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Social Media in Academia: Exploring its Influence and Usage Patterns among Undergraduate Students at KMC and UET Peshawar

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Abstract

This study investigates the relationship between students' patterns of social media usage and their academic performance at Khyber Medical College, Peshawar (KMC), and the University of Engineering and Technology, Peshawar (UET). The study spans from February 12th, 2024, to March 14th, 2024. A cross-sectional survey encompassed 291 students enrolled in medical and engineering programs at Khyber Medical College (KMC) and the University of Engineering and Technology (UET) in Peshawar. The participants, comprising both engineering and medical students, completed a questionnaire designed with three components. This survey was used to gathe[1]r demographic data, information on social media usage habits, and academic-related details from the participants. The analysis highlights differences in social media usage patterns between engineering and medical students, affecting their academic performance and lecture involvement. While engineering students utilizing more time on social media for academic purposes show improved proficiency levels, medical students tend to exhibit lower proficiency levels with increased non-academic social media usage. Moreover, medical students not using social media during lectures usually have higher proficiency levels compared to those who do, emphasizing the intricate relationship between social media usage, academic performance, and lecture engagement among students in diverse fields. In conclusion, the study underscores the subtle impact of social media usage on academic performance and lecture engagement among engineering and medical students. It suggests that discipline-specific factors may influence how social media usage relates to proficiency levels, emphasizing the need for tailored interventions to optimize student outcomes in diverse educational settings.

Keywords*: Social media, Engineering students, Medical students, academic performance.*

Introduction

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The popularity of social media has become a big deal in today's world, affecting people in both good and bad ways. In Malaysia, for instance, social media has become a familiar tool for communication among students, driven by the widespread availability of smartphones and gadgets. However, this extensive use of social media has started to exert a noticeable influence on students' lives, affecting aspects such as communication and self-concept [1].

Over the past few decades, technological advancements have revolutionized global communication, with social networking emerging as a prominent trend worldwide. This trend is particularly pronounced among students in countries like Pakistan, where social media has become increasingly popular[2]. Within the realm of education, technology has played a pivotal role in facilitating interaction and learning, with platforms like Facebook and Twitter transforming traditional teaching methods and fostering global collaboration[3].

However, alongside the benefits of social media in education come concerns about its impact on academic performance. While some argue that social media can enhance learning and communication skills, others raise alarms about its potential negative effects, such as decreased study time and distractions [4][5]. Especially concerning is the impact of social media on young scholars, who are among the most avid users of these platforms. Given the importance of academic performance in shaping future career paths, understanding the relationship between social media use and academic outcomes is significant.

Terminologies like "Net Generation" and "digital natives" have emerged to describe the generation raised in the era of digital technology, highlighting their affinity for fast-paced information exchange and multitasking [6][7]. This digital revolution has transformed various aspects of life, including academia, where universities are increasingly incorporating technology to enhance learning experiences [8].

Despite the advantages of social media in education, concerns persist about its potential adverse effects on academic performance. Studies have suggested a negative connection between social media usage and learning outcomes, citing issues such as decreased study time and substance abuse [9] [10]. Moreover, the pervasive nature of social media has raised questions about its impact on students' attention spans and engagement in academic activities[11][12].

In light of these concerns, there is a growing need for universities and educational institutions to address the challenges posed by social media use among students. Efforts to promote digital literacy and responsible use of social media are essential in ensuring that students leverage these platforms effectively for academic and professional growth[13][14]. By fostering a balanced approach to social media usage, educators can harness the potential of these platforms to enhance learning experiences and prepare students for success in the digital age[15][16] .

In conclusion, while social media offers immense opportunities for communication and collaboration in education, its widespread use among students raises important considerations regarding its impact on academic performance. By examining the relationship between social media use and learning outcomes, educators can create plans to make the most of technology's advantages while lessening its possible disadvantages [17] [18].

Internationally and nationally, extensive research has been conducted to investigate the influence of social media usage on the academic performance of Medical and Engineering students. However, limited research has been undertaken to explore the impact of social media usage on the academic performance of Medical and Engineering students specifically at KMC, Peshawar and the UET Peshawar. Our primary objective was to examine the relationship

between social media usage and the academic performance of students enrolled at KMC, Peshawar and the UET Peshawar.

Methods

The study was conducted at KMC Peshawar and UET Peshawar, between February 12th, 2024, and March 14th, 2024. The research employed a systematic convenience sampling method to gather data from undergraduate students enrolled at KMC and UET Peshawar. The inclusion criteria included the students must be over the age of 18.

Instrument

The survey questionnaire, as detailed in the appendix, was developed using background information derived from research findings. Participants were required to complete a self-administered online survey containing demographic inquiries such as gender, age, and field of study. Comprising 21 questions, the questionnaire was divided into two sections: social media usage profile and academic profile. The social media usage profile assessed various aspects, including uses of social media for academic and non-academic purposes, mostly used social media platforms, and primary purpose of social media usage. The academic profile focused on performance, categorized as Excellent (80% and above), Good (70%-80%), Average (60%-70%), and Below Average (below 60%).

Procedures

Class representatives were instructed via email to distribute the online questionnaire to their classmates. To ensure widespread participation, data collection was conducted electronically. Students were encouraged to complete the survey before the deadline of March 14, 2024. A cover letter accompanied the survey, detailing the questionnaire's purpose, inclusion criteria, and assurance of anonymity for collected information and voluntary nature of participation. By completing and returning the questionnaire, participants indicated their voluntary consent to partake in the research study, as outlined in the cover letter.

Statistical Analysis

Data entry and analysis were conducted utilizing Origin Pro 2018 and MS Excel.

