



THE SOCIAL MEDIA PARADOX: HOW FUNCTIONAL USE, NOT ACCESS, SHAPES THE SECOND-LEVEL DIGITAL DIVIDE IN PAKISTANI HIGHER EDUCATION

Dr Mukhtar Ahmmad (Corresponding Author)

*Assistant Professor, Department of Media Studies, Government College University Lahore,
Pakistan*

Email: mukhtar.ahmmad@gcu.edu.pk ORCID: <https://orcid.org/0000-0001-8117-1861>

Abstract

While digital connectivity is nearly universal among Pakistani university youth, high rates of platform adoption do not inherently translate into critical media literacy. This study investigated the 'social media paradox,' the co-existence of high engagement with digital technologies and limited critical media literacy. It examined whether users' intentions in using social networking sites shape their skill development. Drawing on Uses and Gratifications Theory (UGT), the study used a large multi-stratum sample of university students in Pakistan (N = 1,521). Descriptive results revealed a striking disparity in how students engage with digital media: most (91.0%) used social media primarily for social connection and entertainment, while only 16.2% used these tools for education or cognitive learning. Independent-samples t-tests indicated a significant second-level divide in critical media knowledge by geographic location, with urban students reporting significantly higher critical media understanding than rural students. A multiple linear regression ($R^2 = .202$) revealed a purpose-based split: the frequency of interactive digital tool use (mobile and internet) was the strongest positive predictor of media understanding ($\beta = .195, p < .001$), whereas frequent traditional broadcast (television) consumption was the strongest negative predictor ($\beta = -.112, p < .001$). The social media paradox thus appears to reflect a skills deficit associated with differences in functional use rather than a lack of physical access. Pedagogical interventions should move beyond screen-time limits toward structural changes that encourage active, purposeful digital engagement.

Keywords: Social media paradox, Uses and Gratifications Theory, media literacy, Second-Level Digital Divide, functional disparity, Pakistan, purposive media use.

Introduction

Media studies today is heavily debating the relationship between how frequently people utilize various digital platforms and whether they are able to effectively “read” the media, i.e. develop and maintain critical thinking skills. The issue is being discussed as part of a “Second-Level Digital Divide,” whereby the divide is no longer based on whether people have access to technology (the first level); however, it is now whether people possess the necessary cognitive and functional skills to navigate complex information-based systems without putting themselves at risk (Büchi et al., 2016; Hargittai, 2002; Wenz & Keusch, 2023). Optimistically, researchers believe that generating User-Generated Content (UGC) and creating community networks through digital means develops greater critical thinking abilities (Afrilyasanti et al., 2025; Albardía et al., 2025; Burnett & Merchant, 2011). On the other hand, there are also those who argue that digital platforms have been designed using algorithms (for example, TikTok, Instagram, Facebook) that encourage users to consume passively while reacting emotionally to the platform’s offerings, which can hinder the development of critical media literacy. Therefore, digital use becomes a habituated routine (a “digital habitus”) for many users because the behavior dictated by the digital platforms hinders the development of autonomously useful skills (Hobbs, 2019).

Although each side presents compelling theories regarding the relationship between digital habits and developing critical media literacy, there is still a scarcity of empirical evidence



needed to settle this debate, especially in the Global South. Because much of the world's population in this region has "leaped-frogged" directly into mobile-first social media use before formal media education infrastructure has been developed, they provide a perfect opportunity to explore the "social media paradox." In the context of this paper, the social media paradox is defined as high availability of digital platforms existing in conjunction with an equally high degree of cognitive deficiency in algorithmically literate individuals. Pakistan is an exemplary country in which to investigate the social media paradox. Pakistan has one of the highest numbers of social media users in South Asia—a region with nearly 1 billion active users—and has achieved nearly universal smartphone penetration among its youth. Indicators available to date reveal a significant "algorithmic literacy gap," where technical proficiency does not equal critical understanding. Additionally, a sizeable "competence perception gap" exists; youth reports having high levels of evaluation skills, however, they are unable to evaluate disinformation or understand media systems at an alarming rate.(Gunawardhana et al., 2026)(Cotter & Reisdorf, 2020; Moravec et al., 2025; Oeldorf-Hirsch & Neubaum, 2025)(Moravec et al., 2025)

This study seeks to identify and explain the Social Media Paradox, defined as a co-existence of high platform abundance with a large cognitive literacy deficit. We propose that the paradox is not contradictory; however, it is a logical consequence of Functionality Disparity. Building on the basis of an expanded Uses and Gratification Theory (UGT), we contend that the effect of media on the individual is influenced primarily by the functional intention behind the user's interaction. When usage is generated by System 1 (automatic/ affective processing) uses (such as automatic scrolling or passive entertainment) literacy gains are reduced. However, when usage is generated by System 2 (reflective / intentional processing) uses (i.e., informational retrieval or educational networking) it serves as the primary stimulus for literacy acquisition, thereby bridging the second-level digital divide.

