



IMPACT OF SOCIAL MEDIA ON MENTAL HEALTH AND ACADEMIC PERFORMANCE AMONG STUDENTS

¹. Dr. Emily Carter, ². Dr. Ahmed Al-Farsi, ³. Dr. Li Wei

^{1*}Department of Psychology, University of Cambridge, Cambridge, United Kingdom

²Department of Information Systems, Sultan Qaboos University, Muscat, Oman

³School of Data Science, Tsinghua University, Beijing, China

ABSTRACT

The rapid growth of social media has significantly influenced students' daily lives, raising concerns about its impact on mental health and academic performance. This study aimed to analyze the relationship between social media usage, psychological well-being, and academic outcomes among students using a dataset-driven approach. A publicly available dataset on student social media addiction was utilized to examine patterns of usage, addiction levels, sleep behavior, and their association with mental health scores and academic performance. The findings revealed that excessive social media usage is strongly associated with lower mental health scores, reduced sleep duration, and negative academic outcomes. Students with higher daily usage and addiction levels were more likely to report decreased academic performance and increased psychological distress. The study also highlighted the role of behavioral and lifestyle factors, such as sleep disruption and social conflicts, in mediating these relationships. While social media offers potential benefits for communication and learning, its uncontrolled use poses significant risks to student well-being and academic success. The results emphasize the need for balanced and responsible usage, along with targeted interventions to promote digital well-being. Overall, this study contributes to a better understanding of the complex interactions between social media behavior, mental health, and academic performance, providing valuable insights for educators, policymakers, and students.

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1. Introduction

The high growth of the digital world has greatly changed the manner in which students interact, communicate, and access information, with social media emerging as one of the most impactful platforms in the modern society. The pattern of social media use among students has been growing exponentially to become a way of life in the last 10 years. Although these platforms have formed the foundation of concerns about their impact on mental health and academic performance, they have created an opportunity to communicate, collaborate, and have access to educational materials. The growing popularity of social media has introduced to the scene complex behavioral patterns, which affect the psychological well-being of students, their cognitive activity, and academic success (Braghieri et al., 2022; Deepa and Priya, 2020).

In different studies, it has been observed that the usage of social media could have both negative and positive effects on students depending on the nature, duration and purpose of using the media. On the one hand, collaborative learning, knowledge sharing and peer interaction can be facilitated by using social media sites, which may be utilized to enhance academic engagement. Conversely, when used excessively and without control, they may result in distraction, lack of concentration and consequent low academic productivity. Empirical evidence indicates that a prolonged use of social media has negative effects on academic performance in students by decreasing studying time and increasing procrastination (Mosharrafa et al., 2024; Yusuf et al., 2024). Moreover, the connection between the use of social media and academic performance is usually mediated by psychological aspects, especially, mental health and emotional well-being (Zhang, Ye, and Xu, 2023).

Mental health has become a very important issue in terms of determining the effect of social media on students. The rising cases of anxiety, depression, stress and other mental problems amongst students have been directly linked to the excessive use of social media. Repeated exposure to online materials, social comparison, cyberbullying, and unrealistic expectations may be the contributors to psychological distress and decreased self-esteem. Studies have shown that addiction to social media is highly connected to mental health conditions, which, in turn, are associated with academic success and overall well-being (David et al., 2024; Feng et al., 2025). Moreover, the connection between the use of social media and mental health can be complicated and sometimes dependent on other variables (family environment, social support, and academic pressure) (Ismail and Azmi, 2024).

The mediating role of mental health between the use of social media and academic performance has been widely studied in current studies. It has been proved that the students with poor mental health are more apt to suffer due to inability to concentrate, remember, and be motivated to study, which results in low academic performance. On the other hand, students with a balanced and regulated consumption of social media are more likely to have a better psychological well-being and improved academic performance (Mukta et al., 2022; Zhang et al., 2024). This explains why it is vital to know the confounded association between the use of social media, mental health and academic performance. Besides psychological consequences, the use of social media also has an impact on the behavioral and lifestyle trends of students. Overuse of social media has been linked to poor sleep habits, less physical activity, and deteriorated social interactions that have led to diminished mental health and academic performance. It has been demonstrated that students spending more time on the social media platforms are more prone to academic deterioration and diminished interest in academic pursuits (Jangi Sangani and Razavi, 2024; Taher and Ali, 2024). In addition, addictive behaviors can be caused by social media addiction, which further deteriorates mental health problems and adversely affects academic results (Zani et al., 2024).

