Cracking the Code: Understanding the Mediating Role of Study Habits in the Relationship between Social Media Usage and Academic Achievement

Parshuram Sahoo[1*], Prof. (Dr.) Jyoti Sankar Pradhan[2]

[1]Ph.D. Research Scholar, PG Department of Education, Fakir Mohan University, Odisha, India
sahoo.parshuram3@gmail.com ORCID ID- https://orcid.org/0000-0002-4549-5436
[2]Professor, PG Department of Education, FM University, Odisha, India
pradhanmjs@gmail.com ORCID ID- https://orcid.org/0000-0003-4412-0701
*Corresponding Author

ARTICLE INFO	ABSTRACT
	Students persist in assigning significant importance to the use of social media, and this pattern is anticipated to endure. Most students devote much of their time to social media and prioritize these platforms over their academic obligations. Therefore, it is crucial to analyze the current issues that social media is causing about students' academic performance. The objective of this research was to investigate how study habits influence the relationship between academic performance and social media usage patterns of undergraduate students. By using simple random sampling techniques, 400 undergraduate students were selected from different colleges in Odisha. Structural Equation Modeling (SEM) was used to examine the second –order confirmatory factor analysis and to test the mediating role of study habits in the relationship between social media usage and academic achievement of college students .The tools for data collection include the Study Habit Inventory developed by M. Mukhopadhyay and D.N. Sansanwal and the Social Media Usage Scale standardized by the researcher. The Academic Achievement Scores of the students were collected from the college record which consists of the average SGPA (Semester Grade Point Average) of previous semesters. The data were analyzed using SPSS-AMOS-23. The research findings revealed that social media usage has a negative influence on Study Habits, whereas it has a positive and significant impact on academic performance of undergraduate students. Further the research results demonstrate that study habits mediate the intricate connection between social media usage patterns and academic success. **Keywords:** Social Media Usage, Undergraduate Students, Study Habits, Academic Achievement, Structural Equation Modeling

Introduction

Social networking is becoming a common communication tool for students. Spending a significant portion of one's time on social media is almost a standard behaviour. Social media is one of the most widely used channels or tools for disseminating information. Social media has become an essential instrument for the exchange of ideas and information (Nawiret al., 2024). Social media platforms despite being acknowledged as a valuable educational tool today, research indicates that students mostly use social networking sites to connect with friends or to establish new friends (Ellison et al.,2007) (Olubiyi, 2012). Numerous conclusions were drawn from earlier studies on the impact of social media on students' academic performance. Empirical research indicates that social media can affect students' knowledge sharing in both positive and negative ways. Social media may facilitate students' idea and information sharing, which improves learning and cooperation. A limited body of research has found that excessive usage of social media can lead to distractions and a decrease in face-to-face encounters, which can be harmful to the exchange of knowledge. There is evidence that students use social networking sites extensively and many of them believe that these sites have a negative impact on their academic results (Kimberly et al., 2009). However, there is also evidence that students make use of the educational possibilities these networks offer. Kuppuswamy & Narayan, (2010)

claimed that social networking sites distract students from learning by drawing their attention away from studies and put them involved in pointless chit-chatting. Social media platforms may provide continual disturbances, which might hinder students' ability to concentrate and sustain regular study habits (Mehmood &Taswir, 2013) (Gok, 2015) (Ezeji & Ezeji 2018). The extensive use of social media might potentially have an adverse impact on academic achievement, as students may struggle to allocate enough time and focus to their studies due to the temptation of engaging in social media conversations. On the other hand, it was evaluated by (Liccardi et al., 2007) that students have social connections with one another, which allows them to discuss a variety of issues and share their everyday learning experiences. Studies have shown that certain students who feel alone on social media platforms are not adequately met by academic pursuits (Tinto, 1997). This demonstrates how social media is good for students since it enhances both their academic and learning experiences. Social networking websites make simple for individuals to connect with one another. Once connected, users may share news and educational content in the form of images and videos (Cain et al., 2009). According to (Kabilan et al., 2010), students use social media to acquire proper grammar, sentence structure and writing skills. Social networking sites can help students write and spell more correctly because they provide flexibility in the classroom, encourage original thought, and foster stronger relationships between students and teachers. According to (Giannikas, 2020) most students view Facebook groups favourably as the convenient way to enhance learning management systems.

