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IMPACT OF SOCIAL MEDIA ENGAGEMENT ON CULTURAL PARTICIPATION AND BEHAVIOURAL OUTCOMES AMONG TRIBAL ADOLESCENTS: IMPLICATIONS FOR DIGITAL COMMUNICATION MANAGEMENT

Dr. Bharati Bala Patnaik

HOD, DJMC, FM University, Email ID:bharatibala.patnaik999@gmail.com

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Abstract
This study looks at the effects of using social media. on cultural participation and behavioural outcomes among tribal adolescents in Sanakaliapada, Machhua, and Jumabani villages of the Nilagiri block in Balasore district, Odisha. A sample of 100 adolescents aged 15–19 years was surveyed using a structured survey to assess patterns of utilisation of social media, cultural engagement, and perceived impacts of digital interaction. The study employed statistical decision science techniques, including ordinal logistic regression, binary logistic regression, and Spearman's correlation, to generate behavioural analytics on adolescents' digital engagement behaviour. Results indicate that education and gender significantly influence social media usage, while age showed no significant effect. Increased social media engagement was associated with reduced participation in community gatherings and lower adherence to Adivasi Sampradaya (tribal community) decisions, as well as a higher likelihood of adolescents ignoring traditional festivals. A statistically significant but weak inverse relationship was observed between festival participation and daily social media usage. Additionally, greater social media usage was linked to higher perceived usefulness and improved access to health-related information, although digital platforms did not significantly enhance cultural knowledge. Adolescents also demonstrated awareness of negative outcomes such as cultural dilution and mental health concerns, yet continued engagement suggests possible peer influence and emerging patterns of digital dependence. The findings highlight social media as a critical component of emerging digital communication ecosystems in rural regions and offer behavioural insights for policymakers, communication strategists, and digital engagement managers. These insights support the development of culturally sensitive policy and communication strategies that balance digital inclusion, responsible social media engagement, and preservation of indigenous cultural practices.

Key Words: *Digital communication management, Social media engagement, Behavioural analytics, Digital inclusion, Communication policy*

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1. Introduction

Social media now has a significant impact on communication, information sharing, and cultural exchange in societies. Social media networks have become core elements of the contemporary communication systems as a result of the fast spread of digital technologies and access to the internet, which allows users to generate and distribute information in real-time (Kaplan and Haenlein, 2010; Kietzmann et al., 2011). In the digital economy, digital platforms are used to facilitate digital interaction and the sharing of knowledge. Adolescents are some of the most prolific users who use social media to communicate, entertain, express themselves, and learn (Boyd, 2014; Ellison and Boyd, 2013).

The growth of infrastructure in rural areas through digital means has brought internet access to marginalised societies, such as tribal communities. As more and more tribal adolescents have access to smartphones and mobile web, social media is increasingly being used by these youths to gain information, connect with their peers, and, in essence, articulate their identities. Although this digital connectivity brings about possibilities to learn, share knowledge and socialise, it also becomes a matter of concern with regard to its impact on the traditional cultural practices and community organisation. Literature shows that adolescents exposed to an online setting could have their language preferences, lifestyle preferences, and cultural participation patterns altered (Livingstone and Helsper, 2010).

In terms of communication and management, social media platforms have become focal tools of the digital economy, in which the trends of information flow and digital communication are established. Organisations, development agencies, and policymakers are finding it appealing to use digital communication plans in their provision of information, development of awareness and communities in development processes. The connection between teens and social media is therefore an aspect that should be comprehended so as to formulate successful communication administration policies as well as inclusion digital policies. Communication managers will be advised to balance online presence and respect to the culture and social cohesiveness of native cultural values in a multicultural environment such as tribal societies (Kaplan, 2015; Van Dijk, 2020).

