

Predicting Mental Health Risks Through Social Media Usage Patterns: A Data-Driven Study of Youth in Odisha

Manoj Kumar Senapati¹, Swagatika Khilar², Subhashree Rath³, Sambeet Sworup Sahoo⁴, Chandrasnata Barik⁵, and Nibedita Dhal⁶

¹ Research Scholar, Department of Psychology, KIIT School of Liberal Studies, KIIT Deemed to be University, Bhubaneswar, Odisha, India, Email: mitumanoj2013@gmail.com | ORCID: 0009-0009-8405-1449

² Research Scholar, Department of Psychology, KIIT School of Liberal Studies, KIIT Deemed to be University, Bhubaneswar, Odisha, India, Email: skhilar6@gmail.com | ORCID: 0009-0002-7361-9288

³ Research Scholar, KIIT School of Liberal Studies, KIIT Deemed to be University, Bhubaneswar, Odisha, India, Email: subhashreerrath@gmail.com | ORCID: 0009-0004-5485-1510

⁴ Research Scholar, Department of Psychology, KIIT School of Liberal Studies, KIIT Deemed to be University, Bhubaneswar, Odisha, India, Email: sambeetsworupsahoo@gmail.com | ORCID: 0009-0006-4917-3641

⁵ Student, Department of Psychology, Ravenshaw University, Cuttack, Odisha, India, Email: chandrasnata.psy@gmail.com | ORCID: 0009-0008-9823-1910

⁶ Research Scholar, KIIT School of Economics & Commerce, KIIT Deemed to be University, Bhubaneswar, Odisha, India, Email: dhalnibedita358@gmail.com | ORCID: 0009-0007-1446-2854

Abstract

The growing popularity of social media among teenagers and young adults has sparked discussions regarding the link between social media and psychological wellbeing and mental illness risk. Social media usage, however, is multi-faceted and spending time online cannot be the only factor that defines psychological outcomes. The proposed research presents a data-based predictive framework for identifying mental health risks among young people from Odisha through social media usage in addition to psychosocial, behavioral and demographic variables. Such variables include frequency of use, time spent online, problem usage, dependence, nighttime use, cyberbullying/victimization, social support, sleep quality, parental control, academic performance, lifestyle and demographics. The specific Odishan data includes a study of 120 undergraduate students at Bhubaneswar whose high social media usage was associated with greater psychological wellbeing and perceived social support compared to low usage subjects. Therefore, high social media usage should not be the sole predictor of mental illness risk. Methods of statistics and machine learning can find the predictors and classify individuals as having mental risks.

Keywords: Social media use; mental-health risk; adolescents; youth; Odisha; problematic internet use; psychological well-being; cyber-victimization; machine learning; predictive modeling.

1. Introduction

The increasing penetration of social media has changed how adolescents and younger generations interact, get information, form relationships, and engage with society. Although social media facilitates social interaction, peer support, entertainment, and learning, its overuse or misuse has been linked to depressive symptoms, psychological distress, problems with sleep, problematic internet use, and poor well-being (Fredrick et al., 2022; Joseph et al., 2022; Liu et al., 2022). However, the connection is not necessarily one-sided since social media may both provide support and pose a risk of cybervictimization, social comparison, dependency, and disruption of daily routines. Fredrick et al. (2022) noted the importance of cybervictimization and friend support in terms of their links to depressive symptoms, while studies among adolescents from India have noted the significance of problematic internet use (Joseph et al., 2022; Sahoo et al., 2024).

This is particularly relevant in the context of India, where rising use of the internet and smartphones has increased exposure of youth to the digital world. A study conducted in Bhubaneswar showed the relationship between internet addiction and anxiety and sleep quality issues in college students, and there were other studies that have studied internet addiction and other problems associated with it (Kumar et al., 2022; Mishra et al., 2024). Other research works conducted in Odisha have considered aspects like social media use, psychological well-being, social networking addiction, and lifestyle (Sahoo et al., 2024; Behera et al., 2025; Mallick & Sahoo, 2025). Thus, this current study tries to investigate whether the combination of social media usage factors such as frequency, time, problematic or addictive use, online experience, and behavioral factors can predict youth at risk of mental health issues in Odisha.

1.1 Background

The use of social media has become part and parcel of the lives of teenagers and young adults and is responsible for their psychological, behavioral, and social effects. Spending more time on social media has been associated with a higher risk of depression among adolescents (Liu et al., 2022). However, the time spent alone does not determine whether there is problematic use or not since it could depend on issues such as dependence, motivations, experiences, and patterns of use. Problematic internet use, nomophobia, and internet addiction have been found to be some of the biggest problems for Indian youth (Joseph et al., 2022; Mohapatra et al., 2023; Mishra et al., 2024). There is some research from Odisha regarding the use of social media, psychological well-being, dependence in social networking, and academic performance among adolescents and students (Sahoo et al., 2024; Behera et al., 2025). There may also be a bidirectional relationship between the two

phenomena (Maurya et al., 2024). Other factors that may affect this relationship include cybervictimization, friend support, and parental regulations (Fredrick et al., 2022; Tamarana et al., 2025). On the other hand, the use of social media may promote mental health literacy and education.

1.2 Need of Research

The step forward requires going beyond single indicators like screen time and identifying multivariate social media patterns that are related to mental health risk. Research has already established the linkages between unhealthy digital behavior and mental health indicators, although the connection might differ based on the population studied (Joseph et al., 2022; Liu et al., 2022). Evidence for Odisha region is missing in order to build the predictive framework (Sahoo et al., 2024). Data-based analysis will enable the integration of factors like social media frequency and duration, problematic use, cybervictimization, sleep behavior, social support, and psychological well-being in order to determine risky combinations (Behera et al., 2025; Mallick & Sahoo, 2025). Considering that social media usage and well-being might influence each other, the prediction will have to be considered as screening rather than the causation (Maurya et al., 2024).

1.3 Motivation

The current project seeks to address psychological consequences of excessive digital activity among young people, which can include depression, anxiety, difficulties with sleep, cyberbullying, and poor well-being (Fredrick et al., 2022; Joseph et al., 2022; Kumar et al., 2022; Liu et al., 2022). This project also seeks to produce evidence specific to the population of youth in Odisha, following existing regional literature (Sahoo et al., 2024; Behera et al., 2025). In addition, the identification of behavioral factor combinations that indicate high risks may help to develop early screening programs and preventive interventions from schools and colleges, families, and healthcare professionals. Nevertheless, the suggested model is expected to assist in early risk detection but not replace professional mental health assessment. As social media use can have both negative and positive consequences, which include improving mental health literacy, the study takes into account the risky and protective factors of digital activity (Hassen et al., 2022).

1.4 Challenges

- **Complexity of social media use:** Duration, frequency, purpose, and dependency make usage difficult to measure with one indicator.
- **Bidirectional effects:** Social media use and mental health may influence each other, limiting causal conclusions (Maurya et al., 2024).
- **Self-reported data:** Recall bias and social desirability may affect reported usage and symptoms.
- **Youth differences:** Age, gender, family, education, and social support can influence outcomes.
- **Measurement issues:** Problematic use and dependency require validated assessment tools (Mohapatra et al., 2023; Mishra et al., 2024).
- **Ethical and prediction concerns:** Privacy, consent, confidentiality, and avoiding stigma are essential; predictive models should not be treated as clinical diagnoses.

1.5 Influencing Factors

Mental health risks associated with social media use may be influenced by several interconnected factors:

- **Social media use:** Excessive or problematic use may increase depression, psychological difficulties, and sleep problems (Liu et al., 2022; Joseph et al., 2022; Kumar et al., 2022).
- **Cyber-victimization:** Negative online experiences may contribute to psychological distress and depression, influenced by peer and family support (Fredrick et al., 2022; Tamarana et al., 2025).
- **Well-being and lifestyle:** Social media use may affect psychological well-being, academic performance, and overall quality of life (Maurya et al., 2024; Behera et al., 2025; Mallick & Sahoo, 2025).
- **Positive use:** Social media can also promote mental-health literacy and preventive support (Hassen et al., 2022).

