How to Cite this Article: Jamil, U., Anjum, F A., & Fayyaz, M. (2026). Demographic Differences in Social Media Usage, Self-Esteem, and Academic Performance among Pakistani University Students. *The Knowledge, 5*(1), 300-310. https://doi.org/10.55737/tk/v5i1.51150

RESEARCH ARTICLE THE KNOWLEDGE

Volume 5, Issue 1 (Winter 2026) • Pages: 300 – 310 • DOI: 10.55737/tk/v5i1.51150 • e-ISSN: 3006-869X

Demographic Differences in Social Media Usage, Self-Esteem, and Academic Performance among Pakistani University Students

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Abstract

The present study aimed to analyze how the demographic factors of Pakistani university students affect their social media usage, self-esteem, and academic performance. A cross-sectional design was utilized for the study, and data were collected from 300 participants aged between 18 and 30 years. RSE, SMUS, and APQ measures were adopted to assess study variables. The results indicated that younger individuals (age group 18 to 22) achieved poor grades and self-esteem scores and had high social media usage compared to their older counterparts (age group 23 to 30). There were statistical differences within age group categories. While there were differences in social media usage as females reported higher scores on the same scale, there were no differences among gender-based groups in terms of academic achievements and self-esteem. No statistically significant differences emerged due to different levels of education in relation to all analyzed measures. While social media use and academic performance indicators remained stable, there was a moderate socio-economic influence on the social media use variable and slight differences in self-esteem indicators. Thus, it may be concluded that demographic variables of social media use have a significant impact on academic and psychological outcomes of university students.

Key Words

Social Media Usage, Self-esteem, Academic Performance, Demographics, Gender, Age, Socioeconomic Status, Pakistani Students

Introduction

Social media is an unavoidable issue of present-day existence, in particular for university college students who are perceived as the "virtual local generation" because of their common interaction with the internet. Common media websites used for communication, entertainment, and schooling consist of Facebook, Instagram, TikTok, and WhatsApp. The developing recognition of those websites has caused positive worries being raised over the potential effect of those structures on college students` academic performance and mental well-being.

Students at universities are in a degree of existence wherein development—which includes identification, production, and self-evaluation—is crucial. It ought to be highlighted that university college students are particularly vulnerable to peer judgment, and social media offers them the possibility to constantly verify

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themselves and make online comparisons with others. Vogel et al. (2014) declare that exposure to idealized content causes self-dissatisfaction and a decrease in self-respect. According to Fardouly et al. (2015), exposure to such media has an effect on one's self-image and lowers one's confidence.

Moreover, (Tiggemann & Slater, 2014). showed that teenagers who use social networking sites more frequently have a greater tendency towards body image problems and lower self-respect levels. In the same context, (Andreassen et al., 2016). highlighted the inverse relation between high levels of social media usage and self-respect, resulting in addictive behavior.

One of the most prominent psychological aspects involved in the social media usage habit is the fear of missing out (FOMO). This is defined as a fear that people will be enjoying themselves without one's involvement. According to Przybylski et al (2013), social media use results in feelings of rejection and worthlessness continuously. Moreover, (Steinfield et al., 2008) identified a pattern wherein users with low self-respect levels depend upon social media networks for social fulfillment purposes. Collectivistic cultures like that of Pakistan can benefit from this effect more than individualistic societies.

Apart from the psychological implications of social media use, there is a lot of evidence that has been presented regarding its relationship with academics. The negative impact of excessive use is that it causes distraction, lack of focus, and poor time management skills. Junco (2012) found that when students use social networking sites more frequently, they end up having poor grades.

Further, Kuznekoff and Titsworth (2013) suggested that those students who engage with their cellphones and social networking during lectures exhibit low attention span and low academic results. Similarly, Rosen et al. (2017) noted that multitasking while using social media hinders learning and retention of memory.