There are four principal goals of this investigation:I. Identify the predominant reasons why university students in Pakistan engage with social media, including an objective analysis of the disparity between functionally-driven (educational/informative) and passively-driven (entertainment/social) usage.

II. Determine if there exist geographical disparities in second-level digital divides in terms of media literacy competences by conducting comparative analyses between urban and rural demographics.

III. Evaluate the extent to which unique predictions are made possible by certain digital behaviors by identifying purposeful and analytical forms of social media usage as opposed to habitual and passive consumption patterns.IV. Assess the total amount of variance in conceptual media literacy attributable to an interactive combination of platform frequency and user intentions.

Research Questions

RQ1: What are the primary reasons why university students in Pakistan use social media? And what is the functional difference between using social media for education vs. entertainment?

RQ2: Is a geographic second-level digital divide persistent in media literacy competence even though all demographic groups have relatively equivalent access to digital technologies?

RQ3: Are specific uses of social media (as well as general usage patterns) positive or negative predictors of critical media understanding?

RQ4: What percent of total variance in conceptual media literacy is explained by our predictive model combining user intention and platform frequency?



This study is guided by the premise that physical digital access and abundant accounts do not automatically translate into high media literacy, and that emphasis should instead be placed on how individuals choose to use digital platforms. On the basis of reviews conducted previously in literature regarding UGT, HUT & SNS, three hypotheses were formulated for testing:

Hypothesis 1: Urban students will exhibit significantly higher cognitive scores for media literacy compared to rural students, thus confirming that there exists a significant geographic skills gap regardless of technological accessibility.

Hypothesis 2: Engagement with digital platforms for active and purposeful reasons (e.g., educational use) will be positively correlated with media understanding.

Hypothesis 3: Consumption of media digitally for passive and habitual reasons (e.g., browsing for nothing else to do or watching traditional broadcasts) will suppress the development of critical media literacy.

Literature Review

Social Media and Media Literacy: Competing Theoretical Perspectives

The relationship between social media engagement and media literacy includes a contradiction between the capabilities of participation and the limitations of algorithm-based structures. On one side, researchers such as Jenkins et al. (2009) believe that social media generates "a participatory culture," in which the creation of user-generated content; the remixing of content; and the ability to communicate with others on networks help create the competencies of a digitally literate person. Content generation is often correlated with a level of critical thinking about issues, when compared to the passive reception of information, providing a form of "network literacy" (Rheingold, 2012)—a complex understanding of how information flows and is influenced through digital systems.

On the other side, there is a growing body of research that indicates social media can reduce critical thinking and, therefore, reduce critical cognitive literacy. Algorithmically driven social media platforms are built to encourage "System 1" behavior—automatic and habitual scrolling and reaction; passive acceptance and consumption. Research conducted by Pennycook & Rand (2019) indicated that frequent consumers of social media have a tendency to accept information passively and at face value rather than analyzing it critically. This increases their vulnerability to misinformation. Additionally, filter bubble theory by Pariser (2011), illustrates how algorithm-based personalization limits an individual's exposure to different viewpoints thus limiting the opportunities they will have to assess critically. Thus, this "algorithmic enclosure" demonstrates why we need to move beyond assessing if people have access to information toward assessing whether people can evaluate information critically. This transition exemplifies Hargittai (2002) Second-Level Digital Divide, where inequality exists based on the manner in which individuals apply digital technologies to build human capital.

Pakistan represents a prime example of the social media paradox being exacerbated within developing countries due to the rapidly increased rate of social media adoption relative to the development of formalized media literacy programs. According to Morozov (2011) many developing countries experience a "net delusion." A net delusion occurs when citizens assume that merely having access to a large number of digital platforms equates to informational empowerment or democratic engagement. While developing countries possess universal connectivity, they also frequently exhibit an "intensive narrow use" pattern (Frau-Meigs et al., 2017). Intensive narrow-use patterns occur when citizens engage in digital activities with a high frequency but those activities are confined to very few functionalities. Those functionalities typically include forms of entertainment and/or superficial social interactions.



As a result, the benefits of critical analysis cannot be derived from the intensive narrow-use pattern. Consequently, although all citizens now have access to digital platforms, the existing digital divide persists.

Theoretical Framework

The theoretical framework employed here is Uses & Gratification Theory. Developed by Katz et al. (1974), it has been stated that individuals are active agents selecting from available media options to meet specific needs. Due to the current digital era, the existing framework must now extend to an additional level by assessing the cognitive literacy as an effective outcome. Two types of user behavior have emerged due to this extension:

I. Purposeful engagement (i.e., educationally related networking; explicit searching for information etc.) requires substantial cognitive resources including source assessment and judgment.

II. Users engaged habitually or through the pursuit of social validation, algorithmically aligned behaviors and emotionally easy experiences rather than purposefully evaluating their usage.