1.6 Conventional Methodologies

The existing research on the impact of social media on mental health is primarily based on cross-sectional survey-based, correlational, systematic review, and prevalence-based methods to establish relationships and estimate problematic use or psychosocial problems. For instance, Joseph et al. (2022) provided a synthesis of the problem of problematic internet use among Indian adolescents, while Liu et al. (2022) studied the relationship between social media usage time and risks for depression in a dose-response meta-analysis. Regional studies have also addressed the issue of social media use among adolescents in Odisha and associated technology-related problems like nomophobia and internet addiction (Sahoo et al., 2024; Mohapatra et al., 2023; Mishra et al., 2024).

Although these methods are efficient in providing evidence, they might be insufficient to detect complex combinations of behavioral factors related to risks for mental health. Therefore, the suggested study utilizes a

data-driven approach taking into account social media usage as a multi-dimensional data set and incorporating such approaches as descriptive, association, feature and statistical or machine learning-based classification methods. The generated model will be tested on certain performance indicators and interpreted as a screening method.

2. Literature Review

In recent years, the interaction between social media use, problem internet usage, and adolescent mental health has attracted more interest from researchers. The research proves that social engagement can lead to various effects, depending on the intensity, aim, context, and quality of social interactions that occur on the Internet. The research proves that mental health outcomes are not determined by social media use only; rather, they result from the interaction between online behavior, social network, psychological vulnerability, and other aspects of people's life styles.

Fredrick et al. (2022) researched the influence of adolescent social media use on cyber victimization, friends' support, and depression. This research demonstrates the necessity of taking into consideration social context of digital engagement instead of defining social media use based on the duration of it. In this respect, cyber victimization can be defined as a negative experience, and friends' support – as a positive one. It is crucial in terms of the present study since predicting analysis must include both risk and protective features of social media experiences.

Hassen et al. (2022) have explored the effectiveness and implementation outcomes of the mental health curriculum intervention using social media, intended at improving mental health literacy among adolescents. These results show that social media cannot be considered solely as a medium carrying psychological risks. Social media can be used for the delivery of health and mental health awareness education. As a result, the current study perceives social media as a multidimensional platform, where the effects of its usage depend on the ways and reasons for young people to be engaged in the digital world.

Joseph et al. (2022) performed a systematic review and meta-analysis about problematic internet use among school-going adolescents in India. This study proves the importance of problematic internet use as an adolescent health problem in India. These results justify exploring problematic or dependency-like behavior of using digital platforms as a potential predictor of psychological problems rather than the mere exposure to the Internet.

Kumar et al. (2022) explored the effects of internet addiction during COVID-19 on anxiety and sleep quality of college students in Bhubaneswar. The regional relevance of the Kumar et al. (2022) study is especially significant for Odisha-oriented research. The study highlights the relationship between problematic digital behavior and anxiety and sleep outcomes, indicating that digital behavior might have a connection with various dimensions of well-being.

Liu et al. (2022) carried out a dose-response meta-analysis of time spent on social media and the risk of depression among adolescents. The results of the research confirm that the level of time spent on social media is an essential variable when analyzing mental health risks of adolescents. Nevertheless, the dose-response approach underscores the significance of considering the intensity of exposure to social media rather than viewing it as a dichotomous construct.

Mohapatra et al. (2023) conducted a study on the validity, reliability, and prevalence of nomophobia among undergraduate dental students of Bhubaneswar. It highlights the importance of dependency-related concepts related to technology in a student population in Odisha. Nomophobia represents another behavioral dimension that can be used along with social-media and internet usage dimensions for assessing multidimensional risks.

Gupta et al. (2024) have studied mental health problems and changes in lifestyles related to the COVID-19 pandemic in adolescents in selected schools of Eastern India. This study highlights the importance of adolescent mental health in relation to broader aspects of lifestyle and environment.

Maurya et al. (2024) assessed the bidirectional and cross-lagged association between social media use and psychological well-being in the case of adolescents from India. The paper is especially pertinent to the current research because it shows that the relationship may be bi-directional. Adolescents with lower levels of psychological well-being may adjust their social media practices, and those practices can in turn influence their psychological well-being. This means that predictions of the association between the variables must not be regarded as proofs of causation.

The work of Mishra et al. (2024) addresses the prevalence and effects of internet addiction disorder in adolescents and young adults. Their results confirm the significance of problem behavior online for younger cohorts. It also lends credence to the idea that internet-dependence measures can be included in the predictive research framework dealing with mental health vulnerabilities.

The study by Sahoo et al. (2024) focuses on the influence of social media on psychological well-being of adolescents of Odisha. It can be considered the direct regional evidence of the current research. The relevance of studying the interconnection between social media usage and psychological well-being among the adolescents of Odisha is indicated, as opposed to using results of studies of other geographic areas only.

In their paper, Samanta et al. (2024) discuss mindfulness as an approach to address internet addiction among adolescents. Behavioral and psychological interventions can be useful in dealing with the problem. From the point of view of the predictive approach, it is useful to know the potentially dangerous patterns that can then be addressed.

Influence of social networking usage on mental health of tribal adolescents (2024) is another study that makes a valuable contribution to the current literature in that the study looks at the effects on a particular demographic group of adolescents. It is very appropriate for Odisha due to its socially diverse youth population. Evidence from this study implies that social networking and mental health associations should be studied taking into account different demographic characteristics of the population.

Behera et al. (2025) researched the issue of social networking site dependence and performance at school among higher-secondary students in Odisha. Thus, it becomes evident that not only psychological but also educational consequences of inappropriate use of social networking should be taken into account in future studies.

Mallick and Sahoo (2025) examined health promoting and health abusing lifestyle behaviors and quality of life among urban community-dwelling youth aged 19–25 years in Balasore district of Odisha. The study highlights the importance of the aspect of lifestyle behavior for youth health issues. The social networking use should thus be viewed in the context of broader behavioral profile that includes such aspects as sleep, physical activity and lifestyle in general.

The study by Patel et al. (2025) qualitatively explored social media and student well-being in class 12. It is beneficial to adopt the qualitative paradigm since quantitative measures of social media use may not fully explain the learners' perceptions and interpretations regarding the use of digital media. It validates the importance of including both measurement of usage parameters and contextual aspects of well-being in students.

Similarly, Roy et al. (2025) developed a mind-map-based strategy to enhance adolescent behavior concerning mental health and substance use in rural Odisha using a quasi-experimental community-based study design. While it is not specifically focused on social media use, it shows the importance of conducting a community-based mental health promotion exercise for adolescents in Odisha. It is consistent with the preventive orientation of the present study.

Sonalika et al. (2025) looked at digital detoxification and intervention for adolescents. It is relevant to the proposed study since identification of problem patterns can lead to considerations of behavioral interventions to limit the adverse engagement in digital activities.

Lastly, Tamarana et al. (2025) studied cyber victimization, parental rules and adolescents' mental well-being in India. It is relevant to the proposed study since it demonstrates the importance of family regulation and experience of cyber world in influencing mental well-being of adolescents.

The literature reviews have revealed a number of important findings from the research done on the problem. First, excessive and problematic digital engagement is linked to issues related to psychology and behavior in adolescents and young people. Second, the link between social media and psychological well-being is complex and includes both negative and positive links. Third, social support, cyber victimization, parenting rules, lifestyle behavior, sleep and academic performance can play a role in digital engagement. Fourth, the Odisha-specific literature reviews can offer interesting local evidence but need to be extended into a model. Fifth, the reciprocal connection between the use of social media and psychological well-being suggests that predictions should be carefully interpreted.

