



International Journal of Engineering Research and Science & Technology

www.ijerst.org

ISSN : 2319-5991

Vol. 22 No. 3 (2026)



ijerst.editor@gmail.com
editor@ijerst.com

Research Paper

INFLUENCE OF SOCIAL MEDIA ON STUDENTS' LEARNING BEHAVIOR IN HIGHER EDUCATION INSTITUTIONS

Lakshit Sinha, Dr. Suman Kumari

Department of Mass Communication, Shri Venkateshwara University, Gajraula, Amroha, Uttar Pradesh, India

Corresponding author: Lakshit Sinha

Email: Lakshitsinha09@gmail.com

Abstract

Social media is a phenomenon that has dramatically changed the way university and college students communicate, collaborate and access academic content. This research explains how social media can affect students' learning behavior in higher learning institutions and its positive and negative impact. The study is based on a mixed-methods survey of 412 undergraduate students from three faculties and examines trends in social media usage, how well social media is embedded in the academic context, and the effects of social media on concentration, time management, collaborative learning and academic performance. Findings showed that although social media can be very beneficial for social interaction, access to learning materials, and communication with lecturers, overuse and mis-use of social media is linked to distraction, procrastination and poor academic results, especially when students report spending > 4 hrs per day on the social network for non-academic purposes. The paper places the results into the context of the Uses and Gratifications Theory and the Social Constructivist learning theory, and the findings are presented as practical suggestions for students, teachers and educational policy makers who wish to take advantage of the educational value of SMT but also reduce the negative impacts on students' learning behavior.

Keywords - Social media, learning behavior, academic performance, higher education, Uses and Gratifications Theory, Social Constructivism, distraction, collaborative learning

1. Introduction

In the last 20 years, social media has gone from being a novelty in communication to being a key part of daily life, and nowhere is that more evident than on campuses of universities and colleges. There's no denying that WhatsApp, YouTube, Instagram, Facebook, TikTok and X (previously Twitter) have become integral to the daily lives of students, both as a space for socialization and entertainment, but also for the sharing of information and now, more importantly, even academic content. Social media is no longer a tool for digital education, but a space where many of today's students live, learn, and socialize.

This has been done in a number of different ways by higher education institutions. Others have accepted social media as a pedagogical instrument, employing the platforms as a means to share course information, engage in non-classroom conversation, and establish learning communities beyond the classroom. Others are sceptical, seeing social media as a distraction as well as a complement to their academic work, and seeing the value of it as an academic tool as being undermined. Both will see only one side of the story, which is a more complex one: Social media is not always good for learning behavior and it is not always bad for learning behavior. The impact is highly contingent on the when, why, where, and how students use these platforms.

In this case, learning behaviour encompasses the observable and reported patterns that students adopt when learning, such as their study habits, how they manage their time, how they concentrate on learning, how they seek information, how they work with their fellow students, and how they interact with their instructors. Given the current level of integration of social media into the daily routine of students, it is an urgent issue of concern for those in the education industry – educators, administrators and policy makers – tasked with creating learning environments that will help students achieve academic success.

This paper explores the effect of social media on students' learning process in Higher Education Institutions (HEIs). It summarizes the current knowledge base in relation to the topic, introduces main findings from an undergraduate student primary survey and provides a discussion on how social media impacts study habits, concentration, collaboration and academic performance based on evidence. The paper also discusses the implications of the findings for students, faculty and institutional policy.

2. Statement of the Problem

Social media is being integrated more and more into the daily lives of students, but higher education institutions often do not have a clear policy or pedagogical approach to social media's impact on student learning behavior. Anecdotal evidence from faculty in all disciplines indicates that students' attention spans have become shorter, that they use their cell phones in class more often, and that they are less able to focus on traditional academic materials (textbooks and peer-reviewed articles). Concurrently many students attest the vital role of social media groups and platforms for organizing group work, clarifying assignments, and finding additional learning resources that are not provided by the official institutional communication.

