The influence of social media on learning behaviours: A social science perspective

Bijay Timung[1,] Kongkon Bordoloi[1] Acharjya Mohan Das1

[1]Department of Education, Assistant professor, Majuli College, Assam, India

* Corresponding author: Bijay Timung[1], kongkonbordoloi11@gmail.com

Abstract: Social media has become an integral part of the lives of 21st-century youth, reshaping the way they communicate, socialise, and consume information. Platforms like Facebook, Instagram, TikTok, and X (formerly Twitter) offer instant access to global networks, influencing youth culture, trends, and personal identity. Due to the increased use of social media in society, people have raised some concerns about how it affects certain activities such as learning practices among students in higher learning institutions. This paper aims to examine the effects of social media usage on learning behaviors from a social science perspective. In the study, the quantitative surveys are complemented by qualitative interviews to evaluate the correlation between social media use and academic achievement, study habits, and collaborative learning. The study shows that social media can be used to support collaborative learning and access to learning resources but can also be a source of distraction and poor academic performance if overused. The study also reveals that social media can be a friend and a foe in learning and that it is only when it is used purposefully and when students are taught how to use it appropriately. It can be a powerful tool in learning environments. Furthermore, the study highlights the need for students to be aware of the educational benefits of social media while at the same time avoiding the negative impacts of social media.

Keywords: Social media, social interaction, higher education, academic performance, social science

1. Introduction

Social networks are an essential component of the lives of young people in the twenty-first century, influencing different aspects of their subjectivity, communication, and interaction. Research has indicated that the emergence of social media platforms like Facebook, Instagram, Twitter, and TikTok has significantly influenced how youths interact with their peers, access information, and develop their perceptions of the world (Hampton et al., 2017). Since most youths' own smartphones, social media interaction has increased, leading to positive and negative impacts. On the positive side, social media enables people

to connect across geographical space, and young people can use this platform to work together on educational projects across cultures (Boyd, 2014). It also encourages people to express themselves and gives a voice to the oppressed. Studies conducted in the past have produced conflicting results on the impact of social media on performance. Parents and educators can play a key role in promoting balanced social media usage. Setting limits on screen time and encouraging offline activities can help young people develop healthier relationships with technology. Some research indicates that social media enhances group work and offers opportunities to acquire learning materials (Greenhow & Lewin, 2016), whereas other research shows that social media hinders students' performance and distracts them (Junco, 2012). Jenkins et al. (2016) have identified that youth engage in social media for political activism and social justice, enhancing their ability to engage in civil activities. However, the increased use of social media is also a problem. Twenge et al. (2018) found out that high usage of social media leads to higher rates of anxiety, depression, and loneliness among adolescents. The constant bombardment of carefully selected and filtered images and experiences on social media may set up a standard for comparison that is detrimental to body image and self-esteem (Perloff, 2014). Social media is useful in academic collaboration but at the same time a source of distraction. The youths who spend a lot of time on social media sites complain of poor concentration in academic work and other tasks (Mastrodicasa & Metellus, 2013). Therefore, although social media is a powerful means of social interaction and learning, it should be effectively regulated to minimise its negative impact. Thus, social media is a powerful force in the lives of young people, influencing how they communicate, learn, and perceive themselves. While platforms like Facebook, Instagram, and TikTok offer valuable opportunities for collaboration, self-expression, and learning, they also present significant risks, including distraction, poor academic performance, and negative impacts on mental health.

