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Abstract

Academic achievement shapes future opportunities, and social media significantly influences this. Despite its growing prominence, social media's specific effects on high school students' academic outcomes in Khyber Pakhtunkhwa, Pakistan, remain unexplored. This study fills this gap by examining how social media usage relates to academic performance, study habits, study time, and perceived benefits among 402 high school students (283 males, 118 females) from 12 public and private schools. Employing a quantitative survey design, we used a "Social Media and Academic Achievement of Students" questionnaire adapted from Peter (2015). The findings reveal that sharing academic information with classmates on social media significantly enhances academic performance. However, social media usage showed no statistically significant effects on study habits and time allocation. Additionally, students reported moderate benefits from using social media for academic purposes. These results emphasize integrating social media in education to enhance student engagement and performance, and underscore the need for effective time management to manage distractions. The study's limitations include its regional focus and the self-reported nature of the data. Future research should explore these dynamics in different regions and with varied methodologies to further validate these findings.

Introduction

Now a day's social networks has become a crucial part of many people lives, especially young generation. Digital social platforms even changed our entire personality even the way we talk, how we act, and how we share information and stay in touch with people so it means online social networks utterly changes how we make a relationship with people. Social media addiction refers to the compulsive behavior and excessive use of social networks platforms, leading to addictive symptoms (Zurafa & Dewi, 2021). online social networks has many benefits but we can't deny the negative side of these social platforms and how it impacts the academic achievement of the students as most teenagers are using social networks frequently the question raises here. Does this frequent use of social media is helping them in connecting with their friends and also help them in academic learning? The impact of online networking dependency on study habits and academic achievement remains a question that demands exploration. Although not yet officially recognized by medical bodies, online networking dependency

has stirred concerns about its impact on mental health (McCarroll et al., 2021). Research findings on the adverse mental health outcomes resulting from excessive social networks use have been varied, sparking ongoing debates about whether it qualifies as a clinically defined addictive behavior (Thomson et al., 2021). Notably, studies have delved into online networking dependency within specific demographic groups, such as university students, revealing variations in addiction levels based on factors like daily usage and specific social media platforms (Tutgun-Ünal, 2020).

Similarly, research conducted in India underscored the adverse influence of Facebook addiction on the habits of study and educational achievement of teenagers. A clear correlation emerged between higher addiction levels and poorer study habits, culminating in diminished academic performance and grades. The study encompassed 200 adolescents from diverse schools in India (Vashishtha et al., 2021). Exploring alternative platforms, the use of WhatsApp groups for communication between lecturers and students during the pandemic yielded noteworthy findings. Active participation in WhatsApp groups translated to enhanced knowledge acquisition and improved student performance in online learning. Remarkably, online networking dependency did not mediate the connection between demographic factors and student achievement (A.r et al., 2021).

This research aims to shed light on the intricate relationship between social media usage and academic performance among high school students in Khyber Pakhtunkhwa, Pakistan. Despite the growing prevalence of social media, there remains a significant gap in research conducted in Pakistan, specifically investigating its impact on academic outcomes among high school students. Previous global research provides a mixed picture of social media's influence on academic performance. For instance, research by Jamil et al. (2020) reveals that heightened online social networks engagement negatively affects study schedules and, consequently, academic outcomes. Similarly, research conducted in India by Vashishtha et al. (2021) found that use of WhatsApp groups for communication between lecturers and students during the pandemic yielded noteworthy findings; active participation in WhatsApp groups enhanced knowledge acquisition and improved student performance in online learning. Building on this global context, our study will explore not only the relationship between social media usage and academic performance but also examine the impact of social media usage on study habits and time allocation for studying, along with the perceived benefits of social media for academic purposes. By delving into these aspects, this research seeks to fill the existing void in the Pakistani context and provide valuable insights for educators and students, ultimately contributing to more informed educational practices and strategies.