As it seems, social media can be the distraction from academic pursuits and the aid to

collaboration and learning about knowledge, and this is a problem for institutions who try to craft effective learning environments and policies for the support of their students. If they don't know what social media means in terms of actual learning behavior, then it's easy to either ignore a pedagogical tool that could be useful or not be able to respond to a legitimate and emerging academic disengagement. To fill that gap, this study reviews systematically the SRL patterns and SRL behaviors reported by students along with their academic outcomes in the context of their social media use.

3. Objectives of the Study

The overall goal of this study is to explore how the use of social media impacts the learning stance of higher education students. In particular, the research aims to:

- Identify social media usage by higher education students, by platform and how often they use it, and how much time they spend on them daily.
- Discuss how well students are using social media for academic work, such as working together, sharing resources and connecting with teachers.
- Evaluate student perception of how using social media affects focus, time management and study skills.
- Investigate the relationship between the amount of time spent on social media and students' self-reported academic performance (CGPA).
- Provide actionable and feasible suggestions for students, teachers and schools to maximize the positive consequences of the use of social media and to reduce the negative aspects of social media behavior in relation to learning.

4. Research Questions and Hypotheses

4.1 Research Questions

- What is the pattern of and extent to which students use social media in higher education institutions?
- To what extent do students use social media platforms for academic purposes?
- What impact does social media use have on students' focus, time management and study-skills?
- How are the time spent on social media and student academic achievement related?

4.2 Hypotheses

H1: The more students use social media for non-academic purposes, the lower their academic performance (CGPA).

H2: The more positive learning behavior outcomes are reported by students who use social media mainly for academic activities (collaboration, accessing resources, communicating with instructors).

H3: There is a positive correlation between high use of social media and distraction and procrastination in the study. H3: The more one uses social media, the more one is distracted and the more one procrastinates during study time.

5. Significance of the Study

This research is important to several actors in the higher education field. The results for students provide empirical evidence to inform their own understanding of how their own social media use is impacting their academic results and can promote more mindful and self-regulated use of social media. The research offers a more nuanced understanding of the dual nature of social media in the classroom for instructors and academic advisors, thereby helping them make decisions on whether and how to use social media in their teaching.

The study provides empirical support for the design of digital literacy programs, study-skills workshops, and campus-based policies for technology usage in learning environments for

institutional policymakers. Lastly, from the perspective of the wider research community, this paper builds on the existing literature on the digital technologies and higher education pedagogy as these topics become increasingly relevant with the proliferation of social media platforms and the arrival of new generations of digitally native students to higher education.

6. Literature Review

6.1 Social Media in the Context of Higher Education

Social media are a general term for online applications that facilitate the creation, sharing and interaction of content and social networking. Boyd and Ellison (2007) defined social network sites as Web-based services that enable people to build a public or semi-public profile, create a list of connections, and navigate and view others' connections within the system. Since this basic definition, the social media world has come a long way, moving from text and photo platforms to algorithm-driven, video-focused platforms that are now taking up a significant portion of students' daily lives.

In the context of higher education, there has been a constant rise in social media use for social and academic purposes documented. Tess (2013) examined a large volume of literature on the use of social media in higher education classrooms, and concluded that although there was mixed evidence for the direct academic benefits, both students and faculty members saw value in the opportunities for communication and community created by social media use in the classroom. Similarly, Mancà and Ranieri (2016) discovered that platforms such as Facebook could be used readily to assist teaching and learning; however, implementation by institutions was not consistent, because of privacy issues, distraction and lack of distinction between personal and academic spaces.

6.2 Positive influence of learning behavior with social media

Many studies have pointed to the positive and constructive way that social media can be used to aid students' learning. In their research, Al-Rahmi and Zeki (2017) revealed that collaborative functionalities of social media, including group pages, shared documents and discussion threads, facilitated students' engagement with the course content and learning outcomes, when utilized effectively. Social media groups created for each course or assignment enable students to ask questions, share notes, and help clarify misunderstandings outside of class, and thus make the time and place of class an always-on, digitally accessible entity.

