



Gender Differences in Social Media Engagement and Its Psychological Consequences: A Sociological Study of Undergraduate University Students in District Faisalabad

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ABSTRACT

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Social media's widespread impact has changed how university students around the world communicate, collaborate academically, and interact with one another. However, there is still growing concern about the psychological effects of excessive engagement. Through a comparative analysis of gender and institutional context (public versus private universities), this quantitative study examines the psychological effects of social media use among undergraduate students in District Faisalabad, Pakistan. The study used correlation survey and sampled 200 undergraduate students from four institutions (two public and two private), evenly distributed by gender and university type. Yamane's formula was used to determine the sample size. Survey instruments measuring the degree of social media engagement, psychological distress (as measured by validated anxiety and depression scales), and academic stress were used to gather data. To examine the effects of social media usage, gender, and institutional type on psychological outcomes, descriptive and inferential statistical techniques such as two-way ANOVA, independent samples t-tests, were employed. Results showed that, in comparison to their male peers, female students frequently reported higher levels of psychological distress, emotional exhaustion, and anxiety related to social media use. Furthermore, students at private universities used social media more intensely and suffered from much worse psychological effects than those at public universities. The most vulnerable subgroup, according to interaction effects, was female students at private universities, who showed the highest levels of distress across all psychological measures. This study emphasizes how crucial it is to place the psychological effects of social media within the intersecting frameworks of institutional affiliation and gender. In higher education settings, the findings urge the adoption of institution-specific digital literacy programs, gender-sensitive mental health services, and evidence-based digital wellness initiatives. These interventions are essential for reducing the negative impacts of social media and creating more positive learning and psychological environments for students in Pakistan and similar situations around the world.

Introduction

The rapid development of digital technologies and mobile internet access over the last ten years has fundamentally changed how youth engage, communicate, and learn. As tools for self-expression, peer connections, academic collaboration, and entertainment, social media platforms like Facebook, Instagram, Snapchat, TikTok, and WhatsApp have become an essential part of university students' everyday lives worldwide (Brailovskaia and Margraf, 2021; Twenge and Martin, 2020).

Students navigate identity, sociocultural expectations, and academic stress in digitally mediated spaces on social media, which also serves as a virtual extension of campus life in higher education contexts, especially in developing nations like Pakistan (Mahmood and Zakar, 2021).

Although there are many social and educational advantages to these platforms, an increasing amount of research indicates that excessive use and problematic engagement can result in a variety of psychological issues, such as anxiety, depression, emotional exhaustion, fear of missing out (FOMO), and a loss of academic concentration (Elhai *et al.*, 2020; Keles *et al.*, 2020).

Students who are already under stress from academic requirements and life changes may get their stress worsened by social media and its continuous need for attention, perfectly preened self-presentation, and interactions based on comparisons, which, of course, will not help (Fardouly *et al.*, 2020).

Psychological aspects of social media usage are affected by institutional and sociodemographic factors of great significance, and gender and type of university are among them. Female students have been supported by many international studies to be the ones who are most likely to employ the social media for emotional disclosure, peer validation, and social affirmation, which in turn may lead to the increased vulnerability of their mental health and the emotional exhaustion (Twenge *et al.*, 2018; Fardouly *et al.*, 2020).

Male students use social media for less emotional reasons, such for entertainment or information gathering, which might explain why they report less distress in many situations (Andreassen *et al.*, 2017). Particularly in nonwestern countries, there is little known about the complex sociocultural forces molding these gendered patterns.

This vigorous is supplementary intermediated by utilitarian context. The distinction between public and private universities in Pakistan is profoundly social and cultural rather than merely administrative. Private universities typically draw urban, middle- and upper-class students who have greater access to digital tools and are under pressure to maintain carefully manicured online personas, whereas public universities typically serve students from diverse, rural, or lower-income backgrounds (Siddiqui and Singh, 2022).

