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Development and Validation of a Scale Measuring Social Media Usage among Undergraduate Students in Odisha: A Second-Order Structural Equation Modeling

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Abstract

The growing use of social media provides people with an amazing opportunity for online networking and connection. Social media is the term for web-based and mobile applications that make creating, communicating, and sharing content in a digital setting possible. Since mobile phones are more widely available for internet access, social media use is increasing in India's higher education institutions. Young people use Facebook, Instagram, WhatsApp, and Twitter more frequently than ever because of the widespread use of smartphones and reasonably priced internet connection. A large amount of study has been done on the significance of social media usage, but not much of it examines the factors that influence social media usage in developing countries such as India, especially when it comes to undergraduate students in Odisha. This study aims to investigate the characteristics that motivate Odisha undergraduate students to utilise social media and develop a social media usage scale using Exploratory Factor Analysis (EFA) and second order Confirmatory Factor Analysis (CFA). Confirmatory Factor Analysis (CFA) and a second-order Structural Equation Modeling (SEM), therefore, provided an opportunity to illuminate the intricate structure of social media activity, showcasing its diversity and may be unveiling hitherto unnoticed trends. Four dimensions were found in the study that comprises the reasons why students use social media platforms: "Socialisation," "Information," "Education," and "Entertainment". Socialisation had the largest factor loading, showing that it was the key motivator for student involvement, followed by Entertainment, Information, and Education in descending order of influence.

Keywords: Confirmatory Factor Analysis, Exploratory Factor Analysis, Social Media Usage, Structural Equation Modeling, Undergraduate Students.

Introduction

India boasts one of the largest populations of social media users worldwide (1). Social media usage by students is common in classrooms, food courts, parking lots, and libraries (2). The phrase "social media use" refers to how students use social media for academic, social, and recreational objectives as well as for communication, sharing, engagement, and connection-building. This means of communication is growing rapidly, particularly with the popularity of smart phone apps. In particular, young adults are growing more used to discussing their interests in conversations, sharing their everyday experiences, and maintaining online relationships with friends, family, and teachers (3). The online world has gained a new social dimension with the rise in popularity of social networking sites like Facebook, Twitter, and others in recent years. The emergence of social networking sites has facilitated the establishment of social networks founded on shared interests (4). These platforms facilitate the process of connecting and engaging with others who share similar interests by offering vibrant social spaces that encourage user interactions. Social media's interactive and diverse character offers a number of opportunities for knowledge sharing and learning. Higher education establishments are adopting social media more and more as they become aware of its impact on teaching methods and educational advantages (5). By incorporating social media into the classroom, students can have a more significant impact on their learning experience and become more involved in class activities. Social media fosters relationships among peers and boosts student engagement, all of which contribute to a richer learning atmosphere. Social media platforms improve studies and knowledge sharing which benefit students' educational

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experiences. Social networking integration in the classroom has the power to fundamentally change traditional teaching strategies by promoting student involvement (6, 7). It is clear that platforms such as Facebook, YouTube, and WhatsApp play a substantial role in higher education contexts and in the everyday lives of college students (8, 9). Social media is defined as "web-based and mobile services that allow individuals, communities, and organizations to collaborate, connect, interact, and build community by enabling the creation, co-creation, modification, sharing, and engagement with content (10, 11). Numerous studies have indicated that the use of social media by college students is associated with their learning experiences and academic success in several aspects (12). A variety of research studies have investigated how often and how long college students engage with social media, even while participating in their academic pursuits (13). It was clear that numerous indicators had been created to assess the various facets of social media utilization. In light of this context, this paper aims to explore how social media can enhance and expand students' access to educational resources, while simultaneously cultivating an environment that promotes lifelong learning.

The Uses and Gratifications Theory (UGT) provides a foundational framework for understanding the motivations and approaches individuals employ to intentionally seek out specific media in order to satisfy various psychological and social needs. UGT views users as proactive agents who deliberately choose media based on their expectations and motivations, in contrast to earlier media effects theories that saw audiences as passive consumers (14). Despite its advantages, UGT has encountered criticism for emphasizing self-reported reasons, which may not always align with actual behavior. Critics argue that the theory fails to sufficiently consider the unconscious or habitual dimensions of media consumption, particularly in the context of algorithm-driven platforms that encourage passive scrolling. Nonetheless, UGT offers valuable insights into the psychological underpinnings of media selection, especially when integrated with behavioral data or structural modeling techniques (15). The rise of social media platforms has renewed the importance of UGT. The concept has been widely employed to explore the motivations behind social media use, particularly among youth and students. People engage with social media for a variety of purposes, such as fostering social connections, acquiring information, seeking entertainment, enjoying convenience, and keeping track of various activities. This expanded classification highlights the multifaceted role of social media in meeting various user needs and desires (16).