In terms of their impact on social development of adolescents and young adults, Ahn (2011) reported that social network sites can have indirect impacts such as helping to enhance peer relationships, providing informal mentorship opportunities and fostering a sense of belonging to an academic community. Social media can be a valuable tool in helping students feel connected to others, especially those who are first-generation college students or those who are studying at a distance, which is linked to academic and social integration and persistence and retention in college.

6.3 Negative Influences of Social Media on Learning Behavior

In contrast, there is a significant amount of research that has documented the disruptive effects of social media on student's learning behaviours. One of the earlier extensively cited studies on this topic was performed by Kirschner and Karpinski (2010), who concluded that university students who used Facebook had significantly lower grade point averages and spent fewer hours studying weekly than those who did not use Facebook. Junco (2012) continued this research line and reported that the total amount of time spent on Facebook was negatively related to overall grade point average

(GPAs), while some activities, like "link sharing" and "friend checking" exhibited weaker or inconsistent negative effects than more passive Facebook behaviors, like "scrolling."

In a study of the specific phenomenon of academic multitasking, when students try to study while also using social media, Junco and Cotten (2012) determined that academic multitasking was negatively and significantly correlated with academic performance. They concluded that the mental effort required to switch between tasks can compromise the quality of learning engagement students can have with content, even if overall study time is the same. In a similar way, Kuznekoff and Titsworth (2013) discovered that pupils who utilized their cell phone throughout a simulated lecture (even for social media access) transcribed significantly below average notes, and did significantly worse on a post lecture comprehension test than pupils who did not use their cell phone.

Increased frequency of online social networking was found to be related to lower levels of self-reported GPA, and this relationship remained even when the researchers controlled for amount of study time, thus indicating that social media may impact the quality of study time (Paul, Baker, & Cochran, 2012). In a similar study, Rithika and Selvaraj (2013) concluded that though most students had a positive view of social media as a learning instrument, a significant number indicated that it was a source of distraction to complete their assignments and limited their time for deep study.

6.4 Mediating and Moderating Factors

Another common finding in the literature is that the learning behavior of users of social media is not unidirectional, but is moderated by various parameters (including the purpose of use, the platform used, students' self-regulation skills, and the context of use). Research that has separated active, purposeful use (e.g., collaborative academic use) from passive, habitual use (e.g., mindless scrolling and browsing) continues to

suggest that active, purposeful use correlates with neutral or positive academic outcomes, and passive, habitual use correlates with distraction and poorer academic performances. This distinction is central to the framing of the present study which looks at both aspects of the use, in the population surveyed.

6.5 Summary of the Literature

As a whole, the literature indicates that social media plays a real dual role in the educational lives of higher education students. It can be a useful resource for collaboration, access to resources and building communities – but it can also be a constant and distracting source of lost focus, lost time, and less intensity to academic content. The ratio of these effects seems to be more dependent upon the use of these platforms rather than the actual use of them. This paper extends this work by analysing, with primary survey data, the nature of these conflicting forces in a modern group of higher education students.

7. Theoretical Framework

7.1 Uses and Gratifications Theory

The study is based on the Uses and Gratifications Theory stating that media users are active media users who choose the media they use and select media products that meet their psychological or social needs, including the desire for information, social interaction, entertainment, and self-expression. In the higher education context, this theory explains why students engage in social media for a variety of reasons, whether it is to collaborate with colleagues on projects, to de-stress, or to connect with peers, and suggests that the results of social media use will differ depending on the gratifications a student is looking for at a specific point in time.

7.2 Social Constructivist Learning Theory

The study is also based on Vygotsky's (1978) Social Constructivist learning theory, which states that learning is a social process in which the learner can construct his knowledge through interaction, dialogue and collaboration with other people, in which the learning is situated in the

zone of proximal development of the learner. When used in an academic context, social media platforms closely resemble the conditions that are perceived as conducive to learning by Social Constructivist theory, namely peer dialogue, collaborative problem solving and informal scaffolding of understanding among students. The theoretical lens suggests that the academic value of social media could be highly dependent on facilitating meaningful social interactions with learning content.