Table 1: Literature Review

S. No.	Author(s)	Year	Title / Focus	Methodology / Contribution	Relevance / Limitation
1	Fredrick, Nickerson, & Livingston	2022	Adolescent social media use, cybervictimization, friend support, and depressive symptoms	Examines relationships among social media experiences and adolescent psychological outcomes	Highlights both risk and protective social factors

2	Hassen et al.	2022	Social-media-based mental-health curriculum intervention	Intervention and implementation-outcome research	Demonstrates constructive use of social media for mental-health literacy
3	Joseph et al.	2022	Problematic internet use among school-going adolescents in India	Systematic review and meta-analysis	Establishes problematic internet use as an important Indian adolescent health concern
4	Kumar et al.	2022	Internet addiction, anxiety, and sleep quality among college students in Bhubaneswar	Empirical study of college students	Provides direct Odisha/Bhubaneswar evidence linking problematic internet use with anxiety and sleep
5	Liu et al.	2022	Social-media time and depression risk	Dose-response meta-analysis	Supports consideration of intensity/duration of social media exposure
6	Mohapatra et al.	2023	Nomophobia among undergraduate dental students in Bhubaneswar	Validity, reliability, and prevalence study	Provides evidence concerning technology-related dependency in Odisha
7	Gupta et al.	2024	Mental health and lifestyle changes among adolescents in Eastern India	Cross-sectional study	Demonstrates the importance of broader lifestyle context
8	Maurya et al.	2024	Social media use and psychological well-being	Indian adolescent cohort; bidirectional/cross-lag analysis	Indicates that the relationship may be bidirectional rather than simply causal
9	Mishra et al.	2024	Internet addiction disorder among adolescents and young adults	Prevalence and impact study	Supports inclusion of problematic internet use as a risk indicator
10	Sahoo, Mishra, & Das	2024	Social media and psychological well-being among adolescents of Odisha	Cross-sectional study	Provides direct regional evidence relevant to the proposed study
11	Samanta et al.	2024	Mindfulness and freedom from internet addiction	Narrative review	Identifies potential behavioral/intervention pathways
12	Influence of social networking usage on mental health of tribal adolescents	2024	Social networking and mental health among tribal adolescents	Population-focused study	Adds sociocultural and population-specific relevance
13	Behera et al.	2025	Social networking-site dependence and academic performance in Odisha	Study among higher-secondary students	Connects problematic social networking with educational outcomes
14	Mallick & Sahoo	2025	Lifestyle behaviors and health-related quality of life among Odisha youth	Community-based youth health study	Supports inclusion of lifestyle and contextual variables

15	Patel, Barik, & Khamari	2025	Social media and student well-being	Qualitative investigation among Class 12 learners	Adds contextual understanding of students' digital experiences
16	Roy, Mishra, & Singh	2025	Mental-health and substance-abuse behavior intervention in rural Odisha	Community-based quasi-experimental design	Demonstrates relevance of preventive adolescent mental-health approaches
17	Sonalika, Williams, & Kumar	2025	Digital detoxification and adolescent interventions	Intervention-focused study	Relevant to prevention and management of problematic digital engagement
18	Tamarana et al.	2025	Cyber-victimization, parental rules, and adolescent mental health	Empirical study among Indian adolescents	Highlights cyber-environment and family-level factors

2.1 Research Gap

The above literature review shows that significant research has been done regarding the issues of social media usage, problematic internet behavior, cyber victimization, psychological well-being, and mental health of adolescents. However, some gaps persist.

First, while many pieces of literature cover individual relationships, like the relationship between social media usage and depression, problematic internet use and psychological conditions, or cyber victimization and mental health, few of them consider integrating different dimensions of digital behavior into a unified predictive model. Second, even though the studies related to Odisha have covered social media usage and psychological well-being among adolescents, social networking dependence among students, technology dependence among students of Bhubaneswar, and general youth health behavior, still there is scope for conducting research in order to connect these aspects in one study (Kumar et al., 2022; Mohapatra et al., 2023; Sahoo et al., 2024; Behera et al., 2025; Mallick & Sahoo, 2025).

Third, while existing evidence covers mostly the issue of associations, relatively little consideration is given to developing predictive models capable of identifying the combination of behavioral indicators associated with higher risks for mental well-being.

Fourth, bidirectionality of the relationship observed by Maurya et al. (2024) shows that social media usage and psychological well-being may affect each other, making the need for careful analysis of predictive relationships methodologically relevant and making simplistic conclusions about the cause-and-effect relationship between social media usage and mental health problems irrelevant.

In the light of the above, the proposed study aims to develop a predictive data-driven model that will allow assessing the potential mental health risks of social media usage among adolescents in Odisha.

3. Problem Statement

The quick rise of social media in the lives of adolescents and young adults has resulted in a nuanced association between digital activity and mental health. The use of social media is linked to communication, peer communication, information access, social support, and mental-health education. However, excessive use of the internet may be related to depression, anxiety, sleeping disorders, cyber-victimization, psychological distress, and poor psychological well-being (Fredrick et al., 2022; Kumar et al., 2022; Liu et al., 2022). Daily screen time is an insufficient measurement of social media usage and should not be used as such since different youth are characterized by distinct patterns of activity on social media platforms. Meanwhile, problematic internet usage and technology dependency are additional factors that should be considered in order to understand youth's digital activity (Joseph et al., 2022; Mohapatra et al., 2023; Mishra et al., 2024). There are studies conducted in Odisha that consider social media usage, psychological well-being, internet addiction, nomophobia, social networking dependence, academic achievement, and youth's health-related behaviors, yet the body of research is still fragmented (Kumar et al., 2022; Mohapatra et al., 2023; Sahoo et al., 2024; Behera et al., 2025; Mallick & Sahoo, 2025). The link between the two variables may be bidirectional – psychological well-being can affect social media use while the latter in its turn affects psychological well-being (Maurya et al., 2024). Moreover, cyber-victimization, family-related factors, parental supervision, and social support can influence youth's mental-health outcomes (Fredrick et al., 2022; Tamarana et al., 2025). Thus, the aim of this study is to assess whether social media usage and relevant factors can be used to identify at-risk youth in Odisha.

3.1 Research Questions

1. What are the predominant social media usage patterns among youth in Odisha, and how are they associated with mental-health risk?
2. Do problematic social media use, cyber-victimization, social support, and sleep-related behaviors improve the identification of mental-health risk beyond usage duration alone?
3. Can social media and behavioral variables be combined into a data-driven model to identify youth at relatively higher mental-health risk without implying clinical diagnosis?

3.2 Research Objectives

1. **To examine** social media usage patterns and their relationship with mental-health risk among youth in Odisha.
2. **To assess** the contribution of problematic use, cyber-victimization, social support, sleep-related behavior, and other relevant factors to mental-health risk.
3. **To develop and evaluate** an interpretable statistical or machine-learning framework for identifying youth with relatively higher mental-health risk.

3.3 Research Hypotheses

Based on the reviewed literature, the following hypotheses may be tested empirically:

H1: Higher social media usage intensity is significantly associated with increased mental-health risk among youth in Odisha.

H2: Problematic or dependency-like social media/internet use is significantly associated with elevated mental-health risk.

H3: Cyber-victimization is positively associated with mental-health risk among youth.

H4: Sleep-related disruption associated with intensive digital use is positively associated with mental-health risk.

H5: Higher levels of perceived social support are associated with lower mental-health risk.

H6: A multidimensional model combining social media usage patterns and contextual variables provides better prediction of mental-health risk than social media duration alone.

H7: Social media usage patterns remain useful predictors of mental-health risk after accounting for relevant demographic and behavioral characteristics.

These hypotheses are derived from the existing literature but require empirical testing using the study's own dataset. In particular, the proposed hypotheses should not be interpreted as established causal relationships. The bidirectional relationship between social media use and psychological well-being identified by Maurya et al. (2024) requires that associations be interpreted cautiously.