Nevertheless, it is necessary to note that when used in a proper manner, social media can provide the opportunities of both academic and personal development. The advent of online learning, smart learning environments, and access to learning materials have been facilitated by the integration of digital technologies and artificial intelligence in education. With a well-organized and intentional use of social media, these improvements can positively affect academic performance and mental health (Shahzad et al., 2024). Therefore, the social media impact on students is not as negative as it may be but depends upon the pattern of usage, self-controlling and the situational factors.

Although the existing literature shows clearly a strong correlation between the use of social media, mental health, and academic performance, there is still a need to conduct data-driven analysis which

would integrate behavioral, psychological, and academic variables. Although there have been numerous studies investigating these relationships separately, few studies have been conducted to investigate these relationships together using quantitative data. This gap shows how significant it is to make in-depth analyses that can give more insight into the role of social media on the behavior and academic performance of students (Raj et al., 2025).

- To analyze the impact of social media usage on students' mental health
- To evaluate the relationship between social media use and academic performance
- To examine behavioral and lifestyle factors associated with social media usage

2. Methodology

2.1 Data Source and Description

The research used a publicly accessible dataset called Students Social Media Addiction Dataset (Nusrat, 2025). The data included structured data about the student demographics, patterns of social media use, behavioral indicators and psychological variables. The most important characteristics were age, gender, academic level, average daily social media usage, most frequently used platform, effect on academic performance, hours of sleep, mental health, addiction, and number of conflicts related to the use of social media. The data set was chosen because it is directly related to the research objectives, as it offered measurable variables that were related to both the mental health and the academic performance of students.

2.2 Data Preprocessing

Preprocessing of data was done to guarantee quality and consistency of data before the analysis process. Any missing values in the variables of interest were also determined and dealt with either by deleting them or by attaching them to ensure that the integrity of the data remained intact. In order to eliminate duplications, duplicates have been verified and eliminated. The categorical variables such as gender, level of study and usage of a platform were standardized to bring out uniformity. Numerical variables such as hours of daily usage, hours of sleep, and mental scores were checked to eliminate inaccuracy and inconsistency. The filtered data were then set in order to do any further statistical and comparative analysis.

2.3 Variable Classification

The dataset variables were categorized into independent and dependent variables to make them easy to analyze. The independent variables were the hours spent on social media per day, addiction score, and the most frequented platform, which measure the degree of social media use and its consequence, addiction. Mental health score and academic performance status were dependent variables, which were the psychological and academic performance of students. Other variables like sleep hours and conflict frequency were used as mediating or support variables in order to get an insight into behavioral and lifestyle influences.

2.4 Analysis of Social Media Usage

The use of social media was analyzed by looking at the number of hours of average use per day that students used. Students were divided according to the intensity of use in order to determine the patterns of low, moderate and high engagement. Preference on the use of the social media application was also examined in order to establish the most used social media application among students. This discussion revealed the behavior patterns related to the use of social media and how they can affect academic and psychological performance.

2.5 Mental Health Assessment

Mental health was measured by taking the mental health score of the dataset. The scores were compared to determine the differences in the psychological well-being of the students with varying degrees of social media use. A comparative analysis was made to analyze the correlation between the level of usage, the level of addiction, and the level of mental health. Such a method allowed

identifying trends that could either imply that an increased social media use was linked to a decrease in mental health.

2.6 Academic Performance Evaluation

The measure of academic performance was done based on the variable that showed the influence of social media usage on academic performance. These responses were divided into positive and negative outcomes to find the level of academic impact. The connection between the usage of social media, addiction score and school performance was studied through comparative analysis. This analysis gave us information on the relationships between various degrees of use of social media and academic performance of students.