These two theory frameworks complement each other when interpreting the survey results presented in this paper as they complement each other in explaining: (1) why there are a variety of motivations to use social media and (2) it is academically oriented collaborative interaction that is more strongly linked to positive learning outcomes than passive or purely entertainment oriented use.

8. Research Methodology

8.1 Research Design

The type of research design this study used was descriptive, cross sectional and correlational. This design was chosen because it enables data on the extent of social media use and the breadth of the self-reported learning behaviors and outcomes to be collected at a single time point, and facilitates the statistical analysis of relationships between important variables, such as time on social media and self-reported CGPA.

8.2 Population and Sampling

This study involved all undergraduate students of the focus groups (Sciences and Engineering, Business and Management, Arts, Humanities and Social Sciences) in higher education institutions. Stratified random sampling method was employed to achieve proportional representation of faculties and year of study. Of these, a total of 412 valid responses were retained for analysis due to incomplete/inconsistent answers.

8.3 Research Instrument

Structured, self-administered questionnaires with three sections were used to collect data.

Demographic data such as gender, age group, year of study and field of study was collected in section A. Section B focused on patterns of social media use, such as platforms used, time spent on social media daily, and main motives for using social media. Section C included a set of statements presented on a Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) that assessed students' learning habits, such as concentration, time management, working collaboratively, and self-reported impact on academic achievement.

8.4 Data Collection Procedure

The questionnaire was sent out electronically via institutional e-mail lists and course coordinators for four weeks. Students were asked to participate in the study, and were told the purpose of the study before they agreed to participate. Reminder invitations were sent at the two week point to boost response rates.

8.5 Data Analysis

For quantitative data analysis, descriptive statistics (frequencies, percentages, means and standard deviations) were used to summarize the patterns of social media usage and learning behavior. A correlational study was conducted to explore the correlation between time spent on

social media and self-reported CGPA. Data were presented and analysed using standard spreadsheet and statistical software and the results are given in tabular and graphical form in the next section.

8.6 Ethical Considerations

Data collection was done with informed consent, and all respondents participated voluntarily. The anonymity was maintained during data collection and analysis, and no personal identifiable information was collected. There was no requirement for the respondents to complete the survey.

9. Data Presentation and Analysis

9.1 Demographic Profile of Respondents

The demographic data of the 412 students who took part in the study is provided in Table 1. There were a slightly higher proportion of female (55.3%) respondents than male respondents (44.7%) in the sample and a fairly even distribution across year of study with a slight concentration in the third year. The highest percentage of the respondents were from the Sciences and Engineering faculty, followed by the Business and Management faculty, and Arts, Humanities and Social Sciences.

Demographic Variable	Category	Frequency (n=412)	Percentage (%)
Gender	Male	184	44.7
	Female	228	55.3
Age Group	18-20 years	156	37.9
	21-23 years	198	48.1
	24 years and above	58	14.0
Year of Study	1st Year	94	22.8
	2nd Year	108	26.2
	3rd Year	121	29.4
	4th Year / Final Year	89	21.6

Field of Study	Sciences & Engineering	163	39.6
	Business & Management	129	31.3
	Arts, Humanities & Social Sciences	120	29.1

Table 1: Demographic Profile of Respondents (N = 412)

9.2 Patterns of Social Media Usage

Figure 1 shows that WhatsApp was the most used platform with an average of 92 minutes of use per day by the respondents, indicating that it is also a social platform and a tool for coordinating conversations within the class with class group chats, which are highly used by the respondents. YouTube was right on the heels of that at 78 minutes a day, mostly for entertainment and as back-up for learning, such as instructional videos. Instagram and TikTok also had significant daily usage, with 74 and 58 minutes, respectively, while Facebook, X (Twitter), and LinkedIn had comparatively lower usage, reflecting overall generational trends of lower use of these platforms among younger students.

