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Impact of Social Media Usage On Learning Behavior of University Students

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Abstract

Social media platforms have transformed the way students interact, communicate, and learn, making them integral to academic life. The study examines the impact of social media usage on learning behavior among university students. Adopting a predictive correlation research design, the study examines the influence of social media on students' learning behaviors through a quantitative methodology. Data are being collected from 400 students across three universities in the Hazara Division using stratified random sampling. Validated questionnaires focusing on social media usage and learning behaviors serve as the primary data collection tools. Regression analysis is employed to determine the effect of social media usage on dependent variables such as learning behavior. The study aims to estimate the strength of these associations and highlight practical implications for academic practice. explore both the benefits and challenges associated with social media use, offering insights for educators, policymakers, and students regarding the responsible and effective integration of these platforms into academic contexts. The findings are expected to highlight strategies through which students can enhance their educational experiences while minimizing potential risks such as distraction and misinformation.

Keywords: Social Media Usage, Learning Behavior

Introduction:
In recent years, the emergence of social media has considerably transformed the academic and personal lives of university students. Initially developed as platforms for social interaction and communication, these digital spaces have gradually become integral to students' learning routines and academic engagements. Platforms such as Facebook, Twitter, Instagram, WhatsApp, LinkedIn, and Discord are now frequently employed by students to exchange notes, coordinate group tasks, and sustain meaningful discussions related to assignments, examinations, and classroom concepts. This transformation has expanded the boundaries of traditional classrooms by enabling continuous interaction among teachers, peers, and learning materials within a dynamic digital environment (Anderson, 2020).

Within the context of Pakistani higher education, particularly in the Hazara Division, there remains a noticeable gap in systematic research exploring this evolving digital behaviour (Ahmed & Rafiq, 2022). Recognizing this need, the present study endeavors to examine the relationship between social media usage and students' learning behaviour. Such exploration is crucial for developing informed educational policies that not only enhance the academic potential of learners but also minimize the challenges arising from excessive or unregulated use of social networking sites (Min, 2024; Boahene et al., 2019).

Hence, this research seeks to bridge the existing gap by presenting empirical evidence on how patterns of social media engagement influence the learning behaviour of university students. The findings are expected to contribute toward more balanced and contextually relevant strategies that promote productive use of digital platforms for academic advancement while discouraging tendencies that may hinder effective learning.

Objectives
The research addresses the following objectives in the local context:

1- To find the frequency of university students' use of social media
2- To examine impact of social media usage on learning behavior of university students

Review of Literature
The growing use of social media has considerably reshaped the learning behavior of university students across the world. Originally intended for interpersonal connection, digital platforms such as Facebook, WhatsApp, Instagram, LinkedIn, Telegram, and YouTube have now become integral to academic routines, influencing collaboration, motivation, attention, and time management. Scholars agree that social media's impact on learning is dual in nature—offering both opportunities and distractions that require careful pedagogical direction (Anderson, 2020; Greenhow & Lewin, 2016).

Research consistently highlights the collaborative affordances of social networking tools. Platforms like WhatsApp, Google Meet, and Microsoft Teams provide real-time spaces for sharing notes, clarifying concepts, and organizing projects, thus encouraging student-to-student learning and intellectual exchange (Junco, 2012). Such collaboration transforms learners from passive recipients to active constructors of knowledge and develops a sense of academic community (Hrastinski, 2009). Within Pakistani universities, this digital cooperation extends beyond classrooms, enhancing peer mentoring and academic engagement, yet it also raises concerns about unequal participation and information overload (Ahmed & Rafiq, 2022).

The literature further connects social media use to motivation and self-regulated learning. Access to online tutorials, academic forums, and professional groups provides learners with authentic contexts for self-improvement and career orientation (Boahene et al., 2019). Studies show that motivated students use these platforms to explore additional resources and apply reflective practices that strengthen autonomy (Rennie & Morrison, 2013). Conversely, entertainment-driven use can reduce goal-directed behavior and foster dependency on instant gratification, illustrating that motivation mediates whether social media enhances or weakens learning outcomes (Min, 2024).

Another significant aspect is the attention economy. Digital platforms are deliberately engineered to capture users' focus through notifications and endless scrolling. Carr (2010) argues that these designs compete for limited cognitive attention, making sustained concentration difficult. Empirical findings confirm that multitasking during study sessions leads to reduced comprehension and retention (Tess, 2013). The Pakistani context mirrors these results, as students report fragmented focus and shorter study intervals due to persistent online engagement (Rixen et al., 2023).

