

SOCIAL MEDIA USAGE PATTERNS AND ATTITUDE FORMATION AMONG UNDERGRADUATE STUDENTS AT KUST: A QUANTITATIVE STUDY

Muhammad Waseem Khan^{*1}, Dr. Jan Alam², Dr. Shahid Khan³

^{*1}Department of Sociology, Kohat University of Science and Technology, Kohat, Khyber Pakhtunkhwa, Pakistan

²Assistant Professor, Department of Sociology, Kohat University of Science and Technology, Kohat, Khyber
Pakhtunkhwa, Pakistan

³Faculty Member Department of Sociology, Kohat University of Science and Technology Kohat, Khyber Pakhtunkhwa.

^{*1}waseemkhanofficial96@gmail.com, ²janalam@kust.edu.pk, ³dr.shahidkhan@kust.edu.pk

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Corresponding Author: *

Muhammad Waseem Khan

Abstract

The current study aimed to explore the relationship between social media use pattern and attitude development of undergraduate students of Kohat University of Science and Technology, Pakistan. The study was based on Social Learning Theory and had three dimensions of social media usage: frequency of use, engagement with platform, and engagement with content. A quantitative cross sectional survey design was used. The target population was all undergraduate students in the Psychology, English and Sociology departments (998 students). A proportionate stratified random sampling of 278 students was planned and 263 valid questionnaires were analyzed with a valid-response rate of 94.6%. The data were gathered by using a structured questionnaire with three-point Likert scale. Face and content validity were determined by expert review and Cronbach's alpha was 0.87, which was good. Analysis was done using descriptive statistics, chi-square tests and Kendall's Tau-c. Students indicated that they use social media frequently and regularly, with WhatsApp and YouTube being particularly popular for academic purposes and TikTok and Instagram for entertainment and visual content. The majority of the respondents indicated that their opinions, perceptions and their acceptance or rejection of ideas were affected by social media. The attitude formation was significantly related to the frequency of use ($\chi^2 = 23.966$, $p < .001$; $\text{Tau-c} = .271$). Platform-usage tests were also significant ($\chi^2 = 24.515-31.028$, $p \leq .003$; $\text{Tau-c} = .158-.174$), as were content-engagement tests ($\chi^2 = 18.905-26.771$, $p \leq .004$; $\text{Tau-c} = .165-.201$). The results show that social media has a considerable contribution to the attitude formation, but it is not the only one. Digital literacy, critical evaluation, responsible use and purposeful academic use of social media should be enhanced in universities.

INTRODUCTION

Social media is a significant communication, learning, entertainment and identity development context among the university students. Social media platforms like Facebook, YouTube, Instagram, TikTok, WhatsApp, and X allow users to produce, publish, and share content, while also facilitating interaction with other users in digital communities (Kaplan & Haenlein, 2010). These platforms are different from traditional media because they feature user generated content, algorithmic selection, quick feedback and peer visibility. Consequently, students are presented with information as well as with behavioral models, popular opinions, social comparisons, and repeated stories that can influence the way they think about academic, social and political issues.

The use of social media for education is becoming more apparent in higher education. Students coordinate their classes through WhatsApp groups, watch tutorials and lectures on YouTube and collaborate and find information on other platforms. These practices can help to increase access to learning and enhance informal knowledge sharing (Abbas et al., 2019; Manca, 2020). Meanwhile, regular checking, multitasking, entertainment use and overuse can also be distracting, can take up study time, and can lead to reliance on continuously changing information streams (Junco, 2012; Kuss & Griffiths, 2017). Thus, social media can be used as an educational tool and as a distraction and social influence.

Attitude formation is the process of forming relatively stable evaluations, feelings, and behavioral tendencies toward people, ideas, or issues (Fishbein & Ajzen, 1975; Eagly & Chaiken, 1993). Attitudes can be influenced in social media settings by exposure, observation, social validation and algorithmic reinforcement. Likes, comments, shares, visibility of influencers and trending content can indicate approval and validate specific perspectives. Algorithmic personalization can also further reduce or reinforce exposure by continually displaying

content that matches users' previous interests (Pariser, 2011; Appel et al., 2020).