2. Literature Review

2.1 Social Media and Academic Performance

Social media platforms offer diverse functionalities that can support learning, such as content sharing, discussion forums, and networking opportunities. According to Greenhow and Lewin (2016), social media can enhance collaborative learning by facilitating communication and resource sharing among students. Conversely, On the other hand, Junco (2012) noted that high usage of social networking sites has negative correlation with GPA such that it may divert attention and time from academic activities. Social media's impact on academic performance is multifaceted, providing both advantages and challenges for students. On one hand, such sites as LinkedIn and Facebook provide an opportunity to develop academic networks, to participate in professional communities, to share academic materials and ideas, to find job offers and get some advice (Kio & Negedu, 2015). Twitter has also been identified as having benefits in the context of increasing student participation; the ability to have real

time questions and answers with the involvement of experts and other students (Gao et al, 2012). But the readily available entertainment content and the social media application tend to have negative impacts on the performance of the students. According to the research done by Kirschner and Karpinski (2010), students who engaged in Facebook study use had lower academic performance than other students. Al-Menayes (2015) also observed that the effectiveness of social media for learning decreased academic performance because it can decrease study time and concentration span. In that case, social media is a helpful tool for sharing resources and collaborating with others, however, multitasking and entertainment consumption in social media lead to the deterioration of student's performance.

2.2 Learning Behaviors in the Digital Age

Learning behaviors refer to a set of behaviors that involve information search, cooperation, and personal management. These behaviors have been digitised especially with the integration of social media such that the manner and flexibility of their learning is enhanced (Kimmons & Veletsianos, 2013). However, it also creates dilemmas concerning information abundance and digital interferences (Rosen et al., 2011). Moreover, social media technologies provide an approach to individualised learning routes, through which a learner can adapt the learning process to his or her needs and preferences (Selwyn, 2016). Based on the literature, videos as well as interactive discussions can be used to complement the knowledge and improve students' understanding and learning outcomes (Mishra & Koehler, 2006). Furthermore, the use of social media fosters the production of digital literacy skills that help a person to search and assess the information found online (Martin & Grudziecki, 2006). On the other hand, the availability of social media creates constant connections, which causes time wastage and poor management of attention hence poor self-regulation strategies (O'Brien & Toms, 2008). Moreover, the fast flow of information may put learners in front of challenges in filtering and selecting quality information resources to acquire the knowledge.

2.3 Theoretical Framework

This study is based on the Social Cognitive Theory (Bandura, 1986) which asserts that learning is a cognitive process that involves behavior, environment, and the learner. Social media is an important environmental factor that influences students' learning behaviors through observation, interaction, and self-regulation.

3. Methodology

This research adopted both quantitative and qualitative research to establish the impact of social media on learning behavior. Structural questionnaires were employed to collect quantitative data while qualitative data were collected by a series of semi-structured interviews. The sample targeted 300 students from all

the programs in different universities and colleges across Assam for both undergraduates and master's degree students. Respondents were recruited through stratified random sampling by which the participants were selected depending on their level of engagement in academic programs and social media.

Table 1. Demographic profile of participants

Demographic variable	Category	Frequency	Percentage
Gender	Male	150	50
	Female	150	50
Age range	18-22	180	60
	23-27	90	30
	28 and above	30	10
Academic Level	Undergraduate	220	73.3
	Post Graduate	80	26.7
Field of Study	Humanities	90	30
	Sciences	90	30
	Social Sciencs	60	20
	Engineering	30	10
	Commerce	30	10
Social Media Usage	<1 hour/day	60	20
	1-3 hours/day	120	40
	3-5 hours/day	90	30
	>5 hours/day	30	10

The survey instrument consisted of questions related to the frequency of social media usage, GPA, study habits, and perceived effects on learning. Scales used in previous research were employed in this research (for example Junco, 2012). A purposive sample of 30 participants was selected for interviews to gain an understanding of the positive and negative effects of social media on learning behaviors. Qualitative data were analysed through content analysis while quantitative data were analysed using statistical methods such as regression analysis to determine the relationship between social media usage and performance. The collected qualitative data were analysed by coding and categorising them into themes in order to reveal patterns.

4. Results

4.1 Quantitative Findings

Their findings indicated the correlation between the use of social networking sites and low academic performance was somewhat complex. The analysis revealed that with moderate use of social media the GPA was significantly higher ($\beta = 0.25$, $p < 0.01$), meaning that students who efficiently utilise social media especially for educational purposes achieve better results. However, sedentary behavior>3h per day was inversely related to GPA ($\beta = -0.30$, $p < 0.05$) suggesting potential

distractions and poor time management issues. The XY scatter plot shows the relationship that exists by the negative association of the number of hours spent on social media per day by the students and the GPA. According to the trend line, the GPA reduces as students spend more than 3 hours on social media.

