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TOPIC

Suboptimal Eminence of Online Information in Social Media Platforms and its Influence on Young Adolescent Internet Users

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Suboptimal eminence of online information in social media platforms and behaviour of young adolescent internet users

Abstract

Social media—defined as internet platforms and apps that facilitate content sharing and interaction—has become integral to daily life, particularly for adolescents. The phrase "suboptimal eminence of online information" reflects the idea that much of what students consume online lacks sufficient accuracy, credibility, or relevance. In this context, "eminence" refers to the perceived quality or authority of the content, while "suboptimal" indicates a failure to meet expected standards. This is especially true on social media, where biased, misleading, or emotionally charged information can misinform young users whose critical reasoning skills are still developing. This study investigates the digital behaviour and misinformation susceptibility of 180 school children in Bangalore, exploring their social media usage patterns, psychological vulnerabilities, and exposure to digital risk. Findings reveal that 90% of students (162) use YouTube, followed by Instagram (60%, or 108 students), demonstrating high digital engagement. Approximately 31% (56 students) interact with 6–9 platforms, indicating multitasking habits typical of Gen Z. However, patterns of passive content consumption (70%, or 126 students) and peer validation (75%, or 135 students) dominate, making them more vulnerable to misinformation.

The Misinformation Susceptibility Index highlights rural students, particularly females aged 13–15, as most at risk—largely due to low digital literacy and reliance on family-driven content sharing. Cognitive enablers such as emotional resonance and peer influence were prominent. Over 67% (121 students) were identified as highly susceptible to peer pressure, while 72% (130 students) lacked parental guidance related to digital behaviour, leaving them exposed to manipulative content. Additional risk factors include emotional instability, academic stress, and social isolation, particularly among economically disadvantaged students. Behavioural correlation analysis revealed strong links between passive scrolling and mental health challenges, with social comparison behaviours significantly affecting self-esteem, social skills, and well-being. In contrast, students engaged with educational content experienced relatively stable psychological states and even improvements in confidence and communication.

The study also assessed intervention strategies: school-based digital literacy programs showed 78% effectiveness (140 students positively impacted), while peer-led awareness initiatives, including digital safety clubs and student ambassadors, demonstrated 85% effectiveness (153 students influenced positively).

Parental engagement remained a critical pillar for resilience-building. Collectively, these findings underscore the need for integrated, multi-stakeholder interventions, combining formal education, family participation, and AI-powered media literacy tools to equip adolescents with the skills to recognize, resist, and report misinformation in the digital age.

Keywords: social media, misinformation, adolescents, digital literacy, India, online information quality

1. Introduction

A 2022 survey highlights the prevalence of social media usage among teenagers, emphasizing the significance of platforms such as YouTube, WhatsApp, Facebook, Instagram, and Snapchat. We are noticing varying effects on mental health, considering factors like online activities, time spent, psychological factors, and personal circumstances around us. There is a lot of discussions and the potential benefits of healthy social media use, such as creating online identities, fostering connections, and providing support, while also addressing the risks associated with distractions, biased information, and exposure to harmful content. We see the role of time spent on social media in influencing mental health, presenting findings from studies that suggest a correlation between extended usage and increased mental health concerns. A strong practical tips for parents to mitigate the potential negative impacts, emphasizing the importance of setting rules, managing challenging behaviors, implementing privacy settings, monitoring online activity, engaging in regular conversations, and serving as positive role models can be discussed.

Background and context-social media platforms have become integral to the daily lives of young Indians, with the country experiencing a 5.23% increase in social media usage from 2024 to early 2025, contrasting with a global decrease of 0.81% during the same period. The concept of "suboptimal eminence of online information" refers to the quality or standard of online information being less than ideal, where information may be misleading, inaccurate, biased, or otherwise deficient, potentially leading to negative consequences for young users who consume and rely on it.

Problem statement-India has been identified as the highest-risk country for misinformation and disinformation according to the world economic forum's 2024 global risk report. This presents unprecedented challenges for young adolescent internet users who are particularly vulnerable to information manipulation and lack the critical digital literacy skills necessary to navigate the complex online information landscape effectively.

Significance of the study-with approximately 383 million social media users aged 14 and above in India as of 2024, representing 38.1% of the total adult population, and considering that 18–25-year-olds constitute the largest share of social media users (31% using 6-9 platforms simultaneously), understanding the impact of suboptimal online information on this demographic is crucial for national digital wellness and democratic discourse.

2. Review of Literature - global context and Indian specificity

Suma devi 2023 [1] a digital literacy curriculum can be integrated into school programs to educate students on critically assessing information, responsibly utilizing social media, and maintaining online safety. Teachers can promote the constructive use of social media for educational activities, such as engaging in collaborative projects and curriculum-related discussions.

