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## Exploring The Influence of Social Network Sites on Students' Academic Achievement: The Moderating Effect of Social Support

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### ABSTRACT

The widespread use of social networking sites SNS among university students has raised deep concerns about their impact on the academic performance of students. This study examines the relationship between SNS usage, academic performance and social support among university students. A quantitative research approach was employed in a self-report questionnaire with data collected from 200 University students in Mardan Pakistan. The results showed a positive correlation between SNS usage and academic performance as well as between social support and academic performance. Regression analysis reveals that SNS usage is a significant predictor of academic performance. Mediation analysis showed that social support mediates the link between SNS usage and academic performance. The study reveals that the impact of social networking site usage on academic performance is dual varying according to the manner of usage. The study's results have highlighted important areas of concern for many stakeholders like educator policymakers and researchers highlighting the need to consider the role of social media and academic settings in developing strategies that promote responsible social media use among students.

**Keywords:** Social Networking Sites; Academic Performance; Social Support University Students; Quantitative Research

### 1. Introduction

Technological changes have always been regarded as a powerful source of evolution. Still, the emergence of the internet has disturbed almost all the facets of the private, social, and career existence of mankind (Bughin et al., 2011). From the simplest communication methods to managing large corporations and organizations, we are taking advantage of the facilities based on internet availability. The technological advancement achieved in internet applications is almost unimaginable (Rainie & Wellman, 2019). The internet has proven to be a valuable tool for connection and communication with a significant portion of users engaging with social networking and blogging sites. Approximately 2/3 of internet users visit these types of sites accounting for around 10% of total internet time and a substantial 65% of overall internet usage. (Amichai-Hamburger & Hayat, 2011).

Social networking sites have enabled millions of people to connect, and exchange information, knowledge, and culture (Hansen et al., 2010). Classmates. Com was launched in 1995 and was recognized as the first official Social Networking Site. The purpose

of its creation was to allow students to be connected while in school or after their schooling is complete (Boyd & Ellison, 2007). Facebook, founded by Mark Zuckerberg in 2004, has become the most effective and popular social networking site (Alef, 2010). However, prolonged use of social networking sites can compromise academic success and hinder to learning process leading to wasteful and undescribed activities (Kuppuswamy & Narayan, 2010). On the other hand, social networking sites can also facilitate social relationships among students to discuss daily learning processes and various issues. Social networking sites have become an important part of people's lives, but their impact on education and learning must be carefully considered (Boyd, 2017; Tsatsou, 2016). Social networks can be beneficial for students' learning processes and academic performance, as they provide opportunities for connection and information sharing (Tinto, 1997). However, social networks can also be insecure for teenagers, and their popularity has led to concerns about improper behaviour, such as sharing personal information and engaging in online discussions that may compromise security (Trusov, Bucklin, & Pauwels, 2009). The US Congress has enacted legislation aimed at restricting young peo-

ple's access to social networking sites in schools and libraries highlighting concerns about their impact (Boyd & Ellison, 2007). As developed nations establish policies governing social media use it becomes essential to investigate whether these platforms hinder students' academic progress (Boyd & Ellison, 2007). This research aims to identify the specific aspects of social networking that influence students' academic life and learning recognizing their social media has become an integral part of daily life for students primarily used to stay updated on friend's activities. Research has shown that the majority of college students (over 90%) use social networking sites, with students spending around 30 minutes per day on these sites (Cain et al., 2009). The purpose of this study is to investigate the impact of social networking sites on student's academic life and learning processes, exploring whether these sites have a positive or negative effect.

### 1.1. Statement of the Problem

The widespread adoption of social networking sites among university students has raised concerns about the potential impact on their academic achievement. Despite the benefits of social networking, excessive use has been linked to decreased academic performance, increased distraction, and decreased motivation. The link between social networking site usage and academic achievement is multifaceted and the influence of social support as a moderating factor remains unclear. The influence of social networking site usage on university students' academic achievement, and the extent to which social support moderates this relationship, is a significant issue that warrants investigation.

### 1.2. Objectives

1. To investigate the association between social networking site usage and academic performance considering demographic factors.
2. To investigate the effects of social networking sites on the academic performance of students.

### 1.3. Research questions

1. How do demographic factors (gender, age, social influences, and education) influence students' academic achievement?"
2. In what way does the use of social networking sites impact the performance of the students?