Though studies have been conducted about the association of social media with academic performance, psychological well-being and problematic use, yet the study of attitude formation as a sociological outcome of social media is less explored in Pakistani public universities. This gap is significant because at the same time, students are developing their academic identity, social values, political orientations, and career goals. The present study thus aims at examining the relationship between frequency of social media use, variety of social media used and the type of social media content that the undergraduate students at KUST are exposed to and how it contributes to attitude formation.

Theoretical Framework and Literature

Social Learning Theory

Bandura's Social Learning Theory (1977, 1986) is the main theory that guides the study, which states that people learn behaviour and attitudes by observing, imitating, reinforcing and cognitively processing. The theory considers attention, retention, reproduction and motivation to be key processes in observational learning. Social media amplifies each process: it is visually salient and therefore draws attention; it is repeated and therefore aids retention; it can be reproduced by the users, including language, practices, and opinions; and it is approved by social media, with likes, comments, and shares serving as motivation and reinforcement.

This framework is especially applicable to the undergraduate student population as their online spaces are filled with peers, influencers, educators, public figures and algorithmically recommended content. These models can be continuously observed and can influence perceptions of success, identity, social norms and acceptable behaviors. Attitudes are not mechanically determined by social media, but rather, social media can be considered a high-frequency socialization environment where ideas are repeatedly modeled and evaluated.

Frequency, Platforms and Content

Frequency of use provides more opportunities for exposure and reinforcement. Students who use social media multiple times a day, during class time, and late at night have more opportunities to see opinion cues and behavioral models than students who use social media less often. The impact of frequency, however, is dependent on the students' consumption and critical processing. It can be distracting or uncritical conformity when engagement is entertainment-based or repetitive, but it can also be helpful in academic learning when content is educational.

Platform type is also important as each platform has its own way of structuring communications. Direct and group communication is the focus of WhatsApp, long-form video learning is the focus of YouTube, short-form, visual, and trend-based content is the focus of TikTok and Instagram, networking and information sharing is the focus of Facebook, and rapid public discussion is the focus of X. The platform architectures shape the intensity, form and social environment of exposure (Kietzmann et al., 2011). The information environment is more varied and complex for students who utilize multiple platforms.

Content engagement is a more direct measure of content ideas and narratives to which users are exposed. Educational content can influence learning attitude, while content of influencer, lifestyle, entertainment, political, and current affairs can impact preferences, self-evaluation, social judgments, and ideological positions. Liking, sharing, commenting and participating in discussions further enhance the chances of reinforcement. Meanwhile, critical verification and media literacy can dampen the impact of online information (Allcott & Gentzkow, 2017; Hargittai & Hinnant, 2008).

Objectives of the Study

1. to examine whether the frequency of social media use is associated with attitude formation;
2. to assess whether social media platform usage is associated with attitude formation; and

3. to determine whether engagement with different types of social media content is associated with attitude formation among undergraduate students at KUST.

Hypotheses of the Study

H1: Frequency of social media use is significantly associated with attitude formation among undergraduate students.

H2: Social media platform usage is significantly associated with attitude formation among undergraduate students.

H3: Social media content engagement is significantly associated with attitude formation among undergraduate students.

Research Methodology

Research Design and Setting

The research design used was quantitative, cross-sectional survey with a positivist approach to research. The study was carried out in Kohat University of Science and Technology, Khyber Pakhtunkhwa, Pakistan. The design was appropriate for the numerical measurement of social media usage and attitude-related variables and to test the association between variables using statistical procedures (Bryman, 2016; Creswell & Creswell, 2018).