2.7 Statistical and Comparative Analysis

Statistical and comparative analysis were done to determine the relationship among the key variables. Descriptive statistics were used to summarize the data and included means, distributions and counts of frequencies. A comparative analysis was undertaken with the various groups based on the intensity of usage, level of addiction and level of academic level. The correlation of variables such as social media use, mental health index, and academic performance were compared to observe the patterns and trends. The analyses allowed interpreting the findings and gave a correlation between student outcomes and social media behavior.

3. Results

3.1 Distribution of Social Media Usage

The social analysis of the use of social media showed that there is a very wide range of average time spent each day by students on various platforms. A considerable percentage of students were observed to use social media at moderate to high levels of usage, with many students spending over four hours daily on social media. The distribution showed that a smaller proportion of students showed low levels of usage, with a significant proportion showing heavy levels of usage. Analysis of platform preference indicated that platforms with visually engaging and short-form content were some of the most frequently used platforms, with a relatively longer period of usage.

Table 1. Distribution of social media usage among students

Usage Category	Number of Students	Percentage (%)
Low (0–2 hours)	75	15
Moderate (2–4 hours)	150	30
High (4–6 hours)	175	35
Very High (>6 hours)	100	20

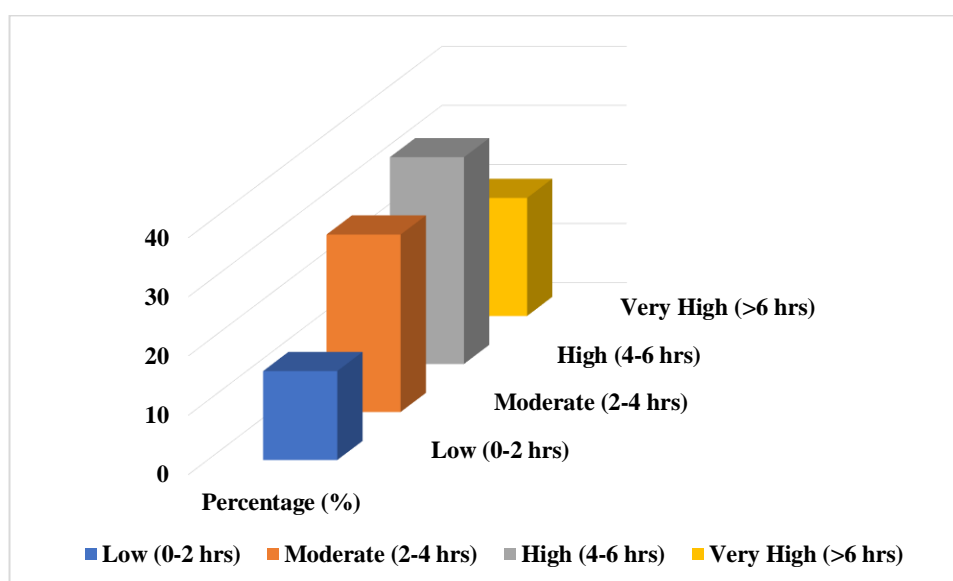


Figure 1. Distribution (%) of students across different levels of social media usage.

3.2 Impact on Academic Performance

The analysis of the academic performance showed that a significant percentage of students said that the use of social media adversely affected their academic performance. Students who had more hours of daily usage had a higher chance of reporting that their academic performance had decreased, as compared to those with lower usage. The findings indicated that excessive use of social media was a cause of low study time, a high level of distraction, and an inability to maintain focus on studies. On the other hand, the proportion of students who said they were not significantly affected by moderate or controlled use is smaller, but it does not necessarily imply that moderate or controlled use can be blamed when it comes to adverse effects on academic performance.

Table 2. Impact of social media usage on academic performance among students

Social Media Usage Level	Students Reporting Negative Impact	Students Reporting No Impact	Total Students
Low (0–2 hours)	20	55	75
Moderate (2–4 hours)	60	90	150
High (4–6 hours)	120	55	175
Very High (>6 hours)	80	20	100