Social media is not totally bad, though. According to some research, it may improve academic engagement and learning. For instance, Veletsianos and Navarrete (2012) discovered that social media improves student cooperation and knowledge exchange. In a similar vein, students who participate academically on social media platforms show more motivation and engagement (Kind & Evans, 2015).

The demographic variables are instrumental in forming these connections. The age variable is a demonstration that young students are more inclined to utilize social media, making them more prone to the detrimental impact of social media because of poor self-control skills. To this end, the research by Sarfraz et al. (2025) demonstrates that young Pakistani students have low self-esteem due to increased social media usage.

Gender differences have also been noted. The female students are found to be more active users of social media, mainly for socializing purposes. It was reported by Abbas et al. (2024) that Pakistani females face more social comparison and psychological pressure than males because of societal norms. Nonetheless, gender differences in academic results and self-respect cannot be statistically established.

The educational level is another important factor that affects the results. Undergraduate students use social media more often than postgraduate students, and this can affect their studies negatively. On the other hand, postgraduate students have more self-control and are more disciplined.

Social class is yet another significant variable. Students belonging to the middle social class may face more pressure to emulate online living styles, resulting in lower self-esteem. Nonetheless, research findings show that social class has minimal impact on scholastic attainment and use of social networking sites.

Albert Bandura's social cognitive theory (1986) serves as the basis for this research theory. According to the hypothesis, people imitate the actions of those around them. Social media platforms provide students with

opportunities to imitate and observe the actions and successes of others, which can increase motivation to learn and self-esteem.

Although much research has been conducted elsewhere in this area, there is a lack of information specifically regarding Pakistani university students. Most of this research has been conducted in Western countries, and culture can be important in understanding context, so its influence cannot be ignored.

Rationale of the Study

While earlier studies have considered the effects of social media on psychological and academic performance, the effects of demographic variables on these associations have not yet received much scholarly attention. Factors such as age, gender, education, and socio-economic status can substantially affect the ways students perceive their social world and cope with their academic challenges. However, these variables have often been studied independently or completely ignored in past literature. In a collectivist culture like Pakistan, demographic features are likely to assume even more importance. Social pressures, family composition, and gender roles are significant determinants of individual conduct, self-concept, and academic competence. For example, young students may find themselves more susceptible due to inadequate self-regulatory skills, whereas female students are more prone to external pressures due to social conventions.

However, despite all these points, the number of studies that have investigated demographic variables altogether in the context of Pakistani universities is still very small. The majority of studies that have been conducted have only concentrated on overall student samples without taking into consideration the impact of demographic variation on psychological and academic experiences. In this regard, this study attempts to determine the impact of demographic variables on students' behaviors, self-concept, and academic performance.

Objectives of the Study

1. To examine age differences in social media usage, self-esteem, and academic performance among university students.
2. To examine gender differences in social media usage, self-esteem, and academic performance among university students.
3. To investigate differences in social media usage, self-esteem, and academic performance across education levels (graduates and postgraduates).
4. To investigate differences in social media usage, self-esteem, and academic performance across socioeconomic status groups.

Hypotheses

H1: Students aged 18–22 years are expected to report higher social media usage, lower self-esteem, and lower academic performance than students aged 23–30 years.

H2: Female students are expected to report higher social media usage than male students, whereas no major gender differences are expected in self-esteem and academic performance.

H3: Graduate students are expected to report relatively higher social media usage and comparatively lower self-esteem and academic performance than postgraduate students.

H4: Socioeconomic status groups are expected to differ in self-esteem, while only limited differences are expected in social media usage and academic performance.

Method

Research Design

The current study utilized a quantitative cross-sectional research design to explore the influence of demographics on the use of social media, self-esteem, and academic achievement among college students. A cross-sectional research design permitted the collection of data at one point in time for the comparison of different demographic categories.

