

From Distraction to Learning: Exploring Social Media's Influence on Academic Performance and Critical Thinking in Higher Education

A.Venmani¹, E. Sweety Bakyarani², J. Solomon Thangadurai³, K. Sathish⁴ J. Madhumitha⁵

^{1,2,4} Associate Professor, ^{3,5} Assistant Professor

^{1,5} Department of Mathematics and Statistics, ² Department of Department of Computer Science, ³ Department of Commerce, ⁴ Department of Career Guidance

^{1,2,3,4,5} Faculty of Liberal Arts and Business Studies, SRM Institute of Science and Technology, Kattankulathur, Chengalpattu-603203

Email: ¹venmania@srmist.edu.in , ²sweetye@srmist.edu.in , ³solomonj@srmist.edu.in , ⁴sathishk6@srmist.edu.in , ⁵madhumij@srmist.edu.in

Corresponding author ¹enmania@srmist.edu.in

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ABSTRACT:

Social media has become a part of higher education, offering opportunities for sharing academic information, collaboration and learning, but also presenting challenges concerning distraction, misinformation, information overload and source credibility. The role of social media in the academic learning of higher education students was investigated through an exploration of patterns of use, educational engagement, perceived academic outcomes, information literacy, critical thinking and digital challenges. A quantitative cross-sectional survey was conducted among 554 students from different academic levels and disciplines in higher education. Data were collected using a structured questionnaire on social-media usage behaviours, academic orientated engagement, educational perceptions, academic collaboration, information related practices and perceived academic outcomes. Descriptive statistics, Cronbach's alpha, chi-square tests, Spearman's correlation and ordinal logistic regression were used for the analysis. The findings showed that students used social media extensively for academic purposes and they felt they benefited educationally from the interactions. Academic-oriented use, perceived learning effectiveness, academic discussion, information reliability and positive study-habit changes were positively associated with perceived academic-performance improvement. At the same time, distraction, overload of information, misinformation and problems in identification of credible information remain major challenges. The results suggest that the educational advantages of social media are more dependent on the purpose and quality of engagement rather than simply on

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exposure. Therefore, higher education institutions should also embrace purposeful academic use, information literacy and responsible digital use practices.

Keywords: Social Media; Higher Education; Academic Learning; Academic Engagement; Student Learning; Educational Outcomes; Academic Performance; Information Literacy; Critical Thinking; Academic Collaboration

1. Introduction

Technology has a strong influence on our communication and learning. In particular, digital technology has changed the educational structure, pedagogy, the way students' access information, and collaboration and learning activities. Among these technologies, social media is a major part of the technological advancements that has subtly made its way into our education system. Social media includes platforms such as YouTube, Facebook, Instagram, LinkedIn, Twitter, etc. These social media platforms help students collaborate for educational purposes as well as for other interests. Various educational companies have their social media accounts to popularize their online courses, encourages students in collaborating on projects and participating in academic discussions.

The incorporation of social media with education framework has enhanced the learning experience beyond the classroom environment. Many educational-based YouTube channels such as Crash Course has made learning pleasurable. Moreover, students can create and share videos or graphics related to their studies. Not only students, but teachers can also use social media for creating educational content. Through online communities and interactive platforms such as Facebook groups, WhatsApp, etc., students and learners can access the educational materials, communicate and participate in discussions with peer students and teachers that help to develop their academic development.

Despite of these advantages, the detrimental effects of social media cannot be neglected. An excessive use of social media has become the negative consequences including academic distraction, and difficulties in maintaining

concentration among students. Research suggests that students often get diversion between academic and non-academic activities while using social media, which may adversely affect learning efficiency and academic performance. Furthermore, the abundance of unregulated information available on social media platforms has raised concerns regarding misinformation, source credibility, and students' ability to critically evaluate information[10].

Some students lose track of time as they scroll down their feeds. Moreover, it creates an information overload resulting in a sense of being overwhelmed because they have to deal with so much information at once. Distraction and information overload lead to more academic stress and time management issues. The debates and comments under an educational post can be confusing and contradicting and can result in a wrong conclusion. Students may get confused in choosing the right sources. There are many sources available for a single question, and students may not be able to detect the reliable sources. It can result in wasting time and putting efforts into the wrong sources. Moreover, they may also get misinformed from unreliable sources.