Almost every aspect of human activity has been touched by social media's expansion. Due to this, one may contend that modern social media platforms have even more potential to enhance learning and the sharing of knowledge between students and teachers. In addition, social media makes it possible for students to collaborate and study from anywhere in the globe without encountering any obstacles (West, 2012). However, advances in technology have been blamed for recent drops in academic attainment. Students' conventional study habits are quickly vanishing as technology advances and becomes more and more common in today's world (Ezema & Ekere, 2009). The authors confirm that students spend more time on social media and lack reading comprehension nowadays. Students' use of social media to meet new people and obtain pertinent information can be directed towards improving their academic performance, but this is dependent on their capacity and readiness to take advantage of the social media related to their studies. A student who is able to use social media in a creative way and make significant progress can also succeed academically if they are able to devote the same amount of attention to their studies (Baldwin et al., 2007).

This study investigates the connection between students' academic achievement (AC), social media usage habits (SMU), and study habits (SH). Its importance comes from illustrating the link between student attitudes towards learning and their usage of social media and their academic achievement.

Literature Review

Social media is a collection of internet-based platforms that enable the exchange of information and cooperation among users (Hughes, 2016). This definition highlights the extensive nature of social media, which comprises a diverse array of online activities that enable virtual communication. These platforms provide students with a digital environment where they may share academic materials and resources (Sivakumar et al., 2023). Deng & Tavares (2013) asserted that social media has become an essential component of contemporary existence, since individuals of all age groups use these platforms for the purpose of exchanging knowledge. Students utilize social media to keep informed and to be in touch with others (Lenhart & Madden, 2007). Majority of students make use of these sites as part of their daily life. This remark highlights the importance of social media in the lives of students. Social media platforms are dynamic spaces where users may engage in conversation and interaction with friends while also gaining knowledge about diverse cultures, ideas, and perspectives from across the globe (Gupta & Bashir, 2018). These websites are incredibly valuable information resources that enable people to pick up new skills, and remain informed (Park, 2015).

Many people have different opinions on whether or not social media usage affects students' academic performance. Research by (Zhao, 2023) suggests that college students who use social media too much run the risk of developing an addiction, which may have a negative impact on their academic performance. Sabah (2023) found that integrating social media into the classroom improves learning, student satisfaction, and performance assessments. Additionally, according to Alneyadi et al. (2023), students' understanding of scientific concepts might be improved by using social media. Social media has developed into a booming platform for entertainment because it offers users a plethora of options to unwind, mingle, and get away from the strains of daily life (AnamIqbal & Iqbal, 2017). By making use of social media's educational potential, we can create accessible and interesting learning environments that help individuals thrive in a world that is becoming more complex and interconnected. According to (Habes, 2018), social media platforms negatively affect students' academic performance.

The fulfillment of educational objectives established by an academic establishment is known as academic accomplishment. An important factor in such success is study habits. Students can attain good academic carrier by developing effective study habits (Bibi et al., 2020). Study habits are the approaches students use to succeed academically. These habits include a broad spectrum of actions and mindsets that influence students in their academic pursuits. Numerous researches demonstrate that study practices affect academic

performance (Jafari et al., 2019). According to Paul et al. (2012), social media networking sites have a significant adverse effect on students' academic achievement. Furthermore, a negative correlation was shown between students' academic achievement and the amount of time they spend on social media. Tuan (Tuan, 2021) confirmed that social networking site use by students has a detrimental effect on their social connections and study habits. Academic achievement of students is essential to the teaching and learning process. Using social media is meant to improve the way students learn and enable them to achieve greater success in their educational endeavours. In order for students to succeed at any level of education, they must understand the connection between outstanding study habits and academic performance (De Escobar, 2009). Study habits, in the words of (Nneji, 2002), represent educational inclinations that allow the students to engage in learning process independently. Study habits, according to (Azikwe, 1998), are the ways in which students schedule their own reading outside of class to gain mastery of a specific subject. According to (Crede & Kuncel, 2008), it is defined as the frequency with which students perform useful tasks related to their studies in a context that is suitable for learning. The study conducted by (Wang, 2011) finds a negative correlation between academic achievement and social media use among college students. It was observed that two-thirds of the students use social media for study purposes in the classroom. Students' performance, study habits, and reading habits are all negatively impacted by SMU. Students' YouTube usage improves their digital skills and provides them with additional learning opportunities (Sherer & Shea, 2011). Other social networking sites can help students in the classroom. Students use them to progress their academic and technological skills and to solve difficulties.