Table 2. *Correlation between social media usage and GPA*

Social Media usage level	Average GPA	Standard Deviation
<1 hour/day	3.5	0.4
1-3 hours/day	3.4	0.5
3-5 hours/day	3.0	0.6
>5 hours/day	2.8	0.7
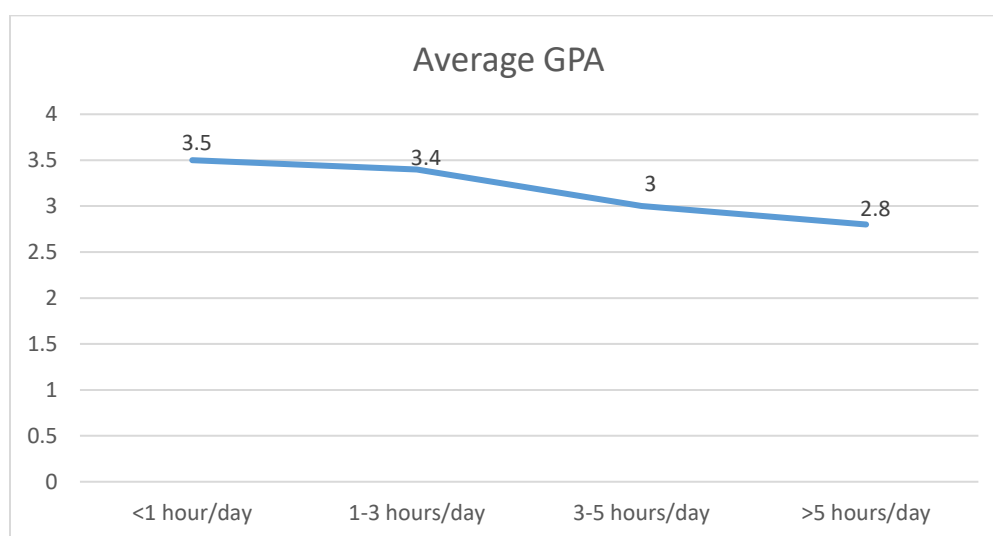
Figure 1: *Relationship between hours of social media use and GPA*

A regression analysis was conducted to determine the impact of social media usage on GPA, controlling for variables such as age, gender, and field of study. The regression model explains 12% of the variance in GPA. The study shows that social media has a negative effect on the dependent variable, where each additional hour spent using social media reduces the dependent variable.

Table 3. *Regression analysis of social media usage on GPA*

Predictor	B	SE	β	t	p-Value

Intercept	4.200	0.300		14.000	<0.001
Social Media usage(Hours/day)	-0.050	0.015	-0.30	-3.33	0.001
Age	0.02	0.01	0.10	2.00	0.046
Gender(Male vs. Female)	-0.10	0.20	-0.05	-0.50	0.617
Field of Study(Sciences vs. Humanities)	0.15	0.25	0.08	0.60	0.549
Model Summery					
R2	0.12				
F-statistic	5.50				<0.001

The results show that age has a positive effect suggesting that the older participants perform better. However, analysis by gender and field of study does not reveal a significant impact. In total, the model accounts for 12% of the variance in the dependent variable, and the overall model is significant, which indicates that at least one predictor is significantly associated with the outcome.

4.2 Qualitative Insights

On the positive side, social media can complement collaborative learning and provide access to useful information. On the negative side, it creates issues of distraction and the need for proper digital literacy. Exploring these themes can assist students in managing their school experiences in the context of new technologies. The data obtained from the interviews contain significant qualitative information about the use of social media in students' learning processes.

