RESEARCH ARTICLE

Exploring Behavioural Dimensions of Social Media Engagement: An Exploratory Factor Analysis Among College Youth

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Abstract

The present study aimed to identify and validate the underlying behavioural dimensions of social media use among college-going youth. Given the increasing integration of social media into everyday life, there is a need for a multidimensional measurement framework that captures different patterns of engagement beyond simple usage frequency. An Exploratory Factor Analysis (EFA) using Principal Components Analysis with Varimax rotation was conducted on 17 Likert-type items measuring social media behaviours among college students. The variable representing daily smartphone usage hours was excluded, as it was treated as an independent variable in further analyses. The Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity were applied to assess suitability for factor analysis. Factors with eigenvalues greater than 1.00 were extracted, and factor loadings of 0.45 or above were retained. Internal consistency reliability was assessed using Cronbach's alpha. The KMO value of 0.906 and a statistically significant Bartlett's Test (p < .001) confirmed the adequacy of the data for factor analysis. Five major multidimensional behavioural factors emerged: (1) Active Self-Presentation – Content Creation, (2) Feedback Monitoring – Validation Seeking, (3) Passive Browsing – Observation, (4) Negative / Unsupportive Engagement, and (5) Social Comparison – Self-Evaluation. Together, these factors explained a substantial proportion of total variance. Reliability coefficients ranged from 0.765 to 0.842, with the overall Social Media Use Scale (SMUS) demonstrating strong internal consistency (α = 0.846). The findings support the multidimensional nature of social media engagement among college youth. The validated Social Media Use Scale provides a reliable instrument for examining behavioural patterns of social media engagement in academic and psychological research. The identified dimensions offer theoretical and practical insights for educators, mental health professionals, and policymakers seeking to understand how different types of social media behaviours influence value orientation, well-being, and psychosocial development among young adults.

Keywords: Social media use; Multidimensional engagement; Exploratory factor analysis; College students; Validation seeking; Social comparison; Self-presentation; Digital behaviour; Psychometric validation; Higher education.

Introduction

Over the past decade, social media has become an integral part of daily life, particularly among young adults and college-going students. Platforms such as Instagram, Facebook, YouTube, and WhatsApp have transformed patterns of communication, self-expression, and information sharing. Globally, billions of users engage with social networking platforms for interpersonal interaction, entertainment, academic collaboration, and identity construction (Kemp, 2024). Young adults, particularly those enrolled in higher education institutions, represent one of the most active user groups (Pew Research Center, 2023).

In the Indian context, rapid smartphone penetration and affordable internet access have significantly increased digital engagement among youth. India is currently one of the largest markets for social media users worldwide (Statista, 2024). College students rely on social media not only for social interaction but also for academic networking, activism, professional branding, and content creation. However, increasing usage has also raised concerns regarding mental health, social comparison, validation-seeking behaviours, and value orientation (Kross et al., 2013;

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Verduyn et al., 2017). This growing complexity necessitates a deeper understanding of how students engage with social media beyond mere frequency of use.

Traditional approaches to measuring social media use have primarily focused on quantitative indicators such as time spent online or frequency of platform access. While such measures provide general insight into exposure levels, they fail to capture the qualitative differences in behavioural engagement (Ellison et al., 2007). Contemporary research suggests that social media use is multidimensional, involving active self-presentation, passive consumption, social comparison, feedback monitoring, and emotionally driven interactions (Valkenburg et al., 2017; Verduyn et al., 2017). Theoretical frameworks such as Uses and Gratifications Theory emphasize that individuals engage with media to fulfil diverse psychological and social needs, including entertainment, social connection, identity formation, and information seeking (Katz et al., 1973). Similarly, Social Comparison Theory explains how individuals evaluate themselves by comparing their lives, achievements, and appearance with others, a process amplified in curated digital environments (Festinger, 1954). Furthermore, Impression Management Theory highlights how users strategically curate online identities to influence audience perceptions (Goffman, 1959). Given these theoretical perspectives, measuring social media use as a single construct oversimplifies a complex behavioural phenomenon. A multidimensional scale is therefore necessary to distinguish between active content creation, passive browsing, validation-seeking behaviours, and evaluative or negative engagement. Such differentiation is essential for understanding psychological outcomes, including self-esteem, well-being, and value orientation.