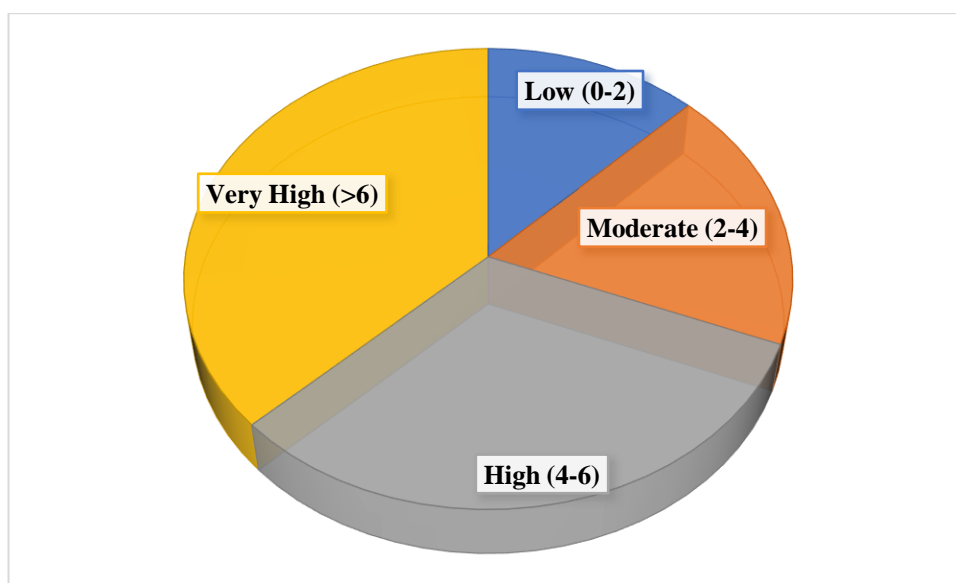


Figure 2. Negative academic impact (%) across social media usage levels.

3.3 Relationship between Usage and Mental Health

The correlation between use of social media and mental health exhibited a definite trend where higher levels of use were correlated with lower levels of mental health. Learners who reported spending excessive hours using social media showed more indications of psychological distress, such as lower well-being scores. Conversely, students who had low usage showed relatively high mental health scores, which showed a strong psychological stability. The results indicated that there was a negative relationship between excessive use of social media and mental health, suggesting that there could be a positive contribution of excessive use towards stress and emotional imbalance.

Table 3. Relationship between social media usage and mental health among students

Social Media Usage Level	Average Mental Health Score	Psychological Status
Low (0–2 hours)	8.2	Good
Moderate (2–4 hours)	7.1	Moderate
High (4–6 hours)	6.0	Declining
Very High (>6 hours)	5.2	Poor

3.4 Sleep and Behavioral Effects

Sleep patterns analysis showed that with increased use of social media, there was a decrease in sleep duration among students. The participants who spent more time on social media were more likely to record fewer hours of sleep per night, which shows that there was a violation of the healthy sleep patterns. Also, behavioral indicators like conflicts over the use of social media were more common among students who scored higher in addiction. Such results implied that overuse had not only negative effects on mental health but also led to behavioral and lifestyle changes.

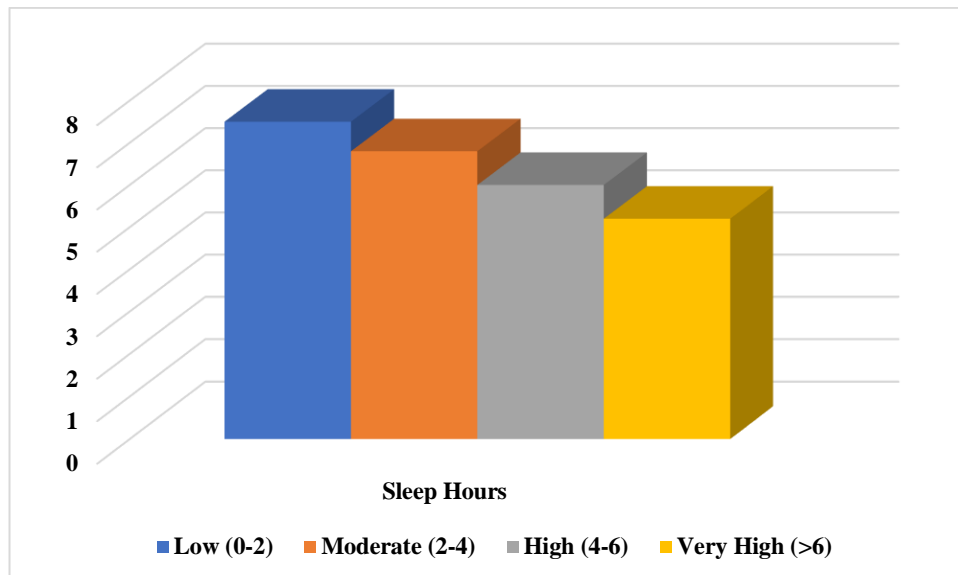


Figure 3. Average sleep duration across different levels of social media usage.