Linked to attention is the issue of time management and procrastination. Repeated checking behaviors and social expectations of constant availability encourage delays in academic work.

Ravizza, Hambrick, and Fenn (2014) found that excessive browsing correlates with diminished academic performance. Learners often struggle to allocate time efficiently, a challenge intensified by mobile connectivity and peer pressure to remain active online. Scholars recommend structured study windows and reduced notifications to preserve academic momentum (Chiossi et al., 2023).

Finally, the design architecture of social media exerts a direct influence on academic focus. Algorithmic feeds, autoplay videos, and curated timelines encourage prolonged usage, thereby interrupting concentration and lowering cognitive depth (Zuboff, 2019). Students experiencing fear of missing out (FOMO) are more susceptible to distractions and superficial engagement (Rozgonjuk et al., 2019). This suggests that platform design, not merely user intent, significantly shapes learning behavior in higher education.

Collectively, these studies reveal that social media's impact on university students' learning behavior is multifaceted, simultaneously collaborative and disruptive. The reviewed literature underscores the necessity for balanced academic policies that promote purposeful, digitally literate engagement while minimizing distraction and procrastination. Despite extensive global research, localized evidence from Pakistani universities remains limited, justifying the present study's focus on exploring how social media usage influences the learning behavior of students within the University of Haripur context.

Methodology
Research Design
To examine the relationship between social media usage and its impact on students' learning behavior, the present study adopted a predictive correlational research design. This design was considered most appropriate for identifying the extent to which patterns of social media use could predict variations in learning behavior without manipulating any variable. It enabled the researcher to observe existing conditions objectively and to determine the degree of association between the constructs under investigation. The approach thus ensured a systematic exploration of how social media engagement might serve as a predictor of students' behavioral and academic tendencies in higher education settings.

Research Population
The population of the study comprised undergraduate students enrolled in Bachelor of Science (BS) degree programs at three major public universities located within the Hazara Division of Pakistan. These institutions were purposefully chosen for their diverse student demographics, institutional accessibility, and academic representation of the region. The participating universities included the University of Haripur, Abbottabad University of Science and Technology, and Hazara University, Mansehra. This population was deemed appropriate for the study's objectives, as these universities collectively reflect the educational context, technological exposure, and learning behaviors prevalent among higher education students in the division.

Sample of the Study
From this population, a sample of 400 BS students was selected through a stratified random sampling technique. The use of stratification ensured that students from different universities, departments, and academic years were proportionately represented, thereby enhancing the reliability and generalizability of the findings. The sample size was considered adequate for correlational analysis, providing a balanced representation of the target population and allowing for meaningful interpretation of the relationship between social media usage and learning behavior.

Research Tools
To collect empirical data on the study variables, a structured questionnaire was used as the

main research tool. The instrument was designed to measure the multidimensional aspects of social media usage and learning behavior among university students.

The Social Media Usage Questionnaire assessed students' engagement with digital platforms for academic and non-academic purposes. It consisted of statements rated on a four-point Likert scale ranging from Strongly Disagree to Strongly Agree. The tool measured six key dimensions: ease of use, referring to accessibility and simplicity; usefulness, indicating perceived academic value; informativeness, assessing relevance of content; playfulness and enjoyment, reflecting satisfaction and entertainment; and trust, representing confidence in shared information. These dimensions collectively described the quality and purpose of students' online interactions and their potential educational influence.

The Learning Behavior Questionnaire focused on cognitive, emotional, and behavioral aspects of students' academic engagement. Using the same scale, it examined motivation, perception, learning, and academic attitude—factors that capture internal drive, beliefs, study habits, and seriousness toward learning.

A pilot study involving 30 students was conducted to ensure validity and reliability before main data collection. Experts in educational psychology and research methodology confirmed content validity, while Cronbach's Alpha coefficients of 0.81 and 0.87 for the two instruments indicated strong reliability. Based on feedback, minor adjustments were made to improve clarity.

Data were gathered through personal visits to participating universities, following institutional permissions and ethical procedures. Questionnaires were administered and collected on the same day to ensure high response rates and standardized, accurate responses.