Results

A total of 291 participants successfully completed the online questionnaire, with no exclusions from the final data report due to incomplete responses. Additionally, no responses were withdrawn from the final data report based on participants being under the age of 18. The majority of participants were male (n=189, 64.9%), while female participants numbered fewer (n=102, 35.1%).

Students primarily utilize social media platforms such as WhatsApp, Instagram, YouTube, Facebook, TikTok, Snapchat, and Twitter and many others for both academic and non-academic purposes as represented in figure 1:

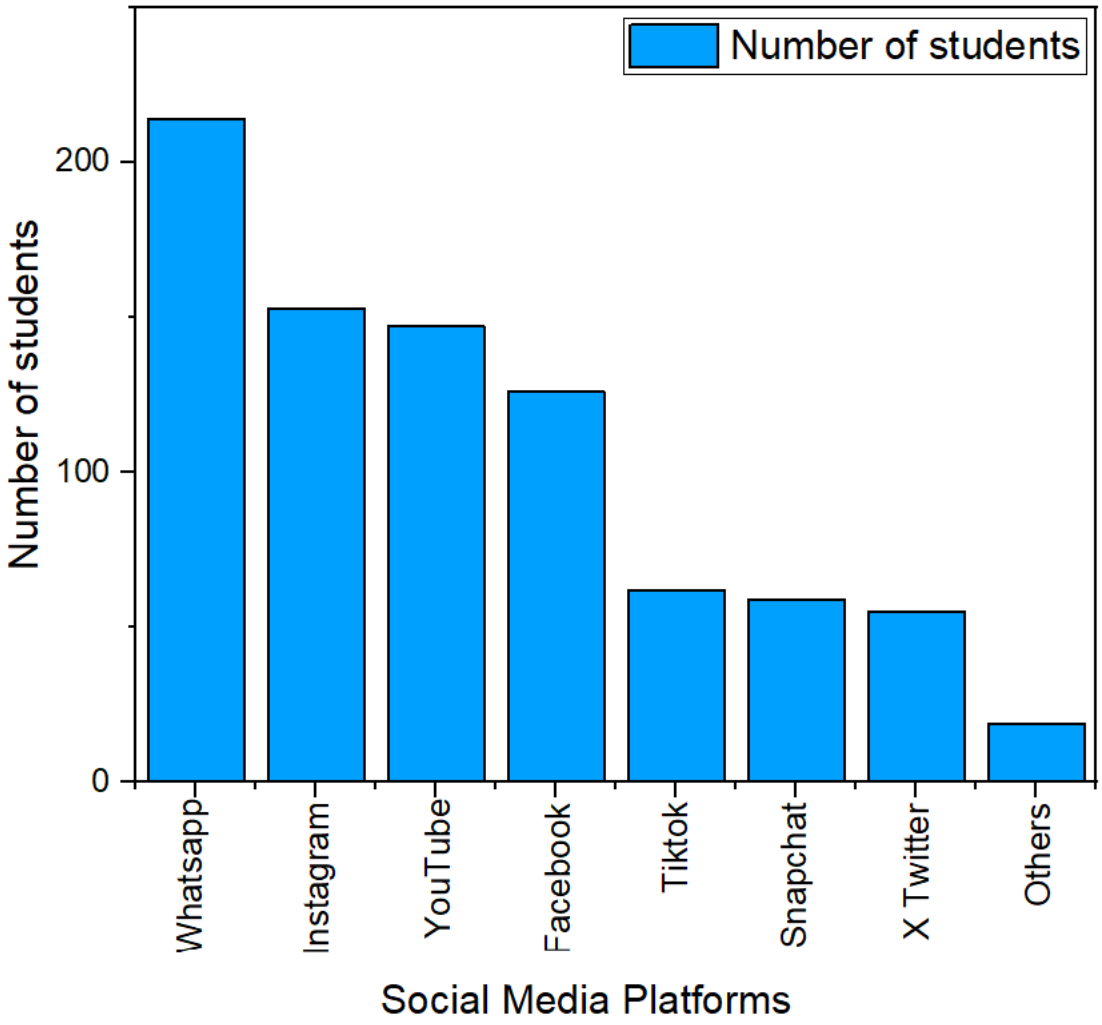

Figure 1 Social Media Platforms Used By Students

Both medical and engineering students time duration on social media for academic purposes are as follow: less than 1 hour (n=99,34%),1 to 3 hours(n=144,49.5%) 3 to 5 hours(n=36,12.4%) and more than five hours(n=12,4.1%) as shown in figure 2.1.Those who use for non-academic purposes are as follow: less than 1 hour (n=63,21.6%),1 to 3 hours(n=133,45.7%) 3 to 5 hours(n=62,21.3%) and more than five hours(n=33,11.3 %) as represented in figure 2.2.