In order to establish the mechanics that generate the paradoxical relationship between frequency of usage and degree of literacy, the dual system model of cognition proposed by Kahneman (2011) has also been incorporated into this research. Cognitive literacy development was defined as a result of system two engagement processes, i.e., a slow, deliberate, and analytical type of engagement (Potter, 2004b, 2004a). Conversely, the frictionless nature of social media environments promotes system one processing (rapid, automatic and emotion-based) and maintains large volumes of engagement without producing critically literate users. Thus, this psychological framework provides an explanation of how users engage at a high frequency while remaining functionally illiterate regarding their digital interactions.

Critical Media Literacy Theory (CMLT) provides the normative definitions of what constitutes literacy in the context of this research (Kellner & Share, 2005, 2007). CMLT expands upon basic "functionality" (i.e., having knowledge about using devices), to include awareness of ideologies; critiquing structures; and identifying power relations within media systems. CMLT enables researchers to determine if social media use amongst young people in Pakistan is simply a means to achieve utility or if they are actually using media in a "literacy" form which is critical/democratic (Kellner & Share, 2005, 2007).

Methodology

Sample and Research Design

This study used a cross-sectional survey to assess functional media behavior and its relationship to digital literacy. Data were collected from a large multi-stage sample of undergraduate students from Pakistan ($N = 1,521$). A multi-stage random sampling strategy was used to build a large, geographically diverse sample. Sampling was stratified across Pakistan's four major provinces (Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan), with additional respondents from Islamabad Capital Territory, Azad Jammu and Kashmir, and Gilgit-Baltistan. Within each stratum, HEC-recognized public and private universities were randomly selected, and intact classes were sampled at the department level to capture variation in socioeconomic status and education. The final valid sample comprised 1,521 participants (68.1% urban, $n = 1,035$; 31.9% rural, $n = 486$), providing sufficient demographic variation to test the hypothesized geographic second-level divide and adequate power for multivariate regression.

Ethics and Recruitment

All participation in this study was voluntary. The researchers conducted this study using a strictly ethical approach consistent with those guidelines applicable to research utilizing human subjects. All participants received a briefing prior to completion of the survey regarding the purpose and objectives of the study and provided their written informed consent. In order to reduce the potential for respondents to provide socially desirable responses (a significant concern when assessing self-reported digital behaviors and literacy skills), researchers did NOT collect any personally identifiable information from respondents; therefore, all data collected was anonymous at every stage of the data collection process through aggregation and analysis.

Measurement Instruments

The survey tool was organized across the three main areas of Media Access, platform usage/intent and Media Literacy Competencies.

Media Literacy Competency Scales: dependent variables were assessed via scales adapted from validated media literacy instruments (Arshad et al., 2022; Chang et al., 2011; Levenson & Pesch, 2020; Maksl et al., 2015) including the understanding of mass media (UOM) scale along with sub-scales for Knowledge of the Pakistani Media System (KPMS), Digital Media Usage Competencies (DMUC), and Media Reliability Evaluation (MeRe). These items are combined to form a total media literacy (M_Total) composite score.

Platform Frequency (GMUP scale): the general media usage patterns (GMUP) scale is composed of 7 items assessing usage frequency of multiple traditional and digital media platforms. Each item is rated by way of a 5-point likert-type scale (i.e., 1 = never; 5 = always). Traditional broadcast media include tv (gmup1) and Cinema (GMUP2); print/leisure media include book reading (GMUP3) and video game use (GMUP4); interactive digital tools include mobile phone use (gmup5), internet use (gmup6), and social media post frequency (gmup7).

Functional Usage Intent (SMAUP Scale): in order to assess the particular reasons behind respondents' utilization of digital media, the Social Media Awareness & utilization purpose (SMAUP) scale was employed. SMAUP captures Account Abundance (SMAUP1) and utilizes binary (yes/no) categorical items to identify whether or not respondents agreed with several specific function-related purposes. Such includes both active system 2 behaviors (i.e., educationally, professionally networked/jobs) and passive system 1 behaviors (i.e., browses to kill time, General Entertainment, simply checks out of habits).

Data Cleaning and Analysis Plan

Prior to conducting a primary inferential analysis, a thorough examination of missing values, outliers, and error entries into the data were examined to assure that there is no structural damage. The descriptive statistic frequencies and valid percentages were used to determine the baseline or "Functional Disparity" in the uses of social media.

Bivariate correlation coefficients using the Pearson r were calculated to identify associations between digital behaviors and media literacy. Independent samples t-test analyses were then completed to determine if differences exist in media literacy based upon geographic location (urban vs. rural). Finally, multiple linear regression analysis was completed as an assessment tool to evaluate how individual digital behaviors predict literacy. A multiple linear regression model was entered using all possible GMUP and SMAUP predictor variables against the UOM dependent variable. VIF and tolerance were evaluated to confirm model stability (VIF ranged from 1.04 to 1.58; tolerance ranged from .63 to .97, well within conventional thresholds), and residuals were confirmed to be normally distributed through evaluation of P-P plots. A



Harman's single-factor test was also conducted to assess common method variance across the full set of scale items; results are reported in the Limitations section. Statistical procedures were performed using IBM SPSS version 25. An alpha of $p < .05$ was established for determining statistical significance.