In contemporary higher education scenario, Students are essentially develop their critical thinking skill to evaluate the credibility of online information and ability to distinguish the reliable sources from misinformation. Previous studies have investigated the relationship between social media and students' academic performance, most of them were their frequencies of using social media, their social networking behaviours and academic performance. Limited focus has been observed on the investigating their development

on academic learning, learning effectiveness, critical thinking, academic collaboration and, educational challenges due to usage of social media. These inconsistencies indicate that there are requirement of further investigation to assess the educational impact of social media across diverse student populations.

2. Literature review:

A study of explored the relationships between fear of missing out (FoMO), social media, psychological well-being (as measured by life satisfaction) and academic performance among university students. It also determined the mediating role of FoMO and social media use. The study findings indicated a strong positive association between the FoMO, social media use, life satisfaction, and academic performance. This result- positive association with life satisfaction-contradicts the initial hypothetical prospects that increasing social media use would be detrimental (Abd Ellatif Elsayed, H., 2025). Another was study conducted among university undergraduates in Nigeria assessed the predictive influence of social media use and fear of missing out on life satisfaction. The study was found that the FoMO and social media use are crucial psychological factors that impact ratings of life satisfaction. It also highlights the need for interventions to address FoMO on better digital behaviour to achieve higher life satisfaction (Ogunsemi. J. O. et.al., 2026).

Several studies have reported that excessive usage of social media negatively influences academic performance with reducing study time and increasing distraction, Giunchiglia, F et al. (2018) found that higher levels of social media use are consistently associated with lower academic achievement. Their finding was based on an examination of students actual smartphone usage pattern and self-reported survey data of students. The results revealed that the continued engagement with social networking applications reduced the students' academic performance. In a similar study, Lau (2017) distinguished between academic and non-academic social media use and found that social media primarily using for entertainment. They also found that engaging in

social media multitasking significantly reduced students' academic performance. Another study, supports this view by investigating how excessive social media use affects the academic learning. Sun, W., & Chao, M (2024) suggested that the excessive social and hedonic use of social media stimulates media multitasking, and which subsequently increases attention problems and leads to poorer academic performance. Their findings indicate that the negative consequences of social media are indirectly reduced the concentration on studies.

In a comparative study, Fakokunde, J. B. (2020) proposed that social media has both positive and negative influences among university students' academic performance. The study emphasized that although the social networking applications facilitate the information sharing, collaborative learning, and communication with instructors, they also expose students to distractions and excessive entertaining use. The author also suggested that there is a need a mechanism in integrating social media into teaching practices while promoting responsible digital behaviour among students.

Although numerous studies focus on the negative effects of social media, there are other researchers who claim that the educational value of social media depends on how students use these platforms. Oguguo et al. (2020) noted that students frequently used social media to search for academic materials, complete assignments and keep abreast of current educational developments. Interestingly, students spent two to four hours a day in social networking sites, but the frequency of usage itself was not a major factor in determining academic achievement. The findings imply that academic engagement thru social media in a productive way may offset some of the negative effects of social media use.

Another significant aspect in a study is psychological factors which leads to overusing of social media. Çetinkaya, A., Kırık, A. M., & Gündüz, U (2021) studied the Fear of Missing Out (FoMO) in university students and found that problematic social media use significantly increased the fear of missing social activities.

Moreover, FoMO is also a consequence of problematic social media use, suggesting a bidirectional relationship between the two constructs. It's not technology that drives excessive engagement online. It's a psychological factor. Based on this, Abd Ellatif Elsayed (2025) investigated the relationship between FoMO, social media use, psychological well-being and academic achievement. The study revealed that a significant positive relationship between the fear of missing out and social media use, suggesting that students with high levels of fear of missing out occurring due to higher level of engagement in social networking sites. The relationships between life satisfaction were more complex than expected, but results confirmed the fear of missing out is still an important psychological factor affecting students' digital behaviour and academic experiences.

Social media impact is multi-dimensional, as evidenced by research in various national contexts. Ahmad S. A. (2019) found that social media can be linked to both positive and negative academic outcomes. Educational discussions, collaborative learning and information exchange may help to improve learning experiences, but excessive chatting, online entertainment and addictive behaviours will affect students' academic performances.

3. Research Gap and Objectives

Although the association between social media use and academic performance has been studied extensively by previous studies, there are still some limitations. First, much of the investigation has focused on the amount of social media use rather than differentiating between different forms of engagement such as educational, social and entertainment-oriented activities. Second, although FoMO has been known as an important psychological predictor of problematic social media use, few studies have investigated its effect together with academic engagement and learning outcomes. Third, much of the evidence that does exist has been generated in Western, Middle Eastern or African contexts, leaving Indian higher education institutions with limited evidence. Finally, few studies have developed a

comprehensive predictive framework considering multiple psychological and behavioural factors. Filling these gaps can lead to a deeper understanding of how social media affects students' academic performance and aid in the creation of targeted educational interventions.