Collaborative Learning: Students stressed that social media is an effective means of group work. They can create study groups on Facebook, WhatsApp, and Discord and communicate with their peers in real-time. They also mentioned that these platforms help them to share resources like articles, videos, and notes that enhance their learning process. It also helps to expand the views of people and create a supportive environment, which makes group assignments more productive and enjoyable. Distractions However, most students understood that social media could be a major source of distraction while studying. They described cases where they were browsing feeds or chatting non-academically during study sessions, which resulted in procrastination. This distraction led to reduced study time and increased pressure because students could not manage their time well between online activities and their schoolwork. Recognising this problem, some of

the participants stated that they require ways of reducing distractions even as they use social media for learning activities.

Digital Literacy: The interviews underscored the importance of digital literacy in navigating social media for educational use. Students highlighted that effective engagement with social media requires the ability to discern credible sources, manage online interactions, and filter relevant information from the vast amount available. Those with stronger digital literacy skills felt more empowered to use social media productively, while others struggled to harness its potential. This suggests a need for educational initiatives focused on developing these skills, enabling students to maximise the benefits of social media while mitigating its downsides.

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Table 4. *Themes from qualitative interviews*

Theme	Description	Quotes
Collaborative learning	Use of Social media for group projects, sharing resources, and peer support	We use WhatsApp groups to coordinate our study sessions.
Distractions	Social media as a source of procrastination and reduced focus on academic tasks	I often find myself scrolling through Instragram Instead of Studying
Digital Literacy	Skills needed to effectively use social media for educational puposes, including information filtering	Knowing how to find reliable sources online is crucial.
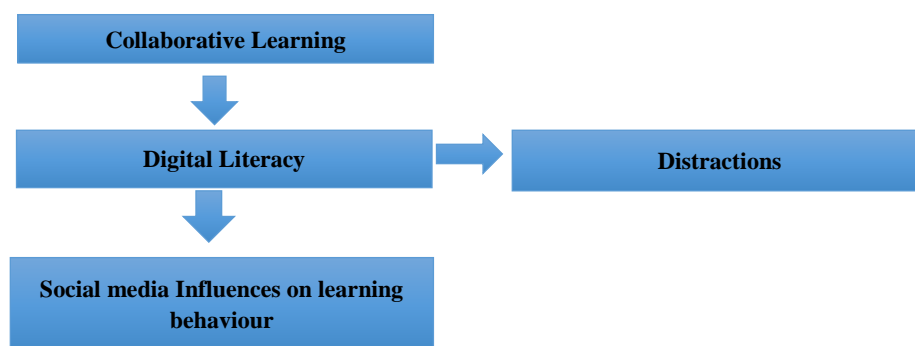
Figure 2: *Thematic Map of Social Media Influence on Learning Behaviours*

A diagram is shown illustrating the three main themes—Collaborative Learning, Distractions, and Digital Literacy—and their interconnections in the context of social media's impact on learning behaviors.

5. Discussion

The findings suggest that social media has a dual impact on learning behaviors. The use of social media is now part of life, and it is evident most especially among the youths in the 21st century. It is a complex part of education as it has positive and negative impacts on learning behaviors. This two-fold use of social media is gradually being acknowledged in scholarly literature, with different works examining the possibility of using social media in the delivery of education and the dangers of its overuse. Another advantage of social media is that it fosters teamwork and sharing of resources among members. Social Cognitive Theory proposed by Bandura posits that learning takes place in context with modeling of behavior from other individuals and the surrounding context. In the present-day social context of interaction has been widened using social media such as Facebook, twitter, WhatsApp, and Instagram among others. Through social media, students can interact with other students as well as tutors in a way that is not limited to the classroom.

