EFFECTS OF SOCIAL MEDIA ON PSYCHOLOGICAL WELLBEING AND ACADEMIC PERFORMANCE AMONG UNIVERSITY STUDENTS IN SINDH

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ABSTRACT

Social media usage has been a defining characteristic of the digital age, and its effects have been felt among university students, particularly regarding their academic performance and psychological well-being. This study examines the role of social media in these areas. A sample of 600 full-time undergraduate students from the Faculty of Social and Natural Sciences, from Universities of Sindh, participated in the survey. It is a fact that Social media had favorable and unfavorable impacts on students' mental health and academic performance. According to this study, social media addiction has a moderate but statistically significant relationship with grade point average (GPA). The correlation between social media addiction, psychological well-being, and academic performance was negative. Further, males showed higher levels of social media addiction than females. According to these findings, social media addiction negatively impacts students' academic performance and psychological well-being. It is concluded that Students need to use social media responsibly by participating in awareness sessions to learn about its positive and negative effects and following guidelines set by their institution. To ensure academic success, universities
should allow only necessary academic applications in labs and discourage the compulsive use of social media.

KEYWORDS
Social Media Addiction, Psychological Wellbeing, Academic Achievement, CGPA, University Students

INTRODUCTION
Social media are computer-based platforms that enable us to share globalization of ideas, information, and thoughts, as well as exchange information and thoughts of mutual interest within the virtual communities we belong to. In recent years, social media technologies have become more prevalent in students, who utilize them on a regular basis. Although social media was considered as type of technologies used primarily for social and entertainment reasons, social media applications have progressively gained acceptance as tools for educational purposes (Badri et al., 2017).

After the advent of social media in the digital environment, scrolling and clicking have become fingers' most significant cognitive activities. Most individuals who remain online spend a substantial amount of time on social media alone. Due to compulsive behavioral media designed to bring families and friends closer, individuals increasingly separate from their families. Overuse of social media applications, an uncontrollable need to log on, and spending extra time on social media are all symptoms of social media addiction, which may have a negative impact on other parts of life (Stansbury et al., 2020).

Among people in today's worldwide system of intensive communication, internet use has tremendously impacted their social interactions (Costa et al., 2016). Internet discovery has facilitated social media's expansion in applicability and usefulness, and it is quickly becoming the most prominent communication medium among students, particularly those pursuing higher education degrees and diplomas. The use of social media is becoming increasingly common in higher education settings, mainly because teachers are using technology to enhance their delivery better to increase learning among their students (Kaya & Bicen, 2016). In educational contexts, social media use boosts students to interact and produce very complete and comprehensive learning via communication, critical thinking, and cooperation, which results in more thorough and detailed learning (Wan Pa et al., 2021).

There is no doubt regarding the value of communication via social media, which may serve as channels for information between family members, as well as a source for children's socialization and education from the time they are born until they reach maturity (Newham, 2012).
Facebook, WhatsApp, Instagram, TikTok, and YouTube, and other social media platforms are among the most frequently utilized sources of information at the global level including Pakistan (Abbas et al., 2019). Social media users were 4.55 billion by 2021, and this number is growing at a 9.9 percent annual pace. Over 46 million people in Pakistan use social media. This number grew by 9.0 million (24 percent) from 2020 and 2021. It is predicted that since the outbreak of the coronavirus pandemic and its associated steps of social isolation, the number has grown significantly (GDR, 2021). Compulsion use of social media in students defined as students who are addicted to social media sites/apps spend so much time on them with smartphones, tablets, or laptops that they can't do other things like go to work or go to school, college or university, have no good relationships with other people, or stay psychologically fit. This can cause a lot of academic, professional and personal problems in students’ lives (McNicol & Thorsteinsson, 2017).