The current study addresses these research gaps by investigating the social media usage pattern and their impact on academic learning. In specific, the study investigates students perception on the effectiveness of social media for learning, participation in academic discussions and collaborations, preferences for using educational social media platforms, and verifying information available in social media. The survey tool was designed for this study to gather various dimensions of educational aspect in social usage, including learning engagement, academic performance, information literacy, critical thinking, and perceived challenges.

Therefore, the primary objectives of this study are

- To examine the role of social media in academic learning among students and learners.

- To investigate the patterns of social media use, identify educational benefits and challenges.

- To evaluate the relationship between social media use and academic performance.

- To explore the contribution of social media to information literacy and critical thinking development.

4. Methodology

4.1 Research Design:

The study employed a quantitative cross-sectional survey research design to investigate the influence of social media on academic learning and perceived academic performance of higher education students. The study explored the use pattern of social media by the students, academic-oriented engagement, information-verification practices, perceived effectiveness of learning, academic performance, changes in study habits, perceptions of critical thinking, and challenges in using social media for academic purposes. The study took a survey-based approach to

explore the prevalence of different patterns of social-media use and to statistically assess the associations between social-media engagement and students' perceived academic outcomes.

4.2 Study Participants and data collection

Data were collected thru a structured questionnaire designed to capture students' pattern and perception to the academic use of social media. The perception questions were answered mostly on five-point ordinal response scales, which allowed the study to explore the direction and degree of the students' perceptions. The research was performed with students of

higher education institutions. The final analysis included a total of 554 valid responses.

The respondents were from different academic levels and disciplines such as undergraduate, postgraduate and doctoral students. The sample also included students from the disciplines of Science, Humanities, Arts, Social Sciences, Professional and other academic disciplines.

The study involved students with different academic backgrounds, which allowed the researchers to investigate social-media use in a heterogeneous higher education population

Table 1: Framework for Operationalisation and Measurement of the Survey Tool

Dimension of the questionnaire	Target Variables	Illustrative Question type	Scale Type & Response Options
I. Respondent Demographics	Demographic Characteristics	Age, Gender, Family Income, Geographic Residence, Discipline, Academic Program	Categorical (Nominal/Ordinal)
II. Social Media (SM) Use Behaviours	Frequency of SM Use Daily Duration of Usage Use while Study Hours Types of Academic Content	How much time do you spend on social media per day? How often do you use social media while study hours? What kind of academic content do you primarily looking for?	4-point Ordinal (e.g., Duration) 5-point Ordinal (Frequency) Multiple-choice Nominal
III. Educational Perceptions & Collaboration	Frequency of Academic Use Perceived Effectiveness Collaboration with Academia Discussion Participation Following academic pages or groups	How frequently do you utilize social media for academic purposes? To what extent do you think social media is useful as a medium for academic learning? Have you ever used SM to collaborate on academic projects?	4-point Ordinal (Academic purpose) 5-point Ordinal (Effectiveness) 5-point Ordinal (Collaboration) Categorical (Follow pages)

IV. Cognitive Outcomes & Challenges in Digital	Impact on Performance Changes in Study pattern Processes for Verification of Information Perceptions of Information and Critical Thinking Reliability Misinformation Core Digital Challenges	Has using social media improved your academic performance?" How has social media affected your study habits? How confident are you in differentiating credible info? Specific challenges (Misinformation, Information Overload, Privacy, Outliers)	5-point Likert Scale (Critical Thinking: Disagree-Agree) 5-point Ordinal Scale (Confidence / Verification) 5-point Rating Scale (Challenges: 1 = Strongly Disagree to 5 = Strongly Agree)
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4.3 Mesures and Variables

The study questionnaire was structured in four major dimensions namely; respondent demographics, social-media usage behaviours, educational perceptions and academic collaboration, and cognitive outcomes and digital challenges as presented in Table 1. In the demographics section, participants reported their age, gender, family income, geographic residence, academic discipline, and academic program. The social-media usage section looked at the frequency and duration of social media use, whether it is used during study hours, and the type of academic content accessed.