### 1.4. Significance of the study

The current study will be useful for many institutions in establishing the impacts of social networking sites. The conclusion of the present research will be useful for the administrator and other public and private university authorities to control the students' social networking sites use in the academic context. Furthermore, the conclusion of this study will be useful for the Ministry of Information and Communication Technology to learn about the penalties of social networking among students and how one can take necessary measures to control it.

## 2. Literature Review

The rapid integration of social networking sites SNS into student's daily lives has led to extensive research on their impact on academic performance. However, the findings remain inconsistent necessitating a deeper critical analysis of existing studies. A study by Boyd and Ellison (2007) found that social networking sites have gained immense popularity, with 46.8 million to 68.8 million users. However, their study primarily focused on usage statistics rather than evaluating how SNS influences academic behaviours. While there are also concerns about underage users, as international law requires users to be at least 18 years old. Despite this, research by

Lenhart (2007) showed that 41% of users under 13 and 61% of users between 14-17 years old are using social networking sites. The study of Lenhart (2007) also failed to account for how these platforms affect cognitive and academic development, leaving a gap in understanding the long-term consequences of SNS among students. Another survey by Russo et al. (2009) revealed that students are frequent users of social networking sites, with 47% of 12-17-year-olds, 69% of 18-21-year-olds, and 20% of adults using these sites, although only a small percentage use them for communication purposes (Russo et al., 2009). The emergence of Social Networking Sites (SNSs) has sparked debate and research on their effects on users. Studies have found that SNSs have both positive and negative impacts. However, excessive use of SNSs has been linked to various problems, including psychological, physical, interpersonal, and educational issues (Li Charlene & Bernoff, 2007).

Many students are spending more time on social networking activities than studying, which can negatively impact their academic performance. The relationship between SNS usage and academic performance has been widely debated. Some researchers argue that SNS negatively affects student's academic success due to distraction and time mismanagement. Research by Hawkins, (2010) found that students' activities are closely linked to grade differences. However, this study did not control for individual differences in self-regulation and study habits, raising concerns about the validity of its conclusion. A study by Nachbauer & Kyriakides (2019) revealed that Facebook use is inversely correlated with users' GPAs, with users having lower GPAs than non-users. However, surprisingly, 79% of Facebook users believed that their use of the site did not negatively impact their academic performance, indicating a lack of awareness about the effects of their social networking behaviour. The impact of social media on academic performance is a pressing concern. Conversely, other studies suggest that SNS can enhance learning and academic engagement. The research by Camus et al., (2016) suggests that excessive Facebook use can lead to decreased academic performance and lower grades as students navigate their educational journey it's essential to consider the factors that influence their success the internet is a powerful tool that can either facilitate or hinder the learning process/. However, these studies often assume that students engage with SNS in an academically productive manner, overlooking the potential for passive scrolling or engagement with non-educational content. Furthermore, they also failed to address individual differences in digital literacy, which can influence how students utilize SNS for academic purposes (Kennedy, 2020).

Social networking sites provide students with the virtual space to connect with peers potentially alleviating feelings of isolation according to Lenhart (2007) students can create a second life online by making new friends and connections however this can also lead to a false sense of security as students may believe their online interactions are private when they are not. Research reveals that social networking sites have both positive and negative effects on students on the one hand they can increase self-efficacy and social exclusion while decreasing face-to-face interaction Lenhart (2007). On the other hand, scholars like Bandura (1977) and Balsamo (1995) argue that social networking sites can help mitigate social exclusion and increase self-organization among students.

Some researchers like Tinto (1997) believe that social networking sites can provide a continuous learning community substituting for academic and social achievement in educational settings social networking sites can facilitate collaboration sense-making and engagement among students (Ellison et al., 2007; Lampe et al., 2008). However, these studies do not directly link social support to SNS usage, missing an opportunity to investigate whether online social interactions provide similar benefits as in-person support systems. Students have shown that social media can positively im-

compact student's participation in higher education improving commitment to coursework and enhancing connections with peers and instructors social networking websites also help students maintain relationships when they move to new physical groups facilitating collaboration on projects and assignments (Madge et al., 2009). Furthermore, research by (O'Sullivan et al., 2004) revealed that instructors with high online disclosure can increase student motivation reduce uncertainty, and foster a positive attitude towards the course and instructor.