3.4 Conceptual Problem Framework

The problem can be represented through three broad components:

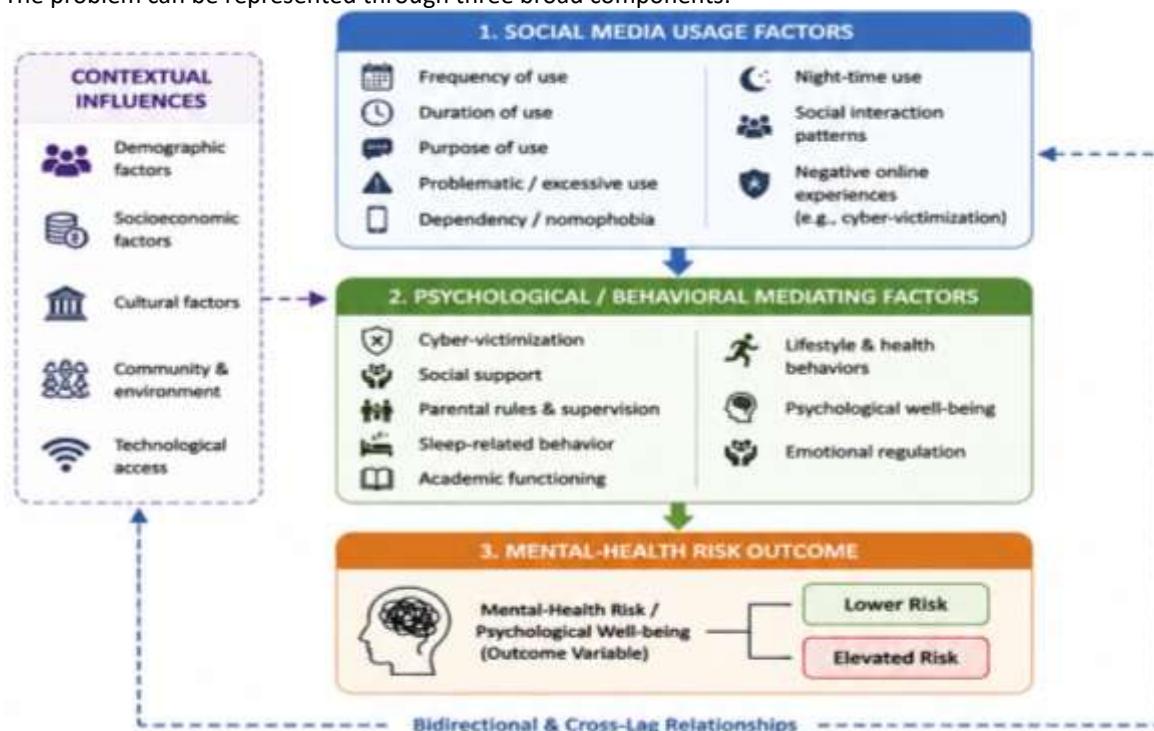


Figure 1. Conceptual Framework for Mental-Health Risk Associated with Social Media Usage Patterns among Youth in Odisha

Social Media Usage Factors → Psychological/Behavioral Mediating Factors → Mental-Health Risk

First component includes digitally used characteristics which are measurable such as frequency and duration of social media use, problematic and dependent behavior.

Second component includes factors which could affect the connection between the digital engagement and psychological outcome such as cyber-victimization, social support, sleep-related behavior, family level regulation, and lifestyle characteristics.

Third component is the psychological well-being or risk classification which is the outcome used in this study. Based on the finalized research instrument and dataset, psychological well-being measure will be used.

This theoretical framework aligns with the literature which states that the digital behavior of youth takes place in a broader social and behavioral context (Fredrick et al., 2022; Maurya et al., 2024; Tamarana et al., 2025). Moreover, this framework enables the investigation to assess if multiple indicators together have greater predictive power than the separate measures.

3.5 Scope of the Problem

The scope of the problem concerns the investigation of the youth in Odisha in terms of the link between social media usage and the risk of mental health problems. Usage intensity, frequency and duration of social media use, problematic and dependent behavior, cyber-victimization, social support, sleep and lifestyle factors, demographics and psychological well-being will be taken into consideration to identify patterns which could lead to mental health risks in statistical or machine learning methods. This study does not aim to prove causality between social media use and depression or anxiety or any other psychiatric disorder but tries to investigate the behavioral patterns which could enable early detection of risk.

4. Proposed Work

The suggested research project seeks to establish a model of predicting mental-health risk in youth in Odisha based on social media usage patterns in conjunction with relevant behavioral, psychosocial, and contextual factors. Instead of measuring just one aspect of social media exposure, the project seeks to consider a number of dimensions, such as frequency of use, duration of use, purpose of use, problematic use, behavior associated with dependency, nighttime use, and negative experience online. The rationale for such approach is that identical level of social media exposure can have different psychological consequences depending on the way and purpose of digital engagement. Problematic use and dependency-related factors will be used based on the existing literature on problematic internet use, internet addiction, and nomophobia in young populations (Joseph et al., 2022; Mohapatra et al., 2023; Mishra et al., 2024).

4.1 Identification of Social Media Usage Patterns

Firstly, major characteristics of digital engagement among the selected group of youth in Odisha will be measured, including the frequency and duration of use, usage intensity, purpose of engagement, problematic or dependency-related behavior, nighttime use, interactive versus passive engagement, and negative experience online (cyber-victimization, harassment). In other words, several factors will form a multidimensional profile of digital behavior rather than being reduced to daily screen time.

4.2 Assessment of Mental-Health Risk

Secondly, mental health outcomes will be measured with a valid instrument depending on the target population and design of the study. The outcome may be quantified as a continuous psychological well-being/risk score or classified into relatively lower-risk and elevated-risk groups depending on the measurement approach. It is critical to note that in this case, mental health risk is separate from the clinical diagnosis. Elevated risk prediction will mean statistical resemblance to the pattern of poorer mental health outcomes in the selected population but will not mean a psychiatric diagnosis. The difference is important as social media usage and psychological well-being have bidirectional relationship (Maurya et al., 2024).

4.3 Integration of Behavioral and Contextual Factors

In order to make the prediction framework more comprehensive, social media factors will be combined with demographic, psychosocial, and behavioral characteristics. Such characteristics may include, but are not limited to, age, gender, education, geographic context, parental control, perceived social support, cyber-victimization, sleep behavior, academic functioning, and lifestyle factors. Previous studies have shown that such variables as cyber-victimization, social support, parental rules, sleep, academic functioning, and lifestyle factors can affect youth wellbeing (Fredrick et al., 2022; Kumar et al., 2022; Behera et al., 2025; Mallick & Sahoo, 2025; Tamarana et al., 2025). This will allow avoiding oversimplification of mental health risk based on only one factor – time spent online.

4.4 Data Analysis and Feature Selection

After gathering the data, exploratory data analysis will be done to investigate the distribution and properties of variables. It will be used such tools as descriptive statistics, frequency distribution, comparisons between groups, association analysis, checking of missing data, checking of multicollinearity to understand the data and identify possible data quality problems. Then, predictors will be selected based on their relevance and predictive power. Possible candidate features may include social media frequency and duration, problematic and dependence aspects of usage, nighttime usage, cyber-victimization, social support, parental regulations, sleep, academic functioning, lifestyle, and demographics.

4.5 Development of the Predictive Model

The key part of the proposed study is the development of the predictive framework for identification of the risk of developing mental health problems. In case of a binary classification task, such approaches as logistic regression, decision tree-based models, random forest, support vector machines and other machine learning approaches can be considered as a good fit. However, the final choice of the method will be made depending on the characteristics of the dataset rather than predetermined.