The section on educational perceptions and collaboration covered students' academic orientated social media use, perceived effectiveness for academic learning, participation in academic discussion, academic collaboration, and following academic pages or groups. These measures allowed us to differentiate general social-media exposure from purposeful academic engagement.

The fourth dimension looked at the perceived academic and cognitive outcomes and challenges of use of social media by students. It consisted of

perceived changes in academic performance and study habits, information verification practices, perceived reliability of information, confidence in identifying credible information, and perceived contribution to critical thinking. The questionnaire also covered key digital issues such as misinformation, information overload, privacy issues, difficulty in finding credible academic sources and distraction from non-academic content. Most perception-based variables were assessed using five-point ordinal or Likert-type response scales, with categorical and multiple-response formats as appropriate.

The dependent variable for the statistical analysis was perceived academic-performance impact. Explanatory variables included social-media usage behaviours, academic engagement, educational perceptions, and information-related measures. The internal consistency of the five digital-challenge indicators was also examined and treated as a composite measure where appropriate. This categorisation allowed the study to systematically investigate the association between social-media engagement, academic learning, information literacy, perceived academic outcomes and digital challenges.

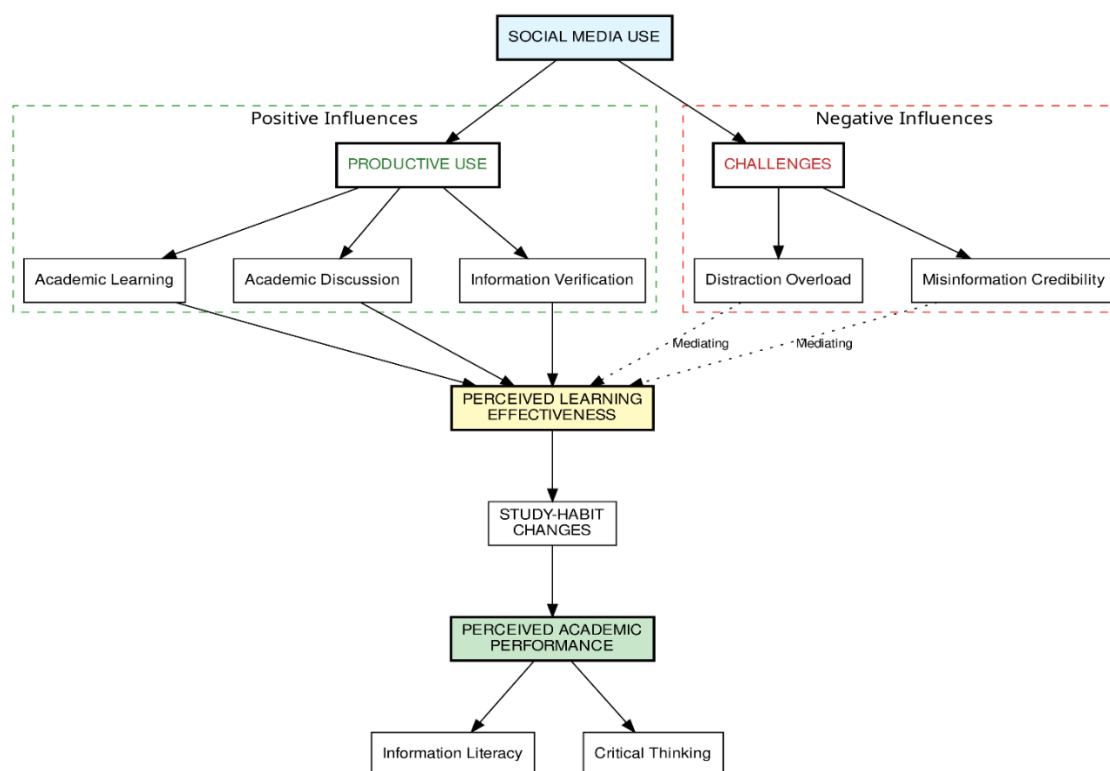


Figure 1. Analytical framework for examining the relationship between social-media engagement, academic learning, information literacy, challenges and perceived academic performance among higher education students.