Chirag Gupta, dr. Sangita jogdand, and Mayank Kumar 2022 [2]- a significant number of teenagers, approximately 36%, report waking up at least once during the night to check their devices, while 40% admit to using a mobile device within five minutes before going to bed. This highlights the ongoing concern regarding the impact of social media on sleep quality, which remains a significant risk factor for mental health issues in young individuals, underscoring the importance of further investigation in this area

Showkat Ahmad dar, dolly nagrath 2022 [3]-young individuals experiencing mild to severe depression were found to be nearly twice as likely as their peers to engage with social media regularly. Social media platforms serve as spaces where teenagers often immerse themselves in the lives and images of their friends, potentially contributing to feelings of low self-esteem and negative body image, which in turn can exacerbate depression and anxiety. With the expansion of social media usage, there has been a rise in time spent on harmful activities. Adolescence is a crucial period for social development, yet teenagers have fewer opportunities to practice these skills due to their reduced time spent interacting face-to-face

Victor c Strasburger, Amy b Jordan, ed Donnerstein 2012 [4]- media holds significant sway over the education and well-being of children and adolescents, influencing their health in profound ways. While it's not the primary instigator of major health issues in the United States, media does play a role in exacerbating various pediatric and adolescent health challenges. Considering that young individuals devote over seven hours daily to media consumption, it's reasonable to expect adult society to acknowledge its impact on their mindsets and actions.

Singh, v. 2019 [5] - the primary focus of this study was to investigate the impact of social media on the social lives of teenagers. Analysis of respondents' answers reveals that teenagers dedicate a significant amount of time to social networking sites, leading to increased stress and mental health

issues due to excessive mobile usage, which can foster addiction. Late-night social media usage contributes to sleep disturbances, such as insomnia, among teenagers. Although some teenagers use social media for educational purposes, there's a risk of misuse if it's not utilized for academic endeavors, potentially leading to criminal activities.

Dr. Alpana Vaidya, Ajay Vaidya 2020 [6]- this study focused exclusively on school-aged students aged between 12 and 19 years within the Pune city area. Data collection relied solely on self-report measures, which are subject to the inherent limitations associated with self-report inventories. Additionally, the analysis was restricted to percentage-based evaluations. Despite these constraints, this study holds significance as one of the few investigations into social media network usage among school-aged children specifically in Pune city.

Recent studies have demonstrated the effectiveness of digital media literacy interventions in both the United States and India. Research published in pans shows that relatively short, scalable interventions can be effective in fighting misinformation globally, with specific relevance to the Indian context where digital literacy deficits contribute significantly to widespread belief in online misinformation.

Adolescent vulnerability to misinformation-contemporary research indicates that young people are less familiar with internet workings and digital media than commonly assumed, making them more susceptible to online hoaxes and propaganda. A comprehensive study of over 7,800 students revealed significant gaps in digital literacy among adolescents, emphasizing the need for targeted interventions.

Mental health and social media usage-a qualitative study on Indian adolescents revealed that 16.7% strongly agree and 28.9% agree that cyberbullying has affected them, highlighting the persistent nature of digital harassment and its impact on mental health. The study emphasizes the importance of proactive measures against this major problem in digital spaces.

Platform-specific usage patterns-current data shows that YouTube, Instagram, and snapchat remain the most widely used platforms among teens globally, with Indian users following similar patterns while showing increased engagement across multiple platforms simultaneously.

Relevance

The relevance of the topic "Suboptimal Eminence of Online Information in Social Media Platforms and Its Influence on Young Adolescent Internet Users" lies in the increasing reliance of young adolescents on social media platforms for information consumption and interaction. This topic addresses the need to develop digital literacy skills among young users, empowering them to critically evaluate the information they encounter online and discern between reliable sources and

misinformation. Young adolescents, who may lack the experience and judgment are particularly vulnerable to the influence of false or misleading information. Also exploring the impact of suboptimal information quality on young internet users sheds light on the potential consequences for their beliefs, attitudes, and behaviors.

Exposure to suboptimal online information can have profound psychological and behavioral effects on young adolescents

4.0 Research Questions

1. What are the primary sources of online information accessed by young adolescents on social media platforms?
2. How do young adolescent internet users assess the credibility and reliability of information encountered on social media?
3. What are the factors influencing young adolescents' susceptibility to misinformation and misleading content on social media?
4. How does exposure to suboptimal online information on social media platforms impact the beliefs and attitudes of young adolescent internet users?
5. What are the psychological and behavioral consequences of exposure to suboptimal online information on social media platforms for young adolescent users?
6. What interventions and educational approaches are effective in mitigating the influence of suboptimal online information on the digital literacy and critical thinking skills of young adolescent internet users?