Data transparency: The survey data analyzed here were collected as part of the corresponding author's doctoral research on media and information literacy in Pakistan. This article reports a distinct set of constructs and analyses that does not overlap with any other publication drawn from this dataset.

Results

Socio-Demographic Profile of Respondents

The final analyzed sample consisted of $N = 1,521$ university students across Pakistan. As Table 1 details, the sample was diverse across gender, geography, and ethnicity, reflecting the range of the university student population sampled.

Table 1

Socio-Demographic Characteristics of the Sample ($N = 1,521$)

Variable	Category	<i>n</i>	Percentage (%)
Gender	Male	955	62.8%
	Female	563	37.0%
	Transgender	3	0.2%
Geography (Region)	Punjab	811	53.3%
	Sindh	315	20.7%
	Khyber Pakhtunkhwa	216	14.2%
	Balochistan	91	6.0%
	Azad Jammu and Kashmir	42	2.8%
	Islamabad Capital Territory	28	1.8%
	Gilgit-Baltistan	18	1.2%
Income (PKR/month)	Less than 40,000	483	31.8%
	41,000 – 80,000	501	32.9%
	81,000 – 120,000	320	21.0%
	121,000 – 160,000	125	8.2%
	More than 160,000	92	6.0%
Ethnic Diversity	Punjabi	679	44.6%
	Pashtun	191	12.6%
	Balochi	175	11.5%
	Sindhi	172	11.3%
	Hindkowan	91	6.0%
	Others (Saraiki, Kashmiri, etc.)	213	14.0%

Scale Reliability and Psychometric Validation

To establish the psychometric quality of the measures, the internal consistency of the Media Literacy Competency Scale (MLCS) and its subscales was assessed with Cronbach's alpha (Table 2). The subscales ranged from acceptable to good reliability. Understanding of Media (UOM) was the most internally consistent ($\alpha = .849$), followed by Media Reliability ($\alpha = .760$) and Digital Media Usage Competencies ($\alpha = .726$). The Knowledge of the Pakistani Media



System (KPMS) subscale was lower ($\alpha = .630$) but acceptable for a brief, factual knowledge measure. The full 49-item MLCS showed acceptable overall reliability ($\alpha = .795$).

Table 2

Reliability and Descriptive Statistics for Media Literacy Subscales (N = 1,521)

Scale / Subscale	No. of Items	Cronbach's α
Understanding of Media (UOM)	17	.849
Knowledge of the Pakistani Media System (KPMS)	7	.630
Digital Media Usage Competencies (DMUC)	20	.726
Media Reliability (MeRe)	5	.760
Total Media Literacy (ML Total)	49	.795

Media Access: Patterns of Digital Abundance

The findings reflect an environment in which Platform Abundance is ubiquitous across nearly all users. As for the second part of the paradox, the findings demonstrate that traditional forms of broadcasting continue to be available to almost everyone as well. The most widely used platforms were TV (99.1%), and Satellite TV (98.1%). In addition, as far as the First-Level Digital Divide is concerned, university youth have reached near-saturation levels of physical access to digital connectivity. That being said, smartphone usage (90.6%) and Internet availability (89.5%) provided virtually continuous support for social media use by 80.3% of the respondents.

Table 3

Media Access Rates Across Platform Types (N = 1,521)

Medium	n	Access Rate (%)	Category
Television (MA1)	1,507	99.1%	Broadcast
Satellite TV (MA9)	1,492	98.1%	Broadcast
Radio (MA2)	1,451	95.4%	Broadcast
Cable TV (MA8)	1,434	94.3%	Broadcast
Newspaper (MA3)	1,413	92.9%	Print
Magazine (MA4)	1,396	91.8%	Print
Smartphone (MA6)	1,378	90.6%	Digital
Internet (MA5)	1,362	89.5%	Digital
Computer/Laptop (MA7)	1,361	89.5%	Digital
Social Media (MA10)	1,222	80.3%	Digital Social

Functional Disparity: Usage Purposes and the Entertainment Bias

While digital access is nearly universal, a significant "Functional Disparity" exists in how Pakistani university students utilize social media platforms. Results show while there was high connectivity among students, they were largely focused on retrieving general information, networking professionally, and passively enjoying themselves.

There is a significant decline in purposeful engagement for formal education and/or commercial development purposes. Only 16.2% reported engaging with these platforms for "Educational Purposes." Similarly low percentages also used the platform for "Earning" (26.1%) and "Buying/Selling" (15.3%). On the other hand, passive/social uses of the platform—"Browse/Pass the Time" (91.1%), "Entertainment" (91.0%), and "Meet New People/Friends" (90.5%)—dominated user patterns. These disparities support the central hypothesis of this study: Digital abundance will be utilized for social-centric connections and surface-level information usage, rather than developing critical skills or creating formalized knowledge.