4.4 Data preparation and Statistical Analysis.

All questionnaires were screened prior to statistical analysis. Responses were screened for completeness, consistency and fitness for analysis. Statistical analysis was performed on categorical variables that were numerically coded and ordinal responses that were left in their natural ordered form. Higher scores on the challenge scale indicated greater perceived challenges of using social media for academic purposes. Composite scores were computed when multiple items represented the same underlying dimension. Descriptive and inferential statistics were subsequently used to analyse the dataset. The statistical analysis was carried out in different steps to fulfill the objectives of the study. Descriptive statistics were used to describe the characteristics of respondents and social media use patterns. Frequencies and percentages were computed for categorical variables. For ordinal

and continuous measures, appropriate measures of central tendency and dispersion including means and standard deviations were. . The internal consistency of the five-item social-media challenge scale was assessed using Cronbach's α (alpha). The Cronbach's alpha for the scale was estimated to be about 0.70, indicating an acceptable internal consistency for exploratory research.

Associations between categorical variables were first explored using the Pearson's chi-square test of independence. Spearman's rank-order correlation coefficient (ρ) was used to assess the direction and strength of associations for ordinal variables.

The primary multivariable analysis to examine factors associated with perceived improvement in academic performance was an ordinal logistic regression model. The dependent variable was an ordered perception of impact on academic

performance from negative impact to significant improvement. Explanatory variables comprised relevant measures including academic-oriented social-media use, perceived learning effectiveness, academic discussion, information reliability, study-habit changes, critical-thinking perception, and perceived social-media challenges.

4.5 Ethical Considerations

Participation in the survey was voluntary. Respondents were informed about the purpose of the study and the academic use of the collected information. The responses were treated confidentially and were used only for research purposes. No personally identifying information was included in the statistical analysis.

5. Results and Discussions:

The survey achieved a heterogeneous sample of $N = 554$ valid responses from students. The demographic profile of the sample indicates a number of important basic features of the student population:

Table 2. The cohort of respondents is mostly young university students, 68.6% of the respondents are younger than 20 years old, and 94.8% are younger than 25 years old. It is quite common in the digital environment with a high ratio of undergraduates.

The sample is representative of typical higher education survey distributions with 63.0% of the sample enrolled in Undergraduate (UG) programs, but with a substantial Postgraduate (PG) representation of 31.4% and a Doctoral (PhD) focus of 5.6%. Urban (56.7%) is more than Rural (25.3%) and Suburban (18.1%), giving you the opportunity to see a diverse cross-section of geographic digital access. The survey captured frequencies of daily use, utility of platforms and overall exposure to investigate the patterns of social media use among students. Table 3 58.3% of students use social media daily (frequently or constantly) during the study time assigned. This common distraction provides empirical support to the concerns raised by Giunchiglia et al. (2018), Lau (2017), and Sun, W., & Chao, M. (2024) on

the detrimental impact of social media on concentration and learning efficiency.

The results of the question about choosing the most useful social media platform for academic learning are very concentrated. This suggests YouTube is the best digital academic resource for students in higher education. This finding is in support of reference made in the literature review to channels such as Crash Course to make learning fun. This is in agreement with Oguguo et al. (2020) who noted that students mostly use social media to search for academic materials and do assignments. What is the high performance textbook supplement? YouTube's dynamic, video-heavy, instructional nature. Students are highly distracted during study hours but strongly feel that social media helps them with their studies. (table 6.) 78.1% of students say social media enhanced their academic performance. This leads to an interesting "Performance-Distraction Paradox". How do 78.1% students see performance improvements when 58.3% of the students are distracted on a daily basis during the study hours and 50.5% of the students reported to have distractions "Frequently" or "Very Frequently" during the academic use?

The fourth goal of the study was to examine the role of social media use in information literacy and critical thinking. 83.9% of students verify online information against academic sources at least occasionally. This implies a very active but careful approach to social media content. Although verification rates were high, students lacked confidence in their online literacy skills. (Table 5.) Only 14.3% of students are Very or Extremely confident they can identify credible vs. non-credible information on social media. This is an important finding: students are aware of the threat of misinformation and often willing to fact check claims but lack the formal evaluative framework to do so confidently. This empirical result is in line with the "information overload" stress stressed by Sun, W., & Chao, M. (2024) and the cognitive con-fusion mentioned in the introduction

Table 2: Demographic Profile of the Respondent Cohort (N = 554)

Demographic Characteristic	Sample Frequency (N)	Percentage (%)
Gender		
Male	376	67.90%
Female	176	31.80%
Prefer not to say / Other	2	0.40%
Age Category		
Less than 20 years	380	68.60%
20–25 years	145	26.20%
25–30 years	17	3.10%
More than 30 years	12	2.20%
Geographic Residence		
Urban	314	56.70%
Rural	140	25.30%
Suburban	100	18.10%
Academic Program		
Undergraduate (UG)	349	63.00%
Postgraduate (PG)	174	31.40%
Doctoral (PhD)	31	5.60%
Nature of Discipline		
Science		41.5%