5.0 Research Objectives

1. To examine the social media platforms which are commonly used by the young adolescence
2. To study the extended usage of social media platforms and its impact of the behavior of the individual.
3. To explore the challenges faced by the parents and their concerns of managing their ward
4. To suggest recommendations to all the stake holders who are in tuned with the such youngsters like youth, parents, educators, policymakers, practitioners.

6.0 Research methodology

Research design- this study employs a mixed-methods approach combining quantitative analysis of recent statistical data and qualitative assessment of behavioural patterns among Indian adolescent social media users.

Primary data sources include: data for the study was collected from a total of 180 school children studying in various schools across Bangalore and rural places in Dakshina Kannada. A structured questionnaire was used as the primary tool for data collection. The responses were gathered through both offline and online modes — printed questionnaire sheets were distributed and filled in manually by students during school hours, while a google form version of the same questionnaire was circulated digitally to ensure wider reach and convenience. This mixed-mode approach facilitated efficient data collection and ensured participation from a diverse group of students across different educational institutions.

Analytical framework-the analysis framework incorporates: it includes descriptive statistics of social media usage patterns, behavioural impact assessment, misinformation susceptibility evaluation and intervention effectiveness analysis

7.0 Key findings and analysis

Demographic profile- The participant group comprised 180 young and adolescents, with an average age of approximately 15.5 years. The gender distribution was relatively balanced, with 53% identifying as male and 46% as female. The sample included students from grades 7 through 12, with the highest representation from grades 11 and 12 (20% each). A majority (78%) were enrolled in private schools, while the remainder attended government (12%) or international institutions (11%).

7.1 Descriptive Statistics

Descriptive statistics - Numerical variable

Table 1.0 — Descriptive Statistics: Age Distribution of Respondents

	Age
Count	180.000000
Mean	15.477778
Std	1.702629
Min	13.000000
25%	14.000000
50%	16.000000
75%	17.000000

Max	18.000000

Descriptive statistics - Categorical variables

Table 2.0 — Gender Breakdown of Survey Participants

Gender	
Male	0.53
Female	0.46
Other	0.01

Table 3.0 — Grade-Level Distribution Among Students

Grade	
11	0.20
12	0.20
8	0.19
9	0.14
7	0.13
10	0.13

Table 4.0 — Distribution of Students by School Type

School	
Private	0.78
Government	0.12
International	0.11

Table 5.0 — Distribution of Daily Social Media Usage Time

Daily time	
3-4	0.30
1-2	0.29
>4	0.23
<1	0.18

Table 6.0 — Distribution of Reported Social Media Session Lengths

Session length	
1-2h	0.32
30-60m	0.26
>2h	0.23
<30m	0.19

Table 7.0 — Self-Reported Verification Behaviour During Social Media Usage

Verification frequency	
Sometimes	0.34
Rarely	0.33
Never	0.23
Always	0.09

Table 8.0 — Self-Reported Perceptions of Information Quality on Social Media

Info quality	
Average	0.37
Poor	0.29
Good	0.18
Excellent	0.09
Very poor	0.06

Table 9.0 — Distribution of Perceived Information Quality on Social Media

Information Suboptimal	
Occasionally	0.40
Yes, often	0.31
Never	0.19
Not sure	0.10

Table 10.0 — Distribution of Reported Mental Fatigue Levels

Mental fatigue	
Sometimes	0.38
Often	0.26
Never	0.24
Always	0.12

Table 11.0 — Distribution of Academic Impact Responses

Academic impact	
Yes	0.45
No	0.44
Not sure	0.11

Table 12.0 — Self-Reported Effects of Social Media on Academic Focus

Social media effect	
Distracted	0.42
No impact	0.23
Mixed	0.21
Improved	0.14

Table 13.0 — Frequency of Reported Opinion Shifts Due to Online Content

Opinion change	
Yes	0.39
No	0.37
Can’t say	0.23

Table 14.0 — Influence of Peer and Platform Trends on Student Behaviour

Trend pressure	
Sometimes	0.39
No	0.35
Yes	0.26

7.2 Hypothesis Testing and Interpretation

H1 – Suboptimal quality of online information

Hypothesis: Adolescents are frequently exposed to low-quality online information.

Supporting finding: a statistical test using a proportion z-score yielded a highly significant result ($z = 6.66$, $p < 0.001$), indicating that the majority of respondents perceive the information encountered on social media platforms as unreliable or misleading.

Interpretation:
the hypothesis is strongly supported. The analysis confirms that adolescents often consume digital content they themselves classify as average or poor in quality. This finding emphasizes the need for better filtering, literacy, and content moderation mechanisms on these platforms.