Population, Sample, and Sampling

The target population comprised of 998 undergraduate students from three departments namely, English (n = 696), Psychology (n = 227) and Sociology (n = 75). A planned sample of 278 students, which is in line with the sample-size guidance applied in the thesis (Krejcie & Morgan, 1970), was proportionally allocated across the departments: 194 English, 63 Psychology and 21 Sociology. Stratified random sampling was used, with the strata being departments, and simple random sampling was used within each stratum to ensure that each department was proportionately represented. Valid questionnaires were available for analysis (263) with a valid-response rate of 94.6%.

Instrument and Measures

A structured questionnaire was designed based on the objectives and conceptual framework of the study and data were collected through the use of this questionnaire. The instrument comprised of five sections: demographic information, frequency of social media use, social media usage pattern, content engagement, and attitude formation. A three-point Likert-type response format was used in the study. The midpoint is coded as Neutral/Don't Know, which is the way the results tables are coded in the source thesis, although the source thesis uses the coding Agree, Disagree, and Don't Know. Frequency items assessed the frequency of daily use, duration, use during class or study time, late night use, weekend use, and use of multiple accounts. Platforms items included Facebook, Instagram, TikTok, X, WhatsApp, YouTube and multi-platform behavior. The content was evaluated for entertainment, educational, political, current-affairs, religious, influencer, lifestyle and interactive engagement. Attitude-formation items included perceived influence on opinions, interpersonal perception, belief reconsideration, trend following, political opinions, verification and adoption/rejection of ideas.

Validity and Reliability

Face and content validations were conducted using a literature-based item development process and academic experts in the social sciences. Expert feedback was utilized to enhance the relevance, clarity and congruence with the study constructs. Cronbach's alpha was used to determine internal consistency. The alpha coefficient reported was 0.87 which is good

reliability for the combined questionnaire items (Nunnally, 1978).

Data Collection, Ethics, and Analysis

Data collection was approved by the appropriate university officials prior to data collection. All participation was voluntary, informed consent was obtained, and respondents were told that they could withdraw. No names or registration numbers were taken and answers were for academic purposes only. Confidentiality, anonymity and secure handling of the data were ensured throughout the study, as reported in the thesis. The data were analyzed by SPSS. Descriptive analysis was performed using frequencies, percentages, mean and standard deviations. Statistically association was tested using chi-square tests, and the direction and strength of ordinal relationships was estimated using Kendall's Tau-c. A level of $\alpha = .05$ was used to determine statistical significance.

Results**Respondent Characteristics**

Of the 263 valid respondents 55.5% were male and 44.5% were female. The largest age group was 21–23 years (43.4%). The percentage of the English students was 64.3%, the Psychology students was 28.1% and the Sociology students was 7.6% according to the relative size of the selected departments. Among the 263 valid respondents, 55.5% were male and 44.5% were female. The largest age group was 21–23 years (43.4%). English students comprised 64.3% of the sample, Psychology students 28.1%, and Sociology students 7.6%, reflecting the relative size of the selected departments.

Table 1. Demographic characteristics of respondents (N = 263)

Variable	Category	Frequency	%
Gender	Male	146	55.5
	Female	117	44.5
Age	19–20	61	23.2
	21–23	114	43.4
	24–26	56	21.3
	26+	32	12.2
Department	English	169	64.3

	Psychology	74	28.1
	Sociology	20	7.6

Social Media Usage and Attitude Patterns

Descriptive results indicated that the use of social media was frequent, ongoing and multi-purpose. 72% said they used it every day without missing a day and 72% said they used it frequently on the weekends. 69% reported late night usage and 66% reported spending more than 1-2 hours a day using social media. Platform patterns demonstrate a mix of educational and recreational applications. Academic communication was most prevalent on WhatsApp (76%) and learning on YouTube (73%). TikTok (70%) and Instagram (67%) were

also popular. The top content drivers for content engagement were entertainment content (73%), liking, sharing or commenting on content (72%), influencer content (70%), fashion and lifestyle content (68%) and educational content (67%). Just 54% said they check information before believing it is true, which could be a problem with digital-literacy. In terms of attitude formation, 69% felt that social media had an impact on their opinions and views, 68% followed popular opinions and trends, and 67% adopted/rejected ideas based on social media exposure.

