



## The impact of social networking sites on academic outcome: A new dawn novice students

Prativa Ray<sup>1</sup>, Urmila Panda<sup>2</sup>, Akasmita Das<sup>3</sup>, Dabashree Kar<sup>4</sup>, Sanghamitra Sahoo<sup>5</sup>, Sephali Moharana<sup>6\*</sup>

<sup>1</sup> Vice- Principal, Department of Mental Health Nursing, AMRI College of nursing, Bhubaneswar, Odisha, India

<sup>2</sup> Assistant Professor, Department of Community Health Nursing, Kalinga Institute of Nursing Science, KIIT University, Bhubaneswar, Odisha, India

<sup>3</sup> Associate Professor, Department of Community Health Nursing, Neelachal Institute of Medical Science, Bhubaneswar, Odisha, India

<sup>4</sup> Department of Community Health Nursing, Kalinga Institute of Nursing Science, KIIT University, Bhubaneswar, Odisha, India

<sup>5</sup> Department of Community Health Nursing, Siksha 'O' Anushandhan University, Bhubaneswar, Odisha, India

<sup>6</sup> Assistant Professor, Department of mental health nursing, SUM Nursing College, Siksha 'O' Anushandhan University, Bhubaneswar, Odisha, India

### Abstract

**Background:** In the modern digital era, children can connect to the Internet and social media through a wide range of devices such as tablets, iPads, computers, laptops, and smart phones. Social networking has become a significant component of young people's social experiences and is increasingly viewed as a tool that can support learning, participation, and academic achievement. These platforms allow students to communicate, interact, access information, conduct research, and engage in online conversations.

**Methods:** A descriptive cross-sectional survey was conducted among 160 teenagers aged 13–19 years from selected higher secondary schools in Odisha. Participants were selected using disproportionate stratified random sampling. Data were collected using a socio-demographic questionnaire, Social Media Addiction Scale (SMAS), and an Academic Performance Self-Assessment Questionnaire. Data were analyzed using descriptive statistics, Chi-square test, and Karl Pearson's correlation coefficient.

**Results:** The findings showed that 57.3% of adolescents had a moderate level of addiction to social networking sites, 32.7% experienced severe addiction, and only 10% had a mild level of dependence. In terms of academic achievement, 69.5% of students performed at an average level, 21.8% achieved good scores, and just 8.6% attained excellent results. The study found a statistically significant relationship between SNS dependence and academic performance (Chi-square = 62.460,  $p = 0.000$ ). Additionally, a significant negative correlation was identified ( $r = -0.402$ ,  $p = 0.000$ ), suggesting that greater addiction to social networking sites is associated with lower academic performance.

**Conclusion:** The findings indicate a high prevalence of social networking site dependence among teenagers, which adversely affects their academic performance. The negative correlation underscores the need for awareness programs, parental monitoring, and school-based interventions to promote healthy and balanced SNS usage among adolescents.

**Keywords:** Social networking sites, teenagers, addiction, academic performance, SNS dependence, adolescents

### Introduction

A survey of 10,076 students in Ontario examined links between social media use (SMU), school connectedness, and academic performance. After adjusting for key factors, results showed that using social media for up to 2 hours daily increased school connectedness in high school students. However, using it for more than 2 hours a day reduced school connectedness in middle school students and lowered academic performance in both groups. Age influenced results in high school students, while gender did not. Overall, heavy social media use was associated with poorer school engagement and academic outcomes, suggesting students should limit use to under 2 hours per day<sup>[1]</sup>.

A study in Iran examined how social networking addiction affects students' academic performance. Using a cross-sectional design, 360 students were selected through stratified random sampling and assessed with a personal information form and the Bergen Social Media Addiction Scale, while previous-term grades reflected academic performance. Results showed that male students had

significantly higher addiction scores than females ( $P < 0.01$ ). Social networking addiction was moderate overall and was negatively correlated with academic performance ( $r = -0.210$ ,  $p < 0.01$ ). The study concluded that universities should provide interventions and workshops to raise awareness about the academic risks of excessive social network use<sup>[2]</sup>.