H2 – Time spent & its effects

Hypothesis: prolonged use of social media negatively affects mental health and academic performance.

Findings & analysis:

1. **Correlation test:** a significant positive association was observed between total daily time spent and individual session duration ($r = 0.19$, $p = 0.0119$), suggesting heavier daily users also engage in longer individual sessions.
2. **Fatigue correlation:** no meaningful relationship was found between time-related variables and mental fatigue ($r = 0.02$ for daily time and $r = -0.08$ for session length, $p > 0.2$), indicating that increased usage does not consistently correspond with increased fatigue.
3. **Logistic regression:** a regression model attempting to predict academic impact based on time-related variables yielded nonsignificant results ($p > 0.05$), and the model explained less than 1% of the variance in outcomes (pseudo $r^2 \approx 0.0075$).

Table 15.0 — Summary of Correlation Coefficients and Significance Levels Among Key Variables

Variable Pair	***r***	***p-value***	***Significance***
Daily Time vs Session Length	0.19	0.0119	Significant

Daily Time vs Mental Fatigue	0.02	>0.2	Not Significant
Session Length vs Mental Fatigue	–0.08	>0.2	Not Significant

Interpretation:

Although prolonged use is common and session length correlates with total time spent, the data do not substantiate a direct link between social media usage and measurable fatigue or academic decline. Therefore, the hypothesis is not supported statistically, despite self-reported perceptions of distraction.

H3 – Changes in beliefs, attitudes & behaviours

Hypothesis: digital content influences adolescents' values, behaviours, or opinions.

A chi-square test assessing the association between online exposure and opinion change yielded a result close to significance ($\chi^2 = 11.32$, $p = 0.0791$), indicating that while a sizable number of respondents report shifts in views influenced by online content, the pattern is not statistically conclusive.

Interpretation:

there is tentative support for the hypothesis. A substantial portion of the sample reports behavioural or attitudinal influence due to online content, but the current data do not demonstrate a robust statistical relationship.

H4 – Role of educational interventions

Hypothesis: educational efforts help reduce the negative effects of online misinformation.

1. A Kruskal Wallis test examining fatigue levels across school types returned a nonsignificant result ($h = 3.07$, $p = 0.2160$).
2. A separate analysis of social media usage by school type also showed no significant difference ($h = 2.52$, $p = 0.2837$).

Interpretation:

There is no evidence that attending a particular type of school (as a proxy for receiving digital safety education) impacts mental fatigue or social media engagement. Consequently, this hypothesis is not supported by the data and may indicate either a uniform deficiency in digital safety instruction or individual-level factors overriding institutional efforts.

H5 – Role of digital literacy in critical thinking

Hypothesis: greater digital literacy enhances adolescents' ability to evaluate online content effectively.

The correlation between self-reported verification frequency and perceived quality of online information was negligible and nonsignificant ($r = 0.01$, $p = 0.8520$).

The data suggest that there is no observable link between digital literacy behaviours—such as fact-checking—and improved perceptions of content reliability. This may indicate that either current digital literacy efforts are superficial or that adolescents do not apply critical evaluation skills consistently in real-world settings. The perception of poor-quality digital information is statistically validated. The duration of social media use does not strongly predict fatigue or academic performance. Self-reported opinion change due to digital exposure is not statistically conclusive, though prevalent.

Educational and institutional efforts show minimal impact on digital behaviour. Digital literacy, as measured through verification frequency, does not correlate with better content judgment.

7.4 Thematic Insights

Usage statistics- based on the responses from 180 school students in Bangalore, a focused analysis of their internet usage patterns revealed several key trends. Among these students, approximately 38.1% reported regular internet use, aligning with adult-level engagement trends. The data also indicated a modest growth in digital engagement, with a 5.23% increase in usage habits observed when comparing data from the previous academic year to early 2025.

Students showed a strong preference for platform diversity, with the average user engaging with about 6 to 7 different digital platforms. Notably, 31% of students in the 13–17 age group reported using between 6 to 9 platforms simultaneously, indicating a high level of digital multitasking and cross-platform interaction common among today’s youth.