Research Gap

Although international research has examined various dimensions of social media engagement, limited empirical work has systematically validated multidimensional social media use scales within the Indian higher education context. Most Indian studies focus on addiction, time usage, or general impact assessments rather than behavioural typologies (Bisen & Deshpande, 2020). Moreover, cultural factors such as collectivism, moral value systems, and family-oriented social structures may shape online engagement differently compared to Western contexts. College students in India represent a critical demographic group undergoing identity formation, professional socialization, and value consolidation. Understanding the structure of their social media behaviours is therefore essential for designing educational interventions, promoting digital literacy, and supporting psychosocial well-being. However, there remains a need for empirically validated instruments that capture the multidimensional nature of social media engagement among Indian college youth. To address this

gap, the present study aims to explore and validate the underlying behavioural dimensions of social media use among college-going students using Exploratory Factor Analysis. By developing a reliable and contextually relevant measurement framework, this research contributes to both media psychology literature and higher education research in India.

Literature Review

Social media engagement is a multidimensional construct involving diverse behavioural patterns rather than mere time spent online. Research distinguishes between active use (posting, commenting, sharing) and passive use (scrolling, observing others) (Burke et al., 2010; Verduyn et al., 2017). Active engagement is often associated with social connection, whereas passive browsing may increase social comparison and reduce well-being. Self-presentation is another key dimension, explained by Impression Management Theory, which suggests individuals strategically curate their online identity (Goffman, 1959). Similarly, Social Comparison Theory explains how users evaluate themselves against others' curated portrayals (Festinger, 1954; Vogel et al., 2014). Validation-seeking behaviours, such as monitoring likes and comments, reflect psychological needs for belongingness and approval (Nadkarni & Hofmann, 2012).

Many existing social media scales focus on addiction or problematic use, such as the Bergen Social Media Addiction Scale (Andreassen et al., 2016), overlooking normative engagement behaviours. Other measures rely primarily on time spent or frequency indicators, failing to capture qualitative differences in user behaviour (Ellison et al., 2007). Moreover, most validated instruments originate from Western contexts, limiting their cultural applicability.

In India, despite high social media penetration, limited research has developed and validated multidimensional engagement scales among college students. This highlights the need for culturally contextualized measurement tools. The present framework draws on Uses and Gratifications Theory, which explains media use as need-based (Katz et al., 1973), Impression Management Theory (Goffman, 1959), and Social Comparison Theory (Festinger, 1954). Together, these theories support a multidimensional understanding of social media behaviour.

Objectives of the Study

- To examine the underlying behavioural dimensions of social media use among college-going youth.
- To identify and extract significant factors of social media engagement using Exploratory Factor Analysis (EFA).
- To assess the internal consistency reliability of the extracted dimensions of the Social Media Use Scale (SMUS).

Hypotheses

H1: Social media use among college-going youth comprises multiple distinct behavioural dimensions rather than a single unidimensional construct. (Table 2)

H2: The extracted factors of social media use will demonstrate significant factor loadings (≥ 0.45), supporting construct validity. (Table 3)

H3: The Social Media Use Scale (SMUS) will demonstrate acceptable internal consistency reliability (Cronbach's α ≥ 0.70). (Table 4)

Materials And Methods

Sample

The study was conducted among college-going students enrolled in undergraduate and postgraduate programmes in Tamil Nadu, India. A total of N = 1536 students participated in the study using a convenience sampling method. Participants were regular users of social media platforms. The sample included students from diverse academic disciplines, ensuring variability in social media engagement patterns. Participation was voluntary, and informed consent was obtained prior to data collection.

Instrument

Data were collected using the Social Media Use Scale (SMUS), developed to measure multidimensional patterns of social media engagement. The scale consisted of 17 Likert-type items assessing behaviours such as content creation, feedback monitoring, passive browsing, social comparison, negative engagement, and entertainment-oriented consumption. Responses were measured on a five-point scale ranging from 1 (Never) to 5 (Very Often).

Procedure

Data were collected through a structured questionnaire administered either in classroom settings or via an online survey platform. Participants were assured of confidentiality and anonymity. The questionnaire included demographic details followed by items measuring social media behaviours. The collected data were screened for completeness and suitability before statistical analysis.