This meta-analysis examined how social networking site (SNS) use relates to academic performance, drawing on 28 effect sizes from studies involving 101,441 participants. The findings showed a significant overall negative relationship between SNS use and academic performance. Test type emerged as an important moderator: SNS use was negatively linked with GPA but positively associated with language test scores. The negative impact on GPA was also stronger among female students and college students<sup>[3]</sup>.

This study examined how social media affects the psychosocial behavior and academic performance of secondary school students in Batagarawa Local Government, Katsina State, Nigeria. Using a descriptive survey design, researchers selected four public schools and

randomly chose 306 SSII students. Data were collected through a validated questionnaire and an English Language academic test, and analyzed using mean, standard deviation, and independent t-tests. Findings showed that social media use negatively influenced both psychosocial behavior and academic performance. The study recommended that parents, teachers, and educational psychologists closely monitor students' online activities and teach them effective time management to prevent excessive chatting and encourage better study habits [4].

This study examined how social networking site (SNS) usage relates to academic performance among university students in Qatar. Using a survey adapted from Chen's Internet Addiction Scale, data were collected from students at one public and one private university, along with their GPA. Findings showed no simple linear relationship between SNS use and academic performance. Instead, three usage profiles emerged: passive, engaged, and addicted. Engaged users demonstrated significantly better academic performance than both passive and addicted users, while no difference was found between passive and addicted groups. The study highlights that moderate, purposeful SNS use may be more beneficial than either minimal or excessive use and adds to the limited research on technology's impact in the GCC region [5].

This study examined how social networking affects secondary school students in Enugu East, Nigeria. Among 700 participants, males used social networking sites more than females, mainly for communication, socializing, and entertainment. Students spent several hours daily on platforms like Facebook, WhatsApp, and 2go, often using phones and computers. Findings showed that excessive use negatively impacted students' attitudes and academic performance. The study recommended proper guidance, time management training, and limiting device use during school hours [6].

Social networking sites are widely used by SHS students, leading this study to examine their effect on academic performance. Surveying 200 students in the KEEA District, the study found that most frequently use platforms like Facebook, WhatsApp, Twitter, and YouTube for education, communication, and entertainment. However, many reported that excessive use distracts them and negatively affects their performance, with some experiencing a drop-in grade. The study concluded that social media has more negative than positive effects on students' academics and recommended stricter school rules, counseling for addicted users, and promoting social media for educational purposes [7].

A study was conducted to know the extent of internet addiction in school children of 16 -18 years in India. The Davis online cognition scale was used to assess the pathological internet use. On the basis of total scores obtained (N=100) on the DOCS, two groups were identified dependents and non-dependents, using mean  $\pm$  and half; SD as the criterion for selection. UCLA loneliness scale was administered. The result showed that dependents were found to delay other work to spend time online, lose sleep due to late night logons and feel life would be boring without internet. The study concluded that the hours spend on the internet by dependents were greater than those of non-dependents [8].

A cross-sectional study of 200 MBBS students found that 86.9% used social networking sites, and nearly one-quarter

showed problematic use, with excessive indulgence affecting academics and daily life. About 2% had severe addiction, indicating serious negative impacts and a tendency to disconnect from real-life interactions [9].

This study will focus on the effect of SNS on student academic performance, using SIMS (Srinivas Institute of Management Studies), Mangalore city in Karnataka State of India as a case study. A 23 personally administrated questionnaire was designed and sent to 136 students of UG and PG courses in SIMS and population are from different states of India. Students' community can use SNS effectively for their constructive development activities such as discussing class assignment, communicate and share with friend's new information, submit of a project and assignment, to make positive comments on classes and in appreciating the success of their friends by SNS [10].