Table 3. Daily Social Media Exposure and Preferred Learning Platforms (N = 554)

Behavioral Dimension	Sample Frequency (N)	Percentage (%)
Daily Duration of Social Media Use		
Less Than 1 Hour	62	11.20%
1-8 Hours	23	4.15%
8-29 Hours	9	1.63%

811 -829 Hours	14 8	26. 70%
More Than 4 Hours	10 5	19. 00%
Most Useful Platform for Academic Learning		
YouTube	42 4	76. 50%
Instagram	94	17. 00%
LinkedIn	29	5.2 0%
Twitter	5	0.9 0%
Facebook	2	0.4 0%

Table 4: Academic Usage Frequency and Perceived Learning Efficacy (N = 554)

Dimension of Academic Utility	Category	Frequency (n)	Percentage (%)
Frequency of Academic Social Media Use	Daily	199	35.90%
	Several times a week	221	39.90%
	Once a week	53	9.60%
	Rarely	81	14.60%
Primary Academic Content Sought	Educational videos	231	41.70%
	Study tips and resources	152	27.40%
	Research articles and papers	48	8.70%
	Academic discussions and forums	34	6.10%

	Group projects and collaborations	11	2.00%
	Other generic content	78	14.10%
Primary Learning Content Engagement	Videos and documentaries	340	64.80%
	News articles	79	15.00%
	Expert blogs and podcasts	49	9.30%
	Discussions and debates	29	5.50%
	Infographics	28	5.30%
Perceived Effectiveness as a Learning Tool	Extremely effective	80	14.40%
	Very effective	228	41.20%
	Moderately effective	201	36.30%
	Slightly effective	32	5.80%
	Not effective at all	13	2.30%
Effectiveness in Raising Research Awareness	Extremely effective	79	14.30%
	Very effective	228	41.20%
	Moderately effective	198	35.70%
	Slightly effective	33	6.00%
	Not effective at all / E. Not effective	16	2.90%

Table 5: Information Verification Behaviors and Critical Evaluation Perceptions (N = 554)

Dimension of Digital Literacy	Category	Frequency (n)	Percentage (%)
Information Verification with Academic Sources	Very frequently	57	10.30%
	Frequently	209	37.70%

	Occasionally	199	35.90%
	Rarely	65	11.70%
	Never	24	4.30%
Confidence in Differentiating Credibility	Extremely confident	12	2.20%
	Very confident	67	12.10%
	Moderately confident	237	42.80%
	Slightly confident	179	32.30%
	Not confident at all	59	10.70%
Perceived Contribution to Critical Thinking	Strongly agree	30	5.40%
	Agree	172	31.10%
	Neutral	278	50.20%
	Disagree	44	7.90%
	Strongly disagree	30	5.40%

**Table 6: Self-Reported Academic Performance Impacts and Self-Regulatory Challenges
(N = 554)**

Performance and Habit Dimension	Category	Frequenc y (n)	Percent age (%)
Perceived Overall Effect on Performance	Very Positive	95	17.20%
	Somewhat Positive	128	23.10%
	Neutral	295	53.30%
	Somewhat Negative	23	4.20%
	Very Negative / Option 1	13	2.40%
Perceived Performance Improvement	Yes, significantly	153	27.60%
	Yes, somewhat	280	50.50%
	No noticeable difference	94	17.00%
	It has had a negative impact	19	3.40%
	Do not use social	8	1.40%

	media for academics		
Perceived Impact on Study Habits	Improved them significantly	73	13.20%
	Improved them slightly	239	43.10%
	No effect	152	27.40%
	Worsened them slightly	79	14.30%
	Worsened them significantly	11	2.00%
Distractions Experienced During Academic Tasks	Very frequently	76	13.70%
	Frequently	204	36.80%
	Occasionally	185	33.40%
	Rarely	63	11.40%
	Never	26	4.70%
Primary Social Media Learning Challenges	Getting distracted by non-academic content	229	41.40%
	Difficulty finding reliable academic resources	124	22.40%
	Lack of engagement in academic discussions	81	14.60%
	Overload of information	56	10.10%
	Privacy concerns	22	4.00%
	Other challenges	41	7.40%
Academic Collaboration Frequency	Very frequently	46	8.30%
	Frequently	114	20.60%
	Occasionally	182	32.90%
	Rarely	86	15.50%
	Never	126	22.70%