Data Analysis

The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) to examine the relationship between social media usage and students' learning behavior. Analysis was conducted in two phases. Descriptive statistics—including frequencies, means, and standard deviations—summarized patterns of social media use and learning behavior among students. In the second phase, regression analysis was applied to determine the predictive effect of social media usage (independent variable) on learning behavior (dependent variable). The findings were organized in tables with clear interpretation, ensuring precision and logical coherence. This analytical procedure provided empirical evidence for understanding how students' engagement with social media influences their academic conduct and overall learning tendencies in higher education contexts.

Results and Discussion

Table 1.
Descriptive Statistics for Social Media Use Constructs (N = 400)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Ease of use	400	1.50	4.00	3.4794	.40945
Usefulness	400	1.75	4.00	3.4200	.44303
Playfulness	400	1.75	4.00	3.2919	.51691
Trust	400	1.25	4.00	3.2025	.46822
Motivation	400	2.00	4.00	3.2388	.49767
Perception	400	1.25	4.00	3.3819	.46048
Learning	400	1.75	4.00	3.4069	.43093
Attitude	400	1.50	4.00	3.3344	.45942
Valid N (list wise)	400				

The descriptive analysis draws on responses from 400 undergraduate students to profile social media use and its association with learning behaviour. Regarding social media constructs (Table 1), students rate ease of use highest (Mean = 3.4794, SD = 0.40945), indicating that platforms are perceived as accessible and straightforward to navigate for academic purposes; this finding accords with the Technology Acceptance Model which emphasises perceived ease as central to adoption (Davis, 1989).

Usefulness also receives a strong endorsement (Mean = 3.4200, SD = 0.44303), suggesting that learners acknowledge concrete benefits—resource access, timely clarification, and collaborative opportunities—that encourage incorporating social tools into study practices (Greenhow & Lewin, 2016).

The playfulness dimension (Mean = 3.2919, SD = 0.51691) shows moderate appreciation for interactive or gamified features; the relatively larger dispersion points to heterogeneity in student preferences and the extent to which entertainment features align with academic aims. Notably, trust attains the lowest mean among social media constructs (Mean = 3.2025, SD = 0.46822), signaling persistent concerns about content credibility and source reliability; this tension between perceived utility and doubts about authenticity echoes recent cautions regarding misinformation on rapidly circulating platforms (Min, 2024).

Table 2
Descriptive Statistics for learning behavior Constructs (N = 400)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Motivation	400	2.00	4.00	3.2388	.49767
Perception	400	1.25	4.00	3.3819	.46048
Learning	400	1.75	4.00	3.4069	.43093
Attitude	400	1.50	4.00	3.3344	.45942
Valid N (list wise)	400				

Turning to learning behaviour constructs (Table 2), motivation records a mean of 3.2388 (SD = 0.49767), implying that social media can stimulate students' engagement and drive toward academic tasks for many respondents, though individual differences remain pronounced. The perception of social media's academic role is generally favourable (Mean = 3.3819, SD = 0.46048), aligning with adoption models and prior empirical work that report openness among students to integrate digital networks into learning (Junco, 2012; Rennie & Morrison, 2013). The learning construct (Mean = 3.4069, SD = 0.43093) indicates that respondents perceive social platforms as supportive of study habits—facilitating information retrieval, revision, and peer-assisted problem solving—thus serving as adjuncts to formal instruction. Finally, academic attitude (Mean = 3.3344, SD = 0.45942) points to a generally positive orientation toward blending social media with educational activities.

Collectively, these descriptive results portray a nuanced pattern: students find social media easy to use and beneficial for academic purposes, they are moderately engaged by playful features, yet they remain cautious about trustworthiness. Motivation, perception, learning, and attitude all trend positively, but standard deviations reveal meaningful variability across individuals and platform experiences. Such a profile suggests that while social media holds promise as a pedagogical adjunct, its effective educational deployment will depend on strengthening digital literacy, addressing credibility concerns, and guiding students toward purposeful, rather than merely recreational, engagement (Ahmed & Rafiq, 2022). These descriptive insights provide a substantive baseline for

the subsequent inferential analyses examining the predictive effect of social media usage on learning behavior.