A 2018 study in Ghana surveyed 314 third-year Senior High School students to examine internet use and its impact on academic performance. Results showed that students accessed the internet through school ICT labs, mobile phones, home connections, and public cafés. Internet access was found to positively influence academic performance, although different types of internet use did not make a significant difference. The study concluded that having multiple internet sources does not guarantee equal access for all students and recommended that school authorities work with policymakers to improve internet infrastructure, as this is essential for enhancing academic performance [11].

This study examined how WhatsApp use affects the academic performance of tertiary students in Ghana. Data were collected through interviews with 50 students and questionnaires from 500 respondents. Findings showed that, rather than simply facilitating communication, WhatsApp use had a negative impact on students' academic performance. Key issues identified included excessive time spent on WhatsApp, procrastination, poor spelling and grammar, reduced concentration during lectures, difficulty balancing online activities with academic work, and distractions that hinder assignment completion and adherence to study schedules [12].

## Methodology

### Study Design

This study adopted a quantitative research approach using a descriptive cross-sectional survey design.

### Study Setting

Four higher secondary schools in Bhubaneswar, Odisha.

1. DAV Public School-8
2. Maharshi Women's Higher Secondary School
3. Rajdhani Higher Secondary School

### Study Duration

The study was completed within 15 days, as specified in the delimitations.

### Sampling Method

Disproportionate stratified random sampling technique was used to select students from different schools and streams.

### Sample Size

A total of 160 teenagers (aged 13–19 years) participated were included in this study. The sample size was determined using Yamane's formula.

According to Yamene's formula

$$n = N / (1 + N e^2)$$

Here n = Sample size, N = Population size, e = Percentage of error i.e. 0.05

### Inclusion Criteria

- Teenagers aged 13–19 years (or specify your study age range if different).
- Both boys and girls participate.
- Residing and studying in the selected study area during the data-collection period.
- Able to understand the language of the questionnaire (e.g., Odia/English) and give informed consent.
- Consent to participate (written or documented verbal consent).

### Exclusion Criteria

Students who had not present in the time of data collection period.

### Description of the tools

Data were collected using three tools:

#### Tool-1: Self-structured socio-demographic questionnaire:

The variables social networking site dependence and academic performance. The socio-demographic tool consisted of seventeen items related to personal history (age, family type, marital status, education, occupation, income, work experience, sleep, children, etc.).

**Tool-2: The Social Media Addiction Scale (SMAS):** It is a standardized assessment tool designed to measure the level of addiction to social media platforms among adolescents, youth, and adults. It evaluates psychological dependence, compulsive behaviors, emotional attachment, and the functional impact of social media use.

Number of items: 29 items

Response format: 5-point Likert scale

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Scoring range: Minimum score: 29, Maximum score: 145

Interpretation of Scores:

Total Score	Level of Social Media Addiction
29–67	Mild Addiction
68–106	Moderate Addiction
107–145	Severe Addiction

#### Tool-3: Academic Performance Self-Assessment Scale (APSAS):

The Academic Performance Self-Assessment Scale (APSAS) is a structured tool developed to assess students' self-perceived academic performance by evaluating their study habits, personal competencies, classroom engagement, and learning attitudes.

Number of items: 15 items

Response type: Most versions use a 5-point Likert scale, such as: 1 = Never, 2 = rarely, 3 = Sometimes, 4 = Often, 5 = Always

Score range: Minimum possible score: 15, Maximum possible score: 75

Key Domains/Dimensions Measured: The scale generally covers the following three major domains, ideal for comprehensive academic evaluation: Academic Habits (Study Skills), Personal Academic Skills, Learning Behavior,

### Tool validation

**Content validity:** 3 community health nursing specialists, 2 psychiatric nursing experts, 1 doctor in community medicine, 1 statistician. The tools demonstrated strong reliability, with Cronbach's  $\alpha$  values of .80. Pre-testing (tryout) done in hospital for clarity, ambiguity, and timing.