Several studies have examined the correlation between undergraduate students' use of social media and their academic performance. While some research points to a negative correlation, that using social media excessively might interfere with academic pursuits—other studies highlight the nuanced nature of this relationship, taking into account usage patterns and individual characteristics. However, a few studies were found that looked at how students' study habits affected the relationship between SMU and AC. Consequently, the research model is proposed to examine the mediating effect of SH on the relationship between SMU and AC of undergraduate students of Odisha. Understanding the relationship between AC, SMU patterns, and SH is essential to creating a learning environment that supports students' success. By carefully addressing these factors, we can help students make the best use of most of social media while maintaining their focus, calmness and academic integrity. Thus, this research intended to investigate the connection between students' academic achievement (AC), social media usage habits (SMU), and study habits (SH). Based on the review of related literature the study makes the hypothesis that Study Habits (SH) mediates the link between Social Media Usage (SMU) and Academic achievement (AC).

Methodology

The study is conducted on undergraduate students of Odisha. So the population size is limited to 200394 undergraduates enrolled in different colleges of Odisha. The sample consists of 400 undergraduate students from Arts, Science and Commerce background selected through simple random sampling from different colleges of Odisha. The study made use of three different instruments. The first one is the SMU survey instrument, which was created based on previous research conducted by (Khan et al., 2022) and (Gupta & Bashir 2018). The original survey questionnaire includes 29 items; however, one item was further removed due to its poor alpha value. As a result, the survey instrument includes 28 items that were divided into many categories to evaluate SMU. This scale aims to collect data from undergraduate students about their attitudes and emotions towards the use of social media. The questions for the scale were formulated based on data obtained from informal discussions with parents, teachers, and students. After gaining a comprehensive understanding of social media, the researcher compiled a set of components that aligned with the goals of the investigation. The researchers followed the recommendations of (Bentler & Chou, 1987) for SEM and (Hair et al., 2010) for a sample size of over 100 for factor analysis. The reliability and validity of the scale is tested in subsequent phases of the study.

In this study, undergraduate students' SH is the second survey instrument, and it is assessed through the scale of the "Study Habit Inventory (SHI), developed by Mukhapadhyaya, M., and Sansanwal, D. N., and published by the National Psychological Association, Agra 2011. The scale consists of 70 items reflecting the dimensions such as Comprehension, Concentration, Task Orientation, Study set, Interaction, Drilling, Sports, Recording and Language. This scale offers a methodical assessment of students' study-related attitudes, practices, and routines. The third one is Academic Achievement (AC). The average of a student's grades throughout all previous semesters has been used to evaluate their academic achievement. Initially, the researcher reached out to the principals of the institutions, providing a detailed explanation of the objective of visiting and requesting permission to carry out the study. At this point, the researcher obtained the entire collection of student data, including their academic results. The researchers further sought permission to gather data about their social media usage pattern and study habits. Each student was provided with a thorough information booklet that detailed the goal of the study and covered every element of their involvement. The questionnaire abstained from collecting any sensitive personal information that was unrelated to the research. The study protocol underwent a comprehensive examination and obtained written consent from the participants, ensuring that the research complied with all ethical considerations.

The researcher then distributed finalized questionnaire amongst 500 undergraduate students selected randomly from five different colleges in Odisha. The students were asked to respond to a structured questionnaire on a Likert scale of 1 (strongly disagree) to 5 (strongly in agreement). Only 400 questionnaires were considered valid for final analysis after screening. The information gathered from students was then analyzed by using second order CFA using Structural equation modeling (SEM).

The study continues by examining the second order Confirmative Factor Analysis (CFA) by using Structural equation modeling (SEM) in an effort to identify SMU scales. SEM is a statistical technique that is extensively used in the social and behavioural sciences for the assessment of multivariate causal linkages. Researchers use Second Order CFA to validate that the conceptual construct in a study is loaded onto a precise number of underlying sub-constructs. The next step involves utilizing SPSS-AMOS-23 to investigate the mediation impact of SH on SMU and AC connection.

Results and Discussion

The analysis was done in two phases. The first phase performs second-order CFA. Mediation analysis is performed in the second phase by using AMOS 23.0.

Reliability and Validity

Cronbach's alpha is used to assess the scale's reliability. All Alpha values exceed 0.70 thresholds, indicating a robust level of reliability for the scale employed in the analysis (Nunnally & Bernstein, 1994). "Composite reliability (CR)" and "Average Variance Extracted (AVE)" are used to establish convergent validity (table -1). According to (Hair et al., 2006), the obtained data set confirm the validity test if CR > 0.7, CR > AVE, and AVE > 0.5. For every construct, the computed values of CR and AVE satisfy the minimal condition for data reliability.

