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### **Strategies to prevent Students academics crimes through Cybersecurity**

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#### **ABSTRACT**

In the present era, media greatly influences people's lives and has overcome their thoughts and perceptions with its contents. Along with its positive use rise of social media crimes amongst the students of universities is a big issue these days that demands instant attention. By recognizing the contributing issues and applying broad level cybersecurity actions, educational institutes can create a safe digital atmosphere for students. Nowadays social media has set off a vital segment of our daily lives and every person especially university students is depending on social media sites for the sake of information. In this study "Relationship between Social Media Usage on the Academic Performance of the Students," the main focus is to know how frequently and which type of media content is being used by university students and how it influences their academic performance. Whether their GPA and CGPA have improved or reduced. The quantitative survey method was used to collect the data and a systematic sampling technique was used for the selection of correspondents. The frequency distribution regarding the statement, "Excessive usage of social media affects the academic performance of university students". 12.0% of respondents strongly agreed, 44.7% of students agreed, 26.7% of respondents neutral, 14.3% disagreed, and 2.3% strongly disagreed with the statement. The frequency distribution regarding the statement, "Social

media sites detract the university students from academic goals”, 18.7% of respondents strongly agreed, 44.7% agreed, 25.7% neutral, 8.7% disagreed, and 2.3% respondents are strongly agreed. However, collaborative efforts between universities, students, and cybersecurity professionals is essential in fighting the rising threat of social/digital media crimes and warranting the protection and comfort of student community. There is a dire need to emphasize cybersecurity education, developing a culture of cognizance and attentiveness adopting modern technologies to mitigate the risks related to negative use of social media.

**Keywords:** Social media, Students, Academic performance, cybersecurity, Influence

## **1. INTRODUCTION**

In the present era, media greatly influences people's lives and has overcome their thoughts and perceptions with its contents. The media has been efficacious in attaining people's attention and fulfilling needs. The invention of the World Wide Web (www) has changed the transmitting data method. Since the launch of social media, these sites have grabbed the attention of millions of users who have become regular users of social networking sites [1;5]. Education is very important for every person far more than anything else but in the present era, youngsters are showing their interest in the usage of social media than their academic activities that cause to badly affect their academic performance. It is admitted that social media has brought people closer and provides a forum for information and discussions. On the other hand, after the arrival of cell phones and other ICT gadgets in the market, the usage of social media sites has increased in a dramatic way. Due to easy internet access, the learners are connected to these sites for 24 hours and consume most of their time messaging, images, video sharing, and watching and commenting. They use it during

lectures and miss the most important points of a topic that is under discussion in the classroom and face difficulties to cover this gap later on causing pendency of their assignments and low grades in their academic career. Most of the researchers agreed that students who are continuously connected with SNS during their study time get low grades. Junco [2] emphasizes that the utilization of social media in chatting, comments, video uploading and sharing, and profile uploading during study period badly affect the overall percentage of students and crush their academic abilities as well.

According to Junco [3] mostly those students not paying their attention to the lecture delivered by their teacher, they remain engaged with SNS during class and hence miss their lecture and key points of the instructors and remain unable to perform their best usually falling a victim to low grades poor academic proficiency and career by converting them into poor and average students in their academic performance. Students of the new generation spend a big portion of their precious time on different social media sites during their study time, Due to this trend, university students have become less competitive, lazy, and careless towards their studies.

Social media is becoming an indispensable part of students' life these days putting opportunities as well as challenges [1; 2; 3; 4; 5]. Although it eases collaboration, communication, and access to precious information but excessive use of social media have devastating effect on academic performance of students. [1; 5; 22].