Table 2. Selected descriptive indicators of social media use and attitude formation

Domain	Indicator	Agree (%)	M	SD
Frequency	Use social media every day without missing	72	2.61	0.6
Frequency	Use social media frequently during weekends	72	2.63	0.58
Frequency	Use social media late at night	69	2.58	0.63
Frequency	Spend more than 1-2 hours daily	66	2.52	0.64
Platform	Use WhatsApp for academic communication	76	2.7	0.55
Platform	Use YouTube for learning purposes	73	2.66	0.57
Platform	Use TikTok regularly	70	2.62	0.61
Platform	Use Instagram regularly	67	2.54	0.64
Content	Engage mostly with entertainment content	73	2.65	0.58
Content	Like, share, or comment on posts	72	2.61	0.6
Content	Follow influencers regularly	70	2.62	0.61
Content	Engage with educational content	67	2.55	0.64
Attitude	Social media influences opinions and views	69	2.61	0.6
Attitude	Follow popular opinions/trends	68	2.58	0.62
Attitude	Adopt or reject ideas based on exposure	67	2.55	0.63
Attitude	Accept opinions without verification	55	2.37	0.71

Note. M = mean; SD = standard deviation. Response categories were coded on a three-point Likert-type scale.

Association between Frequency and Attitude Formation

Attitude formation was significantly related to frequency of using social media, $\chi^2 = 23.966$, $p < .001$. The ordinal association of Kendall's Tau-c

was .271, which was positive and weak to moderate. High-frequency users tended to be in the high attitude-influence category and low-frequency users tended to be in the low attitude-influence category. So, H1 was accepted.

Table 3. Cross-tabulation of social media-use frequency and attitude formation

Use frequency	Low attitude	Moderate attitude	High attitude	Total
Low frequency	44	28	16	88
Moderate frequency	28	26	33	87

High frequency	16	33	39	88
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Note. $\chi^2 = 23.966$, $p < .001$; Kendall's Tau-c = .271.

Platform Usage, Content Engagement, and Attitude Formation

The five platform-usage tests that were reported were all statistically significant. Chi-square values ranged from 24.515 to 31.028, with p values from .003 to $< .001$. Kendall's Tau-c values were between .158 and .174, which were weak but positive. The highest chi-square value was found for the question about the impact of social media on opinions and views ($\chi^2 = 31.028$, $p < .001$, Tau-c = .174). H2 was supported. The five

content-engagement tests reported were all statistically significant. Chi-square values ranged from 18.905 to 26.771, with p values from .004 to $< .001$, while Tau-c values ranged from .165 to .201. The highest Tau-c value was for influencer engagement, .201, and this was found to be significantly related to attitude formation, $\chi^2 = 26.771$, $p < .001$. Significant associations were also found for entertainment, educational, political/current-affairs and verification-related engagement. H3 was supported.

Table 4. Summary of inferential tests

Hypotheses	Association tested	χ^2	p	Tau-c
H1	Frequency of use $\times$ attitude formation	23.966	$< .001$	.271
H2	Platform-usage item tests $\times$ attitude formation	24.515–31.028	$\leq .003$	.158–.174
H3	Content-engagement item tests $\times$ attitude formation	18.905–26.771	$\leq .004$	.165–.201

Note. Statistics are reproduced from the thesis. The raw dataset was not included in the uploaded document and the reported item-level analyses could not be independently recalculated.

Discussion

The study shows that social media has become a part and parcel of the life of KUST undergraduates. Daily, weekend and late night use suggests that digital engagement is not occasional, but rather, habitual. This amount of exposure provides multiple chances for observational learning and reinforcement (as per Social Learning Theory). Students are continually exposed to the attitudes, values, and lifestyles of other students and public figures; over time, the attitudes, values, and lifestyles observed and repeated may shape their own attitudes (Bandura, 1977, 1986). The platform findings suggest a dual academic-entertainment environment. WhatsApp and YouTube in particular were significant for academic communication and learning, which corroborates the research that considers social media as an additional educational space (Abbas et al., 2019; Manca, 2020). Meanwhile, TikTok and Instagram were very visible, demonstrating the popularity of short-form, visual, and

algorithmically-driven video. This combination indicates that the impact of social media cannot be assessed through considering the overall usage of social media. One student can use one platform for learning, another for social coordination, and another for entertaining or presenting him or herself.