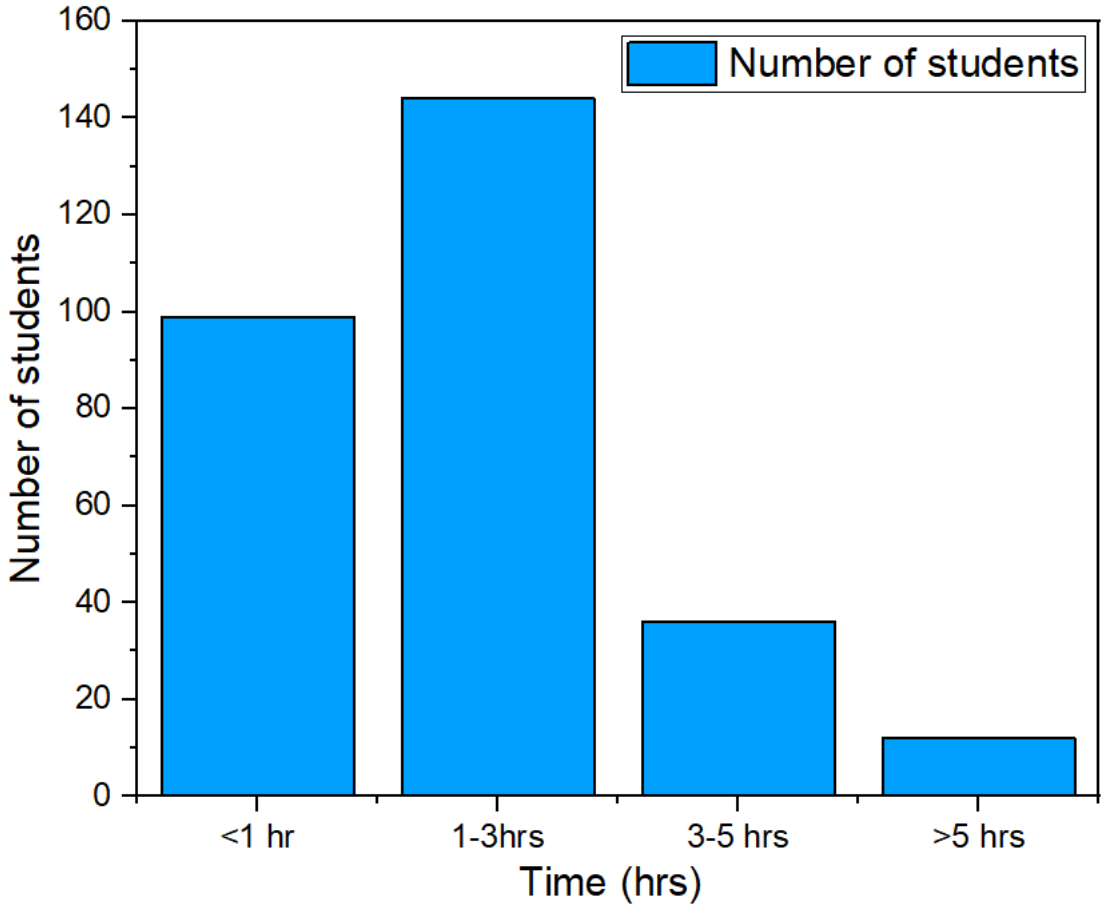

Figure 2 Students time duration on social media for academic purposes

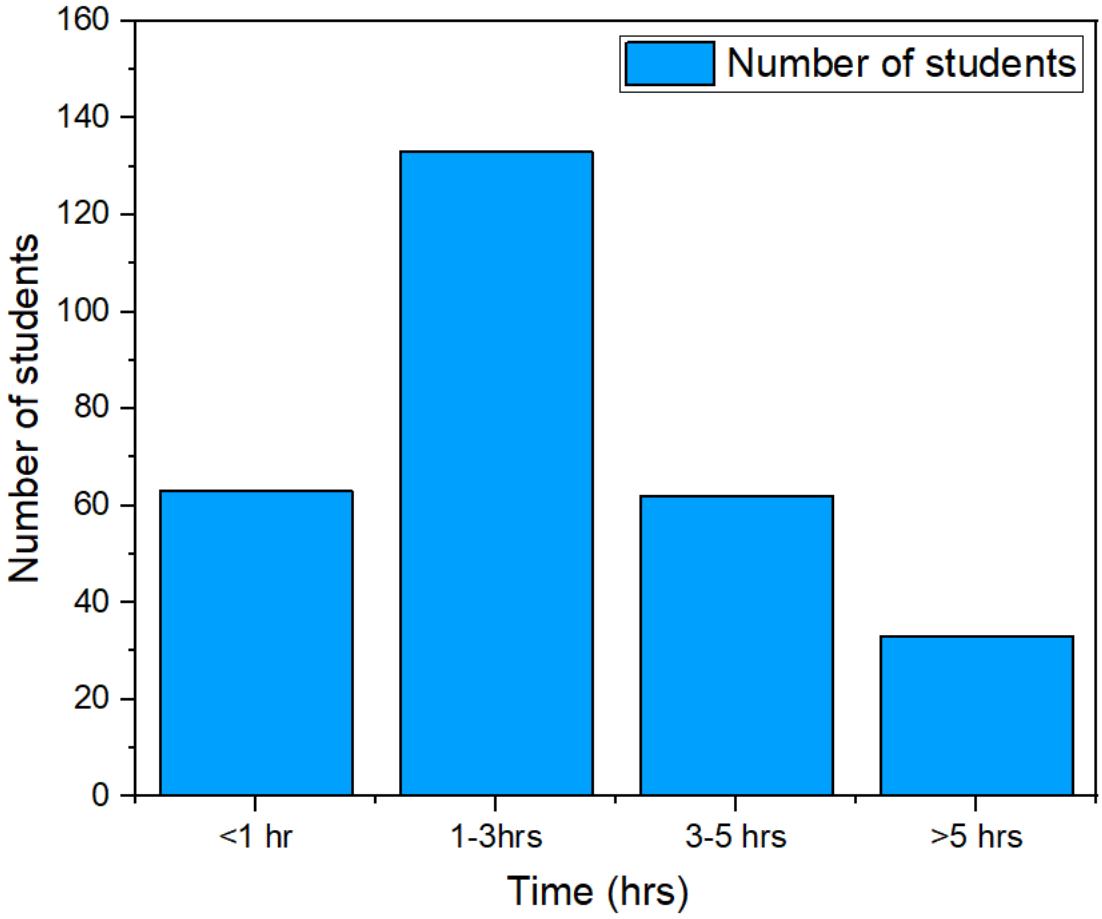

Figure 2.2 Students time duration on social media for non- academic purposes

Engineering Students Using social media during lectures and its impact on academic performance

Figure 3 depicts the utilization of social media during lectures among engineering students, categorized by their self-assessed proficiency levels: Excellent, Good, Average, and Below Average. For students who use social media during lectures, the distribution across proficiency levels is as follows: Excellent (15.78%), Good (63.18%), Average (10.52%), and Below Average (10.52%).Among students who do not use social media during lectures, the percentages are: Excellent (33.09%), Good (34.52%), Average (25.35%), and Below Average (7.04%). Comparatively, there is a distinct variance in the distribution of proficiency levels between students who utilize social media during lectures and those who abstain. Particularly, students who do not engage with social media during lectures exhibit higher percentages in the excellent proficiency category in contrast to their peers who utilize social media during lectures.