In contrast, Social media invites the learner to attach with other learners which can be most beneficial if they use it for their academic purpose. According to Paul et al. [4] state that the Internet is a well-known and common tool of communication for all its users, especially students. So, educational institutes and faculty members are progressively attached to social media and connecting their capable students to it for sharing their course material. Although Rosen et al. [6] state that the present era is the era of modern technology, students of the modern age are very active and clever. They effectively manage their academic and social activities simultaneously. They continue interacting with their friends, preparing for their exams and class

## **2. METHODOLOGY**

According to the study's nature and need, the quantitative method and survey technique have been chosen to collect the data for analysis. There were 300 hundred students between the age of 18-30, chosen as samples from various universities and disciplines. The questionnaire was used as a data collection tool for the sake of data collection which consisted of close-ended questions. The research sample was divided into different socio-

activities simultaneously as well. Social media invites learners to attach with other learners which can be most beneficial if they use it for academic purposes [1; 5]. But a very rare number of students use this platform to gratify their academic purpose. The motive of this study was to investigate how social media is used by university students and how it affects their academics as well as social life. Whether their GPA and CGPA have improved or reduced due to the total amount of hours per day they consume on utilization of social media. The propagation of digital media has modernized communication amongst universities students. Yet, it has also raised various digital media crimes rate, causing significant dangers to students' well-being, privacy, and security. This study explores the positive and negative effect of increasing social media use amongst universities students, prevalence of social media crimes, factors contributing to digital crimes, and the cybersecurity actions needed to fight these cybercrimes amongst students at university level.

demographic variables such as age, gender, education, family background, time consumption on social media, etc.

**H1.** Excessive usage of social media has a negative impact on the academic performance of university students and badly affects their GPA or CGPA.

**H2.** Excessive usage of social media by university students is cause to decrease their academic proficiency. These hypotheses are supported by the frequency table.

### Analysis of Responses

The results of the statement **Students achieve their academic goals by using social media sites**. Find a significant difference between group 1<sup>st</sup> ( $M= 3.48$ ,  $SD=1.008$ ) and group 2<sup>nd</sup> ( $M= 3.69$ ,  $SD= 0.988$ ),  $t(298) = -1.637$ . The p-value is 0.103. The results of the statement **social media is very effective to be used in today's different learning process** find a significant difference between the two groups of GPA group 1<sup>st</sup> ( $M= 3.83$ ,  $SD=1.02$ ) and 2<sup>nd</sup> ( $M= 3.88$ ,  $SD= 0.874$ ),  $t(298) = -1.850$ . the p-value is 0.065. Results of the statement **Excessive usage of social media affects the academic performance of university students** find a significant difference between the two groups of

GPA group 1<sup>st</sup> ( $M= 3.465$ ,  $SD=0.936$ ) and group 2<sup>nd</sup> ( $M= 3.576$ ,  $SD= 1.016$ ),  $t(298) = -0.906$  the p-value is 0.366. The results of the statement **The usage of social networking sites plays an important role in the preparation of academic assignments** find a significant difference between the two groups of GPA group 1<sup>st</sup> ( $M= 3.637$ ,  $SD=0.890$ ) and 2<sup>nd</sup> ( $M= 3.552$ ,  $SD= 0.957$ ),  $t(298) = -0.723$  the p-value is 0.470. The results of the statement of **the usage of social networks badly affects the academic performance of university students**. find significant differences between the two groups of GPA 1<sup>st</sup> group ( $M= 3.581$ ,  $SD=1.014$ ) and 2<sup>nd</sup> ( $M= 3.458$ ,  $SD= 0.866$ ),  $t(298) = -0.981$  the p-value is 0.

**Table1: Categorization of respondents regarding to the purpose of the usage of SNS**

Purpose	Frequency	percentage
Socialization & making new friends	74	24.7
Entertainment	137	45.7
Collaboration	47	15.7
To enhance knowledge	21	7.0
All of these	21	7.0
<b>Total</b>	<b>300</b>	<b>100.0</b>