Table 7: Cronbach's Alpha Reliability and Item Analysis for the Social Media Challenge Scale (N = 554)

Challenge Scale Item	Mean (M)	Standard Deviation (SD)	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
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Misinformation	2.989	1.055	0.506	0.63
Information overload	3.312	1.078	0.5	0.632
Privacy concerns	3.157	1.153	0.432	0.662
Difficulty finding credible sources	3.13	0.992	0.43	0.662
Distraction from non-academic content	3.482	1.154	0.417	0.669

Note: Scale Cronbach's Alpha = 0.700 for the 5-item Social Media Challenge Scale indicating good acceptable internal consistency. Items are rated on a 1–5 Likert scale of intensity rating.

Table 7. provides scale validation by calculating precise internal consistency metrics for the 5-item Social Media Challenge Scale (Misinformation, Information Overload, Privacy Concerns, Sourcing Difficulty and Distractions). The Cronbach's Alpha of 0.700 suggests that the scale is strong enough to be published. The table shows the exact Mean (M), Standard Deviation (SD), Corrected Item-Total Correlations (ranging between 0.417 and 0.506) and the Cronbach's Alpha if the item is deleted (confirming that deleting any item will reduce the reliability of the scale to below 0.700).

Table 8. Multiple Linear Regression Model for Predictors of Perceived Academic Performance Improvement

Model Index	Multiple R			R-Square ((R ²))		
1	0.386			0.149		
Model Source	Sum of Squares (SS)	df	Mean Square (MS)	F-statistic	p-value	Significance
Regression	46.368	6	7.728	15.7	1.19E-16	Statistically Significant ((p < 0.001))
Residual	265.309	539	0.492			
Total	311.678	545				

The table 8. And table 9. reveals the overall model is highly significant ($F = 15.70$, $p < 0.001$), explaining 14.9% of the variance ($R^2 = 0.149$). Learning Tool Efficacy is the single strongest positive predictor ($\beta = 0.303$, $t = 7.419$, $p < 0.001$). Academic Usage Frequency is highly significant ($\beta = 0.177$, $t = 4.305$, $p < 0.001$). The total daily hours spent on social media is completely non-significant ($\beta = 0.005$, $p = 0.915$). This is a beautiful, crucial finding: it is not the amount of time students spend on social media that drives academic improvement, but rather the frequency of academic usage and perceived tool effectiveness. Tolerance values are high (> 0.74) and VIF values are extremely low (< 1.35), proving to reviewers that

the model is mathematically stable and free of multicollinearity issues.

Table 9: Regression Coefficients, Significance, and Collinearity Metrics

Predictive Predictor	Unstandardized B	Standard Error	Standardized Beta (β)	t-statistic	p-value	Tolerance	Variance Inflation Factor (VIF)
Constant	1.638	0.216	—	.588	0.001		
Daily Usage Hours ((X1))	0.004	0.037	0.005	.106	.915	.814	.229
Study-Hour Usage ((X2))	-0.056	0.032	-0.081	1.763	.078	.742	.348
Academic Usage Freq ((X3))	0.134	0.031	0.177	.305	0.001	.935	.069
Learning Tool Efficacy ((X4))	0.269	0.036	0.303	.419	0.001	.946	.057
Distractions Experienced ((X5))	-0.008	0.032	-0.01	0.25	.803	.923	.083
Critical Thinking ((X6))	0.074	0.036	0.084	.062	.04	.956	.046

Note: Dependent Variable (Y) = Perceived Academic Performance Improvement mapped from 1 to 4). Multicollinearity is entirely absent as all Tolerance values are > 0.10 and VIF values are well below the conservative threshold of 5.0.

Table 10: Bivariate Inferential Analyses (Chi-Square & Spearman's Rank Correlation) for Demographic Predictors of Student Study Habits and Distractions

Demographic Variable	Study Habit Dimension	Chi-Square (χ^2)	df	Chi-Square p-value	Spearman's Correlation (ρ)	Spearman p-value	Statistical Significance & Result
Gender	Study-Hour Usage	3.364	1	.003	0.139	0.001	Significant (χ^2 and ρ)