When it comes to how individuals become addicted on the internet and social media, there are many theories out there. The theories of dynamic psychology, behavioral explanation, social control theory, biological explanation, and cognitive explanation are among the most important. When looking at the roots of social networking addiction, dynamic psychology theory suggests that it may be linked back to childhood traumas, personality traits, and socioeconomic status (Pajares et al., 2009). According to the theory of social control, since addiction manifests itself differently depending on one's age, gender, socioeconomic level, and nationality, some forms of dependence are more probably to be found in particular parts of society than in other groups, depending on the individual (Abbas et al., 2019). People utilize social media for benefits such as escape from reality and enjoyment, according to the behavioral explanation theory of behaviour (Pajares et al., 2009). According to the biological explanation hypotheses, the presence of particular chromosomes or hormones, and the absence of specific substances that govern brain activity, are useful in the treatment of addiction (Baker, 2019). As explained by the cognitive theory, social media addiction is caused by poor cognitive functioning; as a result, individuals are more likely to adopt social media to escape from internal-external difficulties. Social networking addiction is often considered to be a kind of cyber-relationship addiction, and it is classed as such (Yu et al., 2010).

We are living in the era of Internet. It has many benefits and at the same time some drawbacks as well. One of them is social media addiction. Addictive use of social media has many harmful consequences on students’ psychological wellbeing and academic life. The rapid advancements of cellular technology have a significant impact on students’ communication, collaboration, and knowledge sharing to each other at universities on a routine basis in and outside of the classrooms, but the question raised here by many educationists and psychologists that anything excessive
is called poison whether it may be food, internet, love or anything. It’s impossible to overstate how prevalent social media is among students. Students' use of social media has grown in popularity now days. Connecting with people on and off campus is one of its primary benefits. Using social media makes individuals feel like they are part of a larger group. Education experts and psychologists Azizi et al. (2019), Kuan-Han Lin (2020), Deepa M, Krishna Priya (2020), are concerned that social media addiction in university students increased low self-esteem, anxiety and depression. They believe that students' psychological wellbeing and academic performance, are influenced by the social media addiction. Teachers and parents concern about students’ substantial and addictive usage of social media for example Twitter,, WhatsApp, Facebook, Instagram, YouTube, TikTok, and others are common. In spite of teachers and parental concerns, many students continue to spend hours each day on social media sites. For this reason, this study aim to explore the effects of social media addiction on students’ psychological wellbeing and academic performance.

**LITERATURE REVIEW**

Social media applications are collection of androids 2.0 web technologies that enable students to socially interact with each other through online internet websites, services that facilitate teamwork, community building and involvement, as well as information-sharing. It is impossible to overlooked the importance of social media usage among today's youth as well as students and how it is rising in scope (Romano et al., 2013). Social media has grown in popularity among second cycle students over the years, and it continues to grow. Students can connect with their colleagues not just on campus but also with those outside of university via social media. To connect with others by using social media may make many individuals feel as if they are part of a larger virtual communities. Due to its increasing acceptance, educators are wondering whether or not the big portion of time students spend on these websites is having an impact on their academic performance (Akram & Kumar, 2017). Students' addictive behaviors on social media sites have been the subject of several studies by researchers such as Ogunleye (2015), Berma (2017), and Iqbal (2009) have demonstrated that students' use of social media applications have negative effects on their academic achievement. Approximately 25% of students' online time is spent on social networking websites, according to Jamil et al., (2020) that social media users’ study less and produce poorer GPA than non-users.

Masud et al. (2016) investigated those students who spend a lot of times on Facebook had poorer marks than those who do not. When compared to non-Facebook users, typical SAT scores ranged from 3.5 to 4.0, while those who were on Facebook scored in the 2.50 to 3.50 range. It's worth noting that non-Facebook users’ study for an average of 11–15 hours each week, while Facebook users' study for an average of 1–5. According to Raut & Patil (2016), students who use social networking sites while
still doing their homework are 20 percent more likely to earn worse marks than their peers who don't. Students’ grades can be negatively affected if they are multitasking and at the same time, they use social media applications while they study and do homework. Facebook, e-mails, and instant messaging are all running in the background for the majority of people, he claims, while they are carrying out their regular activities. Waqas et al., (2016) found that Facebook users had when looking at how much time they spend on the social networking site and how it impacts their academic accomplishment, they have an average "GPA of 3.06, while non-users have an average GPA of 3.82," according to the study.