### Study variables

**Independent variable:** Dependence on social networking sites

**Dependent variable:** Academic performance

**Demographic variables:** Age, gender, stream, parents' education, family income, time spent on SNS, etc

### Data Collection Procedure

Prior to data collection, ethical clearance was obtained from the Institutional Ethics Committee (IEC) of IMS & SUM Hospital Deemed to be University and written permission was taken from the authorities of the four selected higher secondary schools. A pilot study (n = 30) was carried out at Maharshi Women's College to test feasibility and reliability of the instruments (split-half  $r = 0.80$ ).

### 1. Selection of Participants and Sampling

Participants were selected using disproportionate stratified random sampling from the four selected higher secondary schools (Kendriya Vidyalaya-4; Maharshi Women's Higher Secondary School; Rajdhani Higher Secondary School; KIIT Higher Secondary School). Inclusion criteria were: age 13–19 years, at least one social media account, and willingness to participate. Students who had attended seminars/workshops on internet/SNS ill-effects were excluded.

### 2. Informed Consent and Participant Briefing

Before administering questionnaires, the investigator explained the purpose, procedures, voluntary nature, confidentiality, and right to withdraw. Written informed consent was obtained from each participant (in English). An information sheet and consent form were used during recruitment. Instruments and mode of administration Data were collected using a structured, self-administered questionnaire in English comprising three sections: (A) socio-demographic proforma, (B) Social Media Addiction Scale (SMAS; 29 items, 5-point Likert) to assess dependency on SNS, and (C) Academic Performance Self-Assessment Scale (15 items, 5-point Likert) to assess academic habits, personal skills and learning behaviour. The instruments were content-validated by seven experts (community, psychiatry, community medicine, and a statistician).

### 3. Administration Procedure and Timeline

Data collection was carried out in classroom settings during school hours after obtaining school permission. The investigator read brief instructions aloud, distributed the questionnaires, and remained available to clarify queries without influencing responses. Each questionnaire took approximately 8–15 minutes to complete. Data collection across the four schools was completed within the planned study period.

### Ethical Considerations

Ethical approval was obtained from the Institutional Ethics Committee of the Institute of Medical Odisha, with approval

dated 13.10.2025 (Ref. No.: SOADU/SNC/IRB/513/25). Ethical approval from IMS & SUM Hospital, SOA University Ethics Committee. Permission from school authorities. Informed consent obtained from students. Confidentiality maintained. Participants had the right to withdraw anytime

**Statistical Analysis**

SPSS version 21 was used for data analysis. Demographic information and baseline characteristics were summarized using descriptive statistics, including mean values, standard deviations, and frequency counts. The data will be collected and analyzed with descriptive and inferential statistical techniques. The demographic variables will be analyzed by using frequency and percentage. The frequency tables will be formulated for all significant information.

**Theoretical framework**

**Stimulus–Organism–Response (SOR) Model**

The SOR model (Mehrabian & Russell, 1974) explains how external stimuli influence internal states, which finally lead to behavioral outcomes. This model is widely used in addiction, media-use, and behavioral research.

**1. Stimulus (S)**

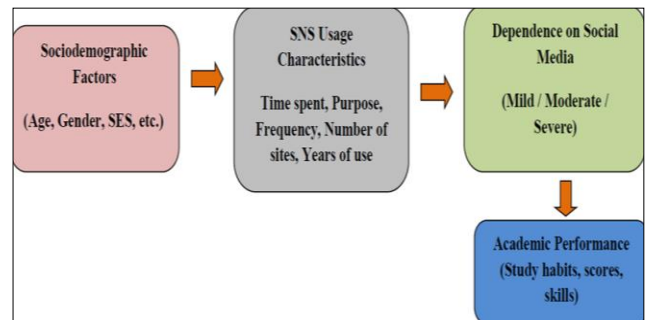
External exposure to social networking sites: (time spent, purpose of use, number of accounts, type of SNS, duration of use, etc.)