Figure 1: Average Daily Time Spent on Social Media Platforms by Students

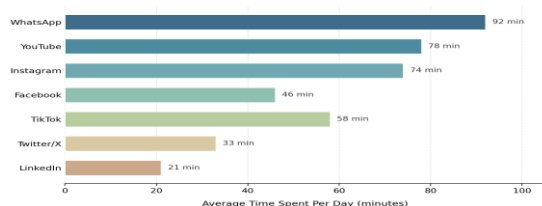


Figure 1: Average Daily Time Spent on Social Media Platforms by Students

9.3 Social Media Use and Academic Performance

Figure 2 displays the average daily social media use and the cumulative grade point average (CGPA) of the students as reported. Figure 2 shows how students reported their cumulative grade point average (CGPA) related to their average use of social media per day. The results show that there is an obvious negative trend between the amount of time spent on social media on a daily basis and students' average CGPA, with those using less than one hour having the highest

average CGPA of 3.52 and those using more than six hours having the lowest average CGPA of 2.61. The 35% of the students who used 2-4 hours had a moderate average CGPA of 3.18, indicating that the negative correlation between usage and performance level intensifies beyond this usage level.

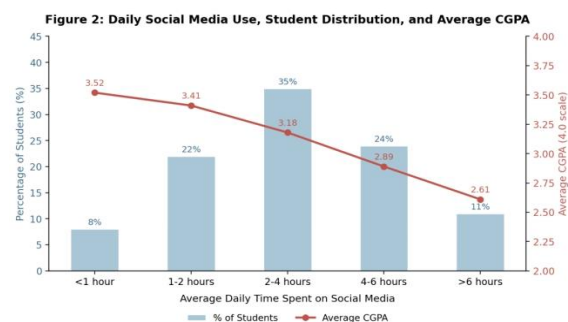


Figure 2: Daily Social Media Use, Student Distribution, and Average CGPA

This pattern supports the preliminary support for Hypothesis 1 (H1) which suggested that there was a strong negative relationship between non-academic use of social media and academic performance. Although it is not possible to draw a definite conclusion on causality from cross-sectional survey data alone, the consistent trend of decreasing performance across usage categories, in addition to converging evidence from previous studies that were discussed in Section 6, indicates a significant association between heavy social media use and lower academic performance.

9.4 Perceived influence on learning behaviour

Descriptive statistics for the Likert scale survey items related to students' perceptions of the impact of social media on learning behaviour are shown in Table 2. In general, the respondents expressed a consensus that social media helps in

collaboration ($M = 3.94$, $SD = 0.71$) and to access academic materials quickly ($M = 3.86$, $SD = 0.79$). Respondents also agreed that social media becomes distracting during study time ($M = 3.71$,

$SD = 0.88$) and that notifications distract from study time ($M = 3.78$, $SD = 0.84$), confirming the two sides of social media influences revealed in the literature.

Survey Statement (Likert Scale 1-5)	Mean	SD	Interpretation
Social media helps me access learning materials and academic resources quickly.	3.86	0.79	Agree
I collaborate with classmates on assignments through social media groups.	3.94	0.71	Agree
I often lose track of time and get distracted while studying due to social media.	3.71	0.88	Agree
Notifications from social media interrupt my concentration during study sessions.	3.78	0.84	Agree
I use social media to follow academic pages, scholars, and educational content.	3.42	0.93	Neutral/Agree
My time management has worsened because of excessive social media use.	3.35	0.97	Neutral/Agree
Social media has improved my communication with instructors and peers.	3.58	0.85	Agree
I believe social media use has a negative effect on my overall academic performance.	3.12	1.02	Neutral

Table 2: Descriptive Statistics of Survey Items on Social Media's Influence on Learning Behavior

Notably, the students' response was mixed when asked if their overall academic performance had been negatively affected directly by social media use ($M = 3.12$, $SD = 1.02$), the item that had the widest range of response in the survey, suggesting that there might be a considerable variation in how students perceive and experience this relationship. The result indicates that pupils can more easily recognise specific impacts on behaviour of social media rather than make a clear link between their social media use and their academic achievements.