**Table 2: Categorization of respondents regarding the statements**

Statement	f/%	SA	A	N	DA	SDA	Mean	St. d
<b>Social media is very effective to be used in today's different learning processes.</b>	f %	24 8.0	24 8.0	102 34.0	68 22.7	06 2.0	3.226 7	.95481
<b>Excessive usage of social media affects the academic performance of university students.</b>	f %	36 12.0	134 44.7	80 26.7	43 14.3	07 2.3	3.496 7	.95902
<b>Social media sites detract university students from academic goals.</b>	f %	56 18.7	134 44.7	77 25.7	26 8.7	07 2.3	3.686 7	.95123
By using social media students feel more creative regarding their studies.	f %	31 10.3	135 45.0	82 27.3	45 15.0	05 2.3	3.460 0	.94766
<b>The usage of social networks badly affects the academic performance of university students.</b>	f %	42 14.0	134 44.7	79 26.3	36 12.0	09 3.0	3.546 7	.97519
<b>The usage of social networking sites plays an important role in the preparation of an academic assignment.</b>	f %	41 13.7	145 48.3	75 25.0	35 11.7	04 1.3	3.613 3	.90916

### **3. DISCUSSION**

The current study observes social media usage and its impacts on students' academic performance. The results of the study are in contrast with earlier research and the present study was held in the district of Faisalabad Pakistan. The outcome of the study is also based on time consumption and the academic percentage of the students. The findings of the present research show that in Pakistan, learners utilize a huge portion of their precious time on social networking sites on daily bases. For the sake of comparison, the opinion of those students who have got a 3.00 to 3.50 GPA and those who have got more than a 3.5 GPA in their semester regarding the statements "Students achieve their academic goals by using social media sites." "Social media is very effective to be used in today's different learning process. However, excessive usage of social media affects the academic performance of university students. Those students who agreed with this statement had got less than a 3.5 GPA. "Social media sites detract the university students from academic goals. Excessive use of social media has reported to significantly weaken the intention of students for academic activities. Researches have shown the poorer academic performance of students who spent more time on social media resultantly less time in study[10]. The continuous spending of time on social platforms has led to postponement of study work and poor time management resulting into badly affecting the grades of students. Social media platforms are continually engage the students by frequent notifications to

stay update thus lead to distracting and interrupting study times preventing effective learning. Research studies indicated that involvement of students in multitasking activities on social media impair the cognitive functions and academic performance bitterly [15]. On the other hand, usage of social networking sites plays an important role in the preparation of academic assignments" Students who belonged to the first group of GPA agreed with the statement. Those students who got more than a 3.5 GPA were in favor of this statement. On the other hand, rising eases of accessing/sharing information on digital/social media has led an increased level of plagiarism issues in academic publications. Students have developed the habit of copy writing contents without proper citation and/or collaborative cheating (sharing chat or answers of exam questions) during exams and assignments [18] violating academic policies [16].

**H1.** Excessive usage of social media has negative impact on the academic performance of university students and badly affects their GPA or CGPA as supported by the frequency table. **H2.** Excessive usage of social media by university students is cause to decrease their academic proficiency. These hypotheses are supported by the frequency table. Although social media also provides access to precious information as well but, the credibility of this information is questionable. Students might rely on inaccurate/misleading sources of information for educational purposes, and such types of information may cause negative impact on their thinking

and academic [12; 30]. Moreover, prolonged use of digital/social media affect mental health of students leading to mental disorders like anxiety, sleep disturbances, and depression which severely affect concentration of students in study [17]. Another negative aspect of usage of social media by students is the way it has made easy for students to hire third party to take exams on their behalf or to complete their assignments [11] weakening the learning process and devalues the academic work.

***Wise usage of social media and Preventing Academic Crimes***

Educating the students the significance of academic integrity and potential losses of academic offenses is very essential to restore learning environment at university level. For this, particular courses, workshops, and seminars on adopting proper citation practices, knowing the risks of plagiarism, and the ethical/honest use of information may boost culture of honesty among students [13; 31]. Institutions must implement policies to monitor/regulate the usage of social platform in academic activities. This include restricting the access to social/digital media sites during lectures in class room and study hours or on universities premises, also implementing hard and tough policies to detect plagiarism through standard software like Turnitin by providing the access of teachers to this software to identify the copied contents of researcher students[8]. Helping the students to develop effective time management skills may lessen the negative influence of social media on