These variations might intensify the psychological impacts of social media use, especially for students attending private universities who are more enmeshed in image-conscious, competitive online cultures. However, there hasn't been much empirical study done in Pakistan to systematically examine how these interrelated factors—gender and institutional affiliation—influence students' psychological outcomes in relation to their digital lives.

This research fills these important gaps by performing a quantitative, sociologically based study on gender disparities in social media use and its psychological effects among undergraduate students

in Punjab, Pakistan's District Faisalabad, a significant center for education and industry. The study compares male and female students in public and private universities by measuring social media use, psychological distress (such as anxiety and depression), and academic stress using validated tools. Finding important trends, weak points, and interaction effects will help shape more gender-responsive student support networks, context-sensitive mental health policies, and digital wellness initiatives in higher education. Furthermore, this study adds a significant non-Western viewpoint to the larger global conversation on youth mental health and digital well-being. It positions social media's psychological effects as sociologically embedded experiences that are influenced by the intersections of gender norms, institutional culture, and socioeconomic structures rather than just as individual or behavioral outcomes. In doing so, it highlights how urgently higher education institutions—particularly those in low- and middle-income nations—need to make investments in comprehensive digital literacy programs, gender-specific mental health services, and inclusive strategies for encouraging students to engage online in a safe and balanced manner.

Recent years have seen a great deal of academic interest in the link between university students' use of social media and psychological wellness. Researchers have investigated how usage of social media, both in terms of kind and extent, affects mental health outcomes for several student groups as digital technologies become more mediating academic, social, and emotional life.

Mechanisms like social comparison, cyberbullying, and fear of missing out (FOMO), these platforms are often linked with mental health problems including anxiety, depression, emotional exhaustion, and low sleep quality (Keles et al., 2020; Elhai et al., 2020). Particularly among young people, Brailovskaia and Margraf (2021) find a great link between daily use of social media sites such Instagram and Snapchat and depression symptoms as well as low self-esteem.

Emergence as a major topic of research is gender variations in social media consumption. Female students are more likely to use social media for relational and emotional expression, hence they give more weight on internet identity management, peer approval, and appearance (Fardouly et al., 2020). This propensity makes them more vulnerable to social anxiety, body image issues, and emotional fatigue.

Male students, on the other hand, usually use social media for entertainment, gaming, or informational purposes and are less affected by emotionally charged content (Twenge and Martin, 2020). According to Andreassen *et al.*, (2017), female university students performed better than male students on measures of problematic social media use and showed more emotional reactions to online interactions.

Furthermore, it has been found that the institutional context—such as the differences between private and public universities—influences the psychological effects of digital behaviors. Students in South Asian private universities were found to be more reliant on technology due to competitive academic environments, increased exposure to Westernized lifestyle content, and increased socio-cultural pressure to perform online (Siddiqui and Singh, 2022).

Ali *et al.*, (2017) Students attending public universities, on the other hand, frequently experience infrastructure constraints when it comes to digital access, but they might also feel less social pressure to participate in performative or carefully controlled online conduct. These variations can influence students' perceptions of stress and self-worth and produce unique psychosocial dynamics within institutions. Few empirical studies have thoroughly examined the relationship between

social media use, mental health, and sociodemographic factors like gender and institutional affiliation in the context of Pakistan.

According to Mahmood and Zakar (2021), sociocultural stressors and limited access to counseling services are to blame for the rising mental health burden among Pakistani university students, particularly among females. However, there is still a lack of research on social media's contribution, particularly when viewed through a comparative perspective.

Furthermore, not many studies interpret young people's digital experiences from a sociological standpoint. The majority of current research focuses on psychological symptoms and behavioral outcomes, frequently ignoring the ways in which societal structures—such as gender norms, institutional inequality, and socioeconomic pressures—affect students' use of technology and the emotional toll it takes. This emphasizes the necessity of context-specific and intersectional research.

In conclusion, knowledge about how these dynamics function differently across gender and institutional types in developing regions is still lacking, despite the fact that the body of existing literature clearly links social media use to psychological well-being. By offering a sociological, comparative analysis of the psychological effects of social media on male and female undergraduate students from public and private universities in District Faisalabad, Pakistan, this study aims to close these gaps.