Some of the most popular categories of engagement were entertainment and influencer content. Their prominence is of theoretical significance because there is the potential for strong models of behavior to be provided by visually appealing and socially approved content. Influencers tend to tie lifestyle stories to tangible signs of endorsement, and platform algorithms constantly suggest related material. Thus, the strong relationship between engagement and attitude formation is consistent with the reinforcement and modeling processes of Social Learning Theory. But the relationship between these two was still weak, suggesting that exposure does not have a consistent impact on students.

The frequency-attitude association was stronger than the item-level platform and content associations, but was still in the weak to moderate range. This indicates that repetition is important, but it is not enough to account for the formation of attitudes. Family, peers, education, offline experience, personality, previous beliefs, and digital literacy are also factors in attitude development. This aligns with studies that highlight the conditional and moderating role of social and individual factors in the effects of media (Hargittai & Hinnant, 2008; Appel et al., 2020).

The result that 55% of the respondents sometimes accepted opinions without checking is very interesting. 62% indicated that they critically examined content in the original results table, but the co-occurrence of unverified acceptance indicates that digital literacy is not consistent. Students might process some information slowly and quickly process information that is familiar, emotional and socially accepted. The strong relationship between the variables of verification-related engagement and attitude formation also shows that critical processing does not necessarily eliminate the influence of the media, but rather changes it. For this reason, universities must go beyond merely warning students about screen time and teach them how to evaluate sources, how to be aware of algorithms, and how to make reflective judgments.

Practical and Theoretical Implications

The findings can help guide structured digital-literacy programs for higher education institutions on the topics of misinformation, source credibility, algorithmic personalization and responsible sharing. Training should be based on actual examples from the most common platforms that the students use. Time-management and digital-wellbeing programs might also be helpful as late night and long duration of use were prevalent. Instead of seeing social media as a negative, institutions can intentionally use WhatsApp, YouTube, and other social media to communicate and engage in collaborative learning, with appropriate

boundaries and ethical guidelines. The results theoretically demonstrate an extension of Social Learning Theory to a modern multi-platform setting. Observational learning is no longer restricted to direct interaction or traditional media, but takes place in personalized streams of peers, influencers, entertainment, educational content and public discourse. The weak to moderate Tau-c coefficients are also theoretically significant as they indicate that social media is not a deterministic socialization agent, but rather one of a number of socialization agents.

Limitations and Future Research

The study is confined to one public university and three departments, thus limiting the generalization of the results to other universities or departments. Data were self-reported and subject to recall error and/or socially desirable responding. The cross sectional design can only determine association and not causality or direction of influence. The three-point response scale can also help to minimize variation as compared to a five- or seven-point scale. Future studies should involve several universities, validated multi-item scales for each construct, more specific measures of time spent and platform-specific behaviors, and multivariable analyses to account for demographic and psychosocial factors. Longitudinal, qualitative, and mixed method studies could help to elucidate the attitudes' evolution and the way students interpret influential content.

Conclusion

The results indicated that there was significant relationship between social media usage pattern and attitude formation of undergraduate students of KUST. The frequency of use, platform engagement, and content engagement were all positively associated with attitude-related outcomes, but the associations were generally weak to moderate. Students' social media use was high, both for academic and entertainment purposes, with many students feeling that their opinions, perceptions and decisions were influenced by social media. The results place

social media in the context of a significant but partial factor in a wider social and educational context. There is a need for effective institutional responses that incorporate digital literacy, critical thinking, guidance for responsible use, and the constructive academic use of widely adopted platforms.

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