Regression Analyses

Multiple regression analyses were conducted to predict motivation, perception, learning behavior, and academic attitude among university students. Each regression model reported the key statistical indicators: the multiple correlation coefficient (R), coefficient of determination (R^2), adjusted R^2, F-statistic, and regression coefficients (B, β, t, p). In this analytical framework, R represents the strength of association between predicted and observed outcomes, while R^2 explains the proportion of variance in the dependent variable accounted for by the predictors. The adjusted R^2 provides a refined measure by compensating for the number of predictors, thereby avoiding model overfitting. The F-statistic tests whether the collective predictors significantly explain the variance in the dependent variable; a higher F with $p < .05$ indicates strong model significance. The unstandardized coefficient (B) shows the expected change in the dependent variable per unit change in the predictor, its standard error (SE B) indicates precision, and the standardized coefficient (β) allows comparison of predictor influence. Corresponding t-values and p-values determine whether each variable significantly contributes to the model ($p < .05$).

Table 3
Effect of Social Media on Motivation by using Regression Analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.526	.240		6.355	.000
	Ease of use	.382	.064	.314	6.007	.000
	usefulness	.126	.061	-.113	-2.061	.040
	playfulness	.152	.051	.158	2.985	.003
	Trust	.099	.055	.093	1.800	.073
	R=0.397[a]	R^2=.158	Adj.R^2=.149	F=18.489	Alpha=.000	
a. Dependent Variable: Motivation						

The regression model predicting students' motivation revealed a moderate positive relationship between the combined independent variables and the dependent variable (R = 0.397). This indicates that as the predictors collectively increase, students' motivation tends to rise in a similar direction, though with moderate strength. The coefficient of determination (R^2 = 0.158) shows that approximately 15.8% of the variation in motivation is explained by the model, a meaningful contribution given the complex nature of human learning behaviour where multiple contextual factors coexist (Greenhow & Lewin, 2016). The adjusted R^2 value (0.149), slightly lower than R^2, refines this measure by accounting for the number of predictors, confirming that the explanatory power remains genuine and not inflated by model size. Finally, the F-statistic ($F(4, 395) = 18.49$, $p < .001$) confirms overall model significance, suggesting that the predictors collectively exert a statistically significant effect on university students' motivation levels.

The regression results revealed distinct effects of social media dimensions on students' motivation. Ease of use showed a significant positive influence ($p < .001$), where a one-unit increase predicted a 0.382 rise in motivation, highlighting that user-friendly platforms encourage academic engagement. Conversely, usefulness displayed a negative yet significant effect ($p = .040$); a one-unit increase related to a 0.126 decline in motivation, suggesting that when platforms are viewed mainly as functional tools, intrinsic motivation may lessen. Playfulness exerted a positive and significant

influence (p = .003), with a one-unit rise yielding a 0.152 increase in motivation, confirming the motivational value of enjoyable online interaction. Finally, trust had a positive but non-significant effect (p = .073), implying that credibility concerns may limit its motivational contribution.

Table 4
Regression of Social Media Constructs on Perception

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.685	.189		3.619	.000
	Ease of use	.301	.050	.268	6.010	.000
	usefulness	.098	.048	.094	2.027	.043
	playfulness	-.008	.040	-.009	-.207	.836
	Trust	.419	.043	.426	9.683	.000
	R=.624[a]	R^2=.389	Adj.R^2=.383	F=62.845	Alpha=.000	

The regression model predicting students' perception revealed a moderate to strong positive correlation (R = 0.624), indicating that increases in the predictors correspond with improved perceptions of social media. The model explained 38.9% of the variance (R^2 = 0.389), with an adjusted R^2 of 0.383, confirming stable explanatory strength. The overall model was significant (F(4, 395) = 62.85, p < .001), showing that the predictors collectively influenced perception meaningfully.

Individually, ease of use had a significant positive effect (p < .001, B = 0.301), suggesting user-friendly platforms foster positive perceptions. Usefulness also had a positive impact (p = .043, B = 0.098), reflecting that perceived academic value enhances perception. Playfulness showed no significant effect (p = .836), while trust emerged as the strongest predictor (p < .001, B = 0.419), highlighting credibility's central role in shaping students' perceptions.

Table 5
Regression of Social Media Constructs on Learning

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.059	.185		5.712	.000
	Easeofuse	.157	.049	.149	3.196	.002
	usefulness	.097	.047	.099	2.040	.042
	playfulness	.304	.039	.365	7.748	.000
	Trust	.147	.042	.159	3.466	.001
	R=.575[a]	R^2=.331	Adj.R^2=.324	F=48.755	Alpha=.000	