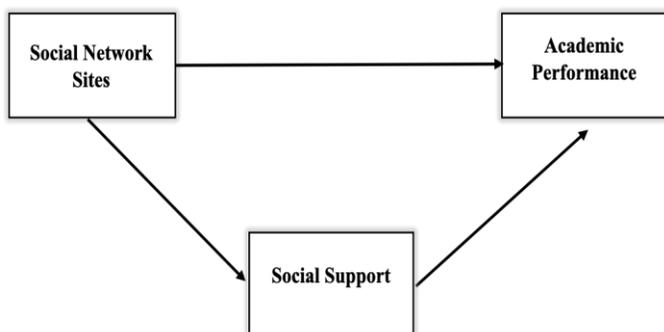
The other limitation in the literature is the over-resilience of self-reported data. Many studies rely on student-reported SNS usage and academic performance, which are subject to social desirability bias and inaccurate recall. Objective measures, such as time-tracking software and official academic records, are seldom used, raising concerns about data reliability.

## 2.1. GAPS

Despite the growing body of research on social networking sites and academic performance several gaps remain in the literature. The first one is inconsistent findings on SNS impact existing studies present mixed results regarding the effects of SNS usage on academic performance. While some research suggests that excessive SNS use distracts students and reduces study time other studies highlight its potential for academic collaboration and knowledge sharing. The lack of consensus indicates the need for further investigation into the specific ways in which SNS usage influences learning outcomes. The other gap is the limited examination of social support as a moderator although social support has been studied as a key factor in academic success few studies have explored its role as a moderating variable in the relationship between SNS usage and academic performance understanding how social support influences. This relationship could provide deeper insights into how students balance their online social interactions with academic responsibilities. Last but not least is the lack of longitudinal studies, most research on the SNS and academic performance relies on cross-sectional data which limits the ability to establish casual relationships. Longitudinal studies tracking students' SNS usage over time would offer a clearer picture of its long-term impact on academic achievement. To address these gaps future studies should conduct longitudinal research, utilize objective data collection methods, and explore demographic and contextual variations and the role of digital literacy and self-regulation strategies. By filling these gaps future research can provide a more comprehensive understanding of the relationship between SNS usage, social support and academic performance.

## 2.2. Theoretical framework

The following Figure 1 represent the theoretical framework of this study.



**Figure 1:** Theoretical Framework

## 2.3. Hypothesis

1. Using social networking sites is linked to improved academic achievement.
2. Social networking sites play a significant role in enhancing student's social connections and systems.
3. Social support is positively associated with students' academic performance
4. Social support will mediate the relationship b/w SNS and academic performance

## 3. Research Methodology

A quantitative research design was employed to gather and analyze data from a sample of 200 undergraduate students with an age range of 19 to 35 years. The purposive sampling method was utilized. The purposive sampling method was chosen because it enables researchers to select participants who meet specific criteria relevant to the study's objective. The other sampling methods were not feasible for some reasons such as logistical constraints and were unnecessary. The data was analyzed using SPSS 26 and assessed through statistical techniques. The findings were presented using means, standard deviations, and the Pearson Correlation Coefficient, Regression Analysis, and Mediation Analysis. A significance level of  $p \leq .05$  was applied.

### 3.1. Measuring Instruments

To collect data student participants completed three questionnaires these questionnaires included a demographic form that gathered basic information about the student's social networking sites scale (SNS) (Kirschner & Karpinski, 2010), academic performance scale (APS) (Baisac, n.d.) and social support scale (Cohen et al., 1985).

### 3.2. Social Networking Sites Scale (SNS)

Developed by (Kirschner & Karpinski, 2010), this scale measured how often and for how long students used social networking sites. The questionnaire used Likert scale questions such as "How often do you use social networking sites" with responses ranging from strongly disagree to strongly agree.

### 3.3. Academic Performance Scale

Created by Carson this scale evaluated students' academic achievement performance the APS consisted of 8 Likert scale Christian such as "I made myself ready in all subjects" with responses ranging from strongly disagree to strongly agree the scale showed high internal consistency (.89) and test-retest reliability (.85).

### 3.4. Social Support Scale

Developed by Cohen et al., (1985) this scale assessed the pursuit of social support students received from family friends, and others The questionnaire used Likert scale questions such as "How often do you feel supported by your friends" with responses ranging from strongly disagree to strongly agree.

## 4. Results and Analysis

### 4.1. Demographic Information

The demographic table provides an overview of the 200 participants' characteristics, revealing a majority of males (74%) and participants aged 18-22 (86%), with most being unmarried (86%) and a small percentage being married (12%) or divorced (2%). The participants come from various academic departments, including Psychology (32%), Law (26%), Political Science (18%), Pakistan

Studies (6%), Sociology (9%), and International Relations (9%). These demographic characteristics provide context for understanding the diversity of the participants and may be useful in interpreting the results, particularly about the influence of demographic factors on academic achievement, as explored in Research Question 1.

