www.ijarp.com ISSN 2456-9992 Page: 01-07
International Journal Advanced Research Publications
Research Article
Volume: 02
Issue: 06

REGRESSION ANALYSIS OF HOURS SPENT ON THE INTERNET AND TIME SPENT TO STUDYING IN RELATION TO STUDENTS" ACADEMIC PERFORMANCE

***Adebara Lanre, Bolarinwa Folashade Adeola and Raji Yakubu Muhammed**

Department of Statistics, The Federal Polytechnic Ado Ekiti, Ekiti State.

Article Received: 9 May 2026, Article Revised: 29 May 2026, Published on: 19 June 2026

***Corresponding Author: Adebara Lanre**
Department of Statistics, The Federal Polytechnic Ado Ekiti, Ekiti State.
Doi: https://doi-doi.org/101555/ijarp.8776

ABSTRACT

This study examines the relationship between hours spent on the internet, time spent studying, and academic performance among students. The research adopted a descriptive survey design, and data were collected through a structured questionnaire administered to 200 respondents. Using both linear and multiple regression analysis, the study assessed how each variable influences students' Grade Point Average (GPA). Results revealed that time spent on the internet had no significant effect on academic performance, as its contribution to GPA variation was minimal. However, study hours showed a strong and statistically significant positive relationship with academic performance, indicating that consistent study efforts directly improve students' academic outcomes. The multiple regression model further revealed that both variables together affect performance, study time remains the dominant predictor of students' academic success. The study concludes that while the internet can be a supportive tool for learning, excessive or uncontrolled use does not guarantee better performance. Therefore, students are encouraged to manage their internet time wisely and dedicate moretime to study hours t to enhance their academic success.

KEYWORDS: Internet, Academic performance, multiple regression, study hour, relationship.

1.0 INRODUCTION

Internet is a global computer network providing a variety of information and communication facilities, consisting of interconnected networks using standardized communication protocols

In the twenty-first century, the internet has become an inseparable part of students' daily lives, influencing the way they learn, communicate, and spend their leisure time. The global expansion of information and communication technology has reshaped educational environments, creating both opportunities and challenges for academic success. On one hand, the internet provides access to vast academic resources, online libraries, e-books, journals, and collaborative learning platforms, all of which can enhance the quality of learning.In contemporary educational settings, students are increasingly navigating a complex environment in which digital access and academic demands coexist. With ubiquitous internet connectivity via smartphones, laptops, and campus Wi-Fi, students find themselves dividing time between online engagement and study. Researchers have begun asking: does the time students spend on the internet help or hurt their academic performance; and how does it compare to the time designated for studying. As pointed out by Junco (2012), internet use, particularly social media engagement, can significantly interfere with effective studying and concentration when not properly regulated. The history of social media can be traced back to the emergence of early online communities and bulletin board systems, which were then online channels that supported simple content posting and discussion among Internet users Aichner*et al.,* (2021). Internet users can utilize a variety of websites, apps, and online platforms to stay connected with others, get news, and access information from different sources Halkiopoulos and Giotopoulos, (2022).

At the same time, social media promotes user engagement, enabling people to participate in interactive communication, teamwork and content co-creation Sashi, (2021). With the help of these features, users can actively contribute to the content of online platforms, form their online identities and build social relationships. Consumer behavior is also impacted by social media Shao and Ibrahim, (2024). However, the growth of "social media" has also raised significant concerns about personal security and privacy. Jain *et al*., (2021) illustrated that users often divulge personal information on social media sites, raising questions about the security and privacy of this information. In addition, studies have shown that excessive use of social media may have harmful psychological effects, such as increased anxiety, despair and social comparison Keles*et al.,* (2020). As a result, more and more platforms are beginning to emphasize that they have robust and effective usage guidelines and privacy policies.

Another angle of relevance is time-use studies beyond individual activities. Tedam (2021) in Northern Ghana investigated how senior high school students allocate time among self-study, group study, religious activities, and instructional hours. Researchers have long emphasized that one of the strongest determinants of performance is the amount of time devoted to

studying. According to Nonis and Hudson (2010), students who devote more hours to meaningful study and practice often demonstrate higher levels of comprehension and retention, leading to stronger academic results. Time spent studying is not only a reflection of effort but also a predictor of discipline and self-regulation, qualities that are essential for academic success. However, the quality of study time can be undermined when competing demands, especially internet use, interfere with students' focus and schedule.Several authors also report interaction effects: the positive effect of study hours weakens at high levels of non-academic internet use, suggesting that excessive online leisure time reduces the effectiveness of study Ma *et al.,* (2024).