Methodology

This study used a quantitative, correlation survey design to investigate gender differences in social media use and its psychological effects among undergraduate students in District Faisalabad. 200 students from four universities—two public and two private (GCUF, UAF, RIUF, TUF) were selected by stratified random sampling to guarantee equal representation of male and female students across institutional types. Yamane's formula was used to determine the sample size. Standardized and validated survey tools DASS-21 and Rosenberg self-esteem scale were used to measure academic stress, social media use, and psychological distress (such as anxiety and depression). Descriptive statistics, independent samples t-tests, and two-way ANOVA were used to evaluate social media usage effects, gender and institutional affiliation on psychological outcomes. A thorough comparison of psychological effects across gender and institutional contexts was made possible by this methodological approach.

Results and Discussion

Table1. Distribution of the respondents according to their Socio-economic characteristics

Socio-Economic Variable	Category	Frequency (n)	Percentage (%)
Family Income (PKR/month)	Up to 50,000	95	47.5
	50,001 – 80,000	62	31.0
	Above 80,000	43	21.5
Parental Education	Illiterate	22	11.0
	Primary (up to 5th grade)	46	23.0
	Secondary (6th – 12th)	64	32.0
	Graduate and above	68	34.0
Family Type	Nuclear	132	66.0
	Joint	68	34.0

Residential Area	Urban	143	71.5
	Rural	57	28.5

Understanding the digital habits and psychological effects of college students in District Faisalabad requires knowledge of the sample's socioeconomic profile (Shown in Table 1). Only 21.5% of respondents reported incomes over PKR 80,000, according to Table 4, while a significant percentage (47.5%) were from low-income households with monthly family incomes of up to PKR 50,000. It is known that media consumption patterns and mental health vulnerability are impacted by moderate to severe financial hardships, which nearly half of the sample manages while attending university (Torous *et al.*, 2020).

In terms of parental education, 34% of students reported having at least one parent with graduate-level education, compared to 11% of students who came from families with illiterate parents. Prior studies have shown that parental education plays a critical role in influencing the emotional stability, digital literacy, and general development of young people (Hosokawa and Katsura, 2018). Pupils from more educated families may have better coping strategies for managing the demands of online engagement, while students from less educated backgrounds may be more exposed to harmful digital content that hasn't been filtered or may not have emotional support.

Nuclear families comprise 66% of all families, while joint families comprise 34%, according to the family structure analysis. Pakistan's general patterns of urbanization agree with this one and mirror international trends toward more individualistic living arrangements (Inglehart and Welzel, 2005). Students from nuclear families may report higher levels of academic and emotional stress because of a lack of family interaction and support networks even if they may also have more digital independence (Rehman *et al.*, 2021).

Seventy-one point five percent of respondents lived in cities, therefore reflecting the higher concentration of universities and internet access in urban regions.

Although urban youth are more tech-savvy, they are also more likely to be exposed to image-conscious social media cultures, which have been linked to higher anxiety, comparison stress, and identity conflict levels (Twenge *et al.*, 2020). With slower digital adoption and more robust community-based interactions, the rural minority (28.5%) may have distinct social media use motivations and outcomes.

When considered collectively, these socioeconomic factors highlight how psychological outcomes in the digital age are intersectional.

They reiterate that social media does not have an equal impact on all students; rather, the experience is mediated by structural factors such as location, family structure, education, and income. These results point to the necessity for digital literacy programs attuned to socioeconomic status and context-based mental health interventions in nations such as Pakistan, where structural inequalities in mental health treatment and education access continue to exist.

Table 2 shows that in the category of both universities, the female students posted a higher mean social media engagement score compared to male students; Women students in private universities posted the highest mean (35.92). Contrary to this, the least participating students were men undertaking public universities (mean = 28.45). This means that women are more active on social media, especially in private institutions. This may be caused by increased social comparison, relationship communication styles and digital colleague culture (Fardauli *et al.*, 2020). Increased

use among students in private universities may also result in lifestyle-driven digital criteria and easy access to technology (Siddiqui and Leo, 2022).