**Table 1:**  
Demographic Information of the Respondents

Demographic Information		
Gender	Frequency	Percentage
Male	147	74%
Female	53	26%
<b>Age</b>		
18-22	171	86%
23-27	28	14%
<b>Marital Status</b>		
Married	25	12%
Unmarried	171	86%
Divorced	4	2%
<b>Department</b>		
Psychology	63	32%
Political Science	36	18%
Law	53	26%
International relationship	18	9%
Sociology	18	9%
Pak studies	12	6%
<b>Total</b>	<b>250</b>	<b>100%</b>

Note: f=Frequency; %=Percentage; M=Mean; S.D.=Standard Deviation

#### 4.2. Descriptive Statistics and Correlation Analysis

Table 2 presents the descriptive statistics and correlation analysis of the variables, revealing that students spend an average of 18.36 hours on social networking sites (SNS), with an average academic performance (APS) score of 20.80, and an average social support (SS) score of 36.09. The correlation analysis reveals a weak positive relationship between SNS usage and APS ( $r = 0.152$ ,  $p < 0.05$ ), suggesting that moderate SNS engagement might support academic activities rather than hinder them. This could be due to students utilizing SNS for academic discussions, accessing educational resources, or engaging in peer learning. A weak positive relationship between SNS usage and SS ( $r = 0.177$ ,  $p < 0.001$ ), and a moderate positive relationship between SS and APS ( $r = 0.304$ ,  $p < 0.001$ ), indicating that higher SNS usage is positively correlated with better academic performance and greater social support, providing preliminary support for the study's hypotheses. These findings emphasized that SNS usage, when integrated with academic activities, may enhance student learning but excessive use for non-academic purposes could undermine academic performance.

Additionally, the role of social support highlights the importance of maintaining strong peer and institutional support systems for students' success.

**Table 2:**  
Descriptive statistics, Mean, Standard deviation (SD), and correlation of the variables

Variables	Mean	SD	1	2	3
SNS	18.3550	4.48436	1		
APS	20.7950	6.39197	.152*	1	
SS	36.0900	6.56256	.177**	.304**	1

Note: N=200 \* $p < 0.05$ , \*\* $P < 0.001$

#### 4.3. Regression Analysis

**Table 3 Regression analysis:** Regression analysis was conducted to determine the predictive power of SNS usage and social support on academic performance. These findings suggest that SNS usage significantly predicts academic performance ( $b=0.152$ ,  $p < 0.05$ ), albeit with a small effect size ( $R^2 = 0.023$ ).

Social support is a strong predictor of academic performance ( $b=0.0304$ ,  $p < 0.001$ ), explaining 7.2% of the variance in academic achievement. This shows that students who perceive greater social support are more likely to perform well academically, possibly due to emotional encouragement, collaborative learning and academic guidance from peers and mentors.

**Table 3:**  
List of Variable and Analysis

Variable	SS	AP
Constant		
SNS	.277***	.152*
SS		.304***
R2	.077	.023
$\Delta R^2$	.072	.018
F	16.486	4.711

N=200 \* $p < 0.05$ , \*\* $P < 0.001$  \*\*\* $p < 0.0001$

Regression analysis enables investigators to examine the connections between quantitative variables more comprehensively than simple correlation analysis does, and it can provide insights into the nature of predictor variables and their effects on outcomes. The practical significance of these findings suggests that educational institutions should foster online academic communities and peer support networks to maximize the benefits of SNS while minimizing potential distractions. Interventions such as digital literacy programs and structured online study groups could help students optimize SNS usage for academic success.

#### 4.4. Mediation Analysis

Mediation analysis examines how the variable of interest influences outcomes through other variables or mediators, which can reveal more information about causal and sequential relationships.  $IV \rightarrow MV \rightarrow DV$

The above mediation analysis explores the extent to which Social Networking Sites (IV) influence Academic Performance

(DV) through the mediating variable, Social Support (MV). Path 'a' depicts a direct, positive connection between Social Networking Sites (IV) and Social Support (MV) ( $\beta = .406, p < 0.001$ ) which implies that the usage of SNS is positively related and leads to higher perceived social support among students. As seen in path 'b', Social Support (MV) has a positive and a moderate impact on Academic Performance (DV) ( $\beta = .277, p < 0.001$ ) which signifies that a high level of social support leads to better academic performance. However, the direct impact of Social Networking Sites (IV) on Academic Performance (DV) (path 'c') is still significant ( $\beta = .217, p < 0.05$ ), implying that SNS usage affects performance both directly and indirectly through social support. The last hypothesis, stating that IV Social Networking Sites have a significant indirect effect on DV Academic Performance through MV Social Support, was supported ( $\beta = .112, p < 0.05$ ). This implies that although social support partly explains the association between SNS use and academics, there are other direct mechanisms by which SNS use impacts academic performance. This suggests that SNS contributes to academic success not only through direct engagement with learning materials but also by fostering social interactions that enhance student's academic motivation and well-being.