**2. Organism (O)**

Internal psychological and behavioral changes in teenagers: (dependency level, habit formation, emotional effects, distraction, mood changes, sleep disturbances)

**3. Response (R)**

Academic outcomes: (academic performance: study habits, concentration, scores, personal skills)



**Fig 1: SOR Model**

**Results**

**Table 1:** Distribution of subjects based on sociodemographic variables (N =160)

Demographic variable	Classification	Frequency (f)	Percentage (%)
Age in year	< 15	40	5.9
	15-16	48	30
	17-18	53	44.1
	> 18	20	20
Gender	Male	98	55.5
	Female	62	41.5
Type of family	Nuclear	121	55
	Joint	18	13.6
	Extended	21	31.4
Education	11th	131	64.1
	12th	29	35.9
Stream	Arts	98	44.5
	Science	57	21.4
	Commerce	35	34.1
Education of father	No formal education	48	38.2
	Up to Primary education	41	18.6
	Up to higher secondary education	43	28.6
	Graduation & above	28	14.5
Education of mother	No formal education	37	16.8
	Up to Primary education	60	31.8
	Up to higher secondary	53	37.7
	Graduation & above	10	13.6
% scored in previous exam	Above 90%	21	9.5
	80-90%	43	19.5
	70-80%	50	39.1
	Below 70%	46	31.8
Occupation of father	Agriculture	16	7.3
	Govt. service	99	45
	Private service	33	37.7
	Self-employed	12	10
Occupation of mother	House wife	40	27.3
	Govt. service	45	25
	Private sector	58	33.2
	Self-employed	17	14.5
Family income	<10000	27	16.8
	10001-20000	32	19.1
	20001-30000	57	39.5

	30001 and above	44	24.5
Time spend in SNS/Days	Less than 1/2	30	15
	1/2-1	35	18.2
	2-3	59	35.9
	4-5	36	30.9
Purpose of Using SNS	Chatting	35	25
	Downloading music picture and video	69	40.5
	Academic work	17	7.7
	Status update/comments /wall post	39	26.8
Favorite site most used	Face book	43	30
	Whats App	20	18.2
	Twitter	22	10
	More than one specifies	75	41.8
Using SNS since how many Year	< 1	44	20
	1-2	55	35
	>2	61	45
SNS mostly affect	Academic performance	103	46.8
	Sports	28	20.5
	Other extracurricular activities	27	32.7
Difficult to spend days without using of SNS	No	30	40.9
	Yes	130	59.1
Online activity increases during holidays	No	50	22.7
	Yes	110	77.3

The above table-1 revealed that Frequency (F) and percentage (%) distribution of patients according to age in years, gender, types of family, education of father and mother, percentage scored in previous exam, occupation of father and mother, family income, time spend in SNS/ days, purpose of using SNS, favorite site most used, using SNS since how many years, SNS mostly affect, difficult to spend days without using of SNS, online activity increase during holidays.

**Table 2:** frequency and percentage distribution to assess the dependency of social networking sites among teenagers (N =160)

Social media addiction score	Frequency (f)	Percentage (%)
Mild (29 - 67)	26	10
Moderate (68 -106)	101	57.3
Severe (107 -145)	33	32.7

The data presented in table-2 revealed that the distribution of social media addiction scores revealed that 26 participants (10%) fell into the mild category with scores

**Table 4:** Frequency and percentage wise description regarding Association of social networking sites use with academic performance score (N =160)

Social media addiction score	Academic performance Score						Total		P Value
	Average (15 -35)		Good (36 -55)		Excellent (56 -75)		Frequency (f)	Percentage (%)	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)			
Mild (29 - 67)	1	4.5	18	81.8	3	13.6	22	100	p=0.000
Moderate (68 -106)	92	73	19	15.1	15	11.9	126	100	
Severe (107 -145)	60	83.3	11	15.3	1	1.4	72	100	
Total	153	69.5	48	21.8	19	8.6	220	100	

The data presented in table-4 revealed that association of social media use score with academic performance score. In the mild addiction group 13.6% had excellent academic performance; in the moderate and severe addiction level the 11.9% and 4.9% respectively had excellent academic performance. Similarly, proportions of

ranging from 29 to 67. A majority of 101 participants (57.3%) had moderate addiction scores between 68 and 106. Additionally, 33 participants (32.7%) were classified as having severe social media addiction, with scores ranging from 107 to 145.