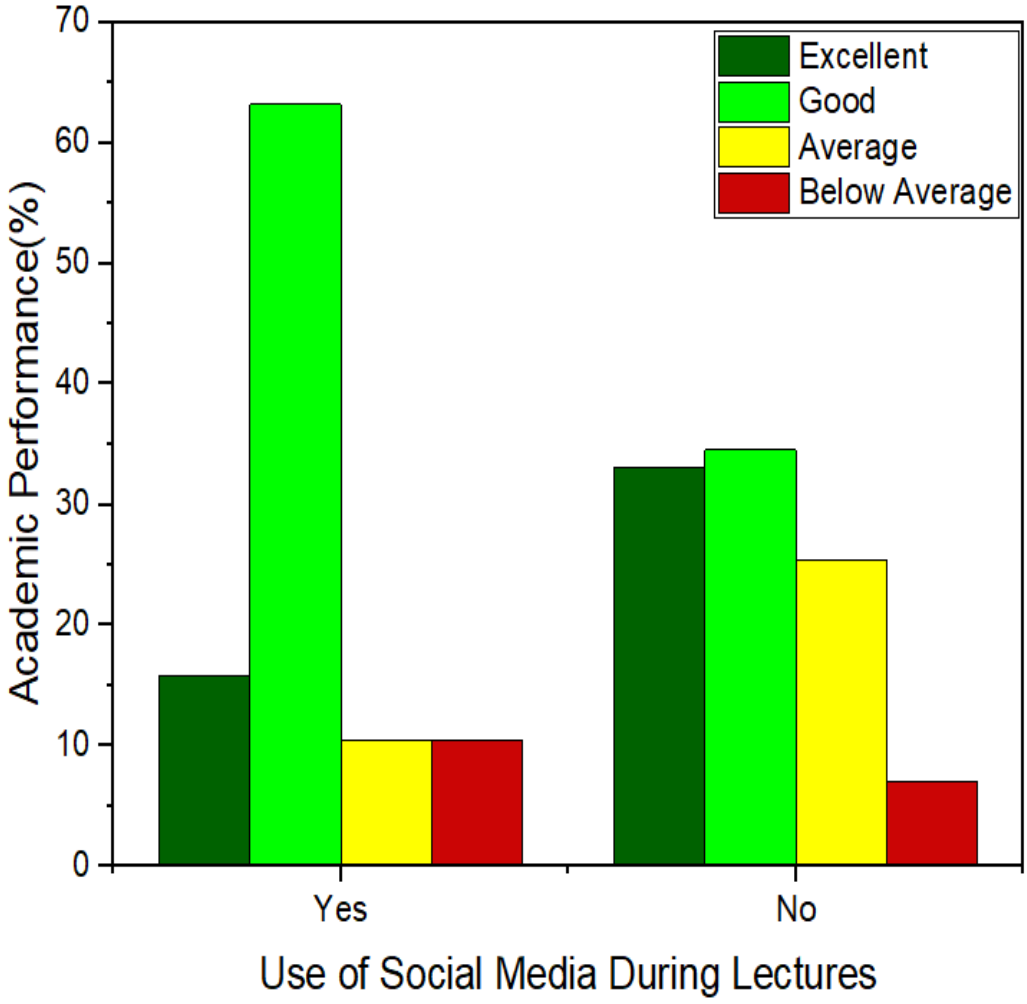

Figure 3 Engineering Students Using social media during lectures and its impact on academic performance

Medical Students Using social media during lectures and its impact on academic performance

Figure 4 depicts represents the usage of social media during lectures among medical students, categorized by their self-assessed proficiency levels: Excellent, Good, Average, and Below Average. For students who use social media during lectures, the distribution across proficiency levels is as follows: Excellent (22.09%), Good (44.2%), Average (29.06%), and Below Average (4.65%).Among students who do not use social media during lectures, the percentages are: Excellent (34.09%), Good (43.18%), Average (18.18%), and Below Average (4.55%).Overall, there is a noticeable difference in the distribution of proficiency levels between students who use social media during lectures and those who do not. Specifically, students who do not use social media during lectures tend to have higher percentages in the excellent proficiency category compared to their counterparts who use social media during lectures.