The conceptual predictive structure can be represented as:

Demographic Factors + Social Media Usage Patterns + Psychosocial and Behavioral Factors → Mental-Health Risk Prediction

The study will prioritize interpretability alongside predictive performance to identify which characteristics contribute most strongly to elevated risk.

4.6 Model Evaluation

The performance of the proposed model will be evaluated through appropriate measures such as accuracy, precision, recall/sensitivity, specificity, F1-score, AUC-ROC, confusion matrix, and calibration measures wherever applicable. An appropriate validation process, such as train-test partitioning or cross-validation, will be employed depending on the availability of the data to minimize the chances of overfitting. Specific focus will be placed on sensitivity/recall due to the intended application being early risk detection, and missing potential risk takers is critical in such a screening framework.

4.7 Interpretation of Predictive Factors

In the final analysis of this project, there will be an examination of the variables that contribute significantly to mental health risk prediction. In case problematic use or dependency-related use contributes more predictive information than daily usage duration, it could mean that the quality and control of digital engagement are more meaningful than just exposure duration. Also, contribution from cyber-victimization would signify that experience of people online has value for predictive purposes. If there is an inverse relationship between social support and risk level, it would suggest that the former is protective (Fredrick et al., 2022). All these will be considered to mean statistical associations and predictive relationships but not causations.

4.8 Proposed Predictive Framework

The proposed framework involves four interrelated layers. The first layer involves demographic or contextual features such as age, gender, education, among others. The second layer involves the features related to usage of social media, namely frequency, duration, purpose, problematic use, dependency, night-time use, and engagement characteristics. The third layer involves psychosocial/behavioral factors like cyber-victimization, social support, parental regulation, sleep, academic functioning, and lifestyle characteristics. From the above layers, the data-driven predictive model will give a mental-health-risk score or a relative lower/elevated risk category.

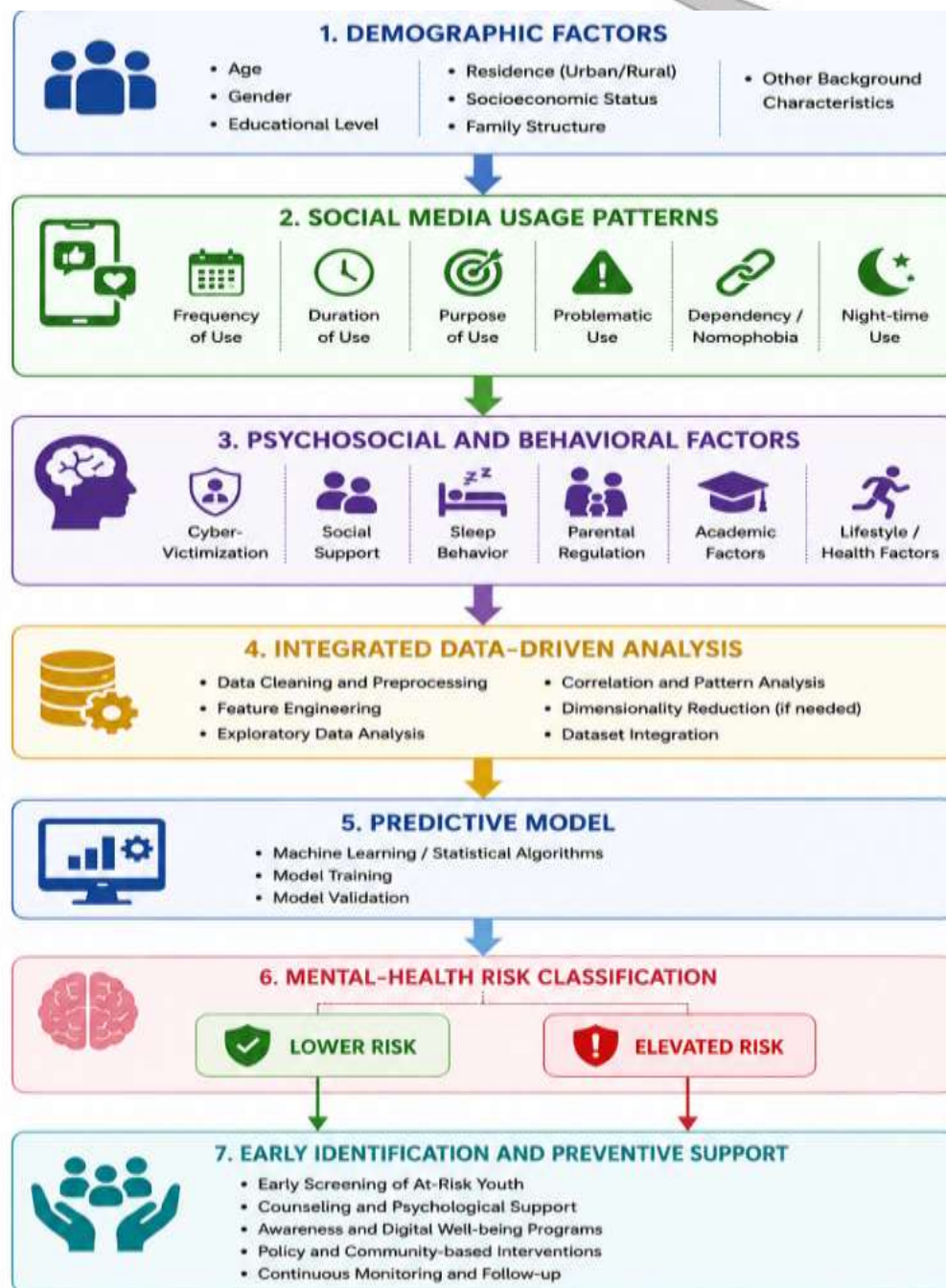


Figure 2. Proposed Data-Driven Predictive Framework for Mental-Health Risk Assessment among Youth in Odisha

The framework under consideration combines demographic variables, social media usage characteristics, psychosocial and behavioral factors, data analytics, predictive modeling, and mental-health risk classification. The overall workflow of the proposed framework is described in Figure 2.

4.9 Ethical and Interpretive Issues

Given the fact that the study deals with mental-health risk among young individuals, ethical standards will be ensured throughout the process of data collection and data analysis. Such standards will include informed consent or assent and parental consent where necessary, confidentiality, data security, and prevention of stigma. Moreover, the predictive model will not be used to categorize individuals as mentally ill or substitute clinical assessment. Furthermore, social media use will not be considered potentially dangerous since digital platforms can contribute to mental-health literacy and health communication (Hassen et al., 2022). The proposed framework is therefore meant to serve as a research-based tool for early detection of mental-health risks, but not as an automated tool for clinical decision making.

5. Results and Discussion

5.1 Data and Empirical Evidence

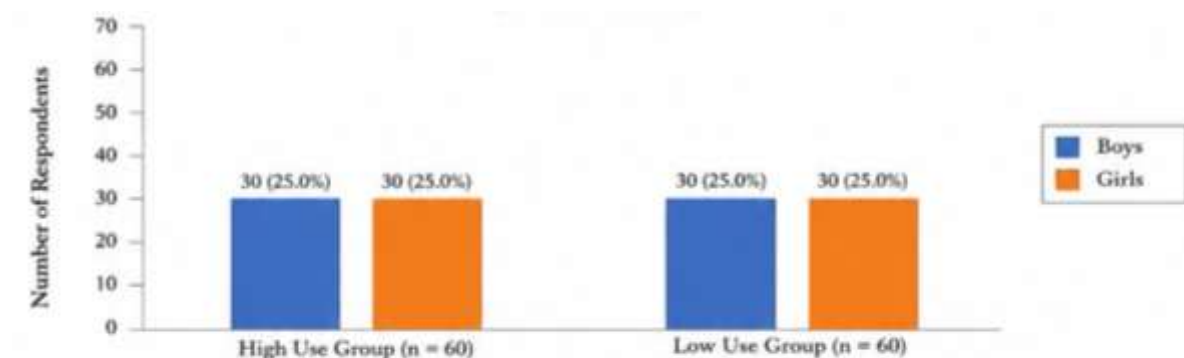
The present research proposes a data-driven approach to mental-health risk prediction among youth in Odisha based on their social media usage characteristics. Since no primary data for the development of the predictive model have been obtained yet, the empirical findings presented in this section are taken from the Odisha-specific literature and will be used as an evidence-based benchmark for the proposed framework. No fabricated respondent-level data, predictive coefficients, and machine-learning indicators are used in the present discussion.