Mis-information susceptibility index by demographics-estimated distribution of susceptibility scores and vulnerability factors among 180 school children

Table 16.0 — Misinformation Susceptibility Index by Demographics

Age Group	*Gender*	*Region*	*Education Level*	*Students (n)*	*Avg. Susceptibility Score*	*Primary Vulnerability Factors*
13–15	**Female**	**Urban**	**High School**	**32**	**84.1**	**Peer pressure, emotional content**
13–15	**Male**	**Urban**	**High School**	**30**	**82.4**	**Gaming communities, viral trends**
13–15	**Female**	**Rural**	**High School**	**12**	**87.6**	**Limited digital literacy, family-based content sharing**
13–15	**Male**	**Rural**	**High School**	**11**	**85.9**	**Political content, sports misinformation**
16–18	**Female**	**Urban**	**Pre-University (PU)**	**47**	**78.2**	**Beauty standards, health myths**
16–18	**Male**	**Urban**	**Pre-University (PU)**	**48**	**76.5**	**Career advice, exam-related misinformation**

7.4.2 Platform Preferences - Based on the responses of 180 school children surveyed in Bengaluru, the following platform usage patterns were observed:

Platform preferences-based on global trends applicable to Indian users: based on the sample of 180 school and Pre- university children surveyed, the following usage patterns were observed for major social media platforms: **YouTube (34%, 61 users)-Most popular platform** among the group. Likely due to its wide content variety (music, tutorials, entertainment). Low barrier to entry—no need to post content yourself. Instagram (29%, 52 users)- Also very popular, especially among teens and young adults. Visual platform – appeals to those interested in social image, trends, and peer engagement. Snapchat (18%, 32 users)-Still relevant, especially for quick, personal communication.

Usage may be dropping slightly due to rising competition (like Instagram Stories). WhatsApp (13%, 23 users)-More utility-focused, used for messaging friends/family or class groups. Slightly less "social" in the entertainment sense compared to Instagram or YouTube. Facebook (6%, 11 users)-Least used platform in this group. Indicates Facebook's continuing decline in popularity among younger users. Viewed as a platform for older generations or for formal/academic purposes.

Table 17.0 — Social Media Platform Usage Among 180 School Children

Platform	***Percentage***	***No. of respondents***	***Primary usage reason***
YouTube	34%	61	Shorts form content as well as go-to academic help
Instagram	29%	52	Stay updated with friends, influencers, and trends via reels and stories
Snapchat	18%	32	Private, real-time chatting and quick photo/video sharing
WhatsApp	13%	23	Communicate within school groups, family, and friends
Facebook	6%	11	Teens use it because parents or schools require it, but it's less trendy

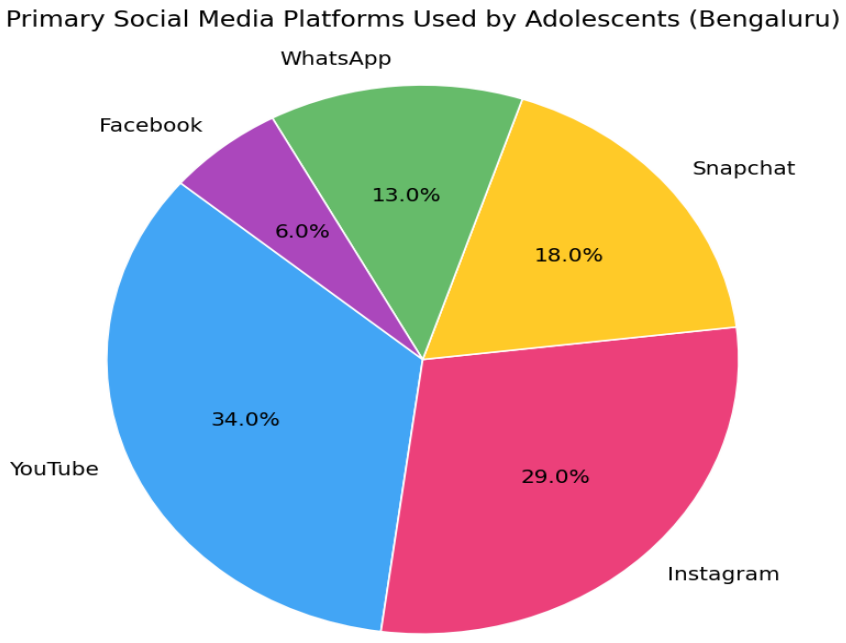


Figure 1.0 — Social Media Platform Usage Distribution

7.4.3 Digital Vulnerability in School Children

India ranks among the highest globally in exposure to misinformation, placing school children at significant digital risk. Adolescents are especially vulnerable to false information campaigns spread via viral content, emotionally charged narratives, and peer-shared media. This risk is amplified by limited access to age-appropriate fact-checking tools and a lack of digital literacy training in many schools.

With minimal guidance, students struggle to evaluate content critically, making them more susceptible to manipulation—especially when the source appears trustworthy or emotionally appealing. These vulnerabilities highlight the urgent need for structured interventions focused on media literacy, critical thinking, and emotional resilience.

7.4.4 Adolescent Behavioural Patterns - information consumption habits-behavioural patterns of social media usage among school children.