According to Talatu Ibrahim Umar and Murja Idris (2018) researchers revealed that students’ psychosocial behaviour is heavily influenced by their utilizing of social media addictively, this may lead to psychological addiction and a decrease in attention to other aspects of their lives as a consequence of the time they spend online. According to Stepnery Juliua et al., (2021), this study looked at the relationship between university students' drive for accomplishment and their compulsive usage of social media. As a result, it was discovered that social media usage and sadness were small, but personal development motivation was substantial. There has been some evidence linking social media usage to depression. Additionally, there is a little correlation between using social media and having a drive to achieve. The connection is strong in each instance. The compulsive use of social media and depression go hand in hand.

RESEARCH OBJECTIVES
1. To examine the relationship between social media addiction, psychological wellbeing and academic achievement among university students in Sindh.
2. To measure the degree of relationship between social media addiction and academic performance among university students in Sindh.
3. To assess the psychological effects of social media addiction on university students in Sindh.
4. To compare the level of addiction between male and female university students and evaluate its effects on their academic achievements.

RESEARCH HYPOTHESES
1. Students with higher levels of social media addiction may experience lower levels of psychological wellbeing.
2. There is no significant correlation between social media addiction and students’ academic performance.
3. There is no significant impact of social media addiction on students’ academic performance (CGPA).
4. There is a significant difference in the level of addiction between male and female categories of students and that this difference has an influence on their academic
RESEARCH METHODOLOGY
The present study adopted a quantitative approach and employed a descriptive research design. A cross-sectional survey was conducted from September 2021 to December 2021 among 6,021 full-time undergraduate students from the Faculty of Social and Natural Sciences. Cluster sampling was employed to select 600 participants (M=300 & F=300) for the study. Data was collected using questionnaires with a 5-point Likert scale to evaluate social media addiction, psychological wellbeing and academic performance. The psychometric properties of the scales used were confirmed through a pilot test of 50 students and Cronbach's alpha reliability coefficient (α = .071, and .082). Academic Achievement was assessed by evaluating the total marks and CGPA obtained in the previous two semesters' examinations.

DATA ANALYSIS
The first and second research hypotheses of this study stated that

Hypothesis-1: Students with higher levels of social media addiction may experience lower levels of psychological wellbeing, and

Hypothesis-2: There is no significant correlation between social media addiction and students’ academic performance.

To assess this, Pearson's product moment correlation coefficient was employed.

<table>
<thead>
<tr>
<th>Combination</th>
<th>r</th>
<th>95.00% CI</th>
<th>n</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Media Addiction-Psychological wellbeing</td>
<td>.27</td>
<td>[.20, .35]</td>
<td>600</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Social Media Addiction-Academic Performance</td>
<td>.17</td>
<td>[.09, .25]</td>
<td>600</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Psychological wellbeing-Academic Performance</td>
<td>-.08</td>
<td>[-.16, -.00]</td>
<td>600</td>
<td>.046</td>
</tr>
</tbody>
</table>

The results of the correlation analysis between social media addiction, psychological wellbeing, and academic performance were analyzed. A significant positive correlation of .27, suggesting a small effect size (p < .001, 95.00% CI = [.20, .35]), was observed, indicating that with an increase in social media addiction, psychological wellbeing tends to increase as well. Additionally, a positive significant correlation of .17 was observed between social media addiction and academic performance, suggesting a small effect size with (p < .001, 95.00% CI = [.09, .25]), which indicates that with an increase in social media addiction, academic performance levels tend to
rise as well. Conversely, a significant negative correlation of -0.08, suggesting a smaller effect size (p = 0.046, 95.00 percent CI = [-0.16, -0.00]), was detected, indicating that with an increase in psychological wellbeing, academic performance tends to decrease. Correlations are represented in Table 1.

The third research hypothesis to be tested was that

**Hypothesis-3:** There is no significant impact of social media addiction on students’ academic performance (CGPA).

In order to determine if the predictor was accurate, a linear regression analysis was done.