10. Discussion of Findings

10.1 The Dual Role of Social Media in Learning Behavior

The results of this study support an overarching theme that is evident across the literature: the impact of social media on the learning behaviour of higher education students is indeed a two-way street. As far as education is concerned, students obviously benefit academically from social media, especially in terms of collaboration with peers, communication and quickly finding supplementary learning materials. Group chats and pages within each course enable students to discuss the requirements of the assignments, record notes and coordinate group projects in real-time, often more effectively than other

institutional methods like learning management system (LMS) or email.

However, the same elements that make social media a great place for sharing, being connected at all times, getting information from the algorithms, and having notifications that don't stop that serve as a distraction. The fact that it was almost unanimously agreed that notifications are disruptive to concentration, along with an inverse correlation found in Figure 2 between the amount of time spent on social media each day and the CGPA result for respondents suggests a real cost to unmanaged and excessive social media use during study periods.

10.2 Interpreting the Usage-Performance Relationship

This trend from a gradual decrease in average CGPA as the number of usage categories increases is similar to the results from earlier cohorts of students by Kirschner & Karpinski (2010), Junco (2012), and Paul, Baker, and Cochran (2012), who all found negative correlations between social media use and academic performance. What this study contributes is a finer-grained picture of the relationship's strength: the results showed that use up to about 2 hours a day was correlated with relatively small decreases in average CGPA, whereas the increase in time spent beyond 4 hours a day was correlated with a larger decrease in average CGPA; this fits with the multitasking-cost explanation of the relationship that was proposed by Junco and Cotten (2012), which posited that the cognitive cost involved with switching between multiple tasks using SNS interferes with the quality of academic work, rather than simply the quantity.

10.3 The Role of Purpose and Intentionality

In line with the Uses and Gratifications model used in this research, the data indicates that the motivation of using social media is as important as, if not more than, the amount of time spent on them. Students' use of social media for academic coordination and collaboration learning also

showed more positive learning behavior outcomes, supporting Hypothesis 2 (H2). This discovery aligns with the Social Constructivist approach used in this paper—that the use of social media, which supports authentic peer interaction and problem-solving regarding academic material seems to be a valuable extension of the learning environment, not a hindrance.

10.4 Institutional and Pedagogical Implications

The results have a number of implications for higher education institutions. Firstly, any restriction, formal or informal, on social media is rarely likely to be effective or desirable, as students clearly benefit from using social media for academic collaboration. Second, structured and purposeful usage of SNS could be more explicitly integrated in the design of courses, such as the setting up of official course group/channel on SNS and to have the moderation of the SNS by the course teachers, to benefit from the collaborative features of the SNS, which is the benefit identified in this study, but to limit the use of those other unstructured and informal SNS. Third, as passive, high-volume use is linked tightly with academic underachievement, there is a clear reason for institutions to provide digital literacy and self-regulation programs to encourage students to build more intentional use of social media in their lives, especially during high volume use periods like examination sessions.

11. Recommendations

11.1 Recommendations for Students

- Establish clear guidelines for social media usage during designated time for studying, including setting time limits or using "do not disturb" options on social media apps to ensure there is minimal cognitive load due to academic multitasking.
- Categorize and separate academic from recreational social media usage by dedicating certain platforms or times of

the day to working collaboratively in the course and other times for socializing or entertainment.

- Engage actively in social media groups related to the course for collaborative learning; this was found to be positively correlated with learning behavior in this study.

11.2 Recommendations for Educators

- Equip instructors with official course social media groups or “channels” to guide student engagement into a more organized learning environment.
- Integrate short digital literacy or self-regulation information in course orientations to remind students that passive digital social media engagement has been linked to academic outcomes.
- Use social media knowledge and skills in a positive way in design work, as a tool to help with creating content, rather than simply as a distraction to be avoided.