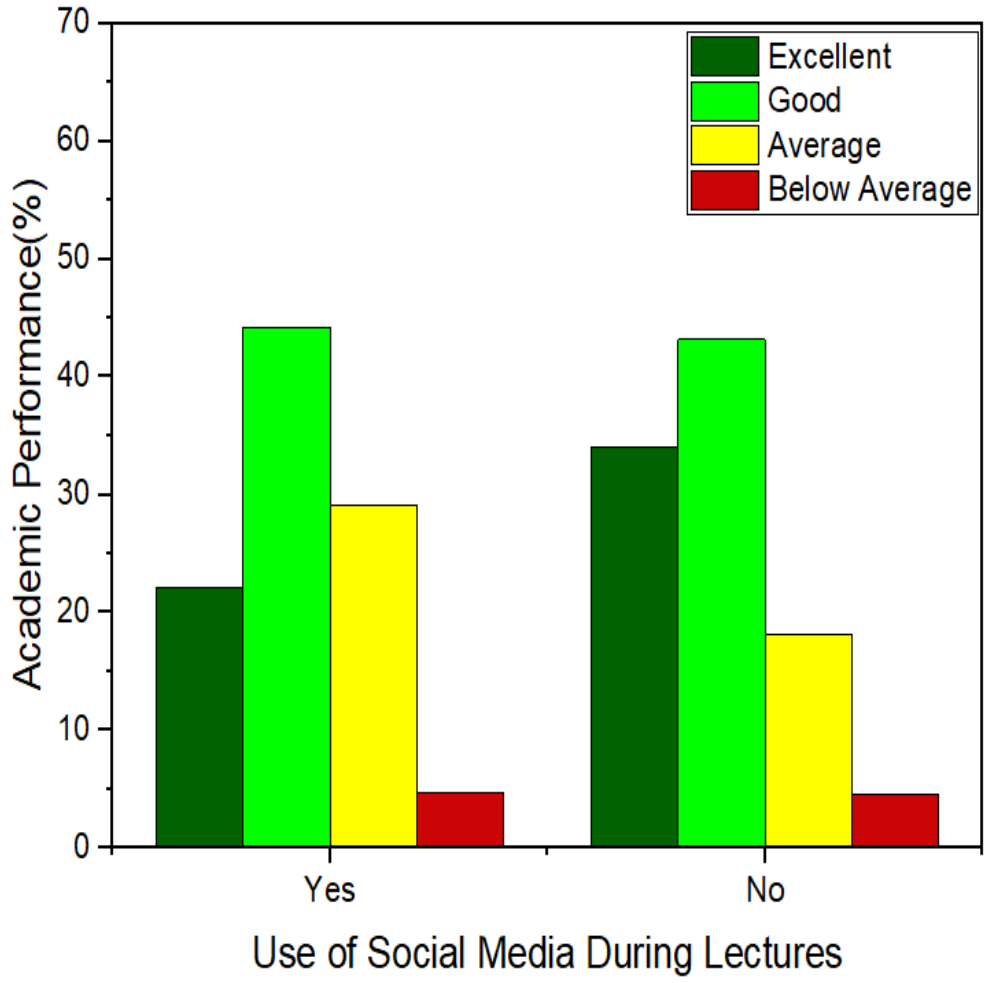

Figure 4 Medical Students Using social media during lectures and its impact on academic performance

Engineering Students Duration on Social media for Academic purpose VS Academic performance

Figure 5 illustrates the distribution of engineering students based on their social media usage time for academic purposes, categorized into four groups: less than 1 hour, 1-3 hours, 3-5 hours, and more than 5 hours. Each category is further subdivided into four levels of proficiency: Excellent, Good, Average, and Below Average. For students spending less than 1 hour on social media for academic purposes, the majority fall into the "Excellent" proficiency level (32.35%), followed closely by "Good" (30.9%). The percentages decrease for the "Average" (23.52%) and "Below Average" (13.23%) categories. In the 1-3 hours category, the distribution shifts slightly, with a decrease in the "Excellent" category (27.53%) and an increase in the "Good" category (46.4%). The percentages for "Average" and "Below Average" are moderate at 24.63% and 1.44%, respectively. As social media usage time increases to 3-5 hours, the "Excellent" category sees a notable increase (37.5%), while the "Good" category decreases to 31.25%. The percentages for "Average" and "Below Average" are 25% and 6.25%, respectively. For students spending more than 5 hours on social media for academic purposes, the "Excellent" and "Good" categories have equal percentages at 37.5%. The "Average"

category decreases to 12.5%, and the "Below Average" category also stands at 12.5%.Overall, as social media usage time increases for academic purposes, there is a trend of increasing percentages in the "Excellent" category, particularly noticeable in the 3-5 hours and more than 5 hours groups. Conversely, there is a decrease in the "Good" category in the 3-5 hours group compared to the 1-3 hours group. The percentages for "Average" and "Below Average" categories vary across different usage time groups.