Literature Review

Social Media and Academic Performance

Excessive social media use, characterized as addiction, has been scrutinized for its potential impact on academic success. Research by Jamil et al. (2020), Reveals that heightened online social networks engagement negatively affects study schedules and, consequently, academic outcomes. While statistical significance might not be fully established, a clear trend suggests that increased social media use hampers study habits and influences educational performance (Jamil et al., 2020). The study's findings indicate that Facebook Addiction Disorder (FAD) has a significant adverse impact on the study habits and academic achievements of adolescents, with greater addiction

levels correlating to poorer study habits, resulting in reduced academic performance and grades. This research, encompassing 200 adolescents from diverse Indian schools, underscores the association between FAD and its detrimental effects on educational outcomes (Vashishtha et al., 2021). Furthermore, Bou-Hamad (2020) Research indicates significant associations between excessive social media usage, smoking, and romantic relationships, and decreased educational performance among undergraduate students in a developing nation. Interestingly, the research demonstrates that online social networks usage independently influences academic achievement, irrespective of other lifestyle habits, and introduces a predictive classification model offering insights into academic success.

Additionally, Wan Pa et al. (2021) found that online networking dependency negatively impacts academic performance. However, Barton et al. (2021) note that the research on the effects of online social networks usage on educational performance remains limited and inconsistent. Moreover, Social media addiction correlates with both grit personality and academic adaptation, whereas grit personality is directly correlated to academic adjustment (Siah et al., 2020). Studies indicate that heightened usage of online social networks, along with factors like smoking and romantic involvement, is linked to reduced educational accomplishments (Bou-Hamad, 2020).

Social Media Addiction: Compulsive Usage and Adverse Consequences

Social media addiction involves the compulsive and excessive utilization of platforms like Facebook, Twitter, and Instagram, yielding adverse outcomes. It manifests as a behavioral addiction, exerting tangible and spiritual impacts on individuals' lives, often leading to distress and irritability when separated from these platforms. Thomson et al. (2021) study offers insight into the nuances of this addiction. Addiction distinguishes itself from habit as a condition that substantially affects an individual's life.

Social media serves as a digital platform for content creation and idea sharing, often leading to behavioral addiction through excessive use. Notably, online networking dependency has garnered attention due to limited prior research and its classification as a novel form of addiction. A study by Ilğaz (2019) delved into this burgeoning phenomenon, revealing shifts in addiction levels and usage patterns based on different purposes. A study conducted in Shimla, India found that online social networks has a negative impact on the social life of teenagers (SiNgh, 2019). On the other hand, social media platforms can facilitate social interaction among students, but it may also lead to physical distance in face-to-face interactions (Chukwuere, 2021). Social media has the potential to connect people, share information, and influence human behavior positively or negatively (Singh N & Guruprasad, 2019). Most commonly used social media platform WhatsApp. More than half of students felt their academic productivity suffered because of online social networks use (Akakandelwa & Walubita, 2017).

Social Media and Study Habits

The focus on how an addiction to social media affects study habits has attracted significant notice, bringing to the forefront its potential impact on educational performance. An investigation carried out by Moreno (2020)

underscore a moderate level of Facebook addiction within this cohort. Simultaneously, the respondents exhibited high levels of study habits, offering an interesting contrast. Notably, the study's analysis did not reveal significant differences in the students' profiles, suggesting a degree of universality in the observed patterns. Crucially, dimensions of Facebook addiction exhibited a significant correlation with overall study habits. This correlation, suggesting a direct and positive connection between these variables, underscores the potential influence of engagement with online social networks on academic routines. It's crucial to acknowledge that social media addiction doesn't exclusively yield negative consequences for study habits. Certain studies have identified favorable impacts of online social networks on reading habits, albeit with the caveat of potential distractions during study sessions (Rafiq et al., 2019). Online networking dependency, along with excessive internet usage, can contribute to a diminishing reading culture among Nigerian students (Anyira & Udem, 2020). The dependency on online networking can yield both favorable and unfavorable outcomes for study habits, contingent on the particular context and patterns of usage. Another study focused on social media addiction in universities and found that excessive internet use can lead to unethical behavior and introverted internet activities (Urooge, 2020).

Interventions to Mitigate Social Media Addiction's Impact

Efforts to curb the impact of online networking dependency have led to the exploration of effective interventions. A study by Alemneh & Alemu (2021) underscores the potency of these integrated control strategies in mitigating social media addiction's impact. Stakeholders and policymakers are urged to apply these strategies within defined timeframes to achieve effective control over addiction outcomes. This rigorous approach provided insights into the potential outcomes and implications of the proposed interventions for online networking dependency. The exploration of integrated control strategies through mathematical modeling signifies a novel approach to addressing social media addiction's impact. As research in this realm progresses, the application and adaptation of these interventions hold promise for ameliorating the adverse consequences of excessive online social networks usage.