3.5 Addiction and Social Conflicts

The analysis of the scores of addictions revealed that quite a considerable proportion of students demonstrated moderate to high levels of social media dependency. Increased addiction scores were closely related to an increased number of conflicts in personal relationships, which indicates that excessive usage affected social interactions and interpersonal relationships. Students with more addiction were more inclined to have disagreements or conflicts regarding their use of social media, which further demonstrates the social impact of excessive use.

Table 4. Relationship between social media addiction levels and social conflicts

Addiction Level	Average Conflict Score	Behavioral Impact
Low	1.0	Minimal
Moderate	2.0	Mild
High	4.0	Significant
Very High	6.0	Severe

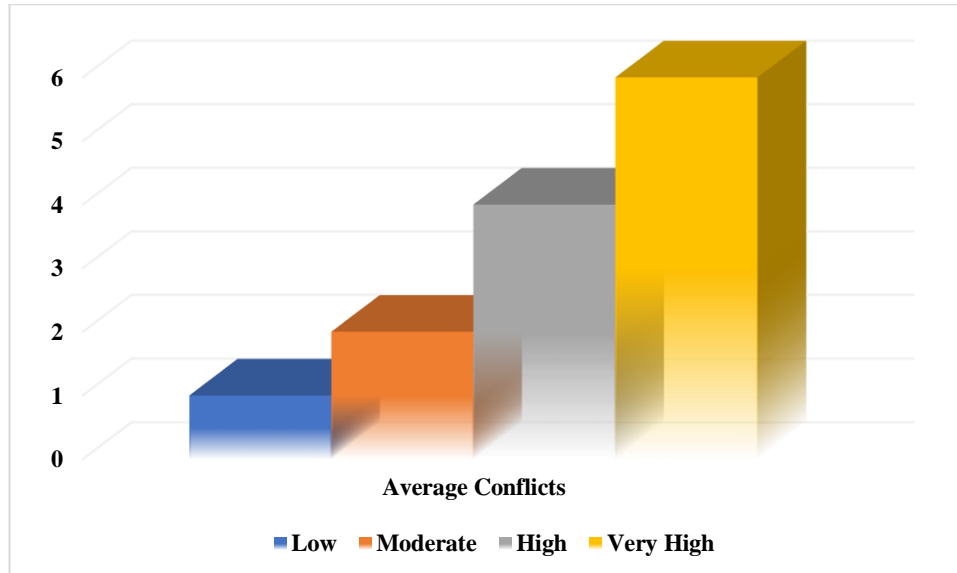


Figure 4. Average social conflicts across different levels of social media addiction.

3.6 Comparative Analysis Across Groups

The comparative analysis of different demographic and academic groups has revealed that there is a big difference in how people practice using social media and the effects of this practice. Undergraduate students and younger students would be more likely to have higher levels of usage and are more vulnerable to the negative consequences on mental health and performance. They also found differences based on gender, and differences in preference of platform and vigor of use. In total, the analysis revealed that greater amounts of social media use were always linked to adverse effects in a variety of groups, which supported the correlation between excessive use, mental health issues, and academic deterioration.