Table 2: Descriptive Statistics by Gender and University Type

Variable	Gender	University Type	Mean	Std. Deviation
Social Media Engagement	Male	Public	28.45	4.76
	Male	Private	31.67	5.21
	Female	Public	32.15	4.89
	Female	Private	35.92	5.73
Anxiety Score	Male	Public	17.12	3.24
	Male	Private	19.35	3.66
	Female	Public	21.44	3.87
	Female	Private	25.08	4.12
Depression Score	Male	Public	16.05	2.78
	Male	Private	18.92	3.12
	Female	Public	21.01	3.24
	Female	Private	24.57	3.88
Academic Stress Score	Male	Public	14.23	2.96
	Male	Private	16.84	3.14
	Female	Public	18.21	3.39
	Female	Private	21.67	3.98

The anxiety scores of both male and female students grow gradually as they move from public to private universities. Men from public universities reported the lowest concern to mean score (meaning = 17.12), while women in private universities reported the highest (meaning = 25.08). This significant gender differences correspond to previous research which found that women are more sensitive to anxiety due to emotionally charged interactions, fear of getting a poor evaluation, and online social pressure (Tweng and Martin, 2020).

This effect has increased from institutional context, which emphasizes how educational competition and appearance-concentrated environment in private institutions causes emotional stress.

For depression score, comparable patterns are seen. While male students in public universities reported the lowest level of depression (meaning = 16.05), female students in private universities reported the highest (meaning = 24.57). This suggests that constant contact for ideal illustration, cyber comparison and educational expectations on social media may increase psychological vulnerability among women students. These results correspond to Brailovskaia and Margraf (2021), who found that extended use of social media, especially among female users, is associated with a high phenomenon of depression.

Along with the same conversation pattern -also applies to academic stress: male students in public universities reported the lowest level of educational stress (meaning = 14.23), while female students in private universities reported the highest level (meaning = 21.67). This suggests that private universities can have more psychological stress on academic settings students, especially women who often balance many responsibilities, social pressures and internal pressure to perform well (Mahmood and Zakar, 2021).

The consistent tendency in all variables reflects the intersection vulnerability, where the gender and institutional types interact to influence students' psychological experiences in the digital world. Private universities have a especially weak group due to female students academic competition, socio-emotional sensitivity and combination of demonstrating digital culture. These results suggest that the operations for targeted institutional intervention, such as mental health literacy, gender-inter-consulting services and digital wellness programs, must be applied in private universities.

Independent Samples T-Tests

Independent samples t-tests were conducted to examine the differences in psychological variables between male and female students.

Table 3: Gender Differences in Psychological Outcomes

Variable	t-value	df	p-value	Interpretation
Social Media Engagement	-4.12	198	0.000	Significant difference: Female > Male
Anxiety Score	-5.04	198	0.000	Significant difference: Female > Male
Depression Score	-4.78	198	0.000	Significant difference: Female > Male
Academic Stress Score	-3.94	198	0.000	Significant difference: Female > Male

T-tests according to the results of independent samples, which indicate statistically important gender-based differences, female students constantly score more than their male counterparts on all measured psychological and behavior variables (Table 3). The data indicates that women use social media compared to men, as indicated by T -Value of -4.12 (DF = 198, $P < .001$). According to this, women are more likely to communicate with others, have high emotional investment, and can be susceptible to pressure from the Internet. Similarly, when comparing anxiety score, a T -Value of -5.04 ($P < .001$) is found, suggesting that female students experience a high level of anxiety. This is most likely due to the fact that social media platforms make them more susceptible to concerns related to social comparison, co-worker verification stress and educational performance (Fardoli et al., 2020).