Table No-1: Reliability and Validity

Construct		Construct	Estimate	AVE	CR	Alpha
ED1	<---	ED	0.917			
ED2	<---	ED	0.833			
ED3	<---	ED	0.937			
ED4	<---	ED	0.778			
ED5	<---	ED	0.803			
ED6	<---	ED	0.898	0.89	0.95	0.941
SO9	<---	SO	0.617			
SO8	<---	SO	0.709			
SO7	<---	SO	0.725			
SO6	<---	SO	0.725			
SO5	<---	SO	0.758			
SO4	<---	SO	0.799			
SO3	<---	SO	0.817			
SO2	<---	SO	0.752			
SO1	<---	SO	0.76	0.7	0.94	0.923
IN1	<---	IN	0.663			
IN2	<---	IN	0.727			
IN3	<---	IN	0.65			
IN4	<---	IN	0.708			
IN5	<---	IN	0.683			
IN6	<---	IN	0.84			
IN7	<---	IN	0.798	0.74	0.91	0.886
EN1	<---	EN	0.672			
EN2	<---	EN	0.696			
EN3	<---	EN	0.736			
EN4	<---	EN	0.73			
EN5	<---	EN	0.721			
EN6	<---	EN	0.79	0.63	0.88	0.873

Source: Calculated by the researcher

Discriminant Validity

The sample data confirms discriminant validity (Table No-2) as √AVE > Correlation coefficients between different constructs.

Table No-2: Factor Correlation Matrix

	√AVE	Socialization	Education	Informative	Entertainment
Socialization	0.83	1	0.309	0.743	0.786
Education	0.94		1	0.225	0.181
Informative	0.86			1	0.675
Entertainment	0.79				1

Source:Calculated by the researcher

Fit Index of second order CFA

The second order Confirmatory Factor Analysis (CFA) shows model fit indices: (Chi-square Minimum) CMIN /df = 2.565, Tucker–Lewis Index (TLI) = 0.918, Comparative Fit Index (CFI) = 0.925 (Bentler & Bonett, 1980), (Hu & Bentler, 1999) and Root Mean Square Error of Approximation (RMSEA) = 0.061 (Byrne, 2009). The results demonstrate acceptable model fit indices.

Table No-3: Direct effect

Construct		Construct	Estimate	P
ED	<---	SMU	.481	.000
EN	<---	SMU	.820	.000
SO	<---	SMU	.931	.000
IN	<---	SMU	.801	.000
AC	<---	SMU	.172	.003

Source: Calculated by the researcher

The findings of the second-order CFA of SMU are displayed in Table 3, which demonstrates the substantial influence of SMU on each of the four sub-constructs: "Education"; "Entertainment", "Socialisation" and "Information". As a result, four dimensions of SMU have been found by using second-order CFA: "Socialisation"(SO); "Information" (IN); "Education" (ED) and "Entertainment"(EN))"(Figure-1.Path diagram of second order CFA). The results are consistent with the studies conducted by (Kio, 2016). Table 3 indicates that the path co-efficient of SMU to AC (β = .172, p < .05) is statistically significant. Then SH is introduced as a mediator in the model.
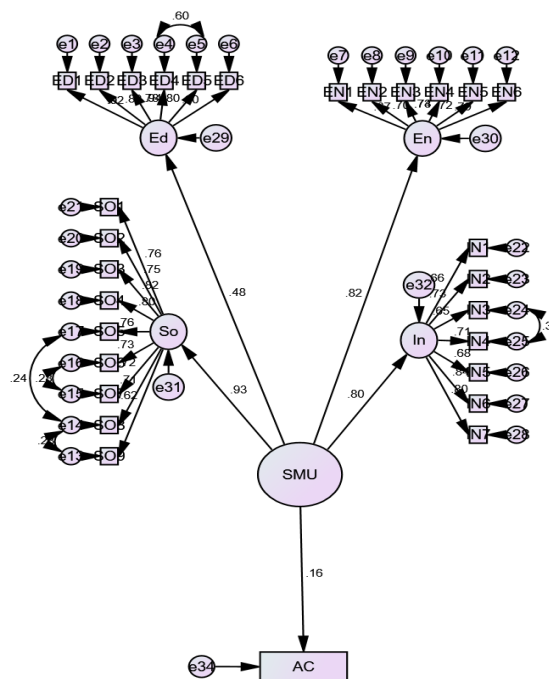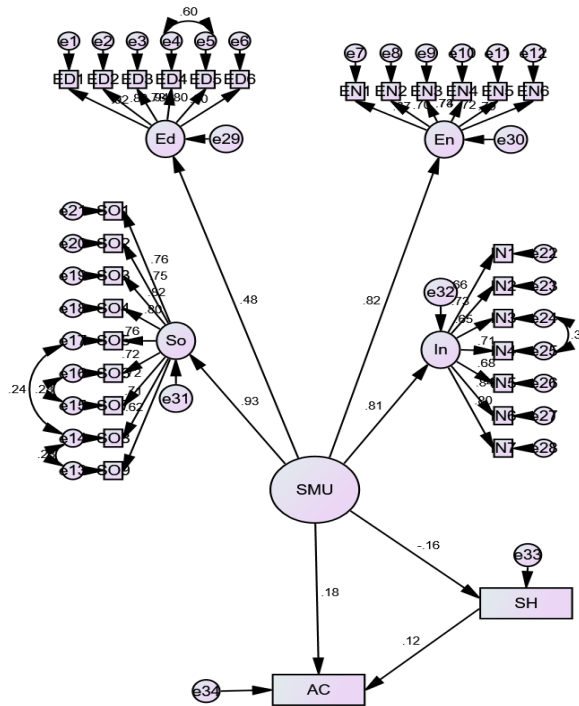