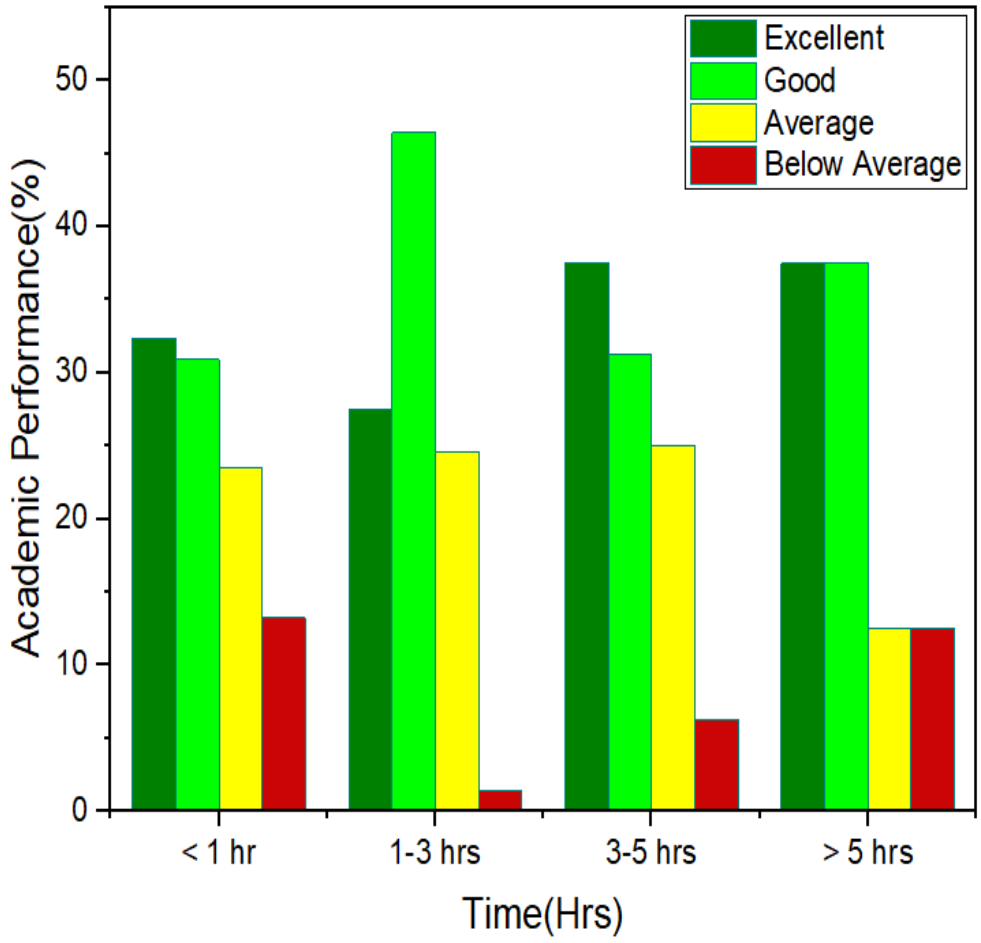

Figure 5 Engineering Students Duration on Social media for Academic purpose VS Academic performance

Engineering Students Duration on Social media for Non Academic purpose VS Academic performance

Figure 6 depicts the distribution of engineering students based on their social media usage time for non-academic purposes, categorized into four groups: less than 1 hour, 1-3 hours, 3-5 hours, and more than 5 hours. Each category is further divided into four levels of usage proficiency: Excellent, Good, Average, and Below Average. For students spending less than 1 hour on social media, the majority fall into the "Excellent" proficiency level (50.94%), followed by "Good" (33.97%), "Average" (11.32%), and "Below Average" (3.77%). Among those spending 1-3 hours on social media, the distribution shifts slightly, with fewer students in the "Excellent" category (20%) and a larger proportion in the "Good" category (40.01%). The "Average" and

"Below Average" categories have moderate percentages at 32.85% and 7.14%, respectively. As social media usage time increases to 3-5 hours, the distribution changes again, with a decrease in the "Excellent" category (26.08%) and an increase in both the "Good" (43.53%) and "Average" (21.7%) categories. The "Below Average" category remains relatively stable at 8.69%.Finally, for students spending more than 5 hours on social media, there is a notable decrease in the "Excellent" category (20%), while the "Good" (33.34%) and "Average" (26.66%) categories remain significant. The "Below Average" category sees an increase to 20%. Overall, as social media usage time increases, the proportion of students categorized as "Excellent" decreases, while the proportions in the "Good" and "Average" categories tend to increase before declining in the highest usage group. The "Below Average" category shows variability across different usage time groups.

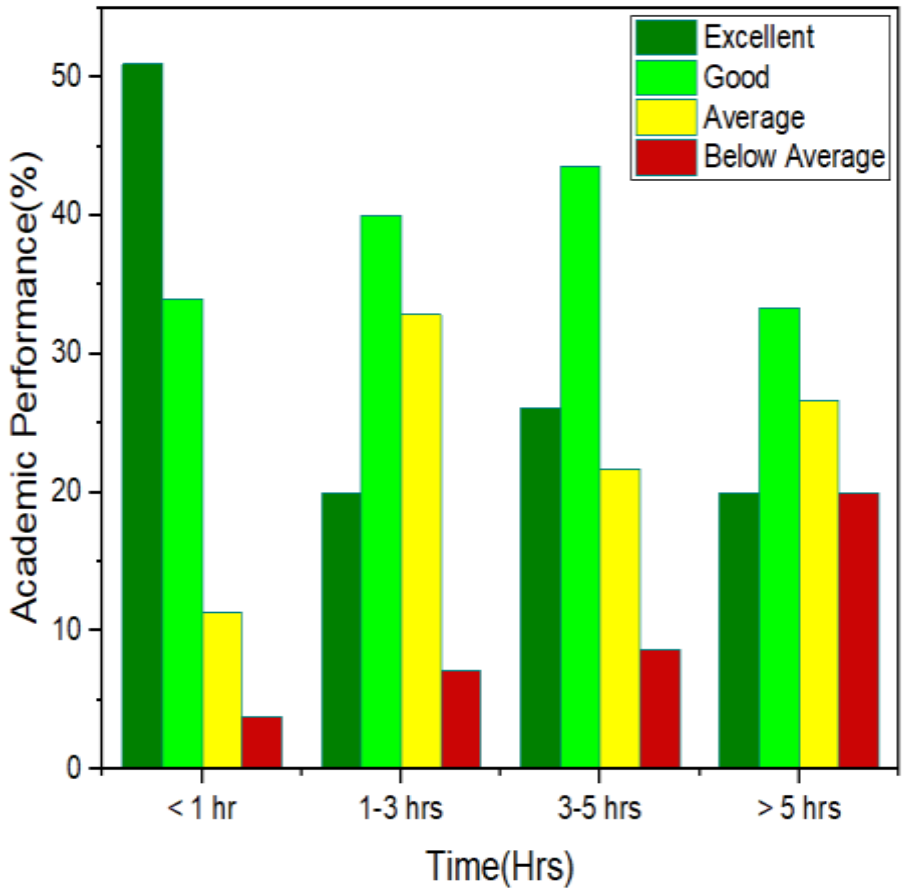

Figure 6 Engineering Students Duration on Social media for Non Academic purpose VS Academic performance