The most relevant empirical evidence can be found in the work of Sahoo et al. (2024), which investigates the relationship between social media use and psychological well-being of 120 undergraduate students aged 17–19 years from colleges in Bhubaneswar, Odisha. The study was based on a 2 x 2 factorial design, which included social media use (high or low) and gender (boys or girls). There were 60 individuals in each of the two groups divided by social media use; half of them were boys, and the other half were girls.

The study is particularly valuable for the present research because it presents Odisha-specific empirical findings rather than findings obtained elsewhere.

Table 2: Empirical Sample Structure Reported by Sahoo et al. (2024)

Variable	Category	Frequency	Percentage
Social media use	High use	60	50.0%
Social media use	Low use	60	50.0%
Gender	Boys	60	50.0%
Gender	Girls	60	50.0%
Total	All respondents	120	100.0%



Note. Data are based on the sample structure reported by Sahoo et al. (2024). Total N = 120.

Note: The frequencies and percentages are computed directly based on the reported design of Sahoo et al. (2024), which involved 120 students, equally divided into high- and low-use categories as well as equally divided based on gender.

5.2 Social Media Use and Psychological Well-Being

In the case of Odisha, the relation between social media use and psychological well-being does not necessarily adhere to the premise that increased social media use results in poor psychological well-being.

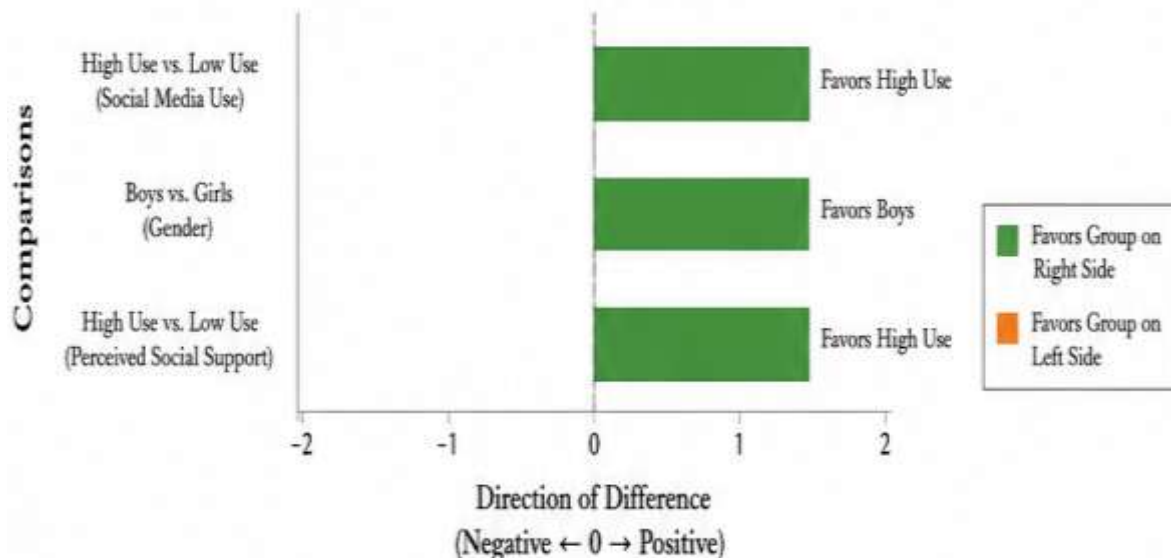
According to Sahoo et al. (2024), the high social media use category exhibited higher mean psychological well-being compared to the low social media use category. It was also observed that boys had higher mean psychological well-being than girls. Moreover, it was found that the high-use category exhibited better social support than the low-use category.

Table 3: Reported Direction of Differences in Psychological Well-Being

Comparison	Reported finding
High social media use vs. low social media use	High-use group reported higher psychological well-being
Boys vs. girls	Boys reported higher psychological well-being

High social media use vs. low social media use	High-use group reported better perceived social support
Overall interpretation	Social media engagement was associated with social support and psychological well-being in this sample

Source: Sahoo et al. (2024).



These results are significant in the sense that they show why the proposed predictive model should not only consider the number of hours used on social networking sites. High usage does not necessarily mean bad mental state. The individuals who were highly exposed to social media had good mental well-being compared to the low-exposed.

It further shows that the hypothesis developed in the current study regarding social media use as a multi-dimensional exposure is correct. The benefits can be from social interaction and friendships, whereas the risk factors could range from problem social media use to cyber victimization and even disrupted sleep.

5.3 Gender Differences

The Odisha study reported gender differences in psychological well-being, with boys showing higher psychological well-being scores than girls in the examined sample.

Table 4: Gender-Based Pattern Reported in the Odisha Study

Gender	Sample size	Relative psychological well-being
Boys	60	Higher than girls in the reported comparison
Girls	60	Lower than boys in the reported comparison
Total	120	—

Thus, the finding reveals that gender may be an important covariate in the model under consideration. Nevertheless, the result should not be generalized to all youth in Odisha without additional representative evidence. In particular, the study took place among 17–19-year-old undergraduate students in Bhubaneswar, meaning that its findings may not be relevant to younger adolescents, older youth, rural population, tribal people, and other districts of Odisha.

The significance of demographic variables is also supported by the longitudinal Indian study of Maurya et al. (2024). This study demonstrated that there were significant associations including age, gender, and education when considering social media use and depressive symptoms among adolescents. Nevertheless, the study used data from Uttar Pradesh and Bihar and thus cannot be considered as the evidence about Odisha specifically.

5.4 Social Support as a Potential Protective Variable

The most valuable finding for the predictive framework under consideration is the association between social media use and perceived social support.

Sahoo et al. (2024) found that participants who were using social media more frequently had better perceived social support than participants who used social media less often.

This finding suggests that social media sometimes may act as a mechanism for relationships maintenance and social isolation reduction, rather than being solely an indicator of mental-health risks. In particular, the authors

interpret frequent social media use as a mechanism for building up the existing friendships and creating new connections.

It is in line with the general literature on the subject matter and reveals that social media may be associated with the risks and benefits for adolescent mental health. Thus, social support can be seen as a potential protective variable in this framework.

5.5 Comparison With Longitudinal Indian Evidence

The results of the findings made in Odisha can be analyzed in the light of the longitudinal evidence presented by Maurya et al. (2024). This longitudinal study was carried out using data from two waves of the UDAYA survey in Uttar Pradesh and Bihar. Depression among participants was measured through the use of Patient Health Questionnaire, while logistic regression and cross-lagged path modeling were employed to investigate connections between social media usage and depressive symptoms.

Maurya et al. (2024) state that moderate depressive symptoms have increased from 1.7% in Wave 1 to 3.0% in Wave 2. Also, there was found a positive correlation between social media usage in Wave 1 and social media usage in Wave 2 ($\beta = 0.22$, $p < .001$). However, according to the authors, cross-lagged relationships between social media usage and depression could not be established during the survey periods.