Fig no-1: Path diagram of second order CFA

Fig no-2: Path diagram of mediation link of Study Habits(SH) between Social Media Usage(SMU) and Academic Achievement(AC)

Fit Index of the model
The model fit indices: CMIN /df = 2.492, TLI= 0.916, CFI= 0.923 and RMSEA = 0.061 demonstrate acceptable model fit indices.

Table No-4: Mediating Effect of SH on SMU-AC link

Construct		Construct	Estimate	P
SH	<---	SMU	-3.609	.004
AC	<---	SH	.006	.013
AC	<---	SMU	.193	.000

Source: Calculated by the researcher

This study looks at the direct impact of SMU on AC before testing the mediation role of SMU. Table 4 indicates that the impact of SMU on AC (β = 0.193, t = 3.346, p < .05) is statistically significant after the introduction of the mediator. It is clear that there is a direct and significant relationship between SMU and AC. But, SMU and SH are significantly and inversely related (β = -3.609, p < .05). The path co-efficient of SH to AC is (β =0.006, p < .05) is positive and significant. As depicted in in (Figure 2. Path diagram of mediation link of SH between SMU and AC) the path became significant and the path co-efficient's size increased (as SMU and SH are inversely related) once SH is included as a mediator in the model, indicating that the mediation shown in the study is partial mediation. It is interpreted that AC rises when SMU rises, but SH also mediates the link. The proposed hypothesis, that SH mediates the link between SMU and AC is validated and supported. As SMU has negative impact on SH, higher SMU results in lower SH. Similarly, SH has positive impact on AC, higher SH also results in higher AC. The study reveals significant and positive effect of SMU on AC and the result is in line with the studies conducted by (Sabah, 2023) and (Alneyadi et al., 2023) and not supported by (Zhao, 2023) and (Yao & Wang, 2023). The study also identifies significant and negative effect of SMU on SH which is in line with the studies conducted by (Ezeji & Ezeji, 2018). The study highlights the mediating effect of SH on the link between SMU and AC, emphasizing the need of early assistance and intervention to improve students' educational achievement (supported by Nagaraju et al., 2024).

Conclusion

Social media platforms have completely changed modern life and have a significant impact on different areas, including education. Social media platforms are the best resources for encouraging communication. These platforms certainly have some drawbacks, particularly in light of the possible effects they may have on

academic achievement. Social networking sites try to draw people in with their interactive features. Consequently, excessive time spent on social media might decrease study time. Furthermore, the addictive nature of social media may make it difficult for students to focus during study sessions. Social media may also make it intricate to establish effective study routines and achieve academic success. Social media, when utilized appropriately, may be an effective learning tool. Furthermore, social media channels that are carefully included in students' study routines may boost their academic performance. Thus, SHs play an important role in regulating the complicated and multifaceted association between SMU and AC. Setting clear objectives, making well-structured timetables and fostering self-control are all examples of excellent study practices that may help to reduce the detrimental effects of SMU on AC. To effectively tackle the issue of study habits serving as a mediator between SMU and students' AC, it is essential to focus on improving students' study habits and closely monitoring their use of social media. Students should set out distinct time blocks for studying and social media use in order to efficiently manage their time. Providing students with efficient study strategies and creating an ideal learning environment are of utmost importance. Students may benefit from knowing the detrimental consequences of excessive social media use on academic success. Encouraging positive online behaviours may enhance students' educational experience. An environment that fosters knowledge and encourages cooperation among peers may improve academic performance, learning abilities, and help manage social media use. Undergraduate students may get assistance from teachers in cultivating these habits and securely navigating the digital environment. With the growing dependence of students on social media, academic institutions need to implement new policies to guarantee the safety of students.