education. Managing time management workshops, teaching techniques like Pomodoro Technique and planning tools can help students to balance the usage of social media and better understanding their academic responsibilities [7]. Likewise provision of vigorous mental health support may address the negative psychological effect of social media. Students must provide counseling services, and stress management workshops for mental well-being and to improve academic performance [9]. Training the students how to critically evaluate the information receiving on social media, knowing credibility of sources, relying on just credible information, and applying the received information to academic work can decrease the possibility of academic offenses [14; 33]. Furthermore, combined engaging and cooperative teaching methods may help to reduce the bad habit of students to distract their attention to inappropriate websites and/or games. This can be achieved by using collaborative learning, educational technologies, and interactive activities, and making classroom times more attractive and important to students [19].

***Excessive use of social media by universities students and rising cybercrimes***

Rising crimes related to excessive use of social media amongst university students involve a range of illegal activities such as identity theft, cyberbullying, hacking, online harassment, and phishing. Cyberbullying has come to be predominantly prevalent, with students

using social media platforms to frighten, threaten, or degrade their fellows [29]. Identity theft is also emergent concern, wherever individual's information is stolen and thereafter misused, often resulting to bitter emotional as well as financial penalties [24]. Hacking incidents, where illegal entree to social/digital media accounts results in data openings and privacy harms [36]. Moreover, phishing schemes (online scam that illegally targets consumers to get his/her personal information using fake famous sources) deceive students into disclosing their personal sensitive information, and virtual harassment cases contributes further to the growing concern of digital media crimes amongst universities students [25;34].

***Factors Contributing to Cyber-Crimes***

Numerous factors contribute in rising the social media crimes amongst universities students. The extensive use of digital media without suitable awareness of cybersecurity rehearses is a key factor (Taneja & Toombs, 2014). Most of the students are ignorant of the dangers related with online personal information sharing, making them easy victim for cybercriminals [27; 28]. The secrecy afforded by digital media also encourages persons to involve in hateful activities with no fear of instant consequences [23]. Moreover, the stressful and competitive environment of university can worsen such issues, as students may resort to harassment or cyberbullying to cope with social and academic pressure). Also, the absence of vigorous cybersecurity education/awareness programs in university further exaggerates this

harmful situation [26].

***Use of social media amongst universities students and Cybersecurity Measures to Combat Social Media Crimes***

Researches have shown the profound effects of social/digital media crimes on mental health of university students experiencing serious psychological effects like anxiety, depression, even suicidal thinking [29]. Identity theft due to cybercrime may lead to monetary losses and extended loss to credit scores, upsetting students' future career [24]. Data breaks and hacking cases can harm students' privacy and loss of trust in university and social platforms [36] as well as deteriorations in academic performance [34]. Besides, the general environment of campus become toxic, upsetting the well-being of the community.

A comprehensive cybersecurity approach needs to be implemented to address the increasing digital crimes amongst universities students. University authorities should highlight cybersecurity education, including it as part of course work to raise consciousness about safe online practices and digital security and hygiene (Taneja & Toombs, 2014). For this, regular seminars and workshops on cybersecurity can prepare students to recognize and avoiding potential threats [26]. Applying strict security protocols i.e. two-factor authentication may enhance the social media accounts security and decrease the risk of identity theft as well as hacking risks [20]. Establishment of clear policies/procedures to report cyberbullying and addressing it is



essential to provide sound support to affected students [23]. Teamwork with experts of cybersecurity can further strengthen the defenses against cybercrimes [14]. Advanced artificial intelligence tools and machine learning algorithms should be used to identify and stop cyber bullying in real-time [35]. Use of advanced technologies can inspect online behavior patterns to identify phishing attempts or cyberbullying thus can alert authorities before occurrence of harms [21]. Encryption technologies (AES, DES, RSA, teofish, triple DES etc.) can protect sensitive data by maintaining privacy [32]. Furthermore, universities should control blockchain technology to generate tamper-proof secure systems to manage student data and IDs [35; 36].