Table 5: Selected Findings From Maurya et al. (2024)

Indicator	Reported result
Moderate depressive symptoms, Wave 1	1.7%
Moderate depressive symptoms, Wave 2	3.0%
Social media use Wave 1 → Social media use Wave 2	$\beta = 0.22$
Significance of social media longitudinal path	$p < .001$
Cross-lagged social media → depression relationship	Not established
Cross-lagged depression → social media relationship	Not established

Source: Maurya et al. (2024).

The analysis is especially pertinent to the current research since it shows that the presence of a statistical relationship between social media usage and depression is no proof of a longitudinal cause-effect relationship. Thus, the Odisha prediction model must be constructed to determine risk factors without implying that social media usage causes mental illness.

5.6 Arguments in Support of Multidimensional Prediction Model

Literature offers some evidence to justify using multiple social media behavioral and mental-health features.

For instance, problematic internet use has been studied in Indian adolescents via systematic review and meta-analysis (Joseph et al., 2022). Internet addiction has also been studied in relation to anxiety and sleep quality of college students in Bhubaneswar (Kumar et al., 2022). The topic of technology dependence has also been analyzed in terms of nomophobia among undergraduates in Bhubaneswar (Mohapatra et al., 2023).

Thus, a predictive model that would use only total social-media hours as a feature would ignore other behavioral characteristics that might be critical.

The following framework is thus more relevant:

Table 6: Proposed Predictor Groups for the Data-Driven Model

Predictor group	Candidate variables	Expected analytical role
Social media exposure	Daily duration, frequency, night-time use	Exposure/intensity indicators
Problematic use	Loss of control, compulsive use, interference with daily life	Potential risk indicators
Dependency	Internet/social-media dependency, nomophobia-related behavior	Potential risk indicators
Online experience	Cyber-victimization, harassment, negative interactions	Potential psychological risk indicators
Social support	Peer/family support, perceived support	Potential protective factor
Sleep	Sleep disruption, night-time digital use	Behavioral/psychological pathway
Academic functioning	Academic difficulties, concentration problems	Functional outcome/context
Demographic variables	Age, gender, educational level	Covariates

Family context	Parental rules and monitoring	Contextual/protective factor
Lifestyle	Physical activity and health-related behaviors	Potential confounders/contextual variables
Mental-health outcome	Validated psychological well-being/risk measure	Dependent variable

The inclusion of these variables is consistent with the existing literature on social media, cyber-victimization, problematic internet use, psychological well-being, sleep, parental rules, academic functioning, and youth lifestyle behavior (Fredrick et al., 2022; Joseph et al., 2022; Kumar et al., 2022; Maurya et al., 2024; Behera et al., 2025; Mallick & Sahoo, 2025; Tamarana et al., 2025).

5.7 Proposed Statistical Results Framework

For the primary dataset, the following analyses should be conducted before claiming that the proposed model predicts mental-health risk.

Table 7: Statistical Analysis Plan

Analysis	Variables	Purpose
Descriptive statistics	All variables	Describe respondent characteristics
Reliability analysis	Multi-item psychological/behavioral scales	Assess internal consistency
Group comparison	High/low social-media use and risk groups	Identify differences
Correlation analysis	Usage variables and mental-health score	Examine bivariate associations
Logistic regression	Mental-health-risk category and predictors	Estimate adjusted associations
Feature importance	Predictive variables	Identify influential predictors
ROC analysis	Predicted probability vs. observed outcome	Evaluate discrimination
Confusion matrix	Observed vs. predicted risk	Assess classification performance
Cross-validation	Predictive model	Assess model stability/generalizability

The final study should report odds ratios, 95% confidence intervals, standard errors, p-values, model fit statistics, and predictive performance measures where applicable.

5.8 Discussion

However, based on the empirical evidence, the link between social media use and mental well-being is complex in Odisha. First of all, the Odisha-specific study by Sahoo et al. (2024) does not provide any support for the hypothesis that greater social media usage inevitably correlates with poor psychological well-being. Contrary to expectations, the high users had higher psychological well-being and perceived social support than low users.

From the perspective of the proposed predictive model, the conclusion about the importance of social media usage intensity has a key implication. Usage intensity has to be used as a single predictor among others instead of being a sole definition of mental-health risks. It means that a young individual may spend much time on social media because of friendship formation, communication, socializing, or information receiving. In such a case, intensive usage of social media may correlate with good psychological outcomes.

In turn, problematic usage of the website has to be viewed differently because it may be an entirely different behavioral pattern. The evidence concerning problematic internet use among Indian adolescents, internet addiction among the youth, and technology-related dependency among students underlines the importance of measuring the loss of control and dependency (Joseph et al., 2022; Mohapatra et al., 2023; Mishra et al., 2024). Furthermore, the results of the current study highlight the importance of social support. The fact that high users from the Odisha study perceived better social support shows that social media can improve social relationships of certain youth. In this regard, it can be seen that digital platforms can have either negative or positive influence on individuals' psychological well-being.

Still, the evidence from India demonstrates the necessity of caution. For instance, Maurya et al. (2024) revealed strong associations between social media use and depressive symptoms, but could not identify cross-lagged relationships between social media use and depression across survey periods. It means that there is a correlation between the variables, but no direct causality exists.

Thus, the proposed model needs to differentiate between association, prediction, and causation. A variable can increase the statistical predictability of mental health risks without causing the mental health problem itself.

5.10 Proposed Interpretation of Risk Categories

For the eventual primary dataset, respondents may be classified according to the validated mental-health instrument selected for the study.

A conceptual classification can be represented as:

Risk category	Interpretation
Lower risk	Respondent does not display the predefined threshold of psychological risk
Moderate/elevated risk	Respondent meets the predefined threshold indicating need for closer attention
High risk	Respondent demonstrates a substantially elevated score requiring appropriate follow-up or referral according to the study protocol

The exact cut-off values should only be inserted after the specific validated instrument has been selected. Cut-offs should not be invented or borrowed from an unrelated scale.

5.11 Key Findings From the Available Evidence

In light of the current available scientific evidence, the following conclusions can be drawn:

1. Social media use is linked to psychological well-being of adolescents in Odisha, but the relationship is not always negative.
2. In the study carried out among 120 adolescents in Bhubaneswar, the high social media users showed higher levels of psychological well-being and social support compared to the low social media users.
3. Gender differences are observed with the boys being more psychologically well than the girls in that sample.
4. Problematic internet use and technology dependency are key dimensions that must be separated from the general social media use (Joseph et al., 2022; Mohapatra et al., 2023; Mishra et al., 2024).
5. Social media use and depression are associated among the Indian adolescent population, but longitudinal cross-lagged evidence does not reveal clear causation (Maurya et al., 2024).
6. In addition to social media exposure, social support, cyber-victimization, sleep, family-related factors, academic functioning and behavioral aspects should be taken into account.
7. Multidimensional predictive model is theoretically better than the one focused exclusively on the hours of social media use per day.

5.12 Discussion of the Proposed Data-Driven Contribution

The main contribution of the proposed research consists in the transition from the question "How much social media do young people use? " to the question "Which combination of digital, psychosocial and behavioral characteristics identifies high risk for mental health? "

The distinction is crucial as the available evidence from Odisha proves that high social media usage can go hand in hand with high perceived social support and psychological well-being. Consequently, the predictive model that automatically classified all high social media users as high risk would be methodologically incorrect.

On the contrary, the proposed model should explore whether the risk increases when high usage is combined with such characteristics as problematic use, cyber-victimization, disturbed sleep, low social support and other behavioral factors.

Finally, the predictive analysis should take into consideration not only risk factors, but also protective variables. Such approach would reflect better the digital youth behavior, while being consistent with the available evidence on social media as a potential source of risk, as well as a source of social communication and health information.

5.13 Limitations of the Current Empirical Results

The empirical results discussed in this section have several limitations.

First, the Odisha-specific evidence is based on a relatively small sample of 120 undergraduate students from Bhubaneswar and should not be generalized to all youth in Odisha.