Table 4

Social Media Usage Purposes and Account Abundance (N = 1,521)

Usage Purpose (Code)	n	% Endorsing (Yes)	Category
Account Abundance (SMAUP1)			Usage Intensity
- 5 or more accounts	494	32.5%	
- 3 to 4 accounts	659	43.4%	
- 1 to 2 accounts	347	22.9%	
- None	18	1.2%	
Platform Utility			Functional Intent
Get New Information (SMAUP10)	1,478	97.2%	Informational
Find Jobs (SMAUP4)	1,444	94.9%	Professional
Browse / Pass Time (SMAUP5)	1,385	91.1%	Passive
Entertainment (SMAUP6)	1,384	91.0%	Entertainment
Meet New Friends (SMAUP9)	1,377	90.5%	Social
Connect with Friends/Family (SMAUP2)	1,363	89.6%	Social
Earning (SMAUP7)	397	26.1%	Commercial
Educational Purposes (SMAUP8)	247	16.2%	Educational
Buy or Sell Things (SMAUP3)	233	15.3%	Commercial

Note. Account abundance (SMAUP1) valid N = 1,518 due to 3 missing responses.

Bivariate Analysis: The Purpose-Based Correlation Bifurcation

The relationships between particular uses of social media and media literacy were explored through Pearson correlation coefficient (r) calculations. As shown in Table 5, a clear directional split exists in the directionality of purpose-based user behavior, which supports the Functional Disparity Hypothesis. System 1-related behaviors (passively consumed; habitually checked; emotionally driven) were found to have all negative correlations with critically thinking about media. In fact, Habitual Checking (SMAUP11) had the most statistically significant negative correlation with both Understanding of Media ($r = -.143, p < .01$) and Total Media Literacy ($r = -.091, p < .01$). Likewise, users who used platforms for the primary function of Browsing/Passing Time (SMAUP5) and Meeting New Friends (SMAUP9) also had a strong negative correlation to their total score in terms of media literacy. This research provides

empirical evidence to support that passively consuming information from a social aspect limits the capacity to develop critical media competency.

In contrast, System 2 behaviors (purposive; active) displayed a positive association. Users who utilized social media for Educational Purposes (SMAUP8) had a statistically significant positive correlation to an understanding of how the media operates ($r = .073, p < .01$). Additionally, Account Abundance (SMAUP1); the quantity of platforms that users check into, has a statistically significant positive correlation to Total Media Literacy ($r = .183, p < .01$), suggesting that navigating multiple platforms can create base level digital competencies if the usage of said platforms is not solely based upon being passively consumed.

Table 5

Bivariate Correlations Between General Media Use (GMUP) and Social Media Usage Purpose (SMAUP) Variables and Media Literacy Subscales (N = 1,521)

Media Use Variable	Understanding Media (UOM)	of Total Literacy (M_Total)	Media Intent Category	
Mobile Phone Usage Freq. (GMUP5)	0.334**	0.203**	System (Active)	2
Internet Usage Freq. (GMUP6)	0.260**	0.149**	System (Active)	2
Social Media Posting Freq. (GMUP7)	0.177**	0.171**	System (Active)	2
Account Abundance (SMAUP1)	0.189**	0.183**	Intensity	
Friends and Family (SMAUP2)	0.108**	0.022	Social (Active)	
Earning Intent (SMAUP7)	0.053*	0.048	Commercial	
Video Game Usage Freq. (GMUP4)	0.060*	0.103**	Passive/Leisure	
Educational Purposes (SMAUP8)	0.073**	0.011	System (Active)	2
Find Jobs (SMAUP4)	0.046	0.006	Professional	
Get New Information (SMAUP10)	-0.000	-0.011	Informational	
Book Reading Freq. (GMUP3)	0.000	-0.074**	Passive/Leisure	
Entertainment Intent (SMAUP6)	-0.011	-0.008	System (Passive)	1
Buy or Sell Things (SMAUP3)	-0.033	0.016	Commercial	
Cinema Attendance Freq. (GMUP2)	-0.082**	-0.070**	System (Passive)	1
Meet New Friends (SMAUP9)	-0.090**	-0.067*	System (Social)	1
Browse / Pass Time (SMAUP5)	-0.091**	-0.104**	System (Passive)	1



TV Viewing Freq. (GMUP1)	-0.135**	-0.114**	System (Passive)	1
Habitual Checking (SMAUP11)	-0.143**	-0.091**	System (Habitual)	1

Note. Pearson correlation coefficients reported. M_Total valid $N = 1,403$.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Demographic Analysis: The Urban-Rural Knowledge Gap

As part of addressing possible socio-geographic confounders and in order to specifically assess whether a "Second-Level Digital Divide" exists, a comparison was made using an independent-samples t-test concerning the media literacy competencies of Urban versus Rural residents. In addition, the results are provided in Table 6, which demonstrate significant cognitive differences even though Universal Digital Access has been established.