## 5. Discussion

The study employed a quantitative research approach which effectively examined the relationships between the variables a simple size of 200 participants was sufficient for conducting statistical analysis. The scales used to include the social networking sites scale academic performance scale and social support scale are well-established and reliable. The study limitations include the use of a non-probability sampling method and the lack of control or extraneous variables future studies should aim to recruit a more diverse sample use multiple measures of SNS usage and academic performance and control for extraneous variables to further understand the relationships between SNS usage academic performance and social support.

The correlation analysis reveals a positive relationship between social networking site (SNS) usage and academic performance (APS) ( $r = 0.152, p < 0.05$ ). This suggests that students who spend more time using social networking sites tend to perform better academically additionally the correlation analysis showed a positive relationship between academic performance (APS) and social support (SS) ( $r = 0.304, p < 0.0001$ ). This indicates that students who perform better academically tend to have higher levels of social support.

The regression analysis shows that SNS usage is a significant predictor of APS ( $b = 0.277, p < 0.001$ ). This suggests that SNS usage is a significant factor in predicting academic performance. The results also showed that social support is a significant predictor of APS this indicates that social support is also an important factor in predicting academic performance previous studies have also found a positive relationship between SNS usage and academic performance for example a study by Kirschner and Karpinski (2010) found that students who used social networking sites more frequently tended to have higher GPAs another study by Junco (2012) found that students who used social networking sites more frequently tended to have better academic outcomes. Additionally, studies have found a positive relationship between social support and academic performance for example a study by Tinto (1997) found that students who had higher levels of social support tended to have better academic outcomes another study by Purswell et al., (2008) found that students who had higher levels of social support tend to have higher GPAs.

The study's findings support the theoretical framework which posits that SNS usage can have both positive and negative effects

on academic performance depending on how it is used. The results also support previous studies that have found a positive relationship between SNS usage and academic performance as well as a positive relationship between social support and academic performance. The study results imply that educator policymakers and researchers highlight the need to consider the role of social media and academic settings and to develop strategies that promote responsible social media use among students' future studies should aim to recruit a more diverse sample and use multiple measures for SNS usage and academic performance and control for extraneous variables to further understand the relationship between SNS usage academic performance and social support.

## 6. Conclusion

This study explored the influence of social networking sites on students' academic achievement examining the moderating effect of social support the results showed a weak positive relationship between SNS usage and academic performance as well as a moderate positive relationship between social support and academic performance regression analysis revealed that SNS usage and social support or significant predictors of academic performance mediation analysis shows that social support partially mediated the relationship between SNS usage and academic performance. The findings support the theoretical framework and previous studies highlighting the importance of responsible SNS use and social support in promoting academic achievement. The study results have implications for educators' policymakers and researchers emphasizing the need to develop strategies that promote responsible SNS use and foster social support among students. Despite these insights, the study presents several limitations that future research should address. First, the reliance on self-reported data may introduce biases such as students may estimate or underestimate their SNS usage and academic performance. Future studies could incorporate objective measures such as academic records and digital tracking of SNS activity to improve data accuracy. Second this study focused on a specific university context limiting the generalizability of findings expanding research to include diverse educational settings disciplines and cultural backgrounds would provide a more comprehensive understanding of SNS. Effects on academic performance Future research should also explore the long-term impact of SNS usage on academic outcomes in longitudinal studies. Additionally investigating the role of digital literacy self-regulation and time management. Skills in moderating SNS effects could offer valuable insights into how students can use these platforms productively. Moreover, qualitative approaches such as in-depth interviews or focus groups could provide a richer understanding of students' experiences and motivations regarding SNS use in academic settings. By addressing these areas future research can contribute to the development of evidence-based policies and interventions that promote responsible SNS usage ensuring that students leverage these platforms as tools for academic and personal growth rather than sources of destruction.

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