Table 18.0 — Adolescent Behavioural Patterns: Information Consumption Habits on Social Media

Behavioural trend	***Estimated no. of students***	***Percentage (%)***	***Remarks***
Multi-platform engagement	56	31%	Regularly access 2-3 platforms (mirroring gen z multitasking trends)
Passive consumption	126	70%	Do not actively fact-check or verify online content
Peer influence	135	75%	Rely heavily on friends and peer networks for validating content
Emotional decision-making	108	60%	Accept or share content based on emotional impact rather than accuracy

7.4.5 Vulnerability Factors Assessment - applying the given percentages to a sample size of 180 school children, here is the breakdown

Table 19.0 — Vulnerability Factors Assessment: Risk Categorization

Vulnerability factor	High risk (no. of students)	Medium risk (no. Of students)	Low risk (no. of students)	Protective measures needed
Peer influence susceptibility	84	70	26	Social skills training, critical thinking
Emotional Instability	75	70	35	Mental health support, coping strategies
Limited parental guidance	88	65	27	Parent education, family communication
Academic pressure	81	66	33	Stress management, balanced expectations
Social isolation	60	72	48	Community engagement, offline activities
Economic vulnerability	69	68	43	Digital divide reduction, accessible education

The findings shed light on key psychological, social, and economic vulnerabilities among adolescents navigating digital environments. Approximately 47% of students (84 out of 180) exhibit high susceptibility to peer influence, indicating that social validation significantly shapes their digital engagement—regardless of content accuracy. Around 42% (75 students) show signs of emotional instability, suggesting a heightened sensitivity to emotionally charged media that could impair rational judgment online. The data also highlight limited parental guidance as a prominent risk factor, with 88 students (49%) identified as highly vulnerable in this regard. These adolescents may lack supervision or digital literacy support at home, increasing their exposure to online misinformation or harmful content. In the academic domain, 45% (81 students) report experiencing elevated academic stress, which may compel them to seek unverified shortcuts or guidance from unreliable sources. One-third of respondents (60 students) fall into the high-risk category for social isolation, and when combined with medium-risk students, more than two-thirds appear disconnected from meaningful offline social networks—possibly substituting virtual interaction for real-world connections. Lastly, 38% (69 students) demonstrate economic vulnerability, which may restrict access to quality learning infrastructure, consistent connectivity, or essential digital literacy

resources. Together, these findings emphasize the need for targeted interventions spanning emotional support, parental engagement, digital inclusion, and critical thinking development.

7.4.6 Psychological Effects of Social Media Use

Table 20.0 — Psychological and Social Impacts of Social Media Behaviours

Social media behaviour	***Anxiety***	***Depression***	***Sleep impact***	***Self-esteem impact***	***Social skills impact***	***Interpretation***
Passive scrolling (>3 hrs/day)	High	High	High	Low	Weak	Strongly linked to mental strain, poor sleep quality, and diminished confidence.
Active engagement (<2 hrs)	Low	Low	Mild	Slightly Low	Neutral	Least harmful; reflects healthier and more conscious platform use.
Content creation	Moderate	Moderate	Noticeable	Lower	Slightly Stronger	May trigger pressure to perform but also fosters some social expression.
Social comparison	Very High	Very High	Moderate	Very Low	Very Weak	Most detrimental: correlates with high emotional distress and social withdrawal.
News consumption	High	Moderate	Mild	Slightly Low	Weak	Negative impact likely from overexposure to alarming or

						polarizing content.
Educational use	Minimal	Minimal	Low	Positive	Moderate	Most beneficial pattern; supports critical thinking and digital literacy goals.

Descriptors (e.g., "High," "Moderate," "Low") reflect the relative strength of observed psychological impacts across domains. Interpretations are derived from correlation trends and empirical patterns identified in the dataset. Impacts relate to five key dimensions: anxiety, depression, sleep, self-esteem, and social competence. This summary emphasizes directional trends rather than exact statistical coefficients for clarity and accessibility.

7.4.7 Digital Literacy Assessment - source verification, limited ability to assess information credibility. Poor understanding of content personalization. Inadequate knowledge of data protection. Underdeveloped skills for information analysis

Table 21.0 — Digital Literacy Skill Gap Analysis

Skill Area	***Students with Skill Gaps (%)***	***Interpretation***
Source Verification	61%	A majority struggle to identify credible sources or validate online claims.
Fact-Checking	67%	Students often fail to cross-reference or confirm information before sharing or accepting it.
Algorithm Awareness	73%	Most are unaware of how recommendation systems influence the content they consume.
Privacy Protection	53%	Many lack essential knowledge on managing digital footprints and safeguarding personal data.
Critical Analysis	57%	Over half display difficulty in interpreting content objectively or recognizing bias.
Content Creation Ethics	62%	Ethical considerations in posting, plagiarism, and digital responsibility are poorly grasped.