Participants and Sampling

Convenience sampling was done by recruiting 300 university students from public and private sector institutions located in the twin cities of Islamabad and Rawalpindi in Pakistan. The people participating in the research had an age range of 18 to 30 years. The respondents of the study comprised 170 male and 130 female participants. In terms of educational qualification, 168 people were graduates and 132 post-graduates. With respect to their socio-economic status, the people sampled included those who were lower, middle, and upper class.

Inclusion Criteria

- Students aged between 18 and 30 years.
- Both male and female participants.
- Students enrolled in undergraduate or postgraduate programs.
- Active users of social media platforms (e.g., Facebook, Instagram, TikTok, WhatsApp).
- Participants who provided informed consent.

Exclusion Criteria

- Individuals with diagnosed **medical or psychological conditions**.
- Participants who did not provide consent.
- Non-students or individuals outside the specified age range.

Instruments

Demographic Information

Information about students' age, gender, family type, marriage status, school level, hometown, favorite social media app, family income, and monthly pocket money was collected.

Social Media Use Scale (SMUS)

The 17-item Social Media Use Scale (SMUS) was designed by Tuck and Thompson (2023) to measure the level of social media use among university students. The two constructs measured by the scale include (1) an 11-item Daily Habits Subscale, which measures the frequency and intensity of social media usage and its integration in people's lives; and (2) a 6-item Connection Subscale, which measures how social media enhances socialization and the feeling of closeness. Scores on the scale will vary between 17 and 153 points, with high scores indicating heavy social media usage.

Answers to questions will be provided on a 9-point Likert scale (1=Never, 9=Always). The SMUS reflects great reliability (Cronbach's α=0.91).

Academic Performance Questionnaire (APQ)

The Academic Performance Questionnaire (APQ) is a self-report questionnaire with eight items designed by Lauterbach et al. (2002) to evaluate the academic achievements of university students. It includes four components that relate to satisfaction with academic learning, understanding of the learning material, managing time, and

motivation. Answers are made based on a five-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree), whereby scores may range between 8 and 40, with higher values indicating high academic achievements. The APQ demonstrates high reliability ($\alpha = 0.82$).

Rosenberg Self-Esteem Scale (RSE)

In 1965, Rosenberg developed the Rosenberg Self-Esteem Scale (RSE), a 10-item self-administered questionnaire designed to measure a person's overall self-esteem. This idea involves assessing an individual's overall sense of acceptance. On a -point Likert scale (1 = strongly disagree,4= completely agree), items refer to self-evaluation of positive or negative traits in terms of self-confidence and self-esteem. The scale produces scores from 10 to 0, so better scores indicate better self-esteem.

Procedure

Students studying at the University in Pakistan will be selected to participate in the research. The number of participants will be 300 students, who will be selected in a convenient manner to ensure equal representation of all the faculties. Information collection was done within three months, providing ample time to find participants and collect their responses. Questionnaires were handed out personally after securing the permission of the university, and participants were told that participation was optional. Completion of the questionnaires will take approximately 35-40 minutes. In case of incompleteness or confusion in answers, the issue will be addressed with the participants.

Ethical Considerations

Ethical guidelines were strictly adhered to in this research, and an ethics committee at the university provided its approval. Confidentiality and anonymity for all the information provided by the participants were maintained throughout the research. The objectives of the research and the questionnaires used were communicated to the respondents. Analysis of the data collected was done meticulously to ensure the confidentiality and safety of the participants' information.

Informed Consent

A brief explanation regarding the aim and purpose of the study was given to participants. It was explained that participation in the research would be entirely voluntary, with only those who agreed to participate included in the study. Written consent forms were issued to the participants before the data collection process began.

Confidentiality

Information obtained from participants was handled in a confidential manner, used only for research purposes, and not divulged to anyone beyond the scope of the research. Participants received a special code rather than using their names on the survey forms.

Results

The current study seeks to investigate the impact of demographic variables on the use of social media, self-esteem, and academic achievement among college students. The data collected have been analyzed using descriptive statistics, correlation, and an independent sample t-test. Some interesting findings have emerged from the analysis that can be seen below.