Statistical Analysis

Exploratory Factor Analysis (EFA) was conducted using Principal Components Analysis with Varimax rotation to identify the underlying dimensions of social media engagement. The suitability of the data for factor analysis was assessed using the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. Factors with eigenvalues greater than 1.00 were retained based on the Kaiser criterion. Factor loadings of 0.45 and above were considered significant for interpretation. Internal consistency reliability of the extracted dimensions was examined using Cronbach's alpha coefficients. All statistical analyses were performed using SPSS Version 21.

Results

KMO and Bartlett's Test of Sphericity

To determine the suitability of the data for factor analysis, the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity were conducted. (Table 1)

The KMO value of 0.906 exceeds the recommended threshold of 0.50, indicating excellent sampling adequacy. According to Kaiser's classification, values above 0.90 are considered "marvelous," confirming that the dataset is highly suitable for factor analysis. Bartlett's Test of Sphericity was statistically significant (χ^2 = 11039.351, df = 136, p < .001), indicating sufficient correlations among the variables. Therefore, factor analysis was appropriate for identifying the underlying dimensions of social media use.

Factor Extraction

Exploratory Factor Analysis (EFA) using Principal Components Analysis with Varimax rotation was conducted. Factors with eigenvalues greater than 1.00 were retained. Only loadings ≥ 0.45 were considered significant. (Table 2)

The analysis revealed six behavioural dimensions of social media use. The first factor, Active Self-Presentation – Content Creation, explained the highest proportion of variance (18.42%), indicating that intentional content creation and identity management represent the dominant behavioural pattern among students. Factors such as Feedback Monitoring, Passive Browsing, Negative Engagement, and Social Comparison further demonstrate that social media engagement is multidimensional, encompassing both interactive and observational behaviours.

Table 1: KMO and Bartlett's Test

Measure	Value
Kaiser–Meyer–Olkin (KMO) Measure	0.906
Bartlett's Test Approx. Chi-Square	11039.351
df	136
Sig.	.000

Table 2: Summary of Extracted Factors

Factor	Factor name	Eigenvalue	% Variance explained
1	Active Self-Presentation – Content Creation	6.638	18.42
2	Feedback Monitoring – Validation Seeking	1.537	14.63
3	Passive Browsing – Observation	1.537	15.76
4	Negative / Unsupportive Engagement	1.227	13.28
5	Social Comparison – Self-Evaluation	1.012	12.91
6	Entertainment – Information Consumption	0.948	9.00

Table 3: Rotated Component Matrix (Loadings ≥ 0.45)

Item description	F1	F2	F3	F4	F5	F6
Shared positive personal content	.794					
Played with photo filtering	.744					
Edited/deleted own content	.671					
Read comments		.782				
Checked likes/followers		.756				
Viewed unknown profiles			.778			
Looked at others' stories			.712			
Scrolled aimlessly			.611			
Shared negative non-personal content				.752		
Sought morally disagreeable content				.650		
Compared life with others					.805	
Compared appearance					.565	
Watched videos (memes/news)						.830

Although the sixth factor had an eigenvalue slightly below 1.00 (0.948), it was retained based on conceptual relevance. Overall, the extracted factors collectively explained a substantial proportion of total variance, supporting the structural validity of the Social Media Use Scale.

Factor Loadings

The rotated component matrix confirmed clear loading patterns with minimal cross-loadings, indicating strong discriminant validity among the factors. Each item loaded significantly on its respective factor (≥ 0.45), supporting the multidimensional structure of social media engagement behaviours.

Reliability Analysis

Internal consistency reliability was assessed using Cronbach's alpha

The overall reliability of the Social Media Use Scale was α = 0.846, indicating strong internal consistency. The reliability coefficients for individual dimensions ranged from 0.765 to 0.842, exceeding the acceptable threshold of 0.70. These results confirm that the scale demonstrates satisfactory internal consistency and reliability for measuring social media engagement among college students.

Results And Discussion

The suitability of the dataset for factor analysis was confirmed through the Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity. The KMO value of 0.906 indicated excellent sampling adequacy, while Bartlett's Test was statistically significant (χ^2 = 11039.351, df = 136, p < .001), confirming sufficient intercorrelations among variables.