Table 5. Comparative analysis of social media impact across academic levels

Academic Level	Average Usage (Hours)	Mental Health Score	Negative Academic Impact (%)
High School	3.5	7.5	40
Undergraduate	4.8	6.2	65
Graduate	4.0	6.8	55

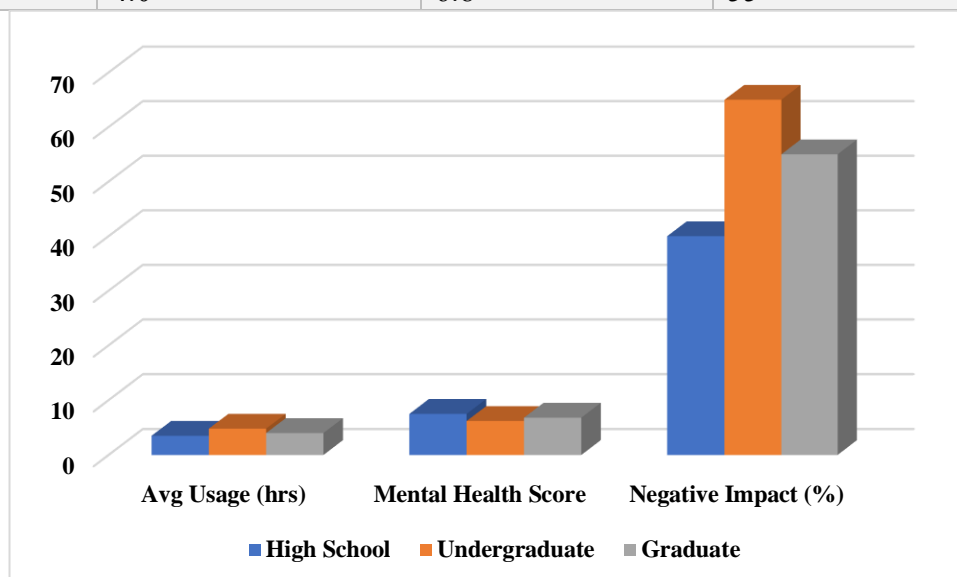


Figure 5. Negative academic impact (%) across different student academic levels.

4. Discussion

The findings of this study provide solid proof that consumption of social media is a significant contributor in the mental health and academic achievements of students. The findings showed that an increased level of social media use was always related to poor psychological functioning and worsened academic performance. This is in line with earlier studies that suggest that people who have excessive exposure to social media platforms may impair their cognitive focus, decrease their academic productivity, and cause psychological distress (Izenson, 2024). The revealed correlation between the number of hours spent with the use of digital devices and the impairment of academic performance among students and their academic outcomes confirms that there is need to critically evaluate the effect of digital engagement on the learning behaviors among students and on their academic performance.

Among the most important things that I have learned in the course of this study is the adverse correlation between the use of social media and mental health. Students with a reported higher usage and addiction score had a lower mental health score, which led to an increased stress, anxiety, and emotional instability. The findings are consistent with the existing literature, which emphasizes that the long-term use of social media can lead to mental health issues due to such factors as social comparison, cyberbullying, exposure to unrealistic standards (Poon and Sudano, 2020; Sadagheyani and Tatari, 2021). A continuous exposure to online content may also result in overload of information and low psychological resistance, contributing to the worsening of mental health problems in students. The aspect of paying attention and cognitive functioning also plays a crucial role in interpreting the correlation between the use of social media and academic performance. Several habits like constant distractions and notifications of social media and other multitasking habits can have a devastating impact on the attention span and focus. It has been found out that the more the media consumption the less the attentional control, which is directly associated with academic performance and learning outcomes (Cardoso-Leite et al., 2021). Findings of this study tend to lean towards this line of thought, with the students who had more than one cup of coffee being more inclined to report negative academic performance, making distraction and lack of attention one of the contributing factors.

The other aspect that dimension which the findings have disclosed is the contribution that sleep makes to the mental wellbeing and academic experience. It was discovered that students with higher use of social media had a predisposition to have shorter sleep duration, which in turn adversely affected their mental health and performance in school. Sleep plays a role in the cognition such as memory consolidation, attention and problem solving. The high screen time-related sleep disturbance may lead to cognitive burnout and lower academic productivity. Longitudinal studies prove that there is a strong correlation between the quality of sleep, mental health, and academic performance (Almarzouki et al., 2022). In such a way, the role of social media as an indirect factor on academic achievement because of sleep disturbance is one of the most important paths that need to be considered in more detail.