Table 1

Frequencies and Percentages of Participants' Demographic Characteristics (N = 300)

Demographic	*f*	*(%)*
Age		
18-22 years	200	66.7
23-30 years	100	33.3
Gender		
Men	170	56.6
Women	130	43.3
Education		
Graduates	168	56.0
Postgraduates	132	44.0
Socioeconomic Status		
Lower	78	26.0
Middle	184	61.3
Upper	38	12.6

Note: f= frequencies of demographic variables, %= percentage of demographics

The demographic structure of the participants is provided in Table 1 below. In total, there were 300 participants, 66.7% of whom were 18-22 years old, while 33.3% were 23-30 years old. As for gender structure, only 3.3% of the total sample were females, and 56.7% were males. The participants' educational backgrounds suggested that there were no graduate students (.0%), but 56.0% were enrolled in graduate courses. With regard to the socio-economic backgrounds of the participants, 61.3% of the total sample came from middle socio-economic levels, while the shares of participants coming from the lower and upper socio-economic levels were 26.0% and 12.7%, respectively.

Table 2

Age Differences in Social Media Usage, Self-Esteem, and Academic Performance (N = 300)

Variable	18–22 years (n=200) M (SD)	23–30 years (n=100) M (SD)	F	df	p	η^2
Social Media Usage	66.5 (16.8)	61.8 (16.0)	4.50	1,298	0.035	0.02
Self-Esteem	34.5 (8.0)	37.0 (7.3)	7.25	1,298	0.008	0.02
Academic Performance	28.8 (6.9)	30.8 (6.3)	6.75	1,298	0.010	0.02

Table 2 shows the variation of social media use, self-esteem, and academic achievement among various age groups. It was found that young students (18-22 years old) have significantly higher social media use than older students (23-30 years old), $F(1, 298) = 4.50$, $p < .05$. On the other hand, older students were found to have significantly higher self-esteem, $F(1, 298) = 7.25$, $p < .01$, and significantly higher academic achievements, $F(1, 298) = 6.75$, $p < .05$. However, the effect size ($\eta^2 = .02$) was small for both self-esteem and academic achievements.

Table 3

Gender Differences in Social Media Usage, Self-Esteem, and Academic Performance (N = 300)

Variable	Men (n=170) M (SD)	Women (n=130) M (SD)	t	df	p	Cohen's d
Social Media Usage	63.0 (16.0)	67.0 (16.9)	-2.00	298	0.046	0.24
Self-Esteem	35.8 (7.6)	34.8 (8.0)	1.08	298	0.281	0.13
Academic Performance	29.8 (6.6)	29.1 (6.8)	0.85	298	0.396	0.10

Table 3 illustrates gender differences in the use of social media, self-esteem, and academic performance. The findings indicated that the female students were observed to exhibit significantly higher social media usage than the males, t (298) = -2.00, $p < .05$, with a small effect size (d = 0.24). However, there was no significant difference regarding gender on self-esteem, t (298) = 1.08, $p > .05$, or academic performance, t (298) = 0.85, $p > .05$. This suggests that while women are seen to be using social media much more often, their self-esteem and academic performance are similar to men.

Table 4

Differences by Education Level in Social Media Usage, Self-Esteem, and Academic Performance (N = 300)

Variable	Graduates (n=168) M (SD)	Postgraduates (n=132) M (SD)	F	df	p	η^2
Social Media Usage	66.1 (16.7)	63.2 (16.4)	2.25	1,298	0.135	0.01
Self-Esteem	34.8 (7.9)	36.2 (7.6)	2.45	1,298	0.119	0.01
Academic Performance	28.9 (6.8)	30.3 (6.5)	3.50	1,298	0.062	0.01

Table 4 below displays the differences between graduate and postgraduate students. As is evident from Table 4, the graduate students indicated a slight increase in the social media utilization level in comparison to postgraduate students; nevertheless, the difference was not significant, F (1, 298) = 2.25, $p > .05$. Likewise, there was no significant difference regarding self-esteem level, F (1, 298) = 2.45, $p > .05$, and performance in academic work, F (1, 298) = 3.50, $p > .05$. Even though the postgraduates had a good outcome, the effect sizes were very low (η^2 = .01).