For example, students can create study groups on social sites, exchange notes, and work together on assignments. Such interactions can take learning beyond classroom and afford peer support and feedback. As Greenhow and Lewin (2016) have pointed out, social media can be used intentionally to create the learning environment that is based on the interactions between students for the purpose of sharing information, problem solving, and developing a sense of community. This aligns with Vygotsky's theory of social learning where he posited that learning is a social process. However, social media provides an opportunity to use a lot of resources and educational materials. YouTube, LinkedIn Learning, and specific Facebook groups provide tutorial videos, lectures, and discussion boards for various subjects. This democratisation of information enables students to study at their own pace and study material that may not be taught in class. The other advantage of social media is that it can supplement the difference between the formal and informal learning. While classroom learning is dictated by the syllabus and learning outcomes, social media offers a more open platform through which students can pursue their passions. For instance, students can subscribe to their favorite scholars in the specialty, engage in forums, and receive new publications and materials. It is a continuous process to expose children to some types of academic content that promotes lifelong learning and curiosity.

On the positive side, there are several advantages of using social media. however, it is also important to note that there are certain dangers entailed in the excessive use of this facility. This is about the fact that its use may cause distractions in the learning process. Social media platforms are built to get the attention of the user, whether through notifications, algorithms, or interesting posts. It can pull students away from academic pursuits, thus contributing to a lack of time management and lack of concentration on books. According to Junco (2012), when students engage in the use of social networks, particularly Facebook, they are likely to perform poorly academically. One of the reasons for this may be that students cannot combine their academic workload with their Internet activities. It is common to find students spending a lot of time on social media sites, which means they spend most of their time on social media instead of doing assignments, studying or preparing for exams. This behavior is counterproductive in that it leads to poor performance in academic tasks by occupying valuable, productive time.

There is strong evidence that students with social media habits have poor sleeping pattern. Most students confess they spend a considerable amount of time on social networks and get up late right before they have to work or study, which results in the loss of sleep and reduced brain activity throughout the day. Lack of sleep weakens memory, attention and problem-solving skills which are such important elements in learning process. In this regard, the negative effects of social media can positively be said to have a direct impact on learning since the very fabric of the lives of learners is disrupted in a manner that leads to poor academic performance. The other problem is misinformation and, respectively, the distraction from education goals. However the information that is available through social media networks enjoys the internet is not always correct. Sometimes learners can come across misinformation that hampers their learning of the subjects taught in class. In addition, social networks do not focus on curricula often and think that those students who are fond of social networks are ready to spend more time resting instead of studying.
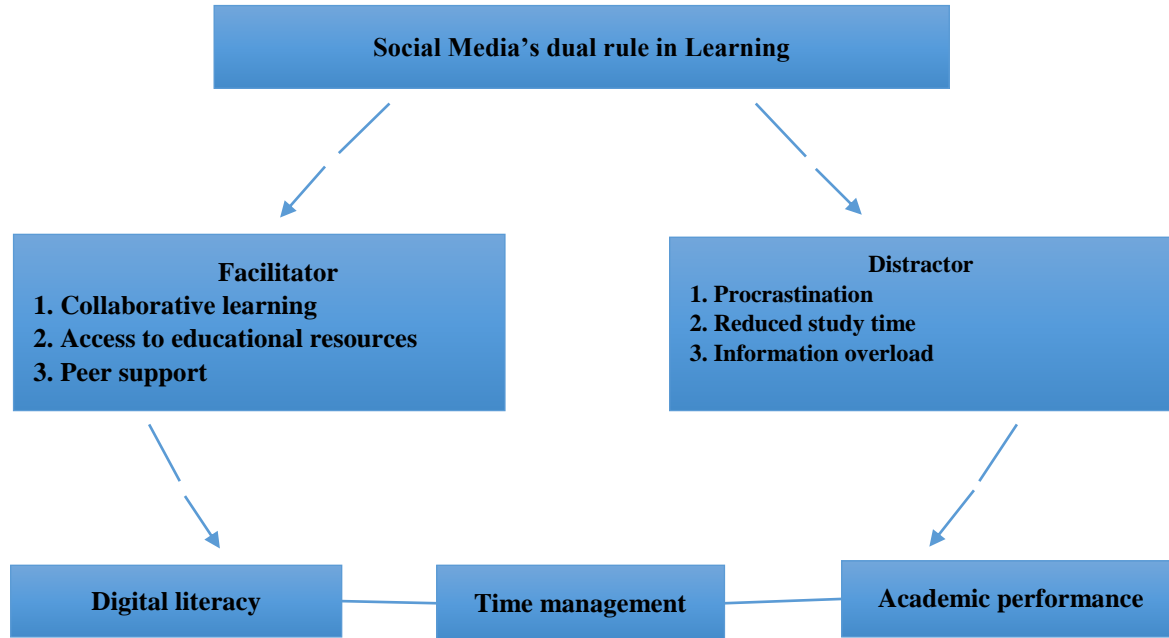
Figure 3: Dual impact model of social media on learning behaviours