Social Media Usage: A Contributor to Mental Illness

Social media addiction has been found that it has both positive and negative effect on mental. Some prominent negative effects of social media include it disturbs the quality of sleep it increases the risk of suicidal thoughts and it increases the tendency of body image dissatisfaction because Social media exposes users to numerous images and photographs daily, including those featuring celebrities and models in the realms of fashion and fitness. Additionally, online social networks has been associated with a reduction in overall life satisfaction, as indicated by Sujarwoto et al. (2023). On a positive note, online social networks offers several benefits such as providing insights into others' health experiences, access to expert health information, aiding in the management of depression, offering Providing emotional assistance, fostering community development, enhancing and reinforcing real-world social networks, enabling self-expression and identity formation, and aiding in the establishment and sustenance of relationships, as elaborated in the publication 'Social Media and Its Impact on Mental Well-being'. (2020). Furthermore, research by Fekih-Romdhane et al. (2021) suggests that students with higher scores for online networking dependency are more likely to experience mild depression.

Beyond the digital realm, online social networks aids in broadening and fortifying It also fosters real-world networks and interactions while promoting self-expression and self-identity development, as noted by Fekih-Romdhane et al. (2021). Facebook and Twitter are perceived by users as valuable online resources for mental health support, offering a sense of connection and diminishing feelings of isolation, as highlighted by Brown, Rathbone, & Prescott (2021). Beneficial outcomes encompass access to health information and emotional support, as discussed by Sadagheyani & Tatari. (2021). The impact of social media on self-perception, mood, and social relationships spans a wide spectrum, with effects varying from positive to negative to neutral, as researched by Sharma et al. (2020). Particularly in the realms of self-esteem and well-being, online social networks exerts its most profound Its impact on the mental health of children and adolescents, as indicated by Richards et al. (2015). Furthermore, social media can be employed for the detection and anticipation of postpartum depression in new mothers (De Choudhury, 2014).

Future Research Directions and Implications

The evolving landscape surrounding online networking dependency and its impact on educational accomplishments offers numerous directions for future investigation. To address existing knowledge gaps, longitudinal studies could offer insights into the long-term consequences of online networking dependency. SMARTS, a publicly available web-based application for extracting, analyzing, and modeling addiction-related information, is capable of analyzing data from platforms like utilizing Reddit and Twitter to assess the impacts of different substances and identify individuals receptive to addiction recovery interventions, as detailed by Jha & Singh (2020). Additionally, intervention strategies targeting the Diminishing impulsiveness linked to addiction, curbing cravings, addressing cognitive difficulties, and resolving family-related issues were not necessarily mutually exclusive. This suggests that employing multiple approaches may prove effective in addressing Internet addiction, as evidenced by the findings of Xu et al. (2021). According to the findings of the study by Pauza et al. (2020), group counseling services that employ effective self-management techniques have the potential to decrease students' addiction to social media. The intervention program utilized cognitive reconstruction and support techniques in line with Young's recommendations for addressing Internet addiction, as highlighted by Hou et al. (2019). Therapists, parents, and educators can all contribute to helping individuals manage or prevent excessive social media usage by incorporating these strategies into counseling and educational programs (Brevers & Turel 2019).

Conceptual Framework

The framework illustrates the relationships between social media usage, perceived benefits of social media, academic performance, study habits, and time allocation for studying. Social media usage (IV) refers to the frequency and manner of students' engagement with social media platforms. The perceived benefits of social media (mediator) include academic resources, social connections, and stress relief. Academic performance (DV) measures students' grades and achievements. Study habits (DV) refer to consistent studying practices, techniques, and organization. Time allocation for studying (DV) is the amount of time students dedicate to their academic studies, influenced by social media usage and its perceived benefits (see Figure 1).