Table 5

Socioeconomic Status Differences in Social Media Usage, Self-Esteem, and Academic Performance (N = 300)

Variable	Lower (n=78) M (SD)	Middle (n=184) M (SD)	Upper (n=38) M (SD)	F	df	p	η^2
Social Media Usage	64.2 (16.5)	66.5 (16.8)	62.8 (16.3)	1.07	2,297	0.345	0.01
Self-Esteem	34.1 (7.7)	35.7 (8.1)	32.8 (7.4)	3.01	2,297	0.050	0.02
Academic Performance	28.3 (6.6)	29.8 (7.0)	30.9 (6.4)	1.88	2,297	0.154	0.01

These differences among socioeconomic status groups are demonstrated in Table 5. From the findings, it is evident that there were no statistically significant differences between social media use, F (2, 297) = 1.07, $p > .05$, and academic success, F (2, 297) = 1.88, $p > .05$, among SES categories. On the other hand, marginal significance was found for self-respect, F (2, 297) = 3.01, $p = .050$, with middle SES students having slightly higher self-respect than low and high SES students. Small effect sizes (η^2 = .01–.02) suggest little influence of socioeconomic status on the variables examined.

Discussion

The purpose of the current study was to investigate the effects of demographic variables on the use of social media, self-esteem, and academic achievement among university students. Results indicated that there were different effects for variables such as age, gender, and socioeconomic status, while education had no difference.

To begin with, it is clear from the findings that the effects of age variation were present in the three dependent variables, where younger participants aged between 18 and 22 years had higher social media use, alongside low self-esteem and poor academic performance, compared to older participants (aged 23-30 years). This indicates

that younger people are involved in social media activities, which puts them at risk of making social comparisons, seeking validation, and being displaced from studying due to spending time online.

Second, from the results obtained, gender difference was found to be significant for only one variable, which is social media use, in which female students were found to use social media more than male students. However, when it comes to self-esteem and academic performance, no significant difference was found due to gender. This means that despite females being more engaged in social media interaction, communication, or other activities related to social media use, this higher engagement is not linked to any differences in terms of psychological or academic performance.

Thirdly, the study revealed that education level (graduate versus post-graduate) had no significant effect on the use of social media, self-esteem, and academics. This means that the two categories may face equal pressure in academics, technology usage, and mental well-being. It can further mean that educational advancement by itself may not have a very important role in determining these factors.

Finally, the results concerning SES were also not very different, with only minor differences being seen for self-esteem, while no changes were seen for social media use or school grades. Perhaps this could be because SES may have some bearing on resource availability and experience, but it does not necessarily play a role in influencing such behavior and attitudes. Perhaps the prevalence of social media platforms has also minimized any SES differences in social media usage.

From the results obtained from the analysis of data collected, it is clear that age is the key demographic variable in explaining differences in social media use, self-confidence, and academic success, while gender and SES have limited effects, and education level does not appear to have any significant effect at all.

Conclusion

The current research focused on the impact of various demographic characteristics on the utilization of social networking sites, self-esteem, and academic achievement of college students. It was found that demographic characteristics have a differential impact on various variables, and their impacts can either be positive or negative.

In the context of all variables, age was seen as the most critical demographic characteristic, as younger participants demonstrated greater social networking site utilization, accompanied by low levels of self-esteem and academic achievement, as compared to older students.

On the contrary, there were few gender-based differences; whereas females utilized social media more than their male counterparts, no differences in terms of self-esteem and academic achievement were noted. This indicates that being active on social media is not associated with adverse consequences either psychologically or academically.