The findings of this study highlight the dual impact of social media on learning behaviors, as illustrated in Figure 3: The positive and negative impact of social media on learning behaviors are identified in the Dual Impact Model. On one hand, it is a rather effective means of collaboration, knowledge sharing, and learning continuation outside the classroom. This conforms with the second phase of the Social Cognitive Theory that focuses on the role of the environment in learning, where the environment refers to people in society and the available resources.

On the other hand, conversely, beneficial social media use comes with the following disadvantages: Introduces significant risks to academic performance. They generate interruptions, compound procrastination and erode sleep quality to render students unable to concentrate on their books. This double effect indicates that, although as a tool for education social media is highly effective, it should be employed with much care and in moderation as it contains undesirable effects. These results are consistent with Greenhow and Lewin (2016), who emphasised the potential of social media to enhance collaborative learning, and Junco (2012), who identified the negative consequences of excessive usage. The study underscores the importance of fostering digital literacy and promoting balanced social media usage among students to maximise its educational benefits.

6. Conclusion

Social media exerts a significant influence on learning behaviors among higher education students, functioning both as a facilitator of collaborative and resource-driven learning and as a potential source of distraction. On one hand the Social media like Facebook, Twitter, WhatsApp etc. are source of tremendous learning where students can collaborate each other, share many material and resources and access many kinds of learning materials. This is consistent with the tenets of the Social Cognitive Theory under which behaviors are influenced by the environment. Through the provision of real time communications as well as information dissemination and relay, social media transcends classroom learning and fosters peer learning. It also provides students further benefits, such as an ability to browse educational material independently, connect with remote specialists, and discuss to enhance their knowledge of different subjects. However, let not the flip side of the social media tool go unnoticed. It should be mentioned here that high usage was shown in the study to have a negative impact on students in the form of distractions and time wastage as well as poor academic performance. Notifications can be problematic, including disconnecting students from study and academic activities, constantly checking other items not related to learning or studies, or avoiding specific tasks on scholastic assignments. Due to the entertaining aspect of social media platform and their social connectivity tool, one can spend most of the time in the platforms ignoring their academic tasks. Furthermore, loss of sleep by students who take time in the night using these social networks is likely to degrade their learning ability, memory and academic performance. Concerns raised by Junco (2012) on the effect of excessive use of social media compile a good reason to do something to redress the effects.

Schools should then adopt computer proficiency courses as part of the education system to enable the young generation to overcome the challenges posed by social networks. Designed properly and implemented appropriately, the positive aspects of SNSs can be maintained, while the detrimental impacts eliminated by educating learners on how to use time constructively, distinguishing between fake and authentic information, and using the available tools as intended for academic purposes only. Future studies can look into the implication of social media on the learning behaviors of learners over long durations of study. Cross sectional research would assist in establishing trends in social media use and its cumulative effect on academic performance. Moreover, potential solutions that would support the minimisation of adverse impacts could be created and evaluated, including exercises that involve a focus on the present moment or devices which restrict the amount of time spent on electronics. In realising the short term and long term impact of social

media on learning, the scholars and the teachers will be able to formulate better techniques for the use of social media in enhancing the output while embracing the negative side.

Ethics Statement: Informed consent and assent were obtained from the participating, prior to data collection. Anonymity and confidentiality of the information provided by the participants were ensured.

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