Social Medias' increasing popularity and adaptability have opened up new avenues for daily use, greatly expanding their usefulness in a variety of contexts. People are drawn to these websites for a variety of reasons, such as exchanging information, promoting communication, and creating links with other users (17). The speedy expansion of Smartphone applications has had a significant impact on this behavior. People are sharing more and more of their day-to-day experiences on social media, but they are still keeping tight relationships with their family, friends, relatives, and even teachers (18). The use of social media is broad and highly sophisticated. This resource offers social, entertainment, and informative value. Social networking apps and other technology facilitate easier communication and information sharing amongst people. The popularity of social media is one factor contributing to its changing usage patterns (19). Numerous concerns arise from college students excessively using social media, leading to conversations about potential consequences for colleges and the regulations that oversee students' social and academic lives (20). Academicians are being compelled by the increasing impact of social media to reconsider traditional approaches to teaching and learning. Students use social media for several objectives, including finding resources, socializing, and engaging with learning materials. Social networking might be a helpful tool for obtaining educational materials, tracking academic success, maintaining friendships, and finding work (21, 22). Students are often seen utilizing social media for leisure activities, including connecting with friends, sharing personal experiences, and unwinding after classes (23, 24). Students select social media networks based on their hobbies, academic fields, and levels of commitment. Students commonly use major social networking sites such as Facebook, Twitter, and LinkedIn for professional and academic

socialization (25, 26). Furthermore, digital platforms are critical instruments for professional communication, collaboration among colleagues, and the publication of research findings (27). Social media sites are excellent tool for instructors since they give students with multiple ways to stay informed and pursue their academics. These websites allow students to interact with learning communities and educational resources, promoting teamwork (28, 29). This relationship encourages learning and it can raise students' academic performance (30). Integrating social media in the classroom improves learning, increases student satisfaction, and positively influences performance assessments (2). Recent studies show that college students are among the most active social media users. The widespread use of social media highlights the significance of comprehending its functions in students' life and the effects it may have on their general psychological well-being. The application of the Social Cognitive Theory (SCT) to social media also explains how students regulate their online behaviors. The SCT not only reveals the cognitive processes that influence how students use social media socially, but it can also serve as a theoretical basis for evaluating their interactions, entertainment, information-gathering, and study habits on these platforms (31).

Although social media usage has been substantially examined, there is a significant paucity of research into the factors that influence social media usage in developing nations such as India, particularly among the undergraduate students in Odisha. It is also obvious that a variety of indicators had been developed to examine the distinct aspects of social media by using Structural Equation Modeling approach (32). However, a significant gap remained: the theoretical framework of social media usage and how it fits into multiple fundamental sub-constructs was not confirmed by a thorough second-order Confirmatory Factor Analysis (CFA). This gap excludes an important component that explains social media activity. As a result, doing a second-order Confirmatory Factor Analysis (CFA) allows spotlighting the intricate structure of social media activity, highlighting its diversity and maybe revealing previously unknown trends. This research improves the understanding of social media use and paves the road for more accurate evaluations and smart interventions in this ever-changing digital landscape. With this analysis, the paper sheds light on how colleges may use social media to improve and broaden their students' access to educational content while also fostering a lifelong learning environment. The goal of this study was to use second-order Confirmatory Factor Analysis (CFA) to investigate the factors that motivate undergraduate students of Odisha to use social media.