Medical Students Duration on Social media for Academic purpose VS Academic performance

Figure 7 represents the distribution of medical students based on their social media usage time for academic purposes, categorized into four groups: less than 1 hour, 1-3 hours, 3-5 hours, and more than 5 hours. Each category is further segmented into four levels of proficiency: Excellent, Good, Average, and Below Average. For students spending less than 1 hour on social media for academic purposes, the distribution across proficiency levels is as follows: Excellent

(27.02%), Good (27.04%), Average (32.43%), and Below Average (13.51%).In the 1-3 hours category, the percentages are: Excellent (33.82%), Good (38.24%), Average (26.47%), and Below Average (1.47%).For the 3-5 hours category, the percentages are: Excellent (38.09%), Good (33.34%), Average (28.57%), and Below Average (0%).Students spending more than 5 hours on social media for academic purposes are distributed as follows: Excellent (0%), Good (0%), Average (75%), and Below Average (25%).Overall, there is a trend of increasing percentages in the Excellent category as social media usage time increases from less than 1 hour to 3-5 hours. However, there is a notable shift in the distribution for students spending more than 5 hours, with a significant proportion falling into the Average and Below Average categories.

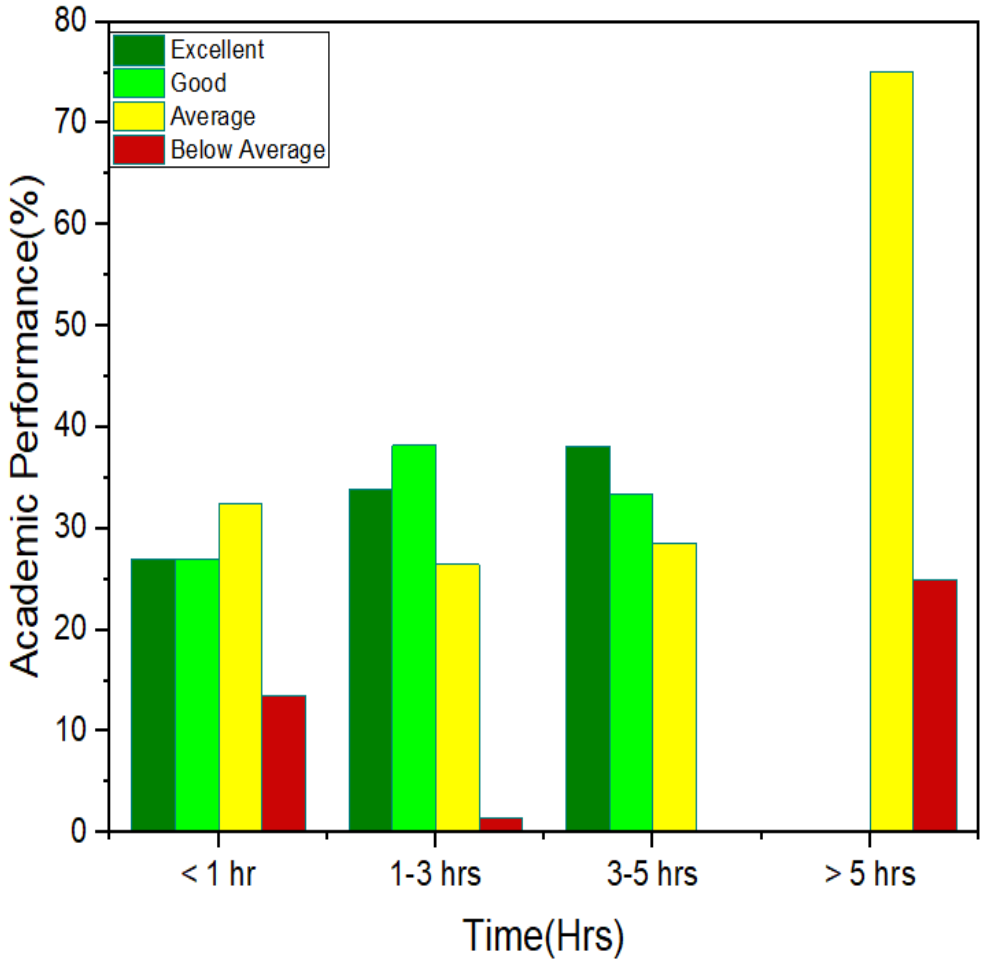

Figure 7 Medical Students Duration on Social media for Academic purpose VS Academic performance

Medical Students Duration on Social media for Non Academic purpose VS Academic performance

Figure 8 represents the distribution of medical students based on their social media usage time for non-academic purposes, categorized into four groups: less than 1 hour, 1-3 hours, 3-5 hours, and more than 5 hours. Each category is further segmented into four levels of proficiency:

Excellent, Good, Average, and Below Average. For students spending less than 1 hour on social media for non-academic purposes, the distribution across proficiency levels is as follows: Excellent (47.37%), Good (52.63%), Average (0%), and Below Average (0%).In the 1-3 hours category, the percentages are: Excellent (25%), Good (51.67%), Average (20%), and Below Average (3.33%).For the 3-5 hours category, the percentages are: Excellent (22.85%), Good (31.45%), Average (42.85%), and Below Average (2.85%).Students spending more than 5 hours on social media for non-academic purposes are distributed as follows: Excellent (12.5%), Good (31.25%), Average (37.5%), and Below Average (18.75%).Overall, there is a trend of decreasing percentages in the Excellent and Good categories as social media usage time increases from less than 1 hour to more than 5 hours. Conversely, there is an increase in the Average and Below Average categories with higher social media usage time.