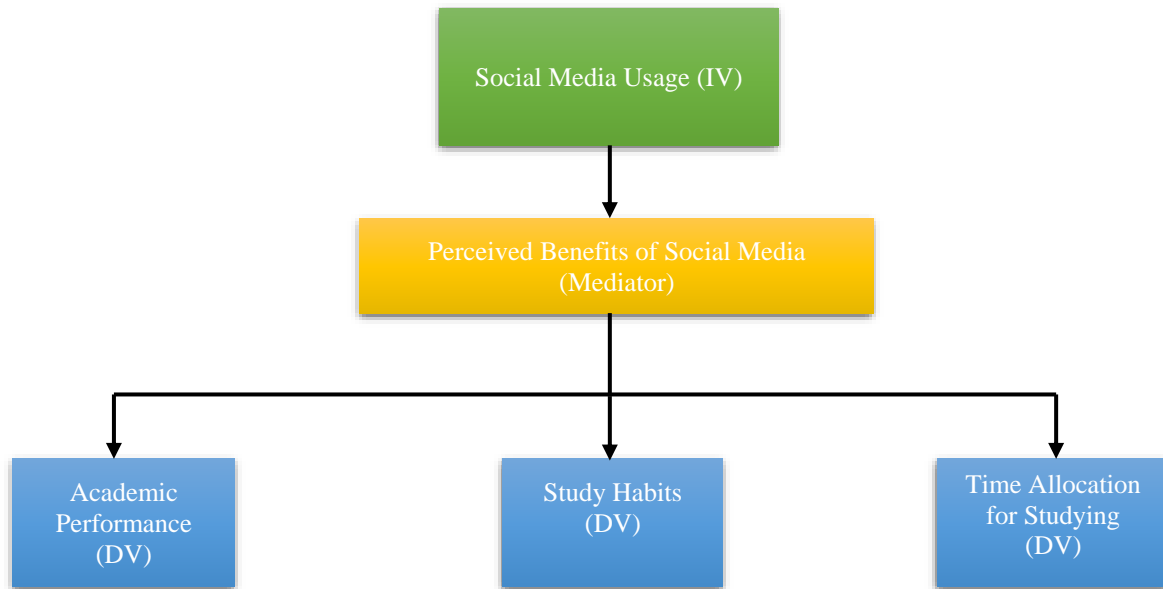


Figure 1. Conceptual Framework

Method

The present study employed a quantitative design using a survey questionnaire adapted from Peter (2015) to investigate the impact of social media addiction on high school students' academic performance in Khyber Pakhtunkhwa, Pakistan. A total of 402 students (283 males and 118 females) were selected through stratified random sampling. Both online and physical methods were used for data collection: the online survey was conducted via Google Forms, and physical copies of the questionnaire were distributed during school visits. SPSS was used for data analysis.

Participants

The participants were high school students from grades 8 to 12, drawn from 12 different public and private schools located in Khyber Pakhtunkhwa, Pakistan. The sample comprised 402 students, with 283 males (70.4%) and 118 females (29.6%), aged between 13 and 18 years. The sample size was determined based on practical considerations, including the feasibility of reaching and collecting data from a diverse range of schools within the region. To ensure representation from diverse educational settings, a stratified random sampling technique was used. This technique involved dividing the schools into different strata based on characteristics such as public vs. private institutions, and then randomly selecting schools from each stratum. This approach helped ensure that the sample included students from a variety of educational backgrounds and environments.

Instrument

The "Social Media and Academic Achievement of Students" (SMAAPOS) questionnaire, adapted from Peter (2015), was used for data collection to investigate the relationship between social media usage and academic

performance among high school students in Khyber Pakhtunkhwa, Pakistan. The questionnaire consisted of two sections: Part A collected demographic information, including age, gender, academic year, current academic percentage, preferred online social networks, and weekly study and social media usage hours, providing essential context for analyzing different student subgroups. Part B comprised 22 Likert scale questions, rated from 1 (strongly disagree) to 5 (strongly agree), which assessed various dimensions of online networking dependency, such as the frequency and intensity of social media use, academic distraction, time management, academic engagement, and perceived academic outcomes. This comprehensive instrument ensured a detailed examination of how social media influences students' academic experiences and outcomes.