Methodology

The research is primarily concerned with analyzing social media usage habits among the undergraduate students in Odisha. Odisha has grown as a major educational hub in recent years, owing to investments in infrastructure, academic excellence, and government backing. As it continues to grow, Odisha is set to emerge as India's leading hub for research and education. The study focuses exclusively on the state of Odisha. The demographic consists of undergraduate students from a range of degree colleges throughout 30 districts in Odisha. The total population consists of 200,394 undergraduate students enrolled in different colleges within the state (33). Furthermore, given that this research is based on surveys, it is not feasible to cover all 30 districts within the time constraints. Random sampling technique was used to select the sample colleges and the students with an objective to include the students of three streams (Arts, Commerce and Science) studying in three Govt. and three Non-Govt. degree colleges in urban and rural area of Odisha. Out of Six colleges, 90 students (Arts-30, Science-30 and Commerce-30) were selected from each college and at last, a total of 540 students, 180 from the Arts, 180 from the Sciences, and 180 from the Commerce, make up the sample. Table 1 displays the list of sample colleges selected form both rural and urban area of three different districts of Odisha.

Table 1: List of Sample Colleges (33)

Northern Division (HQ – Sambalpur)			
Angul	Govt. (Auto.) College, Angul	Govt.	Urban
	Bantala (Degree) College of Higher Education, Bantala	Non-govt	Rural
Central Division (HQ – Cuttack)			
Bhadrak	Bhadrak (Auto.) College	Govt.	Urban
	Charampa (Degree) College	Non-govt	Rural
Southern Division (HQ – Berhampur)			
	Government (Autonomous) College, Phulbani	Govt.	Urban
Kandhamal	Adivasi Degree College, Balliguda	Non-govt	Rural

In order to ensure a comprehensive assessment of the factors being examined, participants were requested to fill out a structured questionnaire employing Likert's five-point rating scale. The responses varied from extreme disagreement (score of 1) to strong agreement (score of 50. The survey tools used in this study were developed from earlier studies (34). These tools offered a standardized foundation for the study. The original survey questionnaire had 29 questions, but one question was removed due to its low communality value of 0.155. Consequently, the survey tool included 28 items organized into various scales to evaluate the variables of interest for this research. A pilot study was also conducted with 50 respondents prior to the main survey, leading to minor adjustments in the survey instrument. It is advisable to maintain a minimum ratio of 10 responses for each free parameter to guarantee dependable results (35). Additionally, a sample size exceeding 100 respondents is preferable for conducting factor analysis (36). These recommendations aided in ensuring the stability and robustness of the calculated parameters and factors. As such the finalized questionnaire was then distributed randomly among 600 undergraduate students selected at random from five different universities of Odisha. After screening, 540 questionnaires were considered valid for final analysis, with an acceptable sample size and response rate (37). The analysis progresses with the exploration of the second Confirmatory Factor Analysis (CFA), which extends beyond conventional CFA. The purpose of this method is to look at the connections between first- and higher-order constructs. After Social media Usage (SMU) scales are identified by Exploratory Factor Analysis (EFA), second-order CFA is used to validate those (38). At this stage, investigators compute the connections that exist between the main concept and each of its components. The robust correlation between first-order constructs demonstrates the presence of a subsequent construct (SMU) and shows that the latent variables are not totally independent. The best method for evaluating these kinds of frameworks is Structural Equation Modelling (SEM), which helps to identify the suggested first-order structures functioning as latent variables. A two-stage strategy is proposed, beginning with identifying the necessary construct via first-order factor analysis, and then assessing how well the SEM aligns with the data through second-order factor analysis (39).

Results

The data collected from the administered questionnaire were analysed using SPSS-AMOS version 23.0. The analysis was done in three phases. The first phase was to conduct an Exploratory Factor Analysis (EFA). The next step was to perform first-order CFA. Lastly, second-order CFA was performed using AMOS 23.0.

Exploratory Factor Analysis (EFA)

The aim of EFA is to identify the variables' structure that explained each of the specified underlying items of social media usage with the application of SPSS version 23.0.

Reliability and Validity

Exploratory factor analysis (EFA) was used to look at the underlying items for the extracted component structure of the variables. Cronbach's alpha was employed to assess the scale's dependability as detailed in Table 2. Furthermore, factor analysis was used to evaluate the validity of the questionnaire with the use of SPSS-23.