The regression model predicting students' learning behavior revealed a moderate positive correlation (R = 0.575), indicating that increases in the combined predictors correspond with moderate improvements in learning behavior. The model explained 33.1% of the variance (R^2 = 0.331), while the adjusted R^2 (0.324) confirmed stable explanatory strength after accounting for the number of predictors. The overall model was statistically significant (F(4, 395) = 48.76, p < .001), signifying that the selected predictors collectively influenced learning behavior in a meaningful way. Individually, ease of use showed a significant positive effect (p = .002, B = 0.157), suggesting that user-friendly platforms promote active learning engagement. Usefulness also had a positive effect (p

= .042, B = 0.097), implying that when students find platforms beneficial, they tend to use them more for academic purposes. Playfulness emerged as the strongest and most significant predictor (p < .001, B = 0.304), emphasizing the motivational role of enjoyment and interaction in fostering learning. Finally, trust also contributed positively (p = .001, B = 0.147), indicating that credible and reliable platforms strengthen students' willingness to engage in learning through social media.

Table 6

Regression of Social Media Constructs on Attitude

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	**Sig.**
		B	Std. Error	Beta		
1	(Constant)	1.367	.216		6.324	**.000**
	Ease of use	.134	.057	.119	2.332	**.020**
	usefulness	.171	.055	.165	3.089	**.002**
	playfulness	.222	.046	.250	4.854	**.000**
	Trust	.058	.049	.059	1.178	**.240**
	R=.445[a]	R^2=.198	Adj.R^2=.190	F=24.426	Alpha=.000	

The regression model predicting students' attitudes toward social media showed a moderate positive relationship between the combined predictors and the dependent variable (R = 0.445). This suggests that as the independent variables collectively increase, students' attitudes improve in a similar direction. The coefficient of determination (R² = 0.198) indicates that 19.8% of the variance in attitude is explained by the predictors, while the adjusted R² (0.190) confirms a modest yet meaningful explanatory power after accounting for model size. The overall model was statistically significant (F(4, 395) = 24.43, p < .001), showing that the predictors collectively exerted a notable influence on students' attitudes.

Among individual predictors, ease of use significantly and positively affected attitude (p = .020, B = 0.134), implying that user-friendly platforms foster positive orientations toward social media. Usefulness also contributed significantly (p = .002, B = 0.171), reinforcing that perceived academic or functional value enhances favorable attitudes (Greenhow & Lewin, 2016). Playfulness emerged as the strongest positive predictor (p < .001, B = 0.222), emphasizing that enjoyable features meaningfully shape students' engagement and acceptance. However, trust exhibited a positive but statistically non-significant effect (p = .240), suggesting that credibility perceptions alone may not determine attitude formation. Overall, these findings underscore that usability, usefulness, and enjoyment most strongly predict positive attitudes toward social media use in learning contexts.

Conclusions

This study concludes that social media exerts a dual but substantial influence on the learning behaviour of university students. Drawing from the predictive correlational design and regression analyses, the findings reveal that social media, when purposefully integrated into academic routines, strengthens motivation, enhances perception, and promotes effective learning and positive attitudes. Constructs such as ease of use and playfulness were found to significantly predict motivation and learning engagement, while usefulness and trust contributed meaningfully to students' perceptions and academic orientation. However, the analysis also exposed the counteractive side of social media: excessive, unregulated, or entertainment-driven use tends to reduce focus and encourage procrastination, thereby undermining academic productivity.

Overall, the study affirms that social media can serve as a pedagogically enriching tool when its use remains intentional, structured, and educationally aligned. Its influence, though significant, is

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moderated by students' capacity for self-regulation, digital literacy, and time management—skills essential for maximizing academic benefits while minimizing distractions. The results, therefore, highlight the need for balanced engagement, where technology supports learning without displacing discipline and critical focus.

Recommendations

Drawing on the study's findings, several recommendations are proposed to promote balanced and purposeful academic use of social media in higher education.

- Universities may promote structured academic use of social media through moderated WhatsApp groups, educational YouTube channels, and discussion forums for lectures and peer collaboration.
- Students may receive orientation on time management and balancing academic with non-academic use of social media.
- Institutions may organize digital literacy and self-regulation workshops to build skills for evaluating content, avoiding procrastination, and managing distractions.
- Academic resources may be integrated with common social apps to improve usability, usefulness, and access to verified materials.
- Universities may ensure secure, interactive, and authenticated educational content to strengthen trust in digital learning.
- Faculty may employ playful and engaging features purposefully to enhance motivation without causing distraction.
- Institutional policies may encourage guided, pedagogically aligned social media use that fosters motivation, collaboration, and disciplined learning.

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