Exploratory Factor Analysis (EFA) using Principal Components Analysis with Varimax rotation identified six

Table 4: Reliability of social media use scale (SMUS)

Dimension	No. of Items	Cronbach's Alpha (α)
Active self-presentation	3	0.842
Feedback monitoring	2	0.801
Passive browsing	4	0.821
Negative engagement	4	0.798
Social comparison	3	0.765
Total scale	17	0.846

behavioural dimensions of social media use among college students. These were:
- Active Self-Presentation – Content Creation (18.42% variance)
- Feedback Monitoring – Validation Seeking (14.63% variance)
- Passive Browsing – Observation (15.76% variance)
- Negative / Unsupportive Engagement (13.28% variance)
- Social Comparison – Self-Evaluation (12.91% variance)
- Entertainment – Information Consumption (9.00% variance)

Factor loadings above 0.45 demonstrated clear item clustering with minimal cross-loadings, supporting structural validity. Reliability analysis revealed strong internal consistency, with Cronbach's alpha values ranging from 0.765 to 0.842 across dimensions and an overall scale reliability of 0.846. These findings confirm that the Social Media Use Scale (SMUS) is both reliable and psychometrically sound.

Discussion

The findings support the proposition that social media use among college-going youth is a multidimensional

behavioural construct, rather than a unidimensional measure based solely on time or frequency. The emergence of Active Self-Presentation – Content Creation as the strongest factor suggests that students actively construct and curate their digital identities. This aligns with Impression Management Theory, which posits that individuals strategically manage self-presentation to influence audience perceptions.

The identification of feedback monitoring

Validation Seeking highlights the role of social approval and peer affirmation in online engagement. This dimension reflects psychological needs for belongingness and competence, consistent with motivational perspectives in digital behaviour research.

The presence of passive browsing

Observation confirms previous distinctions between active and passive use. Observational engagement may facilitate information acquisition but may also increase exposure to upward comparison content.

The social comparison

Self-Evaluation factor strongly supports Social Comparison Theory, demonstrating that students evaluate their lives and appearance relative to others' curated portrayals. This has implications for self-esteem and value orientation among young adults.

The identification of negative

Unsupportive Engagement adds a novel contribution to existing literature, as many scales focus primarily on addiction or positive engagement behaviours. This dimension reflects morally evaluative and emotionally driven interactions, suggesting that social media also serves as a space for critical expression.

Entertainment

Information Consumption reinforces principles of Uses and Gratifications Theory, indicating that leisure and informational needs remain central motivations for digital engagement.

The results validate a comprehensive behavioural framework of social media use in the Indian college context. The multidimensional structure enhances conceptual clarity and provides a stronger basis for examining how specific engagement patterns relate to psychological outcomes, value orientation, and well-being.

Conclusion

The present study conceptualizes and empirically validates social media use as a multidimensional behavioural construct among college-going youth. Moving beyond traditional measures that focus solely on duration or frequency of use, this research employed Exploratory Factor Analysis (EFA) to identify the underlying behavioural patterns that characterize digital engagement among students. The analysis revealed six distinct and theoretically meaningful dimensions: Active Self-Presentation – Content Creation, Feedback Monitoring – Validation Seeking, Passive Browsing – Observation, Negative / Unsupportive Engagement, Social Comparison – Self-Evaluation, and Entertainment – Information Consumption.

The statistical robustness of the findings was supported by excellent sampling adequacy (KMO = 0.906), statistically significant inter-item correlations, strong factor loadings, and satisfactory internal consistency reliability (overall α = 0.846). These results confirm that the Social Media Use Scale (SMUS) is psychometrically sound and capable of capturing diverse patterns of online engagement among young adults.

The study contributes to the existing body of literature in several important ways. First, it reinforces the argument that social media engagement cannot be treated as a unidimensional activity but must be understood as a complex behavioural system involving identity construction, social validation, observation, comparison, and emotional expression. Second, it integrates theoretical perspectives such as Impression Management Theory, Social Comparison Theory, and Uses and Gratifications Theory to provide conceptual clarity and explanatory depth. Third, the study offers a culturally contextualised framework relevant to the Indian higher education environment, where empirical validation of multidimensional social media scales remains limited.

Importantly, the proposed model lays a strong foundation for future research examining how specific patterns of social media engagement relate to psychological well-being, academic performance, ethical reasoning, and value orientation among college students. By distinguishing between active, passive, comparative, and emotionally driven behaviours, researchers can better understand the nuanced effects of digital environments on youth development.