Table 2: Reliability

Construct	N	Alpha
Socialization	9	0.923
Informative	7	0.880
Education	6	0.873
Entertainment	6	0.880

Table 3: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		**.935**
Bartlett's Test of Sphericity	Approx. Chi-Square	9510.367
	Df	378
	Sig.	.000

All Alpha values of Table 2 surpass 0.70 thresholds, indicating a robust level of reliability for the scale employed in the analysis (40). Table 3 illustrates the results of KMO and Bartlett's Test. The strong alpha reliability value and the remarkable KMO value (0.935) of Table 3 serve as strong indicators of construct validity (37). Table 4 exhibits the communalities as the first output of EFA. All the commonalities in Table 4 are more than 0.5, which are mostly acceptable for further analysis (41).

Table 4: Communalities

Variable	Extraction
IN1-I get easy access to my study material through SM	.534
IN2-I get updated information about upcoming conferences and workshops from SM	.605
IN3-I do not like to use SM as an immediate reference to my lessons	.634
IN4-Information available on SM are not up-to-date	.660
IN5-Sometimes I find fake information in SM	.501
IN6-I use SM to share my thoughts	.692
IN7-I get immediate news on global issues through SM	.624
ED1-I have been immensely benefitted academically from SM	.695
ED2-Use of SM develops my communication skills.	.606
ED3-Use of SM kills the creativity of students.	.734
ED4-SM promotes anytime learning	.692
ED5-Educational materials available in SM are not full-proof	.716
ED6-I take the help of SM to complete my assignments on time.	.645
SO1-I love to be connected with friends through social sites	.576
SO2-Use of SM helps to learn social behavior	.548
SO3-SM helps to communicate with friends	.684
SO4-I prefer to browse SM instead of playing games outside	.666
SO5-Use of SM helps to develop social skills.	.680
SO6-SM helps to stay connected with others	.640
SO7-SM distracts me to stay away from my family members	.614
SO8-SM helps in developing personal identity. -	.660
SO9-I find SM is the platform of wasting time.	.558
EN1-Use of SM makes my learning more interesting and enjoyable	.601
EN2-I use SM for entertainment purposes	.515
EN3-I like to share posts in SM groups	.565
EN4-Sometimes I find SM as the source of creating stress	.632
EN5-Use of SM helps to make fun with others	.653
EN6-I find SM as the best platform to relax	.674

Table 5: Rotated Component Matrix

Variable	1	2	3	4
SO8	.735			
SO5	.735			
SO3	.727			
SO4	.725			
SO6	.710			
SO9	.670			
SO7	.664			
SO1	.631			
SO2	.601			
ED3		.843		
ED5		.826		
ED4		.824		
ED1		.821		
ED6		.781		
ED2		.760		
IN4			.751	
IN6			.745	
IN7			.719	
IN3			.702	
IN5			.636	
IN2			.633	
IN1			.620	
EN5				.735
EN1				.719
EN6				.713
EN4				.679
EN3				.623
EN2				.611

SO-Socialization, ED-Education, IN-Information, EN-Entertainment

Convergent validity is demonstrated through significant factor loadings, ideally exceeding 0.60 as depicted in Table 5 (42). All the items are loaded on four dimensions named as "Socialization" (SO) with 9 significant loadings, "Information" (IN) with 7 significant loadings, "Education" (ED) with 6 significant loadings and "Entertainment" (EN) with 6 significant loadings of more than 0.60. The weightage of 0.60 was based on established guideline in psychometrics and structural equation modeling (36).

First Order Confirmatory Factor Analysis (CFA)

CFA is a multivariate method that is analyzed to examine how well the measured variables represent the constructs (43). Figure 1 has shown four latent first-orders constructs of SMU (Social Media Usage) with significant p-vales and confirmed with the goodness of fit model, convergent validity and discriminant validity.

Table 6: Reliability and Validity

Construct		Construct	Estimate	AVE	CR
ED1	<---	Education	0.841		
ED2	<---	Education	0.701		
ED3	<---	Education	0.87		
ED4	<---	Education	0.687		
ED5	<---	Education	0.734	0.595	0.89

ED6	<---	Education	0.783		
SO9	<---	Socialization	0.676		
SO8	<---	Socialization	0.747		
SO7	<---	Socialization	0.742		
SO6	<---	Socialization	0.753		
SO5	<---	Socialization	0.776		
SO4	<---	Socialization	0.803		
SO3	<---	Socialization	0.815		
SO2	<---	Socialization	0.724		
SO1	<---	Socialization	0.745	0.56	0.95
IN1	<---	Information	0.671		
IN2	<---	Information	0.737		
IN3	<---	Information	0.65		
IN4	<---	Information	0.692		
IN5	<---	Information	0.654		
IN6	<---	Information	0.809		
IN7	<---	Information	0.744	0.51	0.89
EN1	<---	Entertainment	0.685		
EN2	<---	Entertainment	0.67		
EN3	<---	Entertainment	0.728		
EN4	<---	Entertainment	0.758		
EN5	<---	Entertainment	0.733		
EN6	<---	Entertainment	0.797	0.53	0.84