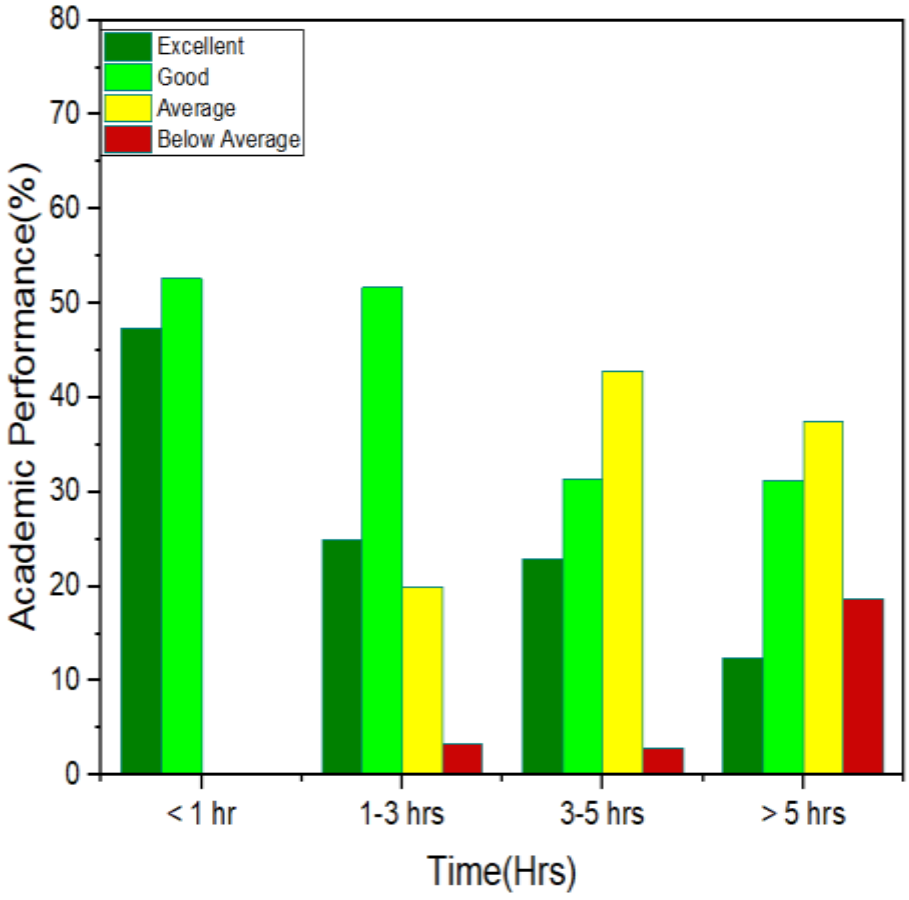

Figure 8 Medical Students Duration on Social media for Academic purpose VS Academic performance

Conclusions

The data from engineering and medical students at KMC and UET Peshawar sheds light on how social media impacts academic performance. Both groups often use social media during lectures, but engineering students tend to be more distracted, mainly falling into the Good proficiency category, while medical students show a more balanced distribution. Interestingly,

as social media usage time increases for academic purposes, proficiency levels rise, especially in the excellent category. However, for non-academic purposes, proficiency levels decline as usage time increases.

These findings highlight the necessity of specific actions to address the harmful impacts of excessive use of social media on academic performance. It also shows how important it is to encourage students to use social media responsibly to enhance their learning. More investigation into why students use social media so much is essential to create helpful strategies and systems to support them. Overall, finding a good balance in using social media is important for students to do well in their studies and stay healthy.

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Appendix

Social Media in Academia: Exploring its Influence and Usage Patterns among Undergraduate Students at KMC and UET Peshawar

1	Gender	Male	Female			
2	Age	18-21	21-24	Above 24		
3	Field of Study	Engineering	Medical			
4	Year of Study	1	2	3	4	5
5	Which social media platform do you mostly use?	Face book	Instagram	X (twitter)	YouTube	
		What Sapp	SnapChat	TikTok	Other	
6	What is the primary purpose of your social media use?	Socializing and marking new friends and followers	Staying updated with the latest news	Learning and Academic purposes	Relaxation and entertainment	
7	On average how much time do you spend on social media daily? (both for academic purposes and entertainment purposes)	Less than 1 hr.	1-3 hrs.	3-5 hrs.	More than 5 hrs.	

8	On average how much time do you spend on social media daily? (for academic purposes only)	Less than 1 hr.	1-3 hrs.	3-5 hrs.	More than 5 hrs.
9	On average how much time do you spend on social media daily? (for entertainment purposes only)	Less than 1 hr.	1-3 hrs.	3-5 hrs.	More than 5 hrs.
10	On average, how many hours do you study daily (with or without the use of social media)?	Less than 2 hr.	2-4 hrs.	4-6 hrs.	More than 6 hrs.
11	Have you ever engaged in any sort of online academic activity through social media platforms?	Yes	No		
12	Do you submit your assignments timely despite spending time on social media?	Yes	No		
13	Have you ever experienced lack of attention during your classes?	Yes	No		
14	Do you use social media during lectures?	Yes	No		
15	Do you feel that your social media use distracts you from your academic activities?	Yes	No		
16	Does your use of social media has any impact on your sleeping patterns and subsequently academic performance?	Yes	No		
17	Do you experience any sort of illness (like anxiety, headache, mood swings etc.) due to your social media use?	Yes	No		
18	If yes, how often do you experience these conditions?	Regularly	Often	Sometimes	Never
19	Has social media proven helpful in your future goals setting?	Yes	No		
20	How would you rate your overall academic performance? (Since you started using social media)	Excellent (80 % and above)	Good (70 % to 79 %)	Average (60% to 69%)	Below average (< 60 %)
21	Do you think that your institutions should imply proper guidelines for students to use social media for academic purposes?	Yes	NO		