Validity and Reliability

To ensure content validity, the questionnaire was reviewed by three experts in psychology and measurement. Based on their feedback, necessary revisions were made to enhance the clarity and relevance of the items. This process ensured that the instrument accurately captured the constructs of interest and was culturally and contextually appropriate for high school students in Khyber Pakhtunkhwa, Pakistan.

The reliability of the research instrument was assessed using a split-half test. This method involved dividing the questionnaire into two halves based on odd- and even-numbered items. The two halves were administered to a sample of students from a university not selected for the main study to avoid any bias. The Pearson Correlation Coefficient was calculated to determine the instrument's reliability. The coefficient value obtained was 0.75, indicating that the research instrument had a satisfactory level of reliability. Consequently, the SMAAPOS questionnaire was deemed reliable and suitable for collecting the desired information for the study.

Data Collection Procedure

Data were collected through questionnaires distributed to students during school hours by the researcher using both online and physical methods. Instructions were provided to students on how to fill out the questionnaire, as it was the first time for some of them. The online survey, conducted via Google Forms, garnered 218 responses. The questionnaire link was shared through social networking sites (Facebook, WhatsApp, and Instagram), with teachers also encouraging their students to participate. For the physical distribution, 190 copies of the questionnaire were handed out during school visits and retrieved on the spot by the researcher. In total, 402 valid responses were obtained after accounting for six missing questionnaires. Informed consent was obtained from both the students and the school principals prior to distribution. Participants were assured of the confidentiality of their responses and encouraged to answer honestly. The data collection period spanned from August to September 2023.

Data Analysis

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) software. Initially, the data from Google Forms and the physical questionnaire copies were imported into an Excel sheet and then

transferred to SPSS for analysis. Descriptive statistics were used to highlight the perceived benefits of using social media for academic purposes, including frequency, percentage, mean, and standard deviation. Regression analysis was conducted to examine the impact of social media addiction on high school students' academic performance. Additionally, multivariate analysis was employed to explore the influence of social media usage on study habits and time allocation for studying.

Results

Impact of Social Media Addiction on High School Students' Academic Performance

The constant term in Table 1 indicates the expected academic percentage when all predictor variables are zero, which is 59.953. Among the predictor variables, "Sharing Information with Classmates on Social Media" shows a statistically significant positive impact on academic performance ($\beta = 0.184, p < .001$). However, no statistically significant impacts were found for other variables including "Academic Discussion on Social Media Platforms" ($p = .079$), "Relying Solely on Social Media for Assignments" ($p = .840$), "Losing Concentration due to Social Media Interruptions" ($p = .995$), and "Time Spent on Social Media Takes Away from Studying" ($p = .287$).

Table 1. Coefficients Analysis

Model	Description	Coefficient (B)	Std. Error	Beta	t-value	Sig.
(Constant)		59.953	4.381		13.684	.000
	Engage in academic discussion on social media	1.126	.640	.092	1.760	.079
	Share information with classmates on social media	2.299	.658	.184	3.496	.001
	Rely on social media for assignments	.116	.575	.010	.203	.840
	Lose concentration after using social media	.003	.539	.000	.006	.995
	Social media use takes time away from studying	-.558	.524	-.053	-1.066	.287

Impact of Social Media Usage on Study Habit and Time Allocation for Studying

The effects analysis for the impact of social media usage on study habits and time allocation for studying reveals that none of the models in Table 2 are statistically significant.

Table 2. Tests of Between-Subjects Effects

Dependent Variable	F	Sig.	Partial Eta Squared
Time spent on social media reduces study time	.976	.525	.125
Social networks distract from studies	.970	.536	.124
More hours on social media than reading school content	1.125	.270	.141
Interrupting study time with social media	.936	.601	.120

The F-values range from 0.936 to 1.125, with p-values between 0.270 and 0.601, indicating no significant impact

($p > 0.05$). However, the Partial Eta Squared values, ranging from 0.120 to 0.141, suggest moderate to large effects. These findings imply potential but non-significant influences of social media usage on study habits and time allocation, warranting further investigation.