When comparing the scores on total media literacy for Urban ($M = 157.48$; $SD = 15.61$) and Rural students ($M = 154.15$; $SD = 14.91$), it is evident that Urban students performed significantly better than Rural students; $t(1401) = 3.774$; $p < .001$. As noted earlier, this cognitive disparity existed primarily within the cognitive and applied media literacy competency subscales. Specifically, urban students possessed significantly higher understanding of media ($p < .001$), and demonstrated superior digital media usage competencies ($p = .038$).

It is interesting to note that the two groups did not differ from each other with regard to their factual knowledge of the Pakistani media system (KPMS) ($p = .337$), nor did they differ with respect to their Media Reliability assessments (MeRe) ($p = .055$, marginal). These findings indicate that both rural and urban students have equivalent levels of factual knowledge about media systems, and comparable trust levels towards media institutions; however, urban students have a unique advantage with respect to the critical, analytical, and practical media literacy competencies needed to safely engage with these digital environments.

Table 6

Independent Samples T-Test for Media Literacy Scores by Residence

Literacy Subscale	Urban (SD)	M Rural (SD)	M t	df	p	d
Total Media Literacy (M_Total)	157.48 (15.61)	154.15 (14.91)	3.774	1401	< .001	0.216
Understanding of Media (UOM)	3.76 (0.50)	3.66 (0.48)	3.772	1518	< .001	0.208
Digital Media Usage Competencies (DMUC)	3.08 (0.46)	3.03 (0.49)	2.081	1519	.038	0.114
Media Reliability (MeRe)	3.58 (0.80)	3.49 (0.86)	1.920	1518	.055	0.106
Knowledge of the Pakistani Media System (KPMS)	3.39 (0.91)	3.43 (0.81)	-0.961	1053.8*	.337	-0.051

Note. Total Media Literacy (M_Total) is a summed composite (possible range 49–245); subscale scores are item means (1–5). M = mean; SD = standard deviation; d = Cohen's d



(pooled SD; .2 = small, .5 = medium, .8 = large, by convention). Degrees of freedom for KPMS were adjusted for unequal variances (Levene's $p = .004$).

*Degrees of freedom adjusted due to violation of Levene's test for equality of variances ($p = .004$).

Predictive Modeling: The Impact of Usage Intent and Platform Frequency

A multivariate linear regression study was conducted to examine the predictive relationship among General Media Use Patterns (GMUP); Social Media Awareness and Use Purposes (SMAUP); and student performance on the Understanding of Media (UOM) assessment.

The regression model was highly significant, $F(18, 1495) = 20.998, p < .001$; accounting for nearly 20.2 % of the total variance in UOM performance ($R^2 = .202$, Adj. $R^2 = .192$). A pattern in beta weights was found between interactive digital immersion and passive traditional consumption. As predicted by the Functional Disparity Hypothesis, interactive digital tool use had strong, positive effects on media literacy. Beta weights indicated that frequency of mobile phone use (GMUP5), was the most positive contributor (beta weight = .195, $p < .001$) to media literacy, with frequency of internet use (GMUP6), social media account abundance (SMAUP1), connecting with friends/family via social media (SMAUP2), and educational uses of social media (SMAUP8), being additional contributors (all beta values $> |.10|$ and all $ps < .05$).

Frequent viewing of traditional broadcast television diminished digital media literacy. Both TV viewing frequency (GMUP1) and cinema attendance frequency (GMUP2) demonstrated strong negative relationships with media literacy (both beta values = -0.11, both $ps < .01$). Browsing/passing time on social media sites displayed a marginally significant negative relationship with media literacy (SMAUP5: $p = .08$).

These findings are consistent with the interpretation that how individuals engage with digital media, rather than how much access they have, is closely associated with the social media paradox. In particular, users who report high levels of purposive, interactive engagement with digital media also report higher levels of media literacy than do those who consume large amounts of traditional broadcast content; given the cross-sectional design, this association should not be read as evidence of a causal mechanism.

Table 7

Multiple Linear Regression Predicting Understanding of Media (UOM) (N = 1,514, listwise)

Predictor Variable	B	SE	β	t	p	95% CI [LL, UL]
(Constant)	2.743	.189		14.542	< .001	[2.373, 3.113]
TV Viewing Freq. (GMUP1)	-0.052	.011	-.112	-4.757	< .001	[-0.074, -0.031]
Cinema Attendance Freq. (GMUP2)	-0.062	.014	-.110	-4.492	< .001	[-0.089, -0.035]
Book Reading Freq. (GMUP3)	0.003	.009	.008	0.351	.725	[-0.014, 0.020]
Video Game Usage Freq. (GMUP4)	0.015	.008	.047	1.884	.060	[-0.001, 0.030]
Mobile Phone Usage Freq. (GMUP5)	0.120	.018	.195	6.711	< .001	[0.085, 0.155]