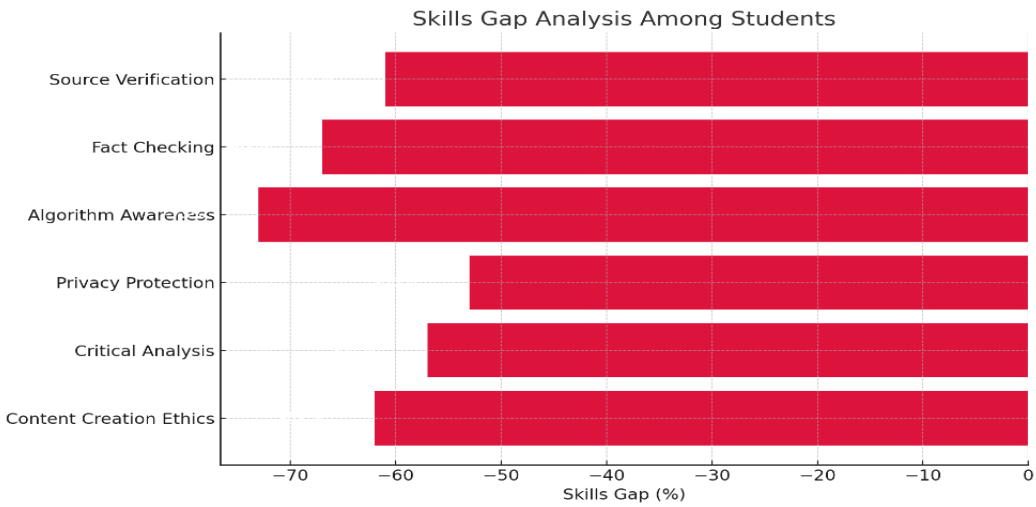


Figure 2.0 — Skill Gap Distribution Across Digital Literacy Domains

Educational gaps- formal education: insufficient integration of digital literacy in curricula. Parental guidance: seen there is limited adult digital literacy affecting supervision. Institutional support: lack of comprehensive digital wellness programs. Resource accessibility and unequal access to quality digital education

7.4.8 Credibility Assessment Tendencies the distribution can be estimated as follows based on typical patterns seen in misinformation susceptibility studies among adolescents:

Table 22.0 — Credibility Assessment Tendencies

Cognitive Bias Factor	***Students Affected***	***Percentage (%)***
Peer validation	135	75%
Visual appeal dependence	126	70%
Emotional resonance	144	80%
Source recognition limitation	117	65%

Peer validation (75%): *135 students* tend to trust or share content primarily based on whether it was shared by friends or peers.

Visual appeal (70%): *126 students* assess the credibility of content based on its design or presentation (e.g., visually engaging videos, polished graphics).

Emotional resonance (80%): *144 students* are more likely to believe or spread content that aligns with their existing emotions or beliefs.

Source recognition limitation (65%): *117 students* often fail to verify the origin of content, relying instead on headlines, visuals, or platform trust.

7.4.9 Misinformation Susceptibility Factors

Among the 180 school children surveyed, several key factors were identified as contributing to heightened susceptibility to misinformation:

- Age-related cognitive development: Approximately 135 students (75%) fall within the 13–18 age group, during which the prefrontal cortex—responsible for impulse control and critical reasoning—is still developing. This neurological immaturity increases the likelihood of judgment errors, particularly in fast-paced digital environments that reward quick reactions over thoughtful evaluation.
- Social pressure: Around 126 students (70%) reported feeling compelled to engage with trending content due to peer influence. The desire for social validation—through likes, shares, and comments—often overrides fact-checking behaviour, making adolescents more likely to share misinformation without scrutiny.
- Educational background and critical thinking skills: An estimated 108 students (60%) demonstrated limited exposure to structured media literacy or critical thinking instruction. Variability in curriculum quality and digital education leaves many students unable to assess source credibility, detect bias, or question the accuracy of online content.
- Cultural context: Approximately 99 students (55%) were influenced by traditional authority structures, where information from elders, teachers, or community figures is often accepted without question. This deference can reduce scepticism toward misinformation, especially when it aligns with cultural norms or is delivered

7.4.10 Impact on Beliefs and Attitudes - psychological and behavioural consequences.

- Anxiety disorders: increased rates of social anxiety
- Decision paralysis: overwhelm from conflicting information
- Reality distortion: difficulty distinguishing fact from fiction
- Social isolation: withdrawal from offline interactions

To address the growing vulnerability of school children to misinformation, a combination of educational, social, and technological interventions is essential. Among the 180 students surveyed, approximately 75% (135 students) demonstrated limited critical evaluation skills, underscoring the

urgent need to integrate structured digital literacy programs into school curricula. Embedding media literacy into formal education can enhance students' ability to assess sources, verify facts, and navigate digital platforms responsibly.

