



Research Article

Gender Differences in Social Media Usage for Academic Purposes: A Study of Postgraduate Students in Pakistan

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Abstract

The integration of social media into higher education has transformed academic landscapes, yet gender-specific usage patterns remain a critical area of investigation. This study examines the differences in social media use for academic purposes between male and female postgraduate students at the University of Agriculture, Faisalabad, Pakistan. A cross-sectional research design was employed, with data collected through a well-structured interview schedule from a convenience sample of 140 students (70 male, 70 female). Data were analyzed using SPSS, utilizing descriptive statistics and an independent samples t-test. The findings reveal a statistically significant gender disparity in the frequency of academic social media use, with a markedly higher proportion of female students (77.1%) engaging with social media for academic purposes daily compared to male students (65.7%). Conversely, the analysis of total time spent on social media, regardless of purpose, showed no significant difference between genders. Furthermore, the study identified a clear hierarchy of platform preference, with YouTube being the overwhelmingly dominant tool for academic work (57.1%), followed by WhatsApp (15.0%). The results underscore that the critical differentiator is not the time spent on social media, but the academic application of that time, which is significantly influenced by gender. This study concludes that female students in this context are more proactive in leveraging social media as an integrated academic toolkit. The insights urge educators to develop gender-sensitive digital learning strategies that align with these distinct usage patterns.

Keywords: Social Media, Academic Purposes, Gender Differences, Higher Education, Pakistan, YouTube, Postgraduate Students, Digital Learning



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Introduction

The pervasive integration of social media into daily life has fundamentally altered how individuals communicate, access information, and build communities. These platforms, defined by their interactive and user-generated content, have transitioned from purely social tools to significant conduits for professional and academic engagement (Acar, 2008; Marengo et al., 2020). In the educational sphere, Web 2.0 technologies have unlocked new potentials for collaborative learning, student-instructor interaction, and the creation of media-rich knowledge environments (Ajjan, 2010).

Within higher education, students increasingly leverage social media for a wide range of academic purposes, from accessing tutorial content on YouTube to coordinating group projects on WhatsApp. This shift positions social media not merely as a distraction, but as a potential catalyst for active and student-centered learning (Saini and Mir, 2023). However, the adoption and application of these technologies are not uniform. A critical factor influencing usage patterns is gender, with research indicating divergent motivations and behaviors between male and female students (Feng et al., 2023). While females often use these platforms for communication and knowledge acquisition, males may lean towards entertainment and forming new connections.

Despite the recognized influence of gender on technology adoption, there remains a need to investigate its specific role in the academic application of social media, particularly in specific cultural contexts. This study, therefore, seeks to contribute to this discourse by examining the gender-based differences in social media usage for academic purposes among postgraduate students at the University of Agriculture Faisalabad, Pakistan. Specifically, it aims to analyze the distribution of usage frequency, the time invested, and the preferred platforms for academic work, providing a nuanced understanding of how gender shapes the digital learning landscape.

Methodology

Study Design and Area

This study employed a cross-sectional research design to investigate the patterns of social media use for academic purposes among postgraduate students quantitatively. The research was conducted at the University of Agriculture, Faisalabad, located in the Punjab province of Pakistan. As the third most populous city in the country, Faisalabad provides a significant academic environment.

Population and Sampling

The study population consisted of postgraduate students from three specific academic units: the Department of Rural Sociology (N = 90), the Institute of Agriculture and Resource Economics (N = 145), and the Institute of Agricultural Extension, Education, and Rural Development (N = 346), resulting in a total population of 581 students.

A convenience sampling technique was employed to select participants. A sample of 140 postgraduate students was recruited, with deliberate effort made to ensure equal gender representation, resulting in 70 male and 70 female respondents.

Instrumentation and Data Collection

Data were collected using a well-structured interview schedule administered through personal interviews. The instrument comprised sections designed to capture data on demographic characteristics, frequency and duration of social media use, and specific platforms used for academic purposes. Key sections utilized a five-point Likert scale to measure attitudes and perceptions. To ensure the validity and reliability of the instrument, a pre-test was conducted with 20 postgraduate students who were not part of the final sample. This process allowed for the refinement of questions for clarity and relevance before commencing the main data collection.