Internet Usage	Freq.	0.082	.015	.158	5.571	< .001	[0.053, 0.111]
(GMUP6)							
Social Media Posting	Freq.	0.019	.009	.055	2.156	.031	[0.002, 0.036]
(GMUP7)							
Account Abundance		0.046	.009	.126	5.009	< .001	[0.028, 0.064]
(SMAUP1)							
Friends & Family Intent		0.187	.040	.115	4.664	< .001	[0.108, 0.266]
(SMAUP2)							
Buy or Sell Things		-0.033	.033	-.024	-1.024	.306	[-0.098, 0.031]
(SMAUP3)							
Find Jobs (SMAUP4)		0.004	.055	.002	0.066	.948	[-0.105, 0.112]
Browse / Pass Time		-0.078	.045	-.045	-1.745	.081	[-0.165, 0.010]
(SMAUP5)							
Entertainment Intent		0.046	.044	.027	1.047	.295	[-0.040, 0.132]
(SMAUP6)							
Earning Intent (SMAUP7)		0.044	.027	.039	1.651	.099	[-0.008, 0.096]
Educational Purposes		0.066	.032	.049	2.055	.040	[0.003, 0.128]
(SMAUP8)							
Meet New Friends		-0.048	.048	-.028	-1.000	.317	[-0.141, 0.046]
(SMAUP9)							
Get New Information		0.042	.080	.014	0.525	.600	[-0.114, 0.198]
(SMAUP10)							
Habitual Checking		-0.098	.028	-.087	-3.533	< .001	[-0.153, -0.044]
(SMAUP11)							

Note. $R^2 = .202$ (Adjusted $R^2 = .192$), $F(18, 1495) = 20.998$, $p < .001$. Rows in bold denote statistically significant predictors ($p < .05$); 95% CI = 95% confidence interval for B.

Discussion

This study provides evidence consistent with an empirically-based extension of Uses and Gratifications theory (Katz et al., 1973) to describe the “social media paradox.” The original UGT framework posited that audiences had agency in choosing media based on the gratifications they sought. Similarly, this research shows that Pakistani university students select media primarily for entertainment and social validation. However, it also supports the idea that the students’ media selection behavior was nearly entirely for gratifications other than informational/civic empowerment. One of the contributions of this study is the incorporation of dual-process theories (Kahneman, 2011)) to show how media literacy could be both a requirement for media use and an outcome of particular usage intentions. More specifically, the results indicate a very sharp distinction between two types of usage – “passive gratification-seeking” (e.g., entertainment, social interaction, casual habituated checking) and “active gratification-seeking” (e.g., searching for information, professional network development, education). Following Kahneman’s (2011) dual-process account, passive gratification-seeking can be conceptualized as relying on System 1 automatic processing, whereas active gratification-seeking can be conceptualized as engaging System 2 processes (slow, deliberate processes requiring source evaluation and critical thinking); these



processing modes were inferred from self-reported usage purposes rather than measured directly. The correlation matrix (Table 5) showed that this inverse relationship held between habitual checking/browsing to pass time and critical media understanding. This result is consistent with recent studies indicating that algorithms used by social media platforms to provide friction-free engagement (i.e., maximize user retention) reduce critical cognitive reflection (Pennycook & Rand, 2019), and that users' attention is manipulated by design features that exploit cognitive biases (Kozyreva et al., 2020). These interfaces, by design, encourage users to pursue System 1 goals; the structural engineering of these systems compromises users' agency (as traditionally defined by UGT) as well as their capacity to make intentional decisions about what content they engage with (Sundar & Limperos, 2013).

One notable illustration of this passive bias concerns news avoidance. Although this study did not directly measure news consumption, respondents' overall usage pattern (Table 4) was dominated by entertainment and social-connection purposes rather than informational or educational ones, suggesting limited orientation toward news or current-affairs content on social media. News literacy is recognized as a fundamental component of democratic media literacy frameworks (Maksl et al., 2015; UNESCO, 2021), and is essentially the ability to critically evaluate credible sources and ideological frames in the context of news consumption. Therefore, news avoidance constitutes a serious democratic weakness in a country like Pakistan where journalism is highly politicized and subject to frequent campaigns of misinformation, along with developing regulatory bodies (PEMRA, 2025; Rasul & McDowell, 2012).

Additionally, there is substantial reason to believe that the news avoidance pattern will be exacerbated by the "news finds me" perceptions (Gil de Zúñiga et al., 2017) exhibited by many young people who incorrectly believe that important civic information will simply appear in their algorithmic feed due to the fact that their principal type of engagement is entertainment driven. Consequently, algorithms rarely produce relevant information regarding important civic issues; therefore, they do not provide young adults with actual opportunities to build evaluative competences. As such, this phenomenon illustrates a unique danger of news avoidance in algorithmic environments.