It is possible to introduce theoretical approaches to the use of social media in the use of the Uses and Gratifications Theory, which states that individuals are the active users of the media and they like using the media to satisfy their needs of information, entertainment and interaction (Blumler and Katz, 1974). Adolescents tend to use social media as a tool of communication with colleagues, getting information, and belonging to cyber communities. To further this point of view, the Technology Acceptance Model believes that individuals utilise digital technologies based on the perceived usefulness and ease of a mentioned technological application (Davis, 1989). These frameworks combined facilitate the understanding of the nature of the interaction between adolescents and social media and the effects of such interaction on behavioural patterns and cultural involvement.

The dissemination of digital technologies in communities also depends on the greater processes of communication and innovation (Desai et al., 2025). The theory of Diffusion of Innovations suggests that diffusion of technological findings is a gradual process when people get to see and embrace new practices through the social interaction and communication networks (Rogers et al., 2014). In the modern network society, digital communication technologies form interconnected social spaces where information spreads quickly across communities and geographical limits (Castells, 2023, 2025). Teenagers are the first to embrace digital technologies, and thus, they drive the spread of social media practices in their circles of friends.

Digital communication management in the growing digital economy has adopted social media as an important instrument of communication. These platforms are becoming more popular with organisations and policymakers to share information, to engage communities and to promote development initiatives. Social media facilitates interactive communication whereby users are able to create, share and exchange content in networked communication systems (Kaplan and Haenlein, 2010; Kietzmann et al., 2011). The evaluation of social media use trends can be useful in understanding the behaviour of developing digital communication and awareness campaigns (Kaplan, 2015). This knowledge will be important in the multicultural environment where online participation is determined by digital access and inclusion (Van Dijk, 2020; Castells, 2023).

In spite of the growing scholarly focus regarding social media use among adolescents, little has been done in terms of studies on the impact of the socio-cultural features on digital interactions among tribal societies. Current literature primarily addresses the social and psychological effects of the digital media, but it addresses less how education, attendance in traditional festivals and participation in community practices affect Social media usage by adolescents. The study of such relations is also relevant to academic study and communication management, as it offers results on the interaction of digital technologies with the cultural systems in the new digital societies.

Vol. 12 Issue 3 (March 2026)
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Thus, this paper aims to analyse the relationship between using social media and socio-cultural involvement in tribal adolescents. In particular, the research examines the function of education level in social media use, the connection between the involvement of the adolescents in socio-cultural activities and the traditional festivals and the use of digital platforms, and the perceptions of the adolescents regarding the advantages and disadvantages of social media. Through the examination of these dimensions, the research is useful for comprehending the digital communication system and offers information to policymakers and communication managers who are interested in developing culturally conscious digital engagement with tribal communities.

2.Methodology

2.1Research Design

The research design of the quantitative survey is adopted in the study to investigate trends of social media use and their relationship with socio-cultural involvement among the tribal adolescents. The survey technique allows gathering the primary data in a systematic way and the statistical examination of the connections between variables. The study was done in three Odia-speaking villages of Sanakaliapada, Machhua and Jumabani of Nilagiri block of Balasore district. These villages were chosen because they have a large tribal population, and more and more adolescents have access to digital devices. The research paper examines the effect of socio-cultural involvement and educational features on the involvement of adolescents in social media.

2.2Sampling and Participants

The research utilised the purposive sampling method together with the random selection to select the respondents based in the identified villages. The selection of adolescents was determined by the availability of smartphones and knowledge of the social media platform. The last sample was made up of 100 tribal teenagers in the age range of of 15 and 19 years (50 boys and 50 girls), so that gender representation was also possible. The respondents were the school-going teenagers who were very active in the online world as well as in the traditional community life. The chosen group is due to the fact that adolescents are one of the most active social media users, and in rural and tribal communities, they act as the first ones to use digital technologies.