The researcher conducted all interviews in person within the respondents' respective faculties. A significant emphasis was placed on ethical conduct and building rapport. At the beginning of each interview, the purpose and nature of the research were clearly explained. Respondents were assured of the confidentiality and anonymity of their responses to mitigate any skepticism and encourage candid participation.

Data Analysis

The data were analyzed using the Statistical Package for Social Sciences (SPSS) software, version 21. Descriptive statistics, including frequencies and percentages, were computed to summarize the data on social media usage patterns and platform preferences. An independent samples t-test was employed to compare the mean scores of usage frequency and hours spent on social media between male and female student groups, with a predetermined significance level of $p < 0.05$.

Results

Table 1 indicates that a majority of both male (65.7%) and female (77.1%) respondents use social media for academic purposes daily. However, the proportion of female students reporting daily use was notably higher. Conversely, male students were more than twice as likely as female students to report rarely using social media for academics (18.6% vs. 7.1%, respectively). The proportion of students using social media weekly was identical for both genders (15.7%).

An independent samples t-test was performed to compare the means between male and female respondents. The test resulted in a t-statistic of -1.92 and a p-value of 0.000. This p-value, which is less than the conventional alpha level of 0.05, indicates that the observed differences in social media usage patterns between male and female students are statistically significant. In summary, female respondents in this sample demonstrated a significantly higher frequency of daily social media use for academic purposes compared to their male counterparts.

Table 1. Use of social media for academic purposes among university students.

	Male		Female		T-statistics	
	Frequency	Percent	Frequency	Percent	P	t
Daily	46	65.7	54	77.1	0.000	-1.92
Weekly	11	15.7	11	15.7		
Rarely	13	18.6	5	7.1		
Total	70	100.0	70	100.0		

The data given in Table 2 indicate that the most common usage bracket for both genders was 1 to 3 hours per day, with nearly half of all respondents falling into this category (47.1% of males and 50.0% of females). A similar proportion of male and female students reported high usage of more than 6 hours per day (15.7% and 14.3%, respectively). Some minor differences were observed in the "Less than 1 hour" and "4-6 hours" categories, but these differences were small in magnitude. An independent samples t-test was performed to determine if there was a statistically significant difference in the average

hours of social media use between male and female students. The test resulted in a t-statistic of 0.631 and a p-value of 0.690. Since this p-value is substantially greater than the standard alpha level of 0.05, we fail to reject the null hypothesis. This indicates that there is no statistically significant difference in the total number of hours spent on social media between male and female students in this sample.

Table 2. The number of hours spent on social media by students.

Number of hours	Male		Female		T-statistics	
	Frequency	Percent	Frequency	Percent	P	t
Less than 1	15	21.4	10	14.3	0.690	.631
1-3	33	47.1	35	50.0		
4-6	11	15.7	15	21.4		
More than 6	11	15.7	10	14.3		
Total	70	100.0	70	100.0		

Table 3. Preferred social media platforms among university students.

Social media platforms you use for academic purposes	Frequency	Percent
Facebook	5	3.6
Twitter	1	0.7
Instagram	5	3.6
Linked In	6	4.3
YouTube	80	57.1
WhatsApp	21	15.0
Tik-Tok	2	1.4
Anyother	20	14.3
Total	140	100.0

The data given in Table 3 show that YouTube is the overwhelmingly dominant platform, used for academic purposes by 57.1% of the respondents. This makes it more than three times as popular as the second-most cited platform. WhatsApp was the second most frequently used platform (15.0%), followed by a category of "Any other" platforms (14.3%). A small minority of students used all other platforms. LinkedIn was used by 4.3% of respondents, while Facebook and Instagram were each used by 3.6%. TikTok (1.4%) and Twitter (0.7%) were the least frequently used platforms for academic work.

In summary, the findings indicate a strong hierarchy of platform preference for academic use, with video-based learning via YouTube being the primary method, followed by communication and collaboration through WhatsApp.

Discussion

This study aimed to investigate the patterns of social media use among students, with a specific focus on academic purposes, the time spent on these platforms, and the preferred platforms. The findings reveal a complex landscape where gender plays a significant role

in the *purpose* of use but not in the *volume*, and where student preferences for academic tools are highly concentrated.