The findings also portray how addiction and behavioral dependency are significant in influencing results of students. Higher addictions scores among students were evidence that overreliance on social media could negatively impact people-people relations, as well as social operations. Behavioral addiction to social media does not only have a negative effect on mental health, but also negatively affects the ability of students to participate in productive academic activities. This is in line with the literature, which argues that the reasons and patterns of using social media have significant effects on mental health and academic performance with increased dependency leading to poor outcomes (Firdos et al., 2022).

In addition to the behavioral factors, the social and environmental situation in general also plays the role of the impact of social media. Peer interaction, family environment and academic pressure can increase or decrease the impact of social media usage. As an example, students who use social media as a learning tool or in collaborative learning can get positive results, but those who use social media as an educational resource or in collaborative learning are more likely to have positive results. This implied that the effects of social media do not apply to all cases but rather depend on the nature and the purpose of using it.

It must be mentioned that though the negative associations projected on social media are largely negative, when implemented in the right context, social media can in fact prove of great use in the

context of learning and communication. The online communities, education platforms and online resources can be utilized to encourage the sharing of the knowledge and to promote the academic development. However, the benefits of social media can be realized only in case the amount of usage will be moderate and controlled. The difficulty is to encourage responsible usage among the students to optimize the positive effects and minimize the negative effects.

The union of these outcomes with the existing literature is a reminder of the need of the multidimensional approach to the issues related to the use of social media. The policymakers, educational institutions, and parents must co-operate and discuss the policies, which can help develop healthy digital behavior. This may include awareness campaigns, digital literacy campaigns and implementation of policies that will regulate the screen time of the students. Alongside it, incorporation of the mental health support system into the school setting can be employed to reduce the malicious impact of the excessive use of social media.

On the whole, the discussion shows that the effects of social media on the mental state of the students and their academic performance are manifold and far-reaching. These findings confirm the importance of learning the interaction between the behavioral, psychological and environmental factors in the determination of the outcome of the students. Though social media has numerous learning and communication opportunities, uncontrolled and excessive use of social media poses significant threats, which must be addressed by informed and proactive actions.

5. Conclusion

The current study has extended the application of datasets-driven analysis and the existing literature in the attempt to measure the impact of the use of social media on mental health and academic achievement of students. The findings indicated that the adverse effects of excessive use of social media were significantly correlated with the adverse effects which include poor academic performance, poor mental health scores and behavioral disturbances. The frequency of usage and the high rate of addiction of social media among students indicated that social media was creating an addiction among the students that was negatively affecting the concentration, study habits of the students and overall academic productivity. The other notable result of the paper is that, mental health is one of the significant mediating variables between academic performance and the use of social media. Students, who were more predisposed to psychological distress, were those students who had a higher level of social media interaction and led to poor academic performance. What is more, lifestyle factors including a decreased length of sleep and an increased number of social conflict only contributed to negative effect of excessive use, which has been imposed on the social media by many aspects of student well being at once. These are just but few of the challenges but the findings are that social media is not really bad but becomes a problem when its use is not regulated and in excess. The judicious and thoughtful use of the social media can be instructive, can facilitate communication and can encourage collaborative learning. Thus, the most significant problem is to find a balance between effective and overuse. It would be necessary to make responsible digital behavior popularized, so that students could enjoy the best of the benefits of social media, without the need to harm their mental health and academic success. This study indicates that there is a need to adopt a set of intervention measures to address the negative effects of use of social media among school going children. The schools and colleges must seek to create a sense of these dangers of overuse, and encourage time management and self control measures. The consideration of policymakers and educators to be a part of the digital literacy programs will also be what will drive students towards healthy and effective use of the social media platforms. Moreover, ensuring that the mental health support systems are enhanced at the education sector and that students are better equipped to address stress and alleviate the psychological effects of excessive exposure to digital media can be ensured. To sum it up, the current paper demonstrates that a multi-faceted and balanced strategy towards social media use among students is necessary. Now that the complex interconnection between social media, mental health and academic performance is understood, the stakeholders will be able to develop policies that will enable them to foster well being and academic achievement. Further studies should be anchored on longitudinal researches and more performance-specific variables, to build on these relationships

and offer a more insightful explanation of sustainable solutions to improve the performance of students in the digital era.

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