Perceived Benefits of Social Media Usage in Academics

The descriptive statistics in Table 3 indicate that participants perceive moderate benefits from using social media for academic purposes. They reported relatively high engagement in academic discussions ($M = 3.82$, $SD = 0.98$) and information sharing with classmates ($M = 3.77$, $SD = 0.96$). Also, participants moderately followed field developments ($M = 3.53$, $SD = 1.07$) and participated in social media course groups ($M = 3.59$, $SD = 1.06$). They also believed that social media usage moderately improved their grades ($M = 3.47$, $SD = 1.07$) and communication skills ($M = 3.30$, $SD = 1.15$). Overall, the results suggest that participants generally perceive moderate benefits in using social media for academic purposes, reflected by the relatively high mean scores across all items.

Table 3. Descriptive Statistics

Perceived Benefit	N	Mean	Std. Deviation	Minimum	Maximum
Engage in Academic Discussion on Social Media	401	3.82	0.98	1.00	5.00
Share Information with Classmates on Social Media	401	3.77	0.96	1.00	5.00
Follow Latest Field Developments on Social Media	401	3.53	1.07	1.00	5.00
Belong to Social Media Groups for Course	401	3.59	1.06	1.00	5.00
Social Media Usage Improves Grades	401	3.47	1.07	1.00	5.00
Social Media Enhances Communication Skills	401	3.30	1.15	1.00	5.00

Discussion

Impact of Social Media on High School Student's Academic Performance

The analysis revealed that "Sharing Information with Classmates on Social Media" had a statistically significant positive impact on academic performance ($\beta = 0.184$, $p < .001$). This suggests that using social media platforms for educational purposes, such as sharing academic information with peers, can enhance academic outcomes among high school students. These findings align with previous research by Iqbal et al. (2023), indicating that students' engagement in social media networking activities results in increased focus on their academic pursuits and greater investment of time and effort in their studies.

Conversely, no statistically significant impacts were found for other variables in the study, such as "Academic Discussion on Social Media Platforms" ($p = .079$), "Relying Solely on Social Media for Assignments" ($p = .840$), "Losing Concentration due to Social Media Interruptions" ($p = .995$), and "Time Spent on Social Media Takes Away from Studying" ($p = .287$). These findings suggest that, while these aspects of social media usage are common among high school students, they do not significantly influence academic performance in this context.

This contrasts with studies by Lau (2017) and Chang et al. (2019), which identified significant negative impacts of social media distractions on academic outcomes. The discrepancy might stem from differences in study design, demographic characteristics, or variations in social media usage patterns and time management strategies among different student populations. Specifically, high school students may use social media differently than university students, which could explain the divergent findings.

One possible explanation for these non-significant findings is the variability in individual behaviors and preferences regarding social media usage. While some students may experience distractions or difficulties balancing social media and academic responsibilities, others may have developed effective strategies to manage their time and prioritize their studies. Additionally, the specific nature of the content and interactions on social media platforms may also play a role. For instance, academic discussions on social media may not be as structured or focused as traditional study methods, thus not contributing significantly to academic performance. Further research is needed to explore these dynamics in greater detail, considering factors such as the type of social media platform, the quality of interactions, and individual differences in self-regulation and time management. Understanding these nuances can help educators and policymakers develop targeted interventions that maximize the positive impacts of social media on academic performance while mitigating potential drawbacks.

Impact of Social Media Usage on Study Habit and Time Allocation for Studying

The analysis indicated that social media usage did not have statistically significant effects on study habits and time allocation for studying, with F-values ranging from 0.936 to 1.125 and p-values between 0.270 and 0.601. Despite this, the Partial Eta Squared values, ranging from 0.120 to 0.141, suggest moderate to large effects, pointing to potential but non-significant influences of social media. These findings are consistent with existing literature, which highlights the role of social media as a significant distractor from academic responsibilities. Previous research, such as the study by Akakandelwa and Walubita (2017), supports the notion that social media can displace time that might otherwise be allocated to academic tasks. The reported displacement effect aligns with these studies, indicating that social media usage may replace valuable study time, even if not consistently captured by statistical significance in our analysis.

Moreover, the association between interruptions caused by social media and loss of concentration is consistent with the broader literature on the attention-diverting nature of social networking platforms. The findings align with Akakandelwa and Walubita's (2017) observation that social media can negatively impact academic productivity. Although our study did not find statistically significant effects, the moderate to large effect sizes suggest a meaningful trend that supports existing research. This indicates that social media usage could still have substantial implications for study habits and academic performance, underscoring the need for further investigation into its impact on students' educational experiences.