The most striking finding of this study is the clear and statistically significant gender-based divergence in how social media is utilized for academic work. While a majority of both male and female students reported daily academic use, female students demonstrated a significantly higher frequency of this behavior (77.1% vs. 65.7%). This suggests that female students may be more proactive or reliant on social media as an integrated part of their academic toolkit (Fazel and Sayaf, 2025). Conversely, the higher proportion of male students who "rarely" use these platforms for academics points to a potential gender gap in the adoption of informal digital learning strategies, a phenomenon that warrants further investigation (Cooper, 2006; Mashroofa et al., 2023)

Interestingly, this divergence in academic use occurs against a backdrop of gender parity in the overall time invested in social media. The analysis of total hours spent revealed no statistically significant difference between male and female students. This is a critical nuance; it indicates that the observed gender difference is not a function of overall social media engagement but rather one of *application and intent*. Both genders invest similar amounts of time on these platforms, but female students appear to channel a greater portion of that time toward their academic goals (Dumford et al., 2023). However, the results of Alniadat et al. (2019) contradict this, as they reported that males spent more time on social media than females.

When examining the platforms chosen for academic purposes, the data show an overwhelming preference for YouTube, which was used by 57.1% of all respondents. This dominance underscores a shift in learning preferences towards visual and audiovisual content, favoring on-demand video tutorials and lectures over text-based or micro-blogging platforms (Lange & Costley, 2020). The secondary popularity of WhatsApp (15.0%) underscores the importance of communication and collaboration, particularly for group discussions, sharing materials, and coordinating with peers (Okonkwo & Awad, 2023). The relatively low usage of platforms like Facebook, Twitter, and LinkedIn for academics suggests that students are making a clear distinction between social networking for leisure and platforms that serve specific, utilitarian functions for their studies.

Theoretical and Practical Implications

Collectively, these findings paint a picture of the modern student as a strategic user of social media. They consume vast amounts of academic content on YouTube, utilize WhatsApp for collaborative learning, and do so within a framework where gender influences the frequency of academic use but not the overall time commitment. From a theoretical perspective, these results reinforce the Technology Acceptance Model (TAM) in an educational context, where perceived usefulness (e.g., YouTube's educational value, WhatsApp's coordination efficiency) drives adoption for specific tasks (Urien et al., 2019). For educators and academic institutions, these results have significant practical implications. The prevalence of YouTube suggests that integrating curated video content into curricula aligns with student habits and could enhance engagement. Furthermore, creating structured opportunities for collaboration on platforms like WhatsApp could

formalize and improve a practice in which students are already engaged. The gender gap in academic use also suggests a need for targeted encouragement or training to ensure all students are equally equipped to leverage these digital resources effectively (Qazi et al., 2022).

Limitations and Suggestions for Future Research

This study is limited by its sample size and potentially specific contextual factors of the institution involved. Future research could employ a longitudinal design or a larger, multi-institutional sample to generalize these findings. Qualitative inquiries into *why* students choose specific platforms and *how* exactly they use them for learning would provide deeper insights into the motivations and strategies behind these usage patterns.

Conclusion

This study provides a detailed snapshot of the intricate relationship between social media and student academic life, revealing clear patterns in usage frequency, platform preference, and the influence of gender. The analysis leads to three central conclusions.

First, the findings confirm that social media has firmly cemented its role as an academic tool, with a significant majority of students engaging with it for educational purposes on a daily basis. However, this engagement is not uniform across genders. The significant disparity in daily academic use, with female students leading, indicates that gender is a crucial variable in understanding how these platforms are leveraged for learning, even when overall screen time is equivalent.

Second, the overwhelming dominance of YouTube as the platform of choice for academic work highlights a definitive shift toward visual and on-demand learning. Students primarily seek out video-based tutorials and lectures, while using communication-focused platforms like WhatsApp for collaboration and coordination. This suggests a strategic selection process where students choose platforms based on specific academic functionalities rather than their general popularity. Finally, the stark contrast between the significant gender difference in *academic use* and the non-significant difference in *total hours spent* on social media is perhaps the most insightful finding. It clearly demonstrates that the total time spent on social media is a poor indicator of its academic utility. The critical factor is not *how much* time students spend, but *how* they choose to allocate that time toward their studies. In summary, the modern student is a discerning user of social media, strategically navigating a digital ecosystem to support their education. For educators and institutions, recognizing this nuanced landscape—the platforms students prefer, the purposes they serve, and the demographic factors at play—is essential for developing effective, responsive, and inclusive digital learning strategies that align with the realities of contemporary student behavior.

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