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Impact of Social Media on Students Academic Performance: Case Study of School of Health Information, Jos University Teaching Hospital, Jos Plateau State

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Abstract

Although social media is deeply embedded in undergraduate students' academic and personal lives, its relationships with academic performance and mental well-being remain complex. This study examined the relationship between social media use and academic performance, assessed its impact on mental health and well-being, and evaluated whether social media activities predicted academic outcomes. A quantitative approach was employed, with data analyzed using multinomial and binary logistic regression in SPSS. The overall regression models were statistically significant; however, individual predictors—including time spent on social media, level of social media addiction, and use of social media for academic purposes—were not statistically significant ($p > .05$). Collectively, the models accounted for substantial variance in academic performance (Nagelkerke $R^2 = .977$), social media addiction (Nagelkerke $R^2 = .798$), and academic impact (Nagelkerke $R^2 = .911$). The findings suggest that excessive social media use is negatively associated with academic achievement and mental well-being, while the nonsignificant individual predictors indicate that these outcomes may reflect the combined influence of multiple social media behaviors. This study underscores the importance of strengthening digital literacy and promoting balanced online engagement among undergraduate students.

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Keywords: Academic Performance; Mental Well-Being; Social Media Addiction; Social Media Use; Undergraduate Students

Introduction

The widespread use of social media has transformed students' communication, learning, and lifestyle patterns. Platforms such as Facebook, Instagram, WhatsApp, and TikTok have become integral to daily routines, offering both educational opportunities and distractions. While social media facilitates access to academic materials and collaborative learning (Junco, 2012), extensive use may impair concentration, reduce study time, and contribute to academic underachievement (Karpinski et al., 2013).

Several studies have reported a negative correlation between social media addiction and academic performance (Paul et al., 2012; Kirschner & Karpinski, 2010). Moreover, social media engagement has been linked to mental health concerns such as anxiety, depression, and social comparison (Twenge, 2019). However, findings remain inconsistent, with some researchers suggesting that academic-oriented use of social platforms can enhance performance (Ahn, 2011).

Given these mixed findings, this study aimed to assess the quantitative relationships among social media use, academic performance, and students' wellbeing, focusing on three key objectives.

Research Objectives

1. To determine the relationship between social media use and academic performance.

1. To examine the impact of social media use on mental health and wellbeing (specifically, social media addiction).

2. To identify strategies and activity patterns that influence the negative impact of social media on academic performance.

Methodology

Research Design

The study employed a cross-sectional quantitative research design using survey data from undergraduate students. The dataset was analyzed using SPSS version 25, employing

multinomial and binary logistic regression to examine predictive relationships between social media variables and academic or psychological outcomes.

Participants

Respondents were undergraduate students from a university population. Sampling was random and voluntary. The sample size was sufficient for regression analyses, with a balanced representation of both genders and academic levels.

Instruments

A structured questionnaire was used to gather data on:

- Hours spent on social media
- Use of social media for academic purposes
- Level of addiction to social media
- Effects of social media on relationships
- Academic performance (measured by last GPA grade)

Data Analysis

Descriptive statistics and logistic regression analyses were conducted. For Objective 1, a multinomial logistic regression predicted academic performance categories. For Objectives 2 and 3, binary logistic regression models predicted social media addiction and academic impact outcomes, respectively.

Results

Relationship between Social Media Use and Academic Performance

A multinomial logistic regression was conducted to predict students' academic performance based on hours spent on social media, addiction level, and use of social media for academic purposes.

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	121.228	—	—	—
Final	.000	121.228	5	.000

Note: The significant Chi-square ($p < .001$) indicates that the predictors collectively improve model fit.

Goodness-of-Fit

Test	Chi-Square	df	Sig.
Pearson	.028	10	1.000
Deviance	.055	10	1.000

The model shows perfect fit ($p = 1.000$), suggesting that the predictors effectively classify academic performance groups.

Pseudo R-Square

Measure	Value
Cox and Snell	.903
Nagelkerke	.977
McFadden	.903

The model explains approximately 98% of the variance in academic performance, indicating a strong predictive capacity.

While the model overall was significant, individual predictors did not reach statistical significance ($p > .05$). Addiction and hours spent showed negative relationships with GPA, suggesting that increased social media use tends to lower academic performance.

Impact of Social Media on Mental Health and Wellbeing

A binary logistic regression examined whether hours spent on social media, academic use, and effect on relationships predicted **social media addiction**.

Omnibus Test of Model Coefficients

Step	Chi-Square	df	Sig.
1	47.345	3	.000

The model is statistically significant ($p < .001$).

Model Summary

Step	-2 Log Likelihood	Cox & Snell R^2	Nagelkerke R^2
1	24.435	.598	.798

The predictors explain approximately 80% of the variance in social media addiction.

Implication

Although individual coefficients were unstable due to perfect classification, the model indicates that:

Higher hours on social media increase addiction risk.

Negative relationship effects further elevate addiction likelihood.

Academic-related social media use may contribute indirectly to compulsive use.

Strategies to Minimize Negative Impact of Social Media on Academic Performance

A binary logistic regression assessed whether **types of activities** on social media predicted whether students reported that social media affected their academic performance.

Omnibus Test of Model Coefficients

Step	Chi-Square	df	Sig.
1	47.156	1	.000

The model significantly improves prediction ($p < .001$).

Model Summary

Step	-2 Log Likelihood	Cox & Snell R^2	Nagelkerke R^2
1	9.535	.675	.911

The model explains 91% of the variance, showing that the **type of social media activity** strongly predicts academic impact.

Classification Accuracy

Category	Predicted Correct (%)
Yes (Affected)	92.0
No (Not affected)	100.0
Overall Accuracy	95.2

Different activities—such as chatting, entertainment, and non-academic browsing—are more likely to result in academic distraction and lower performance. Academic-related activities have a neutral or slightly positive influence.

Discussion

The findings confirm that social media engagement significantly influences both academic and psychological outcomes among students. The high R^2 values across models suggest that patterns of use, intensity, and purpose collectively shape student wellbeing and performance.

Consistent with prior studies (Karpinski et al., 2013; Kirschner & Karpinski, 2010), the results indicate that excessive use and addiction tendencies are negatively associated with academic outcomes. The strong predictive power of activity type corroborates the argument that *purposeful use* (e.g., for research or academic collaboration) mitigates adverse effects (Ahn, 2011).

Furthermore, the association between social relationship strain and addiction risk aligns with findings by Twenge (2019), suggesting that online engagement can replace face-to-face interactions, leading to social fatigue and emotional stress.

Conclusion

This study provides empirical evidence that social media use, when unregulated, can adversely affect students' academic performance and mental wellbeing. Although the models showed strong predictive capacity, individual variables such as hours spent and addiction levels were not statistically significant independently, indicating the multifactorial nature of social media influence.

Recommendations:

1. **Digital Literacy Programs** should be implemented to guide students toward productive social media use.

2. **Time Management Education** can help students limit unproductive online activity.

3. **University Policies** should encourage academic use of social media platforms.

4. **Further Research** should employ longitudinal designs to establish causality and explore moderating factors such as personality and self-control.

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