The results underscore the need for educational stakeholders to develop initiatives that promote favourable study habits. Effectively managing social media usage is critical for boosting students' academic success. The research enhances comprehension of the intricate interaction of social media use (SMU), study habits (SH), and academic performance (AC). It provides practical applications for enhancing educational results. The influence of SHs on the relationship between SMU and AC exemplifies the potential to improve students' educational attainment. Students who use social media in an appropriate way may enhance their overall academic performance by mitigating the negative consequences of uncontrolled social media usage on their study habits. Educators may use digital technologies to support undergraduate students in cultivating effective study habits. Online platforms provide the opportunity for personalised learning and skill development, which encourages a comprehensive approach to academic success. The research offers significant perspectives for educators and parents. These observations may assist in developing initiatives that encourage efficient study practices. It is crucial to effectively regulate the use of social media among students. Stakeholders can design focused tactics by understanding the mediating function of study habits. These strategies will enhance students' academic achievement in the era of digital technology.

Considering the pragmatic significance of this work, it is imperative to acknowledge its limitations and provide resources for further investigations. The study's limited and constrained sample size may have reduced the overall scope of its results. The research may be prone to response bias due to the possibility of students providing socially desirable replies, particularly when answering questions about their SMU and SH. To mitigate answer bias, the survey was deliberately designed to ensure confidentiality. Students were motivated to provide truthful responses as they were guaranteed that their answers would remain confidential. Furthermore, the questions were developed in an impartial way to avoid biasing participants towards certain answers. In order to address the issue of sample bias, the researchers have used random sampling. This strategy facilitates the formation of a representative sample that accurately reflects the whole population and mitigates the potential for sampling bias. Various variables, such as socioeconomic status and societal customs, might impact the connection between SMU, SHs, and AC. An analysis of the mediating effects of SHs on various demographic factors in Odisha might assist in identifying disparities and implementing specific interventions.

Conflict of Interest
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.
Authors Contribution
All the authors have equally contributed for writing introduction, review, methods, data collection, data analysis and interpretation of results.
Ethical Approval
This study follows ethical guidelines for conducting research in social sciences. Informed consents have been obtained from all the participants for collection of data.

Data Availability Statement
The data that support the findings of this study are available on reasonable request from the corresponding author.

Abbreviations
SMU-Social Media Usage, SH- Study Habits, AC-Academic Achievement, ED-Education, SO-Socialisation, IN-Information, EN-Entertainment, AVE-Average Variance Extracted, CR-Composite Reliability