#### **4. CONCLUSION AND RECOMMENDATIONS**

In this research study researcher has explored the impacts of social media usage and its relation to the learners' academic performance. The present study calculates that the majority of the students were male. Numbers of the students of respondents were between the ages of the age of 18 to 24 who used social media. They belonged to the city area of Faisalabad. All the respondents of the study had internet access and all they had social media accounts on different social networking sites and they connected with it on a regular basis. The majority of the students use social media on daily bases. They consume 2-3 hours on social networking sites. Students were uses SNS for different purposes. The prominent factor for which students use

social media is entertainment; very few students use it for the purpose of study and to enhance their knowledge [1; 5].

The present study points out a solution that may help overcome the problem caused by excessive usage of internet-based applications. The management of universities should restrict the students' usage of cell phones, tablets, and laptops during class and punish those who violate this rule. Furthermore, IT departments of universities should block Facebook and other social networking sites on the premises of the university. Students have access only to sites that help them fulfill their academic needs.

#### **REFERENCES**

- [1] F. Iske, "Comparison of social network in education between North and South Cyprus," *Proceedings of Social Behavior Sciences*, vol. 210-219, 2013.
- [2] R. Junco, "Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance," *Computers in Human Behavior*, vol. 28, pp. 187-198, 2012.
- [3] R. Junco, G. Helbergert, and E. Loken, "The effect of Twitter on college student engagement and grades," *Journal of Computer Assisted Learning*, vol. 27, pp. 119-132, 2011.
- [4] J. Paul, H. Baker, and J. Cochran, "Effect of online social networking on student academic performance," *Elsevier*, vol. 1, pp. 2118-2119, 2012.
- [5] F. Iske, "Comparison of social network in education between North and South Cyprus," *Proceedings of Social Behavior Sciences*, vol. 210-219, 2013.

- [6] L. Rosen, L. Carrier, and N. Cheever, "Facebook and texting made me do it: Media induced task-switching while studying," *ELSEVIER*, vol. 948-950; pp. 955, 2013.
- [7] B. J. Claessens, W. van Eerde, C. G. Rutte, and R. A. Roe, "A review of the time management literature," *Personnel Review*, vol. 36, no. 2, pp. 255-276, 2007.
- [8] C. Ellis, I. M. Zucker, and D. M. Randall, "The influence of perceived organizational support on the attitudes of faculty members toward academic dishonesty," *The Journal of Higher Education*, vol. 89, no. 1, pp. 33-60, 2018.
- [9] C. Huang and Y. Zhou, "The effects of different kinds of social media use on college students' emotional well-being," *Journal of Educational Computing Research*, vol. 57, no. 2, pp. 331-345, 2019.
- [10] R. Junco, "Too much face and not enough books: The relationship between multiple indices of Facebook use and academic performance," *Computers in Human Behavior*, vol. 28, no. 1, pp. 187-198, 2012.
- [11] T. Lancaster and R. Clarke, "Contract cheating: The outsourcing of assessed student work," *Handbook of Academic Integrity*, pp. 639-654, 2016.
- [12] S. Livingstone and D. R. Brake, "On the rapid rise of social networking sites: New findings and policy implications," *Children & Society*, vol. 24, no. 1, pp. 75-83, 2010.
- [13] R. Macdonald and J. Carroll, "Plagiarism—a complex issue requiring a holistic institutional approach," *Assessment & Evaluation in Higher Education*, vol. 31, no. 2, pp. 233-245, 2006.
- [14] M. J. Metzger and A. J. Flanagin, "Credibility and trust of information in online environments: The use of cognitive heuristics," *Journal of Pragmatics*, vol. 59, pp. 210-220, 2013.
- [15] L. D. Rosen, "The distracted mind: Ancient brains in a high-tech world," *Psychology Today*, 2013.
- [16] M. Stoner, "Social media in higher education: They said it couldn't be done," *EDUCAUSE Review*, vol. 48, no. 2, pp. 68-69, 2013.
- [17] A. Vannucci, K. M. Flannery, and C. M. Ohannessian, "Social media use and anxiety in emerging adults," *Journal of Affective Disorders*, vol. 207, pp. 163-166, 2017.
- [18] J. Walker, "Measuring plagiarism: Researching what students do, not what they say they do," *Studies in Higher Education*, vol. 35, no. 1, pp. 41-59, 2010.
- [19] M. Prince, "Does active learning work? A review of the research," *Journal of Engineering Education*, vol. 93, no. 3, pp. 223-231, 2004.
- [20] J. Bonneau, C. Herley, P. C. van Oorschot, and F. Stajano, "The quest to replace passwords: A framework for comparative evaluation of web authentication schemes," 2012 IEEE Symposium on Security and Privacy, pp. 553-567, 2012.
- [21] K. Dinakar, R. Reichart, and H. Lieberman, "Modeling the detection of textual cyberbullying," *The Social Mobile Web*, vol. 11, no. 2, pp. 11-17, 2012.
- [22] C. B. Fried, "In-class laptop use and its effects on student learning," *Computers & Education*, vol. 50, no. 3, pp. 906-914, 2008.