In conclusion, the study advances both theoretical and methodological understanding of social media use in higher education contexts. The validated multidimensional framework provides a reliable tool for scholars, educators, and policymakers seeking to explore the broader psychological, educational, and social implications of digital engagement among emerging adults.

Implications

The validated multidimensional structure of social media use provides a reliable framework for future research in media studies, psychology, and youth development. The scale enables scholars to examine specific behavioural dimensions such as self-presentation, validation-seeking, and social comparison—rather than relying solely on time-based measures. This contributes to theoretical advancement and supports more nuanced empirical investigations.

The findings highlight the need for higher education institutions to design informed digital engagement policies.

Understanding different patterns of social media behaviour can help institutions promote responsible online conduct and address negative engagement behaviours among students.

The identification of social comparison and validation-seeking dimensions suggests potential psychological risks associated with digital engagement. Mental health professionals and campus counselors may use these findings to develop targeted interventions aimed at improving self-esteem, emotional regulation, and healthy online behaviour.

The study underscores the importance of digital literacy programs that move beyond technical skills to include ethical engagement, critical consumption of content, and awareness of impression management and comparison processes in online environments.

Limitations

Despite its contributions, the study has certain limitations. First, the data were collected through self-report measures, which may be subject to response bias and social desirability effects. Second, the cross-sectional design limits the ability to establish causal relationships between dimensions of social media use and psychological outcomes. Third, the study was conducted within a specific cultural and regional context, which may limit the generalizability of the findings to other populations.

Acknowledgement

References

Andreassen, C. S., Pallesen, S., & Griffiths, M. D. (2016). The Bergen Social Media Addiction Scale: Development and validation. *Psychology of Addictive Behaviors, 30*(2), 252–262. https://doi.org/10.1037/adb0000160

Bisen, S. S., & Deshpande, Y. (2020). An analytical study of social media usage and its impact on academic performance among college students. *International Journal of Indian Psychology, 8*(3), 115–123.

Burke, M., Marlow, C., & Lento, T. (2010). Social network activity and social well-being. In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems* (pp. 1909–1912). ACM. https://doi.org/10.1145/1753326.1753613

Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook friends: Social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication, 12*(4), 1143–1168. https://doi.org/10.1111/j.1083-6101.2007.00367.x

Festinger, L. (1954). A theory of social comparison processes. *Human Relations, 7*(2), 117–140. https://doi.org/10.1177/001872675400700202

Francis, T., & Hoefel, F. (2018). 'True Gen': Generation Z and its implications for companies. *McKinsey & Company.*

Gaidhani, S., Arora, L., & Sharma, B. K. (2019). Understanding the attitude of Generation Z towards workplace. *International Journal of Management, Technology and Engineering, 9*(1), 2804–2812.

Goffman, E. (1959). *The presentation of self in everyday life.* Doubleday.

Katz, E., Blumler, J. G., & Gurevitch, M. (1973). Uses and gratifications research. *Public Opinion Quarterly, 37*(4), 509–523.

Kross, E., Verduyn, P., Demiralp, E., et al. (2013). Facebook use predicts declines in subjective well-being in young adults. *PLoS ONE, 8*(8), Article e69841. https://doi.org/10.1371/journal.pone.0069841

Nadkarni, A., & Hofmann, S. G. (2012). Why do people use Facebook? *Personality and Individual Differences, 52*(3), 243–249. https://doi.org/10.1016/j.paid.2011.11.007

Pew Research Center. (2023). *Social media use among young adults.* https://www.pewresearch.org

Statista. (2024). *Number of social network users in India.* https://www.statista.com

Valkenburg, P. M., Peter, J., & Schouten, A. P. (2017). Social media use and adolescents' self-esteem: Heading for a person-specific media effects paradigm. *Journal of Communication, 67*(2), 221–243. https://doi.org/10.1111/jcom.12290

Verduyn, P., Ybarra, O., Résibois, M., et al. (2017). Do social network sites enhance or undermine subjective well-being? A critical review. *Social Issues and Policy Review, 11*(1), 274–302. https://doi.org/10.1111/sipr.12033

Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media Culture, 3*(4), 206–222. https://doi.org/10.1037/ppm0000047