Second, the available Odisha study is cross-sectional. Hence, its findings show group differences and correlations but do not allow drawing conclusions about any temporal or causal relationships.

Third, the longitudinal evidence from Maurya et al. (2024), although much larger and methodologically valuable, refers to adolescents from Uttar Pradesh and Bihar and not from Odisha.

Finally, the currently available evidence does not contain enough respondent-level information to create a new predictive model for the proposed study.

Thus, the present section should be considered as the literature-grounded empirical basis and benchmark for the proposed predictive study. Genuine Section 5, based on primary data, would require an actual survey dataset.

5.14 Summary of Results

The currently available empirical evidence shows that the relationship between social media usage and youth mental health is complex and depends on the context. Odisha-specific evidence based on 120 undergraduate students in Bhubaneswar reveals that higher social media users reported higher psychological well-being and higher levels of perceived social support than low users, and boys reported higher psychological well-being than girls in the examined sample.

On the wider scale of India, there is longitudinal evidence of significant associations between social media use and depressive symptoms, but no straightforward cross-lagged causal relationship between these variables. The above findings confirm the need to use the proposed multidimensional predictive framework. Thus, mental-health risk should be predicted using several dimensions, such as social media usage characteristics, problematic use markers, online experiences, social support, sleep and lifestyle factors, demographic features, and others instead of the simple social-media duration proxy for psychological risk.

6. Conclusion

It is clear from the current study that the relationship between social media usage and youth mental health is complicated and cannot be described simply in terms of usage duration. The evidence from Odisha shows that social media may provide social support and psychological benefits, whereas problematic use, cyber victimization, sleep disruption, and dependency-related behaviors may increase vulnerability to mental disorders. Therefore, a multidimensional data-driven approach is more appropriate for detecting mental-health risks among youth.

7. Future Scope

Future research can extend this work by:

1. Collecting a larger, representative dataset covering urban, rural, and tribal youth across Odisha.
2. Developing and validating machine-learning prediction models using actual respondent-level data.
3. Incorporating longitudinal data to examine changes in social media behavior and mental health over time.
4. Comparing different platforms and types of online engagement.
5. Developing an interpretable early-risk screening system that can support schools, colleges, and mental-health professionals.
6. Evaluating preventive approaches such as digital literacy, mindfulness, parental guidance, and digital-detox interventions.

References:

1. Fredrick, S. S., Nickerson, A. B., & Livingston, J. A. (2022). Adolescent social media use: Pitfalls and promises in relation to cybervictimization, friend support, and depressive symptoms. *Journal of Youth and Adolescence*, 51, 361–376. <https://doi.org/10.1007/s10964-021-01561-6>
2. Hassen, H. M., Behera, M. R., Jena, P. K., Dewey, R. S., & Disassa, G. A. (2022). Effectiveness and implementation outcome measures of mental health curriculum intervention using social media to improve the mental health literacy of adolescents. *Journal of Multidisciplinary Healthcare*, 15, 979–997. <https://doi.org/10.2147/JMDH.S361212>
3. Joseph, J., Varghese, A., Vijay, V., Dhandapani, M., Grover, S., Sharma, S., Singh, M., Mann, S., & Varkey, B. (2022). Problematic internet use among school-going adolescents in India: A systematic review and meta-analysis. *Indian Journal of Community Medicine*, 47(3), 321–327. https://doi.org/10.4103/ijcm.ijcm_1129_21
4. Kumar, G., Dash, P., Jnaneswar, A., Suresan, V., Jha, K., & Ghosal, S. (2022). Impact of internet addiction during COVID-19 on anxiety and sleep quality among college students of Bhubaneswar city. *Journal of Education and Health Promotion*, 11, Article 156. https://doi.org/10.4103/jehp.jehp_396_21
5. Liu, M., Kamper-DeMarco, K. E., Zhang, J., Xiao, J., Dong, D., & Xue, P. (2022). Time spent on social media and risk of depression in adolescents: A dose–response meta-analysis. *International Journal of Environmental Research and Public Health*, 19(9), 5164. <https://doi.org/10.3390/ijerph19095164>
6. Mohapatra, U., Nagarajappa, R., Satyarup, D., & Panda, S. (2023). Validity, reliability and prevalence estimates of nomophobia among undergraduate dental students of Bhubaneswar, India. *Journal of Education and Health Promotion*, 12, 77. <https://doi.org/10.32394/rpzh.2023.0246>
7. Gupta, M., Sarangi, R., Sharma, S., & Patnaik, L. (2024). Mental health issues and lifestyle changes associated with the COVID-19 pandemic in adolescents: A cross-sectional study in selected schools of Eastern India. *Journal of Education and Health Promotion*, 13(1). https://doi.org/10.4103/jehp.jehp_392_23
8. Maurya, C., Dhillon, P., Sharma, H., et al. (2024). Bidirectional and cross-lag relationship between social media use and psychological wellbeing: Evidence from an Indian adolescent cohort study. *BMC Public Health*, 24, 303. <https://doi.org/10.1186/s12889-023-17276-1>

9. Mishra, J., Behera, M., Mitra, R., Samanta, P., Mahapatra, P., & Kar, S. (2024). Prevalence and impact of internet addiction disorder among adolescents and young adults. *The Open Public Health Journal*, 17, e18749445345806. <https://doi.org/10.2174/0118749445345806241010081642>
10. Sahoo, P., Mishra, M., & Das, S. C. (2024). Social media impact on psychological well-being—A cross-sectional study among the adolescents of Odisha. *Journal of Family Medicine and Primary Care*, 13(3), 859–863. https://doi.org/10.4103/jfmprc.jfmprc_325_23
11. Samanta, P., Mohapatra, I., Mitra, R., et al. (2024). Mindfulness as a path to freedom from internet addiction in adolescents: A narrative review. *Cureus*, 16(10), e72544. <https://doi.org/10.7759/cureus.72544>
12. Influence of social networking usage on mental health of tribal adolescents. (2024). *International Journal for Multidisciplinary Research*, 6(2). <https://doi.org/10.36948/ijfmr.2024.v06i02.17439>
13. Behera, S., Sonalika, S., Swain, T. R., & Moharana, S. (2025). Social networking sites dependence and academic performance among higher secondary students, Odisha. *Journal of Hygiene Community Health Nursing*, 2(2), 56–62. <https://doi.org/10.33545/30789109.2025.v2.i2.A.27>
14. Mallick, A., & Sahoo, A. (2025). Unravelling the role of health-promoting and health-abusive lifestyle behaviours on health-related quality of life among the urban community-dwelling youths (19–25 years) in the Balasore district of Odisha, India. *Discover Public Health*, 22, 293. <https://doi.org/10.1186/s12982-025-00698-0>
15. Patel, A. K., Barik, S. S., & Khamari, J. (2025). Social media and student well-being: A qualitative investigation among Class 12 learners. *Scholarly Research Journal for Humanity Science & English Language*, 13(69), 210–223. <https://doi.org/10.5281/zenodo.15663223>
16. Roy, P., Mishra, A., & Singh, A. K. (2025). Development and application of a mind map to improve the adolescent behaviour on mental health and substance abuse in rural Odisha: A community-based quasi-experimental study design. *Cureus*, 17(10), e93981. <https://doi.org/10.7759/cureus.93981>
17. Sonalika, S., Williams, J. D. M., & Kumar, S. (2025). Digital detoxification: Evaluating intervention strategies for adolescents. *Journal of Mechanics of Continua and Mathematical Sciences*, 20(3). <https://doi.org/10.26782/jmcms.2025.03.00011>
18. Tamarana, R., Mathur, M., Madhusudan, V., & Kiranmai, P. A. (2025). Cyber-victimization—Influence of parental rules and impact on mental health among Indian adolescents. *Frontiers in Psychology*, 16, 1470202. <https://doi.org/10.3389/fpsyg.2025.1470202>