**Table 3:** Description of teen agers academic performance in frequency and percentage (N =160)

Academic performance Score	Frequency (f)	Percentage (%)
Average (15 -35)	113	69.5
Good (36 -55)	28	21.8
Excellent (56 -75)	19	8.6

The assessment showed that 113 participants (69.5%) had an average level of performance with scores between 15 and 35. Meanwhile, 28 participants (21.8%) demonstrated good performance, scoring between 36 and 55. Only 19 participants (8.6%) achieved an excellent level, with scores ranging from 56 to 75.

students with good Academic Performance decreases with increase in level of addiction. This indicated the academic performance level is inversely associated with social media addiction level (p= 0.000). This implies that student addictiveness to social networking sites has a significant influence on their academic performance.

**Table 5:** Description regarding Correlation between Social networking sites use score and Academic performance score. (N=160)

Total score	Statistics	Academic performance Total score
Social media use	Pearson Correlation	-0.402**
	Sig. (2-tailed)	0.000
	N	160

\*\* Correlation is significant at the 0.01 level (2-tailed).

Table-4 presents that present Karl Person's correlation between social media use score and academic performance score. It observed a significant negative correlation of -0.402 ( $p=0.000$ ). This implied increase in one result in decrease in the other and vice versa.

### Discussion

The present study found that social networking site addiction among teenagers was moderate, with 57.3% falling into this category. This aligns with a 2017 meta-analysis from Iran, which reported a 50.1% prevalence of moderate internet addiction among medical students. These findings indicate that social networking has become a significant and routine part of teenagers' daily lives [13].

The present study confirmed its first hypothesis, showing a statistically significant association between social networking dependency and academic performance ( $P = 0.000$ ). As social media addiction increased, academic performance decreased. These findings align with a 2016 study from Turkey, which also reported a significant negative relationship between social networking addiction and students' academic performance ( $P < 0.01$ ) [14].

The second hypothesis was also confirmed, showing a significant negative correlation between social networking addiction and teenagers' academic performance ( $r = -0.402$ ,  $p = 0.000$ ). This indicates that increased social media use leads to lower academic achievement. These findings are consistent with Ahmadi and Zeinali (2018), who likewise reported a significant negative impact of social networking addiction on academic performance [15].

### Implications of the Study

The use of social networking sites and their impact on academic performance among teenagers in a selected higher secondary school in Bhubaneswar, Odisha. Nurses play a key role in supporting students' mental health and guiding parents to promote healthy habits and academic success. The study's findings highlight important implications for families and the community, particularly in nursing practice, education, research, and administration.

### Limitation

Study limited to 160 students. Duration only 15 days. Findings depend on self-reported responses, risk of bias. Conducted only in selected higher secondary schools

### Conclusion

A majority of teenagers showed moderate (57.3%) and severe (32.7%) levels of dependence on social networking sites. Most students (69.5%) had average academic performance. There was a significant association between SNS dependence and academic performance ( $\chi^2 = 62.46$ ,  $p = 0.000$ ). A significant negative correlation ( $r = -0.402$ ,  $p = 0.000$ ) showed that higher SNS addiction is linked with lower academic achievement.

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### Conflicts of interest

There are no conflicts of interest for the writers.

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### Ethics Approval

Ethical approval was obtained from the Institutional Ethics Committee of the Institute of Medical Odisha, with approval dated 13.10.2025 (Ref. No.: SOADU/SNC/IRB/513/25). Ethical approval from IMS & SUM Hospital, SOA University Ethics Committee. Permission from school authorities. Informed consent obtained from students. Confidentiality maintained. Participants had the right to withdraw anytime

### Data Availability

The data is available and can be accessed with a reasonable request.

### Abbreviations

SNS – Social Networking Sites, SMAS – Social Media Addiction Scale, IEC – Institutional Ethics Committee, SPSS – Statistical Package for Social Sciences

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