Convergent Validity

"Composite reliability (CR)" and "Average Variance explained (AVE)" are used to establish convergent validity in Table 6. The data set passes the validity test if CR > 0.7, CR > AVE, and AVE > 0.5 (37). For every construct, the computed values of CR and AVE satisfy the minimal condition for data reliability.

Discriminant Validity

Discriminant analysis was tested with the help of correlation matrix as depicted in Table 7. The sample data confirms discriminant validity as$\sqrt{AVE}$ **>** Correlation coefficients between different constructs in Table 7 (37).

Table 7: Factor Correlation Matrix

	$\sqrt{AVE}$	**Socialization**	**Education**	**Information**	**Entertainment**
Socialization	0.75	1	0.370	0.737	0.789
Education	0.77		1	0.279	0.289
Information	0.71			1	0.662
Entertainment	0.728				1

Fit Index of CFA

The Confirmatory Factor Analysis (CFA) shows model fit indices: Chi-square minimum value (CMIN) /Degrees of Freedom (df) = 2.873 (44), Tucker-Lewis Index (TLI) = 0.924, Comparative Fit Index (CFI) = 0.932 (45, 46) and Root Mean Square Error of Approximation (RMSEA) = 0.059 (47). The results demonstrate acceptable model fit indices. However, the first-order CFA constructs are shown in figure 1, which also confirms that the constructs' parameters were obtained by modifying the indices to obtain a decent fit. As a result, in order to examine the dimensions of second-order CFA analysis, first-order CFA has been identified for further examination.

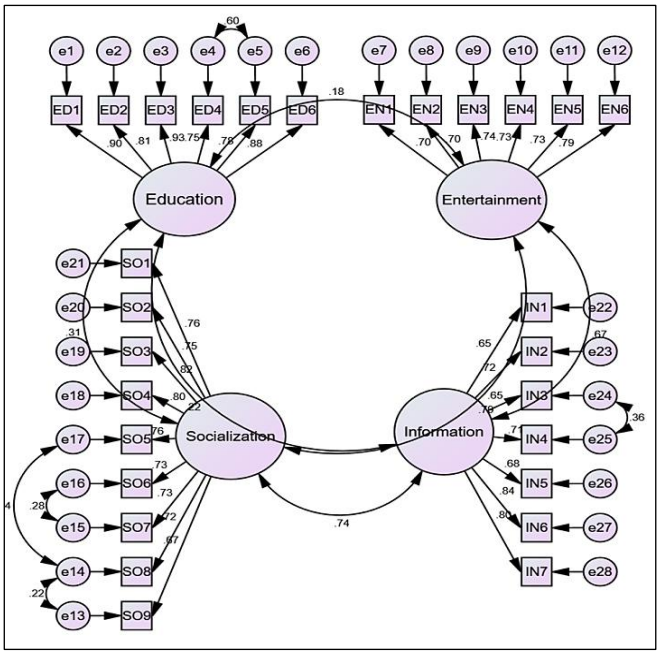

Figure 1: Path Diagram of First Order CFA

Fit Index of Second Order CFA

Second order CFA shows model fit indices: CMIN /df = 2.941, TLI= 0.921, CFI= 0.928 and RMSEA = 0.06. After applying second order CFA to validate the model, it is determined that the overall evaluation of the model fit criteria was deemed appropriate for 28 items on SMU scale. Figure 2 illustrates the path diagram of second order CFA as depicted below.