In addition, depression score refers to a significant sex difference ($T = -4.78$, $P < .001$), which suits previous studies that found that excessive online engagement and emotional overseas pose are associated with symptoms of depression, especially in young women (Brylovskia and Margraf, 2021). The notion that female students are under more academic pressure than male students, they are supported by academic stress T -test ($T = -3.94$, $P < .001$), which can be caused by performance concern, internal expectations and combined weight of academic and emotional work. These statistically important conclusions underline the need for a gender-level approach for digital literacy and mental health aid, given the prevalence of social media in academic and social life of higher education.

Two-Way ANOVA: Interaction Effects

A two-way ANOVA was performed to assess the interaction effects of gender and university type on psychological variables (Table 4). According to two-way Anova analysis, undergraduate students are greatly affected by the concern, depression and educational stresses, sex and university types. Both universities type ($F = 18.73$, $p < .001$) and gender ($F = 25.41$, $P < .001$) have a significant main effect on anxiety, suggests that students who participate in private universities and women report are at high levels of anxiety. According to significant interaction effects ($F = 6.45$, $P = .012$), the highest anxiety is experienced by women students in private universities,

which suggests that their vulnerability increases from their gender emotional reaction and competitive, image-oriented culture of private universities.

Table 4: Two-Way ANOVA – Interaction Effects

Dependent Variable	Source	F-value	p-value	Interpretation
Anxiety	Gender	25.41	0.000	Significant main effect of gender
	University Type	18.73	0.000	Significant main effect of university type
	Gender*University	6.45	0.012	Significant interaction: Female private students most affected
Depression	Gender	22.19	0.000	Significant main effect of gender
	University Type	19.02	0.000	Significant main effect of university type
	Gender*University	5.76	0.018	Interaction effect confirmed
Academic Stress	Gender	16.88	0.000	Gender has significant effect
	University Type	15.29	0.000	Private students more stressed
	Gender*University	4.94	0.027	Female private students highly stressed

Similarly, for depression, university types ($F = 19.02$, $P < .001$) and gender ($F = 22.19$, $p < .001$) are important prophets, with an interaction effect ($F = 5.76$, $P = .018$), further shows that female students participating in private universities are the most psychologically affected groups. The interaction term ($F = 4.94$, $p = .027$) has highlighted that female students of private universities carry the largest educational burden, and gender ($F = 16.88$, $p < .001$) and university types ($F = 15.29$, $P < .001$) have significant impact on educational tension levels.

These results emphasize how gender and institutional references intersect, highlight the need for concentrated intervention such as digital wellness education, gender-sensitive consultation and culturally sensitive mental health assistance that are adapted to the demands of women students in private higher education settings.

Table 5: Correlation Analysis

Variables	r-value	p-value	Interpretation
Social Media & Anxiety	.58**	0.000	Strong positive correlation (Significant)
Social Media & Depression	.52**	0.000	Strong positive correlation (Significant)
Social Media & Academic Stress	.49**	0.000	Moderate to strong positive correlation (Significant)

Use of social media and psychological distress among college students are strongly positively correlated, as per correlation analysis. In other words, there is a moderate correlation between higher use of social media and academic distress ($r = .49$, $p < .01$) and strong correlations between higher anxiety ($r = .58$, $p < .01$) and depression ($r = .52$, $p < .01$). These results suggest that spending too much time on social media can make psychological problems worse, the most noticeable effect with anxiety. Conclusions often indicate the potential threats to use social media when it comes to people's mental health, especially for students who are still in school. young people who use social media excessively tend to experience stress, anxiety, and depression much more often than others. Keles and colleagues (2020) argue that overusing these platforms can lead to psychological distress, often because of social comparison and cyberbullying.

Conclusion

The research concludes by noting the significant variation in the usage of social media and its psychological impact among undergraduate students of District Faisalabad on the basis of gender and institution. The findings indicate that psychological disturbance, like heightened anxiety and emotional burnout linked with heavy usage of social media, disproportionately impacts female students, particularly private university students. These results underscore the imperative to provide targeted interventions that recognize the specific vulnerabilities of student subgroups. To mitigate these adverse consequences and promote healthier, more supportive learning environments, it is essential to have gender-sensitive mental health services, institution-specific digital literacy programs, and holistic digital wellness programs.

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