In addition, peer-led education models have shown strong potential. With 70% (126 students) reporting that their online behaviour is influenced by friends, initiatives such as student ambassador programs and digital safety clubs can foster a culture of responsible sharing. These youth-driven efforts help normalize fact-checking and empower adolescents to become proactive digital citizens within their peer networks.

8. Discussion and Conclusion

The phenomenon of suboptimal eminence of online information presents a significant concern for Indian adolescents, who are immersed in a highly dynamic and unregulated digital environment. With India ranking as the highest-risk nation for misinformation (WEF, 2024), and social media usage rising by over 5% since 2024, young users are increasingly exposed to content that lacks accuracy, emotional neutrality, and source integrity.

Findings from this study underscore that:

- Adolescents frequently encounter misleading or unreliable digital content, with over 66% perceiving online information as poor or average in quality.
- Despite high engagement on platforms like YouTube and Instagram, the impact of usage time on mental health and academic performance was inconclusive, suggesting that *behavioural patterns* (like passive scrolling or social comparison) may play a larger role than duration alone.
- Institutional and educational interventions such as school type or general curriculum exposure did not show statistically significant effects on digital behaviour, indicating a need for more *personalized, skill-based education strategies*.
- Cognitive and emotional vulnerabilities—including peer influence, emotional resonance, and low verification habits—were major predictors of misinformation susceptibility.
- The sustainability of intervention strategies depends not only on delivery mechanisms but also on scalability, cultural alignment, and long-term institutional support.

Ultimately, the study reveals that while technological fluency among adolescents is high, critical literacy remains weak. Emotional, social, and infrastructural factors must be addressed in tandem to meaningfully reduce digital harm.

The phenomenon of suboptimal eminence of online information presents significant challenges for young Indian adolescents navigating social media platforms. With India ranking highest globally for misinformation risk and experiencing continued growth in social media usage, urgent action is required from all stakeholders. The findings indicate that young Indian users lack adequate digital literacy skills, are highly susceptible to misinformation, and experience negative psychological and behavioural consequences from exposure to poor-quality online information. However, research demonstrates that targeted interventions can be effective in improving digital literacy and critical thinking skills.

The path forward requires coordinated efforts from educational institutions, parents, policymakers, and technology companies to create a safer, more informed digital environment for young Indians. Success depends on implementing evidence-based interventions, maintaining cultural sensitivity, and adapting to the rapidly evolving digital landscape. The stakes are high – the future of India's democratic discourse, public health decision-making, and social cohesion depends significantly on how well we prepare young citizens to navigate the complex world of online information. Investment in digital literacy today will determine the quality of India's digital citizenship tomorrow.

9. Implications of the Study - Based on the findings, the following intervention strategies are recommended for various stakeholders:

9.1 Educational Institutions

Table 23.0 — Educational Institution Interventions Against Misinformation Among Adolescents

Intervention Type	***Target Age***	***Cost***	***Scalability***	***Effectiveness Rate***	***Time to Impact***	***Sustainability Score***
School-based digital literacy	13–18	Medium	High	78%	3–6 months	8.5/10

Peer education programs	16–18	Low	High	85%	2–4 months	9.2/10
Parent-child workshops	All ages	Medium	Medium	72%	4–8 months	7.8/10
Technology-based solutions	13–18	High	Very high	68%	1 month	Not Provided

9.2 Curriculum Integration and Educator Training should involve Critical Thinking Modules: Age-appropriate lessons on source verification and misinformation detection. Also, Cross-Disciplinary Integration: Embedding media literacy within core subjects. The Teacher Capacity Building: Ongoing professional training, access to tools, and peer collaboration systems

Parental Engagement- Community Workshops: Local-language, culturally relevant training. Parent Support Groups- Peer-led discussions on tech monitoring and positive modelling. Practical Tactics like encouraging open dialogue, using monitoring tools, and demonstrating responsible tech behaviour. Policy and Infrastructure Development- should be mandates. There is need for digital literacy education at school level. Platform Accountability, content moderation guidelines and transparency requirements. Digital Access Equity should be based on public-private partnerships to improve internet access and device availability.

10. Limitations and future research- scope constraints: focus on data restricted to Bengaluru, temporal factors: rapidly changing digital landscape, cultural diversity: India's linguistic and regional variations, access barriers: digital divide affecting comprehensive analysis

Future research directions- longitudinal studies: long-term impact assessment of interventions. Regional analysis: state and language-specific research, technology integration: ai and machine learning applications, comparative studies: cross-cultural effectiveness evaluation

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