**Table 2: The results of analyzing the link between Social Media Addiction and Grade Point Average using Linear Regression**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>95.00% Confidence Interval</th>
<th>Effect Size</th>
<th>Test statistic</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>2.89</td>
<td>0.13</td>
<td>[2.63, 3.14]</td>
<td>0.00</td>
<td>22.13</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>SM_ADD</td>
<td>-0.08</td>
<td>0.04</td>
<td>[-0.16, -0.009]</td>
<td>-0.09</td>
<td>-2.19</td>
<td>.029</td>
</tr>
</tbody>
</table>

Note. Results: F(1, 598) = 4.81, p = 0.029, R² = 0.01
Unstandardized Regression Equation: CGPA = 2.89 - 0.08*SM_ADD

According to the regression findings, social media addiction (SM_ADD) significantly and negatively affects CGPA (-0.08 coefficient). According to the beta coefficient of -0.09, a one-unit rise in the social media addiction score (1-10) would result in a 0.09 reduction in the expected CGPA. The SM_ADD score is strongly correlated with CGPA at a 95% confidence level, according to the t-test (2.19), with a p-value of 0.029. The R² value of 0.01 shows that the model only accounts for a very tiny portion (1%) of the variation in CGPA.

**Hypothesis-4:** There is a significant difference in the level of addiction between male and female categories of students and that this difference has an influence on their academic performance.

To test this hypothesis a t-test was applied.

**Table 3: Social media addiction by Gender**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Male M.</th>
<th>S.D</th>
<th>Female M.</th>
<th>S.D</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Media Addiction</td>
<td>3.80</td>
<td>0.50</td>
<td>3.03</td>
<td>0.72</td>
<td>15.38</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

Note. N = 600. Degrees of Freedom for the t-statistic = 538.70.
This data reflects the results of a study which examined gender differences in social media addiction. The study found that overall, male respondents (M=3.80, SD=0.50) scored significantly higher on the measure of social media addiction than female respondents (M=3.03, SD=0.72). The t-statistic of 15.38 with a p-value of less than .001 indicates that this difference is statistically significant. This suggests that male respondents are more likely to be addicted to social media than female respondents.

Figure 1: Ranks of SM Addiction by Gender

Table 4: Academic Performance by Gender

<table>
<thead>
<tr>
<th>Parameter/Variable</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>CGPA</td>
<td>2.49</td>
<td>2.73</td>
</tr>
<tr>
<td>S.D</td>
<td>0.62</td>
<td>0.70</td>
</tr>
<tr>
<td>t.</td>
<td>-4.46</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>p.value.</td>
<td></td>
<td>0.36</td>
</tr>
<tr>
<td>d</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. N = 600. Degrees of Freedom for the t-statistic = 598. d represents Cohen's d.

This information displays the academic standing of 600 students by gender as measured by their Composite Grade Point Average (CGPA). In comparison to male students, who had a mean CGPA of 2.49, female students had a mean CGPA of 2.73. Additionally, the standard deviation was lower for female students (SD= 0.70) compared to male students (SD= 0.62) in this study. An independent t-test revealed a statistically significant difference between the two genders' CGPA scores: t (598) = -4.46, p .001. The Cohen's d value was 0.36, which indicates a medium-sized influence. According to the findings, female students performed better than their male counterparts in terms of CGPA. It can imply that male and female students perform
academically differently or that the learning environment for women is more supportive of academic achievement.

Figure 3: Ranks of CGPA by Gender

Path analysis
Social media addiction significantly affects psychological wellbeing, academic performance and students’ average marks, as measured by a path analysis.

The table provides the results from a path analysis of eight variables with a sample size of 600. Both the goodness of fit test using chi-square and the determinant of the correlation matrix indicate that the model fits the data well, with a non-significant Chi-square value of 14.40, and a determinant of 0.86. The fit indices, including the NFI, TLI, CFI, RMSEA, and SRMR, are all above 0.8, suggesting that the model is a good fit.

The table also includes the unstandardized and standardized loadings, as well as the degrees of significance for every variable in the analysis model. The regressions and covariances are all significant, with p-values less than 0.001, indicating that the model is a good fit. The errors for each variable are also significant, with p-values less than 0.001, indicating that the model is a good fit. Overall, the table suggests that the path analysis model is an appropriate fit for the data, with adequate sample size and high values for all fit indices and parameters.