2.3Data Collection Instrument

Primary data was gathered using a structured questionnaire that is expected to capture various dimensions of the social media engagement and socio-cultural participation of the adolescents. There were four sections in the questionnaire. The initial part gathered the demographic data (age, gender and level of education). The second one investigated the patterns of using social media, such as the daily time spent on it and the preferred social media. The third evaluated perceived beneficial and detrimental effects of social media, including learning possibilities, health awareness, cultural dilution and mental health issues. The last part discussed the engagement in the socio-cultural activities, such as the traditional festivals, community meetings (sabhas), and the obligation to follow the decisions of the Adivasi Sampradaya.

2.4Analytical Techniques

The information obtained was reviewed by applying statistical decision science methods in order to investigate behavioural predictors of social media use in adolescents. The correlation between patterns of social media usage and the educational level was analysed by ordinal logistic regression. The connection between social media use and the positive and negative perceived effects on adolescents was tested using binary logistic regression. Moreover, the rank correlation test conducted by Spearman was used to determine the correlation between the involvement in socio-cultural events and the use of social media. The statistical tools facilitate the systematic examination of the relationship between digital involvement and socio-cultural factors, to produce behavioural analytics which can be utilised to formulate strategies and regulate digital communication in formulating culturally sensitive digital literacy and community engagement programs.

3.Results

3.1Demographic Profile and Social Media Usage

The demographic analysis showed that the responders were 16 years old on average, and the average level of education was 9th standard. Of all the respondents (100), 62% of the participants were on social media, and 38% were not on social media. Instagram was the most popular among social media users, with 71% of the respondents using it. The mean was 2.55 hours/day social media usage, with 1-2 hours in social media use per day being the highest percentage.

Vol. 12 Issue 3 (March 2026)
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Table 1. Demographic Characteristics and Social Media Usage Profile

Variable	Value
Total sample size	100
Male respondents	50
Female respondents	50
Mean age	16 years
Mean educational level	9th standard
Social media users	62
Non-users	38
Instagram users among social media users	71%
Average daily social media usage	2.55 hours
Most common usage duration	1–2 hours

As it is illustrated in Table 1, both genders were represented equally, with 50 men and 50 women, providing evidence that the social media penetration among the study population was high.

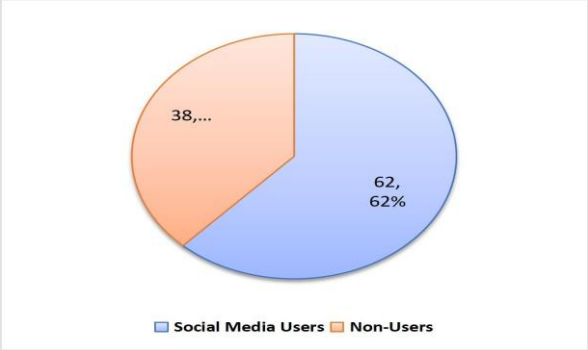

Figure 1. Social Media Use among Respondents

Figure 1 shows the percentage of users and non-users reporting that 62% of the people were using social media, whereas 38% had no social media usage.

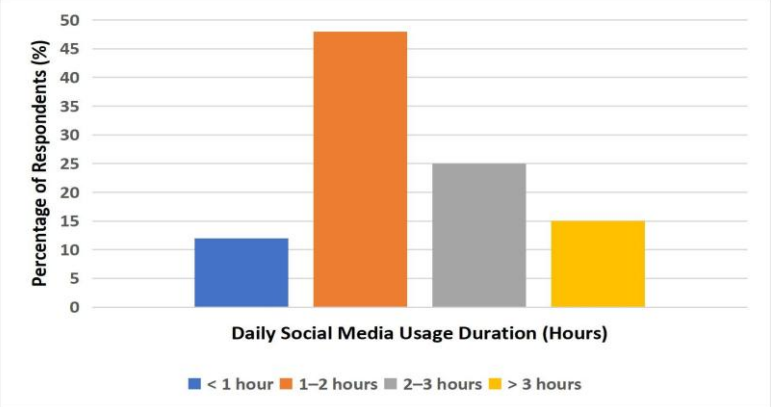

Figure 2. Average Daily Social Media Usage

Vol. 12 Issue 3 (March 2026)
ISSN: 2208-2190 Pages-82-90
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The respondents were distributed as depicted in Figure 2 with respect to the usage of social media on a daily basis. Most teenagers claimed to spend one or two hours daily on social media, which is the modal usage category.