							Correlation, p < 0.01)
	Academic Distractions	8.194		.02	2	0.0178	Significant association (χ^2 , p < 0.05), No monotonic correlation
Age Category	Study Habits Impact	.529		.96	1	0.00986	Non-significant relationship
	Study-Hour Usage	.798	2	.72	5	0.04293	Non-significant relationship
	Academic Distractions	2.066	2	.037	6	0.09024	Significant (χ^2 and Correlation, p < 0.05)
Geographic Residence	Study Habits Impact	.032	2	.7	0.024	-	Non-significant relationship
	Study-Hour Usage	0.09		.259	0.041	-	Non-significant relationship
	Academic Distractions	.889		.444	7	0.04273	Non-significant relationship
Annual Family Income	Study-Hour Usage	.804		.359	0.041	-	Non-significant relationship
	Study-Hour Usage	9.213	2	.084	7	0.14001	Marginally significant categorical association (χ^2), Highly significant monotonic correlation (p = 0.001)

	Academic Distractions	7.841	2	.006	9	0.03	354	0.	Significant categorical association (χ^2 , $p < 0.01$), No monotonic correlation
	Study Habits Impact	.992	2	.984	6	0.00	913	0.	Non-significant relationship
Nature of Program	Study-Hour Usage	.601		.692	2	0.02	598	0.	Non-significant relationship
	Academic Distractions	9.08		.014	7	0.08	04	0.	Significant (χ^2 and Correlation, $p < 0.05$)
	Study Habits Impact	.168		.417		0.063	238	0.	Non-significant relationship
Academic Discipline	Study-Hour Usage	3.994	6	.09	1	0.02	627	0.	Non-significant relationship
	Academic Distractions	8.719	6	.284	1	0.04	337	0.	Non-significant relationship
	Study Habits Impact	2.741	6	.692	7	0.05	281	0.	Non-significant relationship

Table 10. summarizing the Chi-Square and Spearman Correlation Values for the Relationship between Demographic Characteristics and Student Study Habits. The interaction of Gender with Study-Hour Usage is highly significant ($\chi^2 = 23.364$, $p = 0.003$) and supported by a positive Spearman correlation ($\rho = 0.139$, $p = 0.001$). Female students report much higher frequencies of exposure to social media per day than do their male counterparts. Gender was additionally related to experiencing distractions when performing academic tasks ($\chi^2 = 18.194$, $p =$

0.020), but did not predict long-term perceived impacts on study habits ($p = 0.960$). Study hour limits are heavily influenced by the Annual Family Income. The nominal Chi-Square association is only marginally significant ($\chi^2 = 19.213$, $p = 0.084$), but the underlying ordinal Spearman correlation is highly significant ($\rho = 0.147$, $p = 0.001$), showing that students from higher income brackets are significantly more likely to use social media during dedicated study hours¹. Family income also has major impact on categorical distribution of academic distractions ($\chi^2 =$

27.841, $p = 0.006$). Type of academic program (UG, PG, PhD) is not a predictor of basic study-hour usage frequency ($p = 0.692$), but is a statistically significant predictor of perceived Academic Distractions. Basic Study-Hour Usage Frequency ($p = 0.692$) does not depend on Nature of the Academic Program (UG, PG, PhD) but a statistically significant predictor of perceived Academic Distractions.

6. Implication:

Re-frames the academic debate on social media. Instead of seeing social media as something that detracts from learning, we propose the “Dual-Effect Paradigm” and the “Performance-Distraction Paradox” to show that positive benefits and self-regulatory failures can coexist within the same student cohort.

7. Limitations

Understands that a cross-sectional survey design will not establish direct cause and effect relationships.

- Controls for potential bias due to social desirability and recall in self-reported study distraction and time use.
- Addresses demographic skew in your dataset (e.g. high concentration of younger, undergraduate and male respondents (68.6% under 20 years old, 63.0% UG and 67.9% male)).

Acknowledges the geographical limitation of carrying out research in a single institutional/regional setting and the need for cross-national comparative replication.

8. Conclusion

This study highlights the dual role of social media in higher education. Purposeful academic use, such as access to educational content, academic discussion, collaboration, and information sharing, may help support students' learning experiences and perceived academic outcomes. However, misinformation, information overload, difficulty identifying credible resources, privacy concerns and non-academic distraction remain significant challenges.

Results demonstrate that social media's educational value relies on the purpose and quality of engagement, not just the use amount. Therefore, higher education institutions should promote purposeful use of social media, besides digital literacy requirements, verification of information, critical evaluation and responsible use of social media. Given the cross-sectional design and self-reports, the results only show associations and not cause and effect. Future research using longitudinal designs and objective measures of academic performance could provide stronger evidence of the long-term academic implications of social-media use.

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