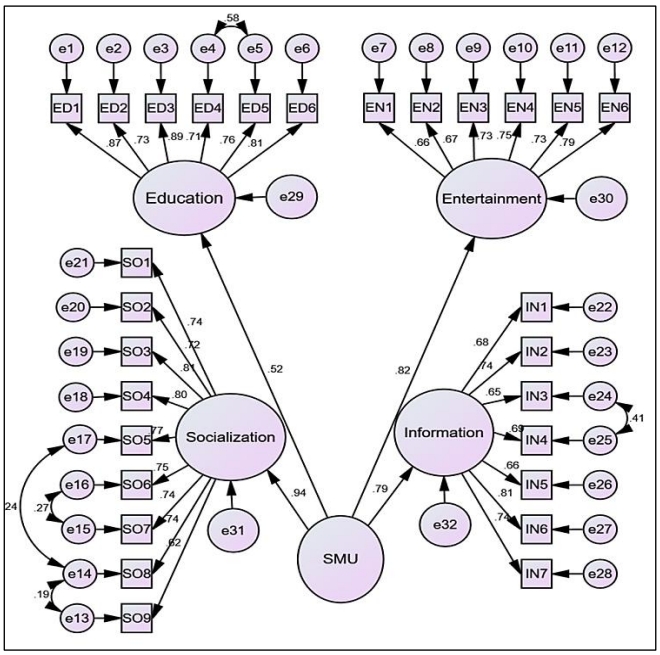

Figure 2: Path Diagram of Second Order CFA

Table 8: Second Order Factor Loading

Construct		Construct	Estimate	P
Education	<---	SMU	.521	.000
Entertainment	<---	SMU	.822	.000
Socialization	<---	SMU	.935	.000
Information	<---	SMU	.791	.000

Table 8 presents the results of the second-order CFA of Social Media Usage (SMU) Scale and it shows the significant impact of Social Media Usage on all of its sub-constructs - "Socialization", "Information", "Education" and "Entertainment". But, the sub-construct "Socialization" exerts maximum load (0.935) on it, followed by "Entertainment" with a load of 0.822 and then by "Information" with a load of 0.791, and "Education" with the lowest load of 0.521.

Discussion

The second-order CFA of Social Media Usage Scale has identified and confirmed four dimensions- "Socialization", "Entertainment" "Information" and "Education". The findings are in consistent with one past study (34). It is also evident that undergraduate students primarily utilize social media for socialization (48). It also fulfils the functions of entertainment (49), information acquisition (50), and education (51). Social media plays a crucial role in shaping socialization in contemporary society, as this process goes beyond simple human interactions. The advent of social media has led to a notable transformation in the idea of socialization. It is defined as the mechanism through which individuals assimilate the norms, values, and behaviors of their cultures. These platforms serve as dynamic and interactive spaces where people connect and share ideas with one another. Users on these platforms can engage with friends, family, and acquaintances, enabling them to explore diverse cultures, concepts, and perspectives from people around the globe (52, 53). These sites are key sources of information, allowing individuals to learn, stay updated, and gain a thorough understanding of the world around them. By utilizing social media as a valuable source of information, we can address information-related challenges and leverage the transformative potential of media to foster a more informed, engaged, and empowered global community. The abundant materials and experiences have established social networking sites as the entertainment hubs of the digital era due to the variety of content that can be shared for enjoyment (54). Social media has evolved into a form of social entertainment, offering users numerous avenues for relaxation, communication, and stress relief from the pressures of work or daily life (55, 56). In recent years, social media platforms have also emerged as practical educational tools, offering a wide array of learning opportunities and channels for information sharing. One of the invaluable and highly versatile educational resources in today's digital landscape, capable of transforming the teaching and learning experience, is social media. By adopting a learning perspective on social media, we can create more effective and accessible learning environments, while also engaging individuals in a world that is increasingly complex and interconnected (57, 58). This social media usage scale outshines the rest of the instruments as it provides a more detailed and culturally flexible framework that measures the positive and negative sides of social media engagement. As opposed to the scales that focus on addiction, the scale focuses on four dimensions, including socialization, entertainment, information, and education that reflect psychological motives and pedagogical relevance of the users. This makes it applicable in various contexts and cultures where the use of social media differs in both motive and strength. Psychologically, it assists in determining safety features of emotional reliance or health, whereas pedagogically, it aids educators in facilitating balanced and educative advantageous use. Further, this scale is a useful diagnostic tool to assess the social media use of children. It helps teachers, psychologists, and policymakers in distinguishing between effective and excessive use of the media. The scale identifies the effect of social media on improving learning and communication or dependence on social media and emotional distress by analyzing various aspects. Addiction, particularly as a source of entertainment and social interaction, has been associated with anxiety and depressive moods and diminishing academic performance (59). The scale can be used by educators to make students have a more balanced media consumption habit (60), whereas psychologists can apply it to detect early signs of addiction and low self-worth (61). Moreover, policymakers can utilize the scale to create awareness campaigns and programs focused on digital well-being (62). This way, the SMU scale can be a comprehensive model of encouraging positive, conscious, and responsible interactions with social media among youths.