In this paper, we shall focus on hours spent on internet and time spent to study in relation to academicperformances of students.

1.1 Statement of the Problem

Despite the educational opportunities the internet provides, many students devote substantial hours to non-academic online activities, which may displace valuable study time and negatively affect academic performance. While study hours are traditionally linked to improved achievement, the increasing prevalence of internet use among students raises concern about its competing effect on learning outcomes. Previous studies often examine internet use or study time in isolation, offering limited understanding of their joint impact. This gap makes it difficult to determine which factor contributes more strongly to academic success. Therefore, this study seeks to analyze the separate and combined effects of internet hours and study time on students' academic performance using regression techniques.

1.2 Aim and Objective

The aim of this study is to investigate how hours spent on the internet and hours spent studying affect students' academic performances with objectives which are:

to determine the relationship between hours spent on the internet and students' academic performance.

to determine the relationship between times spent studying and students' academic performances.

to assess the combined effect of hours spent on the internet and time spent studying on students' academic performance using multiple linear regression.

1.3 Method of Data Collection

Data were collected using a structured questionnaire designed and this method was chosen for its convenience, accessibility, and ability to reach a large number of respondents quickly. The questionnaire contained sections on demographic information, hours spent on the internet, time spent studying, and self-reported academic performance. Respondents were encouraged to provide honest and accurate answers.

2.0 MATERIAL AND METHODS

Regression analysis is widely used in research and decision-making to understand and predict relationships between variables.

$\alpha = \bar{Y}\text{-}b\bar{x}$

Multiple linear regression extends the simple linear model by involving two or more independent variables that may jointly influence the dependent variable. It helps to measure the combined and individual effects of multiple predictors. The general form of the equation is:

$Y = \beta_0 + \beta_1 X_1 + \ldots\ldots\ldots + \beta_n X_n + \varepsilon$

Where Y is the dependent variable, X_1 and X_2 are independent variables, a is the intercept, b_1 and b_2 are the regression coefficients, and e represents the error term. In this research, multiple linear regression is used to analyze how both internet hours and study hours together impact students' academic performance and to determine which variable contributes more significantly.

Table 1: Sample Data on Internet Usage, Study Habits, and Academic Performance.

Respondent ID	Weekdays	Weekends	Both Study/Non-Study	For Academic Purpose in %	Weekdays For Studying	Weekends For Studying	C. G. P. A
1	8	10	5	25	2	2	2.3
2	8	10	6	35	2	3	2.6
3	8	10	5	30	2	3	2.75
4	7	9	6	40	3	4	2.9
5	6	8	5	60	4	5	3.12
6	7	9	6	50	4	5	3.25
7	4	6	7	80	4	7	3.4
8	5	7	8	75	5	6	3.65
9	7	9	5	70	5	6	3.7
10	5	7	2	75	5	6	3.8

2.1 Regression Analysis

2.2 Simple Linear Regression Analysis between Hours spent on Internet and Academic Performance

Hypothesis Statement

H_0 **:** There is no significant relationship between hour spent on the internetand students' academic performance.

H_1**:** There is a significant relationship between hours spent on the internetand students' academic performance.

Decision Rule

If *p-value* < *0.05*, reject H₀; otherwise, fail to reject H₀.Level of Significance α = 0.05

Table 2: Simple Linear Regression on time students spend on Internet Hours and students' academic performance.

Table2: Anova for Simple Linear Regression Analysis between Hours spent on Internet and Academic Performance.

SV	DF	SS	MS	F	P-Value
Regression	1	0.055001	0.055001	0.266685	0.621473
Residual	7	1.443688	0.206241		
Total	8	1.498689			

2.3 Simple Linear Regression Analysis between Study Hours and Academic Performance

Hypothesis Statement

H_0**:**There is no significant relationship between study hoursand students' academic performances.

H_1**:**There is a significant relationship between study hours and students' academic performances.