3.2Demographic Determinants of Social Media Engagement

Ordinal logistic regression-based behavioural analytics estimated that education ($p < 0.05$) and gender ($p < 0.01$) significantly predicted social media use, with age not being a statistically significant predictor. The results indicate that the more the degree of schooling, the higher the chances of engaging in social media activities. In the analysis, it is also implied that the higher the academic level, the more likely that male adolescents use social media as compared to female adolescents.

Table 2. Ordinal Logistic Regression Results for Demographic Predictors of Social Media Usage

Predictor	Statistical Significance	Interpretation
Education	$p < 0.05$	Significant positive predictor of social media usage
Gender	$p < 0.01$	Significant predictor: male teenagers are more likely to use social media.
Age	$p > 0.05$	Not a significant predictor

According to Table 2, educational attainment and gender proved to be the most important demographic factors of digital engagement. These results suggest that the social media by the teens in the tribe is not in a vacuum, but influenced by the demographic and educational backgrounds.

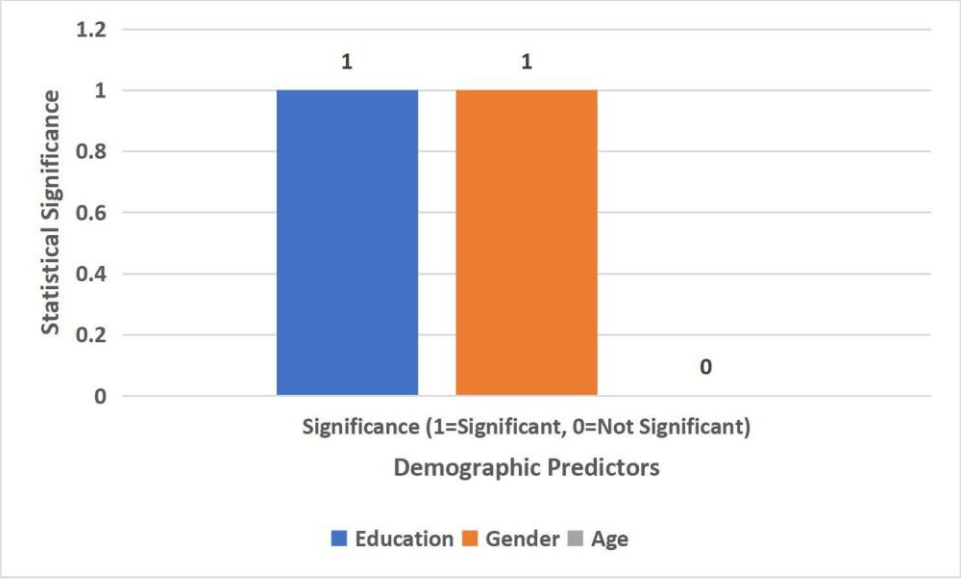

Figure 3. Significance of Demographic Predictors of Social Media Usage

The statistical significance of the demographic predictors of social media use is represented in Figure 3. Gender and education were identified as significantly predictive, and age did not indicate any significant correlation with social media engagement.

3.3Social Media Engagement and Cultural Participation

Behavioural analytics showed that the more people interacted with social media, the more they were likely to be less engaged in conventional community decision-making forums and cultural activities. Binary logistic regression indicated how increased usage of social media was linked to less engagement in sabhas (OR = 0.75, $p < 0.01$) and less followership of the Adivasi Sampradaya decisions (OR = 0.81, $p < 0.05$). Meanwhile, the greater the social media interaction, the greater the chances of shunning regular festivals (OR = 1.54, $p < 0.01$).