Conclusion

The growing significance of social media offers people an outstanding avenue for networking and connecting online. Social media encompasses online platforms that enable interactive communication in multiple directions. The media facilitates the generation, dissemination, and exchange of content in a digital context. And so this study is designed to create and validate a social media usage scale for undergraduate students in Odisha through the implementation of Structural Equation Modeling (SEM). The findings of the research indicated that "socialization" significantly influences Social Media Use (SMU), while "education" has the least effect on Social Media Use (SMU) among students. This significance stems from a combination of cultural, infrastructural, and educational factors. In terms of culture, Odisha, like many other areas in India, follows a collectivist framework that emphasizes interpersonal interactions and collective identification. Social media platforms provide an accessible and culturally relevant method for students to maintain and develop social relationships. Several educational institutions in Odisha frequently lack adequate physical spaces that promote social interaction, prompting students to seek connections and engagement through digital platforms. The extensive availability of mobile devices and affordable data plans, have made social media more accessible, often turning it into the primary mode of communication for many. From an educational perspective, the insufficient integration of digital tools in the teaching and learning processes results in students feeling neither motivated nor prepared to utilize social media for academic purposes. Institutions may not entirely support or endorse e-learning tools that align with current social media trends. This observation might explain the relatively low focus on "education" within social media interactions, as students may primarily perceive these platforms as avenues for entertainment and socializing rather than for learning. Furthermore, language barriers, a shortage of localized content, and limited digital literacy further worsen this divide, reducing the likelihood of students engaging with educational content online. As a result, the study reflects a broader socio-educational context where social media serves mainly as a social tool rather than an academic resource.

Practical Implication and Limitation

The findings illustrated a remarkable influence of SMU on its various components—Socialization, Information, Education, and Entertainment—underscoring the necessity for a comprehensive digital strategy in universities throughout Odisha. Institutions ought to harness this understanding by incorporating social media into curricula in manners that engage with each sub-construct. For example, they may create collaborative group projects and facilitate peer-led discussions via platforms such as WhatsApp or Telegram to foster social interaction, utilize carefully selected educational YouTube playlists and LinkedIn Learning for scholarly advancement, and share trustworthy informational content through official institutional social channels. Content designed for entertainment, including subject-specific quizzes, gamified learning experiences, and videos produced by students, can effectively maintain engagement. Concurrently, it is essential to implement digital literacy initiatives aimed at equipping students with the skills to critically assess information, navigate the interplay between online and offline engagements, and uphold their digital well-being. These strategies enable universities to fully leverage social media, evolving it into a robust educational and developmental instrument rather than simply a platform for social interaction or leisure activities. Although this study has valuable conceptual and practical significance, it is important to acknowledge its limitations and take efforts to address them in future studies. Only four constructs—"Entertainment," "Socialisation," "Information," and "Education"—were examined in this study. To broaden the scope, future research can look at and include more elements like "amusement," "purchasing experiences" and "time pass". However, additional factors with different characteristics may be used in future research to quantify the suggested links, improving the study's scope.

Abbreviations

AC-Academic Achievement, AVE: Average Variance Extracted, CFA: Confirmatory Factor Analysis, CR: Composite Reliability, ED: Education, EFA: Exploratory Factor Analysis, EN: Entertainment, IN: Information, SH: Study Habits, SMU: Social Media Usage, SO: Socialization.

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Author Contributions

All the authors have equally contributed for writing introduction, review, methods, data collection, data analysis and interpretation of results.

Conflict of Interest

The authors declare no conflicts of interest.

Declaration of Artificial Intelligence (AI) Assistance

The authors declare that they did not use AI-assisted tools (ChatGPT, OpenAI) during the writing process.

Ethics Approval

This study follows ethical guidelines for conducting research in social sciences. Informed consents have been obtained from all the participants for collection of data.

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