Perceived Benefits of Using Social Media for Academic Purposes

The study revealed that high school students in Khyber Pakhtunkhwa, Pakistan, perceive moderate benefits from

using social media for academic purposes. The participants reported a moderate level of engagement in academic discussions on social media platforms ($M = 3.82$, $SD = 0.98$), suggesting the potential of these platforms to extend collaborative learning environments beyond traditional classroom settings. Similarly, the act of sharing information with classmates through social media was perceived as moderately beneficial ($M = 3.77$, $SD = 0.96$), indicating that social media serves as a valuable tool for knowledge dissemination and peer support. The participants also demonstrated a moderate inclination to use social media to stay updated with the latest developments in their fields ($M = 3.53$, $SD = 1.07$), underscoring the platform's role as a dynamic source of timely and relevant information. These findings align with previous research conducted in India by Singh and Guruprasad (2019), which highlighted social media's potential to connect individuals, facilitate information sharing, and influence human behavior positively or negatively.

Furthermore, participants believed that using social media for class-related research moderately improved their grades ($M = 3.47$, $SD = 1.07$) and communication skills ($M = 3.30$, $SD = 1.15$). These findings are consistent with research conducted in Malaysia by Ainin et al. (2015), which highlighted the value of social media in fostering collaborative learning and information exchange. Similarly, Manca and Ranieri (2016) found that Italian university students perceived social media as beneficial for enhancing communication skills and accessing course materials, emphasizing the importance of digital literacy in maximizing these benefits.

The consistent findings across these studies point to a broader trend: social media, when used effectively, can complement traditional educational methods by providing a platform for enhanced communication, information sharing, and academic engagement. However, the moderate levels of perceived benefits also highlight the need for targeted strategies to maximize these advantages. Educational institutions and policymakers should leverage these insights to promote responsible social media use and enhance digital literacy among students.

Conclusion

Our study highlights several key findings regarding the impact of social media on high school students' academic performance and study habits. We found that "Sharing Information with Classmates on Social Media" significantly enhances academic performance, demonstrating the potential of social media platforms as valuable tools for collaborative learning and academic support. However, despite moderate to large effect sizes suggesting potential impacts, our analysis did not find statistically significant effects of social media usage on study habits and time allocation. This suggests that while social media can be a distraction, its impact may vary widely among students depending on individual behaviors and time management strategies. Additionally, high school students perceive moderate benefits from using social media for academic purposes, including improved communication skills, access to timely information, and enhanced collaborative learning. These findings align with the broader literature, emphasizing social media's potential to complement traditional educational methods.

These findings have important implications for educators and policymakers. The positive impact of sharing academic information via social media suggests that integrating social media into educational strategies could enhance student engagement and performance. However, the non-significant effects on study habits and time

allocation highlight the need for developing effective time management and self-regulation strategies to mitigate potential distractions. This study's limitations include its focus on high school students in a specific region, which may limit the generalizability of the findings. Additionally, the self-reported nature of social media usage and academic performance may introduce bias. Future research should explore the impact of different types of social media platforms and the quality of academic interactions on these platforms. Longitudinal studies could provide deeper insights into the long-term effects of social media on academic performance and study habits, helping to develop targeted interventions that maximize the positive impacts of social media on education.

Recommendations

To enhance student engagement and academic performance, educators and policymakers should consider integrating social media into educational strategies. This integration could involve using social media for sharing academic information, facilitating group discussions, and promoting collaborative learning activities. Additionally, promoting effective time management and self-regulation strategies is crucial to mitigate the potential distractions of social media. Enhancing students' digital literacy will enable them to use social media responsibly and engage in productive academic interactions.

Further research should explore the impact of different social media platforms and the quality of academic interactions on these platforms, providing deeper insights into their long-term effects on academic performance and study habits. Longitudinal studies could help develop comprehensive strategies that leverage the positive impacts of social media while mitigating any negative effects. By implementing these measures, educators and policymakers can maximize the benefits of social media for high school students' academic experiences.

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