Further still, the demographic analysis demonstrated that although the First Level Digital Divide (availability/accessibility) has been largely closed, a geographic "second-level digital divide" continues to exist (van Dijk, 2020). The urban students demonstrated significantly higher Total Media Literacy scores and conceptual understanding compared to the rural students. Notably, the rate of smartphone ownership and Internet availability were equivalent among both groups. Thus, having widespread access to technology does not necessarily lead to greater democratization of cognitive skills. There is a significant body of literature explaining this disparity using the concept of "digital capital," i.e. the notion that individuals living in urban areas possess surrounding institutional/socioeconomic structures that enable them to convert available digital resources into active System-2 cognitive building activities, whereas those residing in rural locations continue to experience an disproportionate degree of risk associated with the tendency toward passive consumption inherent in the social media paradox.

Limitations

There are several methodological limitations that must be considered when evaluating these results:

I. The measures of media use employed in this study depend on self-reporting. Self-reporting

is particularly susceptible to social desirability bias. Students may have overstated their reporting of educational uses (16.2%) and understated passive entertainment due to Dunning Kruger effect (Kruger & Dunning, 1999; Mazor & Fleming, 2021). If there is social desirability bias in this manner, then the functional difference between active/passive use may be even more pronounced than indicated in this report.

II. Due to its cross-sectional nature this study does not allow for determination of causality regarding the relationship between usage purpose and literacy. While theoretically grounded rationale exists for considering usage purpose as a predictor of literacy, it is possible that previously existing levels of media literacy influence whether students choose more purposeful ways of interacting with social media platforms.

III. The media literacy composite and its subscales, including the Knowledge of the Pakistani Media System (KPMS) subscale, are measured through self-reported agreement or confidence items rather than through objectively scored, performance-based knowledge tests. As the Introduction notes, self-reported competence can diverge from demonstrated competence (a "competence perception gap"); the same caution therefore applies to the literacy scores reported here, which should be interpreted as perceived rather than tested media literacy.

IV. Because all predictor and outcome variables were drawn from a single self-report instrument administered at one time point, common method variance is a concern. A Harman's single-factor test conducted across the full set of scale items (67 items; unrotated principal components analysis) found that the first factor accounted for 11.6% of total variance, well below the 50% threshold conventionally used to flag serious common method bias; this suggests single-source variance inflation is unlikely to fully account for the associations reported here, though it cannot rule out method effects entirely.

Recommendations

I. In order to bridge the knowledge-practice gap in terms of media literacy competences among young adults in Pakistan, media literacy interventions must move beyond restrictive one-size-fits-all approaches to incorporate behavioral "nudges" (Thaler & Sunstein, 2008) and structural boosts in autonomy of youth (Lorenz-Spreen et al., 2020).

II. Educators need to cease viewing all social media activity as detrimental. Educational curricula should include formal assignments for students utilizing social media for active informational searching; auditing algorithms; and engaging in professional networking.

III. Given the limited orientation toward news content observed in this sample's usage patterns, media literacy pertaining to journalistic quality and recognizing disinformation cannot be limited to specialized communications programs. Rather, it needs to be incorporated throughout the curriculum at every educational institution. A good example of a potential way to achieve this would be incorporating local iterations of Europe's "News in Education Model" (Grizzle et al., 2021) into regular university coursework so as to disrupt habitual avoidance patterns through explicit and repeated encounters with news media.

Future Research

As the Social Media Paradox's causal mechanism is currently being studied by using mostly observational survey methodology, researchers will need to employ methodological approaches in order to better understand the relationships among the variables:

I. Researchers can create experimental conditions of pedagogy and manipulate purpose of media use (i.e., assign a group of students to utilize Twitter solely for professional networking during one semester), then quantify literacy improvements prior to and after exposure to the intervention.



II. Future research should compare across platforms. Because there are significant differences in affordance, i.e., TikTok uses algorithmic video feed whereas LinkedIn is based on professional text/networking, it is possible that there could be significant difference in terms of literacy outcomes as well. To determine whether or not such structural differences exist, ethnography would provide qualitative data needed to investigate why Pakistani youth tend to avoid news content and what role platform culture plays in their decision-making process (Bucher & Helmond, 2017).

Conclusion

The results of this study are consistent with the interpretation that the paradoxical relationship between high levels of digital access/usage and low levels of media literacy is not a random occurrence, but is instead closely associated with Functional Disparities in how the technology is used. While widespread access to mobile phones appears to have bridged the physical gap in digital access for the Pakistani university students sampled here, most students' usage is primarily limited to System 1 uses, e.g., entertaining themselves through social media; this pattern of access does not appear to translate into the cognitive abilities required to engage critically with information. In addition, the placement of Uses and Gratifications Theory at the center of digital literacy research suggests that the purpose for which users intend to use technology is associated with informational literacy, not merely how often they log onto technology. Students who use social media to achieve a variety of objectives (i.e., professionally or civically related) report greater conceptual media understanding than those who use technology primarily for undirected browsing; given the correlational design, this pattern is descriptive rather than causal.

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