Decision Rule

If *p-value* < *0.05*, reject H₀; otherwise, fail to reject H₀. Level of Significance α = 0.05

Table 3: Anova for Simple Linear Regression onstudy Hours and students'Academic Performances.

SV	DF	SS	MS	F	P-Value
Regression	1	1.229845	1.229845	32.02197	0.000767
Residual	7	0.268844	0.038406		
Total	8	1.498689			

2.4 Multiple Linear Regression of Hours spent on Internet and Study Hours Combined on Students" Academic Performances

Hypothesis Statement

H_0: hour spent on the internet and study hour do not have combined effect on students" academic performance

H_1: hour spent on the internet and study hour do have combined effect on students" academic performance

Decision Rule

If *p-value* < *0.05*, reject H_0; otherwise, fail to reject H_0. Level of Significance $\alpha = 0.05$

Table 4: Multiple Linear Regression of Internet and Study Hours on Academic Performance.

SV	DF	SS	MS	F	P-Value
Regression	2	1.282596	0.641298	17.8062	0.002998
Residual	6	0.216093	0.036015		
Total	8	1.498689			

Table 5: Regression Coefficient.

SV	SS
Intercept	2.335589
X_1(hour spent on internet)	-0.04872
X_2(study hour)	0.020555

3.0 DISCUSSION AND RESULT

The result from table 2 above showed thatp value = 0.621473 greater than level of significance $\alpha = 0.05$ which means there is no reason to rejectnull hypothesis which indicates there is no significant relationship between the time students spend on internet and their academic performances. The regression results show that internet usage hours have only a negligible effect on academic performance.Also, from table 3, p value = 0.000767 whichis less than level of significance $\alpha = 0.05$which meansnull hypothesis is rejected, indicates significant relationshipbetween study hours and academic performances of students. The regression result shows that as students spend more hours studying, their GPA tends to increase substantially and this implies that study time contributes greatly to students' academic success. However, with multiple regression from table 4,p value = 0.003 which is less than level of significance $\alpha = 0.05$**,** showed null hypothesis is rejected**,** this indicates that both study hours and internet hours combine together have significant influenceon students' academic performances. The multiple regression model confirms that while both variables

together affect performance, study time remains the dominant predictor of students' academic success. Based on the regression coefficients, study hours contribute more strongly to academic achievement than internet hours

4.0 CONCLUSION

It is concluded that study hour contribute more to students' academic performancesthan time spend on internet.Also, internet can be a supportive tool for learning but excessive or uncontrolled use does not guarantee better performance. Increased study hours substantially improve GPA.

REFERENCES

1. Aichner, T., Grünfelder, M., Maurer, O., and Jegeni, D. (2021). Twenty-five years of social media: A review of social media applications and definitions from 1994 to 2019. Cyberpsychology, Behavior, and Social Networking, 215-222.
2. Halkiopoulos, C., and Giotopoulos, K. (2022). The evolution of social media and its impact on modern society. In *Handbook of Research on Digital Innovation and Networking in post-covid-19 Organizations* 1-20. IGI Global
3. Jain, A. K., Sahoo, S. R., and Kaubiyal, J. (2021). Online social networks security and privacy:Comprehensive review and analysis. *Complex & Intelligent Systems*, 2157-2177.
4. Junco, R. (2012). Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior*, 187-198.
5. Keles, B., McCrae, N., &Grealish, A. (2020). A systematic review: The influence of social mediaon depression, anxiety and psychological distress in adolescents. International Journal of Adolescence and Youth, 79-93
6. Ma, J., Liu, C., and Zhao, L. (2024). The differential impact of academic vs. non-academic internet use on student performance: A regression analysis. *Education and Information Technologies*, 1457-1475.
7. Nonis, S. A., and Hudson, G. I. (2010). Performance of college students: Impact of study time and study habits. *Journal of Education for Business*, 229-238.
8. Sashi, C. S. (2021). Digital engagement, social media, and the customer journey. Journal of Business*Research*, 567-576.
9. Shao, W., and Ibrahim, A. (2024). The impact of social media influencers on consumer buying behavior. *Journal of Retailing and Consumer Services*, 103-118.
10. Tedam, P. (2021). Time allocation and academic performance among senior high school students in Northern Ghana. *Journal of Educational Research and Practice*, 45-60.