between social media usage and Academic Performance in Science Subjects among Students, indicates that there is a significant difference in the relationship between social media usage and Academic Performance in Science Subjects between male and female Students. This result supports the claims of (Buhari, Ahmad, & Ashara, 2014) and (Mccord, et al., 2016) that students, who use social media often, regardless of gender, connect, communicate, share information, and chat with friends. This finding, however, is consistent with that of (Nishi, Shivani, & Sanaya, 2015), who discovered that there is a gender difference in the use of social media among students, with girls being more active in social media than boys. Furthermore, (Cousins, 2007) discovered that males and females have different perceptions and uses of social media, as well as different levels of technological adoption. Although the Internet is typically portrayed as male-dominated, recent research indicates that the gender gap in Internet use is fast narrowing, according to a study by (Weiser, 2000). If more females use the internet, which applications do they prefer and how do they differ from those used by men? The findings of a survey examining gender variations in specific internet uses are presented in this article.

The poll had 19 questions and was open to anyone who has access to the internet. A paper-and-pencil version was given to several hundred introductory psychology students as a comparison. There were numerous gender variations in online application choices. Males use the internet mostly for pleasure and relaxation, while females use it primarily for interpersonal interactions and educational support, according to the findings. Additional studies, however, revealed that variations in age and internet experience moderated several gender differences.

This finding is also consistent with the findings of (Grace, 2017) study on Gender Differences in Social Media Use and Cyber

bullying in Belize, which included 303 participants, 68 males and 235 females. Females were considerably more likely to post extremely frequently to Snapchat and Instagram, according to a chi-square test of independence. Females were also more likely than males to block particular people from accessing their social media posts. Males were substantially more likely to spend roughly six hours every day on a game console. These findings provide preliminary information on Belize's use of social media and cyber bullying. It suggests that there are gender variations in social media use and cyber bullying reporting. The results of the Polish edition of the World Internet Project 2011 suggest gender variations in both the intensity of Internet usage and the ways in which it is utilized, according to a study done by (Bujała, 2012). Women spend less time online, have less online experience, and are less open to online connections or services than males. Men are far more likely than women to engage in activities such as playing games, listening to music or the radio, watching movies, or searching for hilarious content on the internet. However, it should be highlighted that the disparities are not significant, indicating that the "gender gap" among Polish Internet users is minor. Findings on whether scientific senior level school students' social media usage vary by gender indicated that there is no statistically significant difference in social media usage between male and female senior secondary school students in Anambra State. This suggests that the use of social media by male and female Anambra State Senior Secondary School pupils is the same. This finding contrasts with that of (Budden, Anthony, Budden, & Jones, 2011), who discovered that social media usage habits differ by gender among college students.

According to a study by (Liu, 2010) on Gender Difference in Perception and Use of Social Media Tools, research on gender differences is still a hot topic today because the subject of gender equality hasn't been adequately addressed in many sectors due to conventional and cultural gender ideals. However, the gender gap is less pronounced when it comes to technology adoption, particularly the use of social media applications. The research was carried out in a higher education institution, with data collected from 1534 students over the course of eight years (2009–2016). The goal of this study is to see if there are any gender differences in social media idea

familiarity and use of social media technologies, as well as if conventional gender values influence social media adoption. According to the findings, there is no statistically significant gender difference in media concept knowledge. The top four social networking tools were used by all genders. Male participants, on the other hand, use more resource-based social media tools, while females use more relationship-building platforms.

One research objective and research question was set in a study by (Umar, Yagana, & Hajja, 2015) on Gender Differences in Students' Academic Performance in Colleges of Education in Borno State, Nigeria. The population of this study included all NCE students from three NCE awarding institutions in the state who were purposefully selected for the study. The results showed that there were no significant differences in academic performance between male and female students in Borno State's colleges of education; hence the null hypothesis was accepted. The suggestion was that because male students do not have enough pocket money, the state government should boost their annual scholarship to support their academic pursuits.

6. Conclusions

The following conclusions were drawn based on the study's findings: It was found that social media use has no substantial impact on academic performance in science subjects among Anambra State senior secondary school students. It was discovered that there is a significant gender difference in the link between social media use and Academic Performance in Science Subjects among Anambra State Senior Secondary School Students.

Recommendation from the study

The following recommendations were made based on the study's findings:

1. The study's initial finding found that there is no significant link between social media use and academic performance in science subjects among Anambra State senior secondary school students. Teachers should encourage pupils to use social media for academic purposes in a positive way.

2. The study's second finding found that there is a significant difference in the association between social media use and Academic Performance in Science Subjects between male and female Anambra State Senior Secondary School Students. Both male and female students with social media disorders should be treated equally by teachers and school counselors.

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