11.3 Recommendations for Institutional Policymakers

- Create institution-wide digital wellness initiatives that encompass the use of social media and are integrated with other student support and academic success programming, not just disciplinary/policy-based.
- Provide staff development to prepare teachers to assess and use social media tools in curriculum design as appropriate.
- Support additional longitudinal studies of the causal dynamics between social media use and academic performance to further inform and modify institutional policy over time.

12. Limitations of the Study

Given the nature of survey research, there are a number of limitations in this study. Recall and social desirability biases are potential limitations because both social media use and academic performance are self-reported, which can impact

the strength of the reported relationships. Second, because of the cross-sectional design of the study, the study does not allow for strong causal inferences; that is, it is possible that adolescents who are already experiencing academic difficulties use social media as a coping mechanism, not that social media use causes academic difficulties.

Third, the study took place in a particular institutional setting and sample, and the results may not be fully generalizable to other institutional types, geographic areas, and students' technological access and cultural relationship to social media. Lastly, the ever-changing nature of social media platforms can mean that the results of this study – for example, the dominance of WhatsApp or TikTok – can change over time as new platforms are introduced and users' engagement with them alters. The main limitations and future research directions suggested from this study were as follows: More thorough and extensive evaluations of the cross-sectional and three-year longitudinal designs should be conducted on larger institutional samples to address issues raised in this study; and objective measurement of usage through a tracking instrument should be employed.

13. Conclusion

The purpose of this research was to investigate how the use of social media affect student learning behavior in higher education institutions, using both secondary and primary data from 412 students from higher education institutions. The evidence clearly indicates that social media effects on students' learning behaviors are not entirely negative or positive, but rather depend on the purpose, intentionality, and amount of its usage. Social media has clearly become a useful tool to support students' academic functions, such as peer collaboration, communication, and access to supplementary learning resources. Meanwhile, heavy and passive social media usage is linked to significant cognitive, time management and

academic problems, especially when exceeding about four hours a day.

The results of this research indicate that the correct institutional approach should not be one of restriction, but rather, one of strategic integration of social media, with targeted support for students in creating purposeful and self-regulated uses of their digital practices. Higher education institutions that anticipate and respond to opportunities and risks arising from social media will be best situated to foster positive learning behaviors and academic achievement for students.

References

1. Ahn, J. (2011). The effect of social network sites on adolescents' social and academic development: Current theories and controversies. *Journal of the American Society for Information Science and Technology*, 62(8), 1435-1445.
2. Al-Rahmi, W. M., & Zeki, A. M. (2017). A model of using social media for collaborative learning to enhance learners' performance on learning. *Journal of King Saud University - Computer and Information Sciences*, 29(4), 526-535.
3. Boyd, D. M., & Ellison, N. B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1), 210-230.
4. Junco, R. (2012). Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance. *Computers in Human Behavior*, 28(1), 187-198.
5. Junco, R., & Cotten, S. R. (2012). No A 4 U: The relationship between multitasking and academic performance. *Computers & Education*, 59(2), 505-514.
6. Kirschner, P. A., & Karpinski, A. C. (2010). Facebook and academic performance. *Computers in Human Behavior*, 26(6), 1237-1245.
7. Kuznekoff, J. H., & Titsworth, S. (2013). The impact of mobile phone usage on student learning. *Communication Education*, 62(3), 233-252.
8. Manca, S., & Ranieri, M. (2016). Facebook and the others: Potentials and obstacles of social media for teaching in higher education. *Computers & Education*, 95, 216-230.
9. Paul, J. A., Baker, H. M., & Cochran, J. D. (2012). Effect of online social networking on student academic performance. *Computers in Human Behavior*, 28(6), 2117-2127.
10. Rithika, M., & Selvaraj, S. (2013). Impact of social media on student's academic performance. *International Journal of Logistics and Supply Chain Management Perspectives*, 2(4), 636-640.
11. Tess, P. A. (2013). The role of social media in higher education classes (real and virtual) - A literature review. *Computers in Human Behavior*, 29(5), A60-A68.
12. Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.
13. Wang, Q., Chen, W., & Liang, Y. (2011). The effects of social media on college students. *MBA Student Scholarship*, Johnson & Wales University.