Likewise, there was no significant difference found in the educational background of the participants, implying that both graduate and postgraduate students have nearly identical levels of social media activity, self-confidence, and academic performance (Kirschner & Karpinski, 2010).

Finally, socioeconomic status was found to exert only a marginal impact, with only slight differences noted in terms of self-confidence, while none in social media activities or academic performance.

All in all, it can be stated that age is pivotal to the issue under consideration, whereas the impact of other demographics like gender, level of education, and socio-economic background is much more specific or insignificant. It is vital to pay special attention to young people when dealing with the problem under discussion.

Limitations

There are certain shortcomings of the current study that must be taken into account when interpreting its findings. First of all, the current study utilized the cross-sectional research design, which makes it impossible to make any definitive statements regarding causality between social media use, self-esteem, and students' academic achievements.

Self-report questionnaires have also been employed in data collection; however, this method may pose various limitations, such as social desirability bias and cognitive biases, which can affect the validity of responses. Particularly, subjective factors such as achievement and self-respect may suffer from the effects of these biases.

In spite of the adoption of non-probability random sampling in conducting the study, the population is only composed of college students, thus implying that generalization cannot be made since it pertains only to this particular group.

Finally, one more limitation of the study is the consideration of only demographic factors in addressing the issue when there are other variables that might influence it.

In addition to this, the research study does not classify the types of social media use, whether it is active or passive social media use, which can give us a clearer understanding of its effect on the individual's self-esteem and academic achievement.

Finally, the research study was conducted in a particular cultural setting, which limits the generalizability of the study.

Recommendations

Based on the findings of the present study, several recommendations can be made for future research, educational practice, and policy development. First, since younger students showed higher social media usage along with comparatively lower self-esteem and academic performance, it is recommended that awareness programs and workshops should be conducted in universities to promote balanced and healthy use of social media. These programs should focus on time management, digital well-being, and reducing excessive online engagement.

Secondly, schools should think of ways to provide students with such counseling services as well as any other support aimed at helping students boost their self-esteem and coping mechanisms, particularly young students who might be more prone to the impact of social comparison and social networking activities.

Thirdly, for future research to find out the causality relationship between social networking, self-esteem, and academic performance, there is a need to use the longitudinal method.

Furthermore, there is also a need for a larger sample size in future research, and the probability sampling approach should be applied.

In addition, various patterns of use of social media, like active versus passive engagement, the motive for using it, and even time spent on it, need to be examined by researchers so that a better understanding of the impact of social media can be obtained.

Finally, future research on this subject matter needs to include other psychological measures such as personality traits and emotional regulation, among others.

Practical Implications

The results obtained in this research paper imply various implications regarding practices that could be implemented within schools, mental health professionals, and policymakers. Because the results indicate a higher

prevalence of social media use among young students as well as poor self-confidence and academic achievements, universities need to implement intervention programs aimed at this population. The implementation of workshops and seminars related to digital health and effective social media use may help students strike the right balance between academic success and digital life.

Moreover, the findings underscore the need for psychological support services at the university level, including counseling centers that aim to enhance self-respect and coping skills. Specialists in the field can devise appropriate strategies aimed at helping students cope with problems relating to social comparison, validation-seeking, and psychological disturbances caused by too much social media use.

The finding concerning increased social media use by female participants could be helpful for designing gender-specific educational campaigns. Such campaigns could encourage the development of mindful use of social media among students, without necessarily discouraging its use completely.

The educational establishment should incorporate relevant digital literacy and psychological wellbeing courses into the curriculum.

Moreover, because both the socio-economic status and educational level made little difference, this implies that these interventions are applicable to all categories of students without regard to their particular academic levels.

Conclusively, based on the above results, universities are advised to develop strategies aimed at improving students' mental well-being and academic achievements through the use of social media.

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