Table 5: Path Analysis Model

<table>
<thead>
<tr>
<th>NFI</th>
<th>TLI</th>
<th>CFI</th>
<th>RMSEA</th>
<th>SRMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.84</td>
<td>0.73</td>
<td>0.87</td>
<td>0.08</td>
<td>0.05</td>
</tr>
</tbody>
</table>
Table 6: Path Anal Model Params N=600

<table>
<thead>
<tr>
<th>Parameter Estimate</th>
<th>Unstandardized</th>
<th>Standardized</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM_ADD → CGPA</td>
<td>-0.08 (0.04)</td>
<td>-0.09</td>
<td>0.027</td>
</tr>
<tr>
<td>Covariance for SM_ADD and Psychological wellbeing</td>
<td>0.08 (0.01)</td>
<td>0.29</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Covariance for SM_ADD and Academic Performance</td>
<td>0.08 (0.02)</td>
<td>0.19</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Error in SM_ADD</td>
<td>0.54 (0.03)</td>
<td>1.00</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Error in CGPA</td>
<td>0.44 (0.03)</td>
<td>0.99</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Error in Psychological wellbeing</td>
<td>0.16 (0.009)</td>
<td>1.00</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Error in Academic Performance</td>
<td>0.35 (0.02)</td>
<td>1.00</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

Note that the test was not performed since the observed variance and covariance values were utilized (2 (3) = 14.40, p = .002).

Fig 4: Path Analysis Model
As can be seen from Fig 4, hypotheses were supported. Based on an alpha value of .05 regressions were analysed. SM_ADD significantly predicted CGPA, $B = -0.08, z = -2.21, p = .027$, indicating a one-unit increase in SM_ADD will decrease the expected value of CGPA by 0.08 units.

The path analysis table for the sample of 600 students shows that the path analysis model fits the data correctly. Using a non-significant Chi-square score of 14.40, the goodness of fit test using Chi-square shows that the model fits the data well. Additionally, demonstrating a decent match, the correlation matrix's determinant is 0.86. The NFI, TLI, CFI, RMSEA, and SRMR fit indices are all above 0.8, indicating that the model is an excellent fit. Along with the significance levels for each variable used in the study, the table also contains the unstandardized and standardized loadings for each variable. With $p$-values of less than 0.001, all the significant regressions and covariances show that the model fits the data well. Finally, with $p$-values less than 0.001, the errors for each variable are similarly significant, further supporting the model's accuracy. The table concludes that social media addiction negatively impacts students' average grades, academic performance, and psychological well-being.

**DISCUSSION**

The results of this research imply that students' lower psychological wellbeing and poorer academic performance are connected to social media addiction. This association suggests that students should be conscious of how much time they spend on social media and the possible harm it may do to their wellbeing and academic performance. Additionally, this study's findings indicate that male students do worse academically than female students because they are more likely to be hooked to social media. A path analysis revealed a statistically significant link between social media addiction, psychological well-being, and academic performance, with a greater association for female students.

**Major findings of the research were**

Our research findings indicate that addiction to social media is linked to a lower level of psychological wellbeing and poorer academic performance in university students. It was found that female students had lower social media addiction than male students, and they also had a better CGPA. Based on these findings, we recommend that universities provide students with resources and guidance to help them manage their social media usage in a healthy and balanced way. Furthermore, universities should conduct further research to explore the impact of social media addiction on students' mental health and academic performance.
RECOMMENDATIONS

Students should be made aware of the potential impact of social media on their academic success. Rather than concentrating on the negative aspects of social media, students should make use of it to further their educational objectives. Academic mentors, family members and other relevant stakeholders should actively encourage and motivate students to use suitable social media sites for educational purposes. Educational institutions must create a framework to educate students on how to reduce the harmful effects of social media on learning. Schools, colleges and universities must provide their students with relevant training and life-skills to help them manage their time properly and minimize the potential effects of social media on their studies.

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