References

1. Alneyadi, S., Wardat, Y., Alshannag, Q., Abu-Al-Aish, A. (2023). The effect of using smart e-learning app on the academic achievement of eighth-grade students. EURASIA Journal of Mathematics, Science and Technology Education, 2023, 19(4), em2248 https://doi.org/10.29333/ejmste/13067
2. AnamIqbal, A. A., Iqbal, K. (2017). Factor analysis of effects of social media on youth: A case study of university of Sargodha, *Academic Research Internationa* , 8(3), 22-31. Retrieved from https://www.researchgate.net/publication/320042377_FACTOR_ANALYSIS_OF_EFFECTS_OF_SOCIAL_MEDIA_ON_YOUTH_A_CASE_STUDY_OF_UNIVERSITY_OF_SARGODHA
3. Azikwe, U (1998). Study Approaches of University Students. World Council of Curriculum and Instruction (WCCI), Region II Forum, 2:106-114.
4. Baldwin, T.T., Bedell, M. D., Johnson, J.L., (2007). The social fabric of a team- based M.B.A. program: network effects on student satisfaction and performance, *Academy of Management Journal*, 40(6), 50-60. https://doi.org/10.5465/257037
5. Bibi, A., Naseer, N., Habib, Z. (2020). Study Habits of Students and Academic Achievement: A Correlational Study. Global Educational Studies Review, V (III), 114– 122. https://doi.org/10.31703/gesr.2020(v-iii).12
6. Bentler, P. M., Chou, C. P. (1987) Practical issues in structural modeling. Sociological Methods & Research, 16, 78.
7. Bentler, P. M., Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin, 88(3)*, 588-606 https://psycnet.apa.org/doi/10.1037/0033-2909.88.3.588
8. Byrne, B. M. (2009). Structural equation modeling with AMOS: Basic concepts, applications, and programming.
9. Cain, J., Scott, D. R., Akers, P. (2009). Pharmacy students' Facebook activity and opinions regarding accountability and e-professionalism. *American Journal of Pharmaceutical Education*, 73(6), Article: 104. https://doi.org/10.5688%2Faj7306104
10. Crede, M., Kuncel, N. R (2008) . Study Habits, Skills and Attitudes: The Third Pillar Supporting Collegiate Academic Performance. Perspectives on Psychol. Sci. 3(6): 425-453.
11. De Escobar, V.M. (2009). Good Study Habits and Academic Achievement walk Hand in Hand. Retrieved from: http://EzineArticles.com/expert/Venonica M._De_Escobar/11678
12. Deng, L., Tavares, N. (2013). From Moodle to Facebook: Exploring students' motivation and experiences in online communities. Computers & Education, 68,167–176. Retrieved from http://www.journals.elsevier.com/computers-and-education/
13. Ellison, N.B., Steinfield, C., Lampe, C. (2007). The Benefits of Facebook "Friends": Social Capital and College Students Use of Online Social Network Sites. *Journal of Computer-Mediated Communication,* 12, 1143-1168. http://dx.doi.org/10.1111/j.1083-6101.2007.00367.x
14. Ezeji, P. O., Ezeji, K. E. (2018). Effect of social media on the study habits of students of Alvan Ikoku Federal College of Education, Owerri. *International Journal of Educational and Pedagogical Sciences*, *12*(1), 220-224.
15. Ezema. I.J., Ekere, J.N., (2009). The teacher librarian and promotion of reading culture among Nigerian children, The Nigerian Library Link. Available at : http://www.scribd.com/doc/14069352/Teacher-Librarian
16. Giannikas, C. (2020). Facebook in tertiary education: The impact of social media in e-Learning, *Journal of University Teaching & Learning Practice*, 17(1), 2020. Available at: https://ro.uow.edu.au/jutlp/vol17/iss1/3
17. Gok, T. (2015) The Effects of Social Networking sites on Students' Studying and Habits. *International journal of Research in Education and Science*, 2(1), 85-93. http://dx.doi.org/10.21890/ijres.10682
18. Gupta S., Bashir L. (2018). Social networking usage questionnaire: development and validation in an Indian higher education context. *Turk. Online J. Dist. Educ.* 2018; 19(4):214–227. doi: 10.17718/tojde.471918
19. Habes, M., Alghizzawi, M., Khalaf, R., Salloum, S. A., Ghani, M. A. (2018). The relationship between social media and academic performance: Facebook perspective. *Int. J. Inf. Technol. Lang. Stud*, *2*(1), 12-18.
20. Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., Tatham, R.L. (2010) Multivariate Data Analysis. 7th Edition, Prentice Hall, Upper Saddle River