- [23] S. Hinduja and J. W. Patchin, "Cyberbullying: An exploratory analysis of factors related to offending and victimization," *Deviant Behavior*, vol. 29, no. 2, pp. 129-156, 2008.
- [24] S. B. Hoar, "Identity theft: The crime of the new millennium," *Hastings LJ*, vol. 52, pp. 583, 2001.
- [25] T. N. Jagatic, N. A. Johnson, M. Jakobsson, and F. Menczer, "Social phishing," *Communications of the ACM*, vol. 50, no. 10, pp. 94-100, 2007.
- [26] L. M. Jones, K. J. Mitchell, and D. Finkelhor, "Online harassment in context: Trends from three Youth Internet Safety Surveys (2000, 2005, 2010)," *Psychology of Violence*, vol. 3, no. 1, pp. 53, 2013.
- [27] A. C. Karpinski, P. A. Kirschner, I. Ozer, J. A. Mellott, and P. Ochwo, "An exploration of social networking site use, multitasking, and academic performance among United States and European university students," *Computers in Human Behavior*, vol. 29, no. 3, pp. 1182-1192, 2013.
- [28] Kaspersky, "Kaspersky Lab Cybersecurity Index: Internet users starting to worry more about privacy," 2016.
- [29] R. M. Kowalski, G. W. Giumetti, A. N. Schroeder, and M. R. Lattanner, "Bullying in the digital age: A critical review and meta-analysis of cyberbullying research among youth," *Psychological Bulletin*, vol. 140, no. 4, pp. 1073, 2014.
- [30] S. Livingstone and E. Helsper, "Parental mediation of children's internet use," *Journal of Broadcasting and Electronic Media*, vol. 52, no. 4, pp. 581-599, 2008.
- [31] R. Macdonald and J. Carroll, "Plagiarism—a complex issue requiring a holistic institutional approach," *Assessment & Evaluation in Higher Education*, vol. 31, no. 2, pp. 233-245, 2006.
- [32] A. J. Menezes, P. C. van Oorschot, and S. A. Vanstone, "Handbook of applied cryptography," CRC Press, 1996.
- [33] M. J. Metzger and A. J. Flanagin, "Credibility and trust of information in online environments: The use of cognitive heuristics," *Journal of Pragmatics*, vol. 59, pp. 210-220, 2013.
- [34] J. W. Patchin and S. Hinduja, "Bullies move beyond the schoolyard: A preliminary look at cyberbullying," *Youth Violence and Juvenile Justice*, vol. 4, no. 2, pp. 148-169, 2006.
- [35] D. Sculley, G. Wachman, and B. Chandramouli, "Detecting adversarial advertisement inserts in social network streams," *Proceedings of the 20th International Conference on World Wide Web*, pp. 277-286, 2011.
- [36] A. Smith, "Older adults and technology use: Adoption is increasing, but many seniors remain isolated from digital life," *Pew Research Center*, 2014.