Vol. 12 Issue 3 (March 2026)
ISSN: 2208-2190 Pages-82-90
DOI: https://doi.org/10.69980/2xgwby08

The analysis of the rank correlation by Spearman also indicated a weakly significant negative relationship between using social media and participation in the festival (ρ =0.234, $p = 0.05$).

Table 3. Social Media Engagement and Cultural Participation

Variable	Statistical Value	Significance	Interpretation
Participation in sabhas	OR = 0.75	$p < 0.01$	Higher social media use predicts lower participation
Adherence to Adivasi Sampradaya decisions	OR = 0.81	$p < 0.05$	Higher social media use predicts lower adherence
Ignoring traditional festivals	OR = 1.54	$p < 0.01$	Higher social media use predicts a greater likelihood of ignoring festivals
Festival participation and social media usage	ρ = -0.234	$p < 0.05$	Weak negative correlation

The statistical trend, as depicted in Table 3, is that the more digital, the lower the cultural participation. This trend shows that the use of social media can slowly substitute the traditional communal participation among tribal teens.

3.4Social Media Engagement and Perceived Positive and Negative Effects

The findings also indicate that the use of social media has a strong linkage between positive perceived and negative perceived outcomes. Regarding the positive aspect, perceived usefulness (OR = 1.28, $p < 0.01$) and better learning in healthcare were linked to increased social media use. Nevertheless, use of social media did not play a big role in developing cultural knowledge, thus showing that online use may not add much value to native cultural learning.

On the downside, social media usage was significantly correlated with use and the perceptions of cultural dilution (OR = 3.16, $p < 0.05$) and mental or psychological problems (OR = 5.23, $p < 0.01$). This evidence shows that teenagers are aware of the benefits and the dangers of social media, but do not stop using it at significant rates.

Table 4. Social Media Engagement and Perceived Effects

Perceived Effect	Statistical Value	Significance	Direction
Perceived usefulness	OR = 1.28	$p < 0.01$	Positive association
Improved healthcare learning	OR = 1.47	$p < 0.01$	Positive association
Cultural knowledge	Not significant	$p > 0.05$	No meaningful association
Cultural dilution	OR = 3.16	$p < 0.05$	Negative association
Mental health issues	OR = 5.23	$p < 0.01$	Negative association

Table 4 summarises the behavioural impacts of using social media. The results demonstrate that the augmented use of social media has a positive effect on perceived usefulness and healthcare learning, and correlates strongly with negative consequences such as cultural dilution and mental health issues.

Vol. 12 Issue 3 (March 2026)
ISSN: 2208-2190 Pages-82-90
DOI: https://doi.org/10.69980/2xgwby08

4.Discussion

This research study is informative of the digital engagement behaviour in tribal adolescents in developing rural communication ecosystems. The total population of teenagers using the social media platforms actively is also huge, with Instagram being the most popular, as the mean time spent on it is 2.55 hours per day. This trend indicates the growing level of the significance of digital technologies in the entire life of adolescents and the prominent role of social media in the contemporary world of communication. The same trends of teenage online activities have been previously recorded in the literature that highlights the role of social media in the practices of communication among adolescents and their social interaction (Anderson and Jiang, 2018; Boyd and Ellison, 2007). Education and gender are also some of the other predictors of social media engagement, according to the study.

More educated teens have a higher rate of digital participation, and the male teens seem to be more likely to use social media than their female counterparts, which can be attributed to even larger proportions of rural youths using digital media and technology in general (Subrahmanyam and Šmahel, 2011). The analysis of behaviours also reveals that the higher the use of social media, the less people attend community forums like sabhas, and the less they follow the decisions of Adivasi Sampradaya, and a greater tendency to disregard traditional festivals by adolescents. These results correspond to previous studies that indicated that digital communication spaces were able to shape the cultural practices in young generations (Datta et al., 2023; Chattopadhyay and Mohanty, 2022), though old-fashioned cultural activities still have their importance in tribal communities.