21. Hair, J., Tatham, R., Anderson, R., Black, W. (2006). Multivariate data analysis. *Englewood:Prentice Hall International*, 1-758.
22. Hu, L.-t., Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*, 1-55. https://doi.org/10.1080/10705519909540118
23. Hughes, M. E. (2016). Entrepreneurship in a Web 2.0 World: Factors influencing Intentions to Adopt Web 2.0 Social Media in US Entrepreneurial Activities. State University of New York at Albany
24. Jafari, H., Aghaei, A., Khatony, A. (2019). Relationship Between Study Habits And Academic Achievement In Students Of Medical Sciences In Kermanshah-Iran. *Advances In Medical Education And Practice*, 2019(10), 637–643. https://doi.org/10.2147/AMEP.S208874
25. Kabilan, M., Ahmad, N. & Jafre, M.,(2010). Facebook: An online environment for learning of English in institutions of higher Education?, *The Internet and Higher Education*, 13(4), 179-187 https://doi.org/10.1016/j.iheduc.2010.07.003
26. Khan, N. A., Azhar, M., Rahman, M. N., Akhtar, M. J. (2022). Scale development and validation for usage of social networking sites during COVID-19. *Technology in society*, *70*, 102020. https://doi.org/10.1016/j.techsoc.2022.102020
27. Kimberly, B., Charles, A. B., Nicole, A. C., Sittie, N. D., Gemeile, A .L., Ikka, U.T.(2009). Social networking sites affect one's academic performance adversely. Retrieved from http://www.scribd.com/doc/28919575/SOCIALNETWORKING-SITES-2009
28. Kio, S. I. (2016). Extending social networking into the secondary education sector. *British Journal of Educational Technology*, *47*(4), 721-733.
29. Kuppuswamy, S., Narayan, P. (2010). The Impact of Social Networking Websites on the Education of Youth. *International Journal of Virtual Communities and Social Networking* (IJVCSN), 2(1), 67-79. DOI: 10.4018/jvcsn.2010010105
30. Lenhart, A., Madden, M. (2007). Teens, Privacy & online social networks: How teens manage their online identities and personal information in the age of My Space. Washington, DC https://cir.nii.ac.jp/all?q=http://www.pewinternet.org/PPF/r/211/report_display.asp
31. Liccardi, I., Ounnas, A., Pau, R., Massey, E., Kinnunen, P.Lewthwaite, S., Midy, A., Sakar, C. (2007). The role of social networks in students' learning experiences. *ACM SIGCSE Bull,* 39(4), 224-237 https://doi.org/10.1145/1345375.1345442
32. Mehmood, S., Taswir, T., (2013). The effects of social networking sites on the academic performance of students in college of applied sciences, *International Journal of Arts and Commerce*. 2(1), 111-125, 2013. CorpusID:111423218
33. Nagaraju, E., Syed, M. G., House, Lavanya, K. T., Krishna, K. R (2024). Social media usage patterns and academic performance of management graduates: a mediating role of study habits, *Journal of Tianjin University Science and Technology*, 57(2), 276-284.DOI: 10.5281/zenodo.10650039
34. Nawir, R. H., Herman, A., Bo'do, S. (2024). Palu Mayor's Public Communication Through Instagram Social Media Account@ Hadiantorasyid. *International Journal of Education Humanities and Social Science,7*(1), 118 – 133 https://doi.org/10.54922/IJEHSS.2024.0641
35. Nneji, L. (2002). Study Habits of Nigerian University Students in Quality Conservations. Proceedings of the 25th HERDSA Annual Conference, Perth, Western Australia, 7-10 July, 2002: PP: 490/ Available at http//www.herdsa-org.n/wp-content =/uploads/conference/2002/paper/Nneji.pdf.
36. Nunnally, J. C., Bernstein, I. H. (1994). Psychometric theory. *Journal of Psycho educational Assessment, 17*, 275-280
37. Olubiyi, S.(2012),social media and Nigeria Youth burden. http://bluepringng.com/2012/12/social-media-and-nigerian-youth-burden
38. Park, C. S. (2015). Pathways to Expressive and Collective Participation: Usage Patterns, Political Efficacy, and Political Participation in Social Networking Sites. *Journal of Broadcasting & Electronic Media,* 59(4), 698-716 https://doi.org/10.1080/08838151.2015.1093480
39. 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.
40. Sabah, N. M. (2023). The impact of social media-based collaborative learning environments on students' use outcomes in higher education. *International Journal of Human–Computer Interaction*, *39*(3), 667-689.
41. Sherer, P., Shea, T. (2011). Using Online Video to Support Student Teaching and Engagement. *College Teaching*, 59 (2), 56 https://doi.org/10.1080/87567555.2010.511313
42. Sivakumar, A., Jayasingh, S., Shaik, S. (2023). Social media influence on students' knowledge sharing and learning: An empirical study. *Education Sciences*, *13*(7), 745. https://doi.org/10.3390/educsci13070745
43. Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *Journal of Higher Education*, 68(6), 599 – 623. https://doi.org/10.1080/00221546.1997.11779003
44. Tuan, V. V. (2021). The impact of social networking sites on study habits and interpersonal relationships among Vietnamese students. *Tuan, VV (2021). The Impact of Social Networking Sites on Study Habits*

and Interpersonal Relationships among Vietnamese Students. Journal of Language and Education, *7*(1), 206-218.

45. Wang, Q., Chen, W., Liang, Y (2011). The Effects of Social Media On College Students. MBA Student Scholarship. Retrieved from http://scholarsarchive.jwu.edu/mba-student/s

46. West D.M. (2012). How blogs, social media and video games improve education, Governance studies: The brooking institution, Washington

47. Yao, N., Wang, Q. (2023). Technostress from smartphone use and its impact on university students' sleep quality and academic performance. *The Asia-Pacific Education Researcher, 32*(3), 317-326 https://doi.org/10.1007/s40299-022-00654-5

48. Zhao, L. (2023). Social media addiction and its impact on college students' academic performance: The mediating role of stress. *The Asia-Pacific Education Researcher, 32*(1), 81-90. https://doi.org/10.1007/s40299-021-00635-0