The findings also reflect the two-sidedness of social media interaction. The positive side of this saw social media use being linked to greater perceived usefulness and better access to health-related information. This underscores the possibilities of digital platforms as useful information-dissemination and knowledge-sharing tools. Past literature has highlighted the fact that social media has the capability of facilitating learning, awareness, and social connectivity among adolescents when it is utilised positively (Valkenburg and Peter, 2011; Subrahmanyam and Šmahel, 2011). In this regard, social media networks constitute a significant part of the overall digital communication system and allow adolescents to get access to educational assets and information networks that are not in their immediate communities.

Simultaneously, the research results demonstrated that the use of social media was strongly correlated with the perceived adverse implications, including cultural dilution and psychological issues. Such results are consistent with studies that indicate the complicated interdependence between social media use and adolescent wellness. Some studies have reported factors such as high rate of social media use and psychological distress, anxiety, and well-being lower among adolescents (Keles et al., 2020; Twenge and Campbell, 2018). Underage people also understand the benefits and risks of social media platforms (O'Reilly et al., 2018). This contradiction means that despite the awareness of the user regarding the negative effect of excessive interaction with the Internet, the use of social media may be perpetuated through the pressure of peer influence, habitus, or the physical attachment that is formed by the Internet connections.

The findings can be applied to the literature of digital engagement behaviour in the majority of emergent communication ecosystems, into which it is evident that digital platforms generate the opportunity to share knowledge, and the knowledge influences cultural participation in the rural community. There are also significant implications for digital communication managers, policymakers and development organisations in tribal regions. It is possible to strategically rely on social media platforms to spread information about health, education opportunities, and governmental programs. The digital communication strategy via popular platforms has the ability to increase the engagement of the stakeholders by addressing adolescents through the channels of their choice.

The communication strategies should be effective by including the aspect of cultural sensitivity and responsible digital engagement practices. The digital campaigns to the tribal communities should have a culturally engaging message that fosters digital literacy without violating the indigenous norms. The policymakers and communication managers ought to thus develop community-based digital literacy initiatives that promote positive social media usage and minimise threats associated with excessive screen time and cultural isolation. The social media use patterns are the sources of behavioural insights that could be used in the targeted communication policy in response to the opportunities and challenges of digital technologies. Introducing the concept of culturally responsive communication strategy into the digital ecosystem at large would empower the community and improve sustainable cultural engagement and integration (Livingstone and Smith, 2014; Turkle, 2015; Hampton et al., 2014).

Vol. 12 Issue 3 (March 2026)
ISSN: 2208-2190 Pages-82-90
DOI: https://doi.org/10.69980/2xgwby08

5.Conclusion

The study illustrates that social media is taking an imitative role in the redefinition of the cultural practices and the well-being of the tribal adolescents in Odisha. The results reveal that education also plays a significant role in determining the level of social media use, where the children of high-income classes show more digital interest. Though gender disparities were also traced, the overall implication here is the role of digital exposure on the traditional community life. High use of social media was related to less attendance of collective gatherings, less compliance with the use of Adivasi Sampradaya decisions and increased tendencies of adolescents to disregard traditional festivals. This is a progressive break in the community practices, which is an indicator of the risk of the danger of dilution of culture as digital lifestyles develop among younger generations. In the meantime, social media has not been that bad. Teenagers described learning about health awareness, education opportunities and how effective such information is in their daily lives. Along with this, there come problems of addictive behaviour, loss of culture and psychological pressure. The teenagers knew what they were getting into but they nevertheless used the social media, which encourages peer communication and interaction in the digital space. Such findings suggest the two-sidedness of social media as the provider of access to information and the disrupter of the traditional social systems. The social media and cultural identity development should be used responsibly in order to preserve the cohesiveness of the community. These insights can offer a good piece of advice to policymakers, communication managers and development organisation's management and policy-wise on how to develop culturally-aware digital communication strategies and digital literacy programs that can empower sustainable digital integration in tribal cultures.

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Vol. 12 Issue 3 (March 2026)
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