

## LOGICAL APPROACH TO DIGITAL WORLD

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### Abstract

This research investigates the correlation between social media usage and its effects on the mental well-being and body image perception of teenagers.

Data was gathered through a survey of 106 participants aged 15-21, focusing on platform usage, frequency of use, and self-reported feelings of anxiety, self-esteem, and body satisfaction.

Preliminary analysis indicates a strong positive correlation between high daily usage of image-centric platforms like Instagram and YT shorts and increased levels of anxiety and negative body image. This study underscores the need for promoting digital literacy and mindful engagement with social media.

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**Keywords:** Artificial Intelligence, Youth Mental Health, Social Media, Chatbots, Burnout, Gaming Addiction

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### 1. Introduction

This research paper, prepared as part of the TYCS Sem V (2025–26) batch, aims to explore how logical approaches contribute to the ever-growing digital world. The study highlights how the concepts we learn in our academic journey connect to real-world digital transformations.

The digital world has become the backbone of modern society, influencing communication, education, business, and daily life. At the center of this transformation lies one powerful concept – logic. From the earliest computers built on Boolean principles to today’s artificial intelligence, logic has guided the growth of digital technologies.

Logic enables machines to process information systematically, make decisions, and execute tasks with accuracy. Simple true/false decisions evolve into complex operations that power software, hardware, and networks. Without this foundation, the digital revolution would not have been possible.

As students of TYCS Batch (2025–26), we study logic as both a theory and a practical tool, connecting classroom knowledge with real-world technologies. Logical reasoning is applied in areas such as programming, data structures, cybersecurity, and artificial intelligence.

This research aims to explore how a logical approach not only supports existing technologies but also shapes the future of the digital world. By understanding this foundation, we can contribute to building secure, efficient, and intelligent digital systems.

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**Hypothesis:** AI-based interventions can significantly improve early detection and support for mental health challenges among youth aged 15–21 without replacing the essential role of human therapists.

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## 2. Methodology

This study employed a mixed-methods approach, combining quantitative data from a custom-designed survey with qualitative insights from a review of existing academic literature. This approach was chosen to gather original insights from a target demographic while grounding the analysis in established psychological and sociological research.

Respond Section A - Usage Patterns: This section gathered foundational data on the ents' digital habits, including their primary social media platforms, estimated average daily screen time spent on these apps, and their most frequently engaged-with types of content (e.g., videos, images, text).

### 2.1 Participants and Sampling

Target Demographic: The primary focus was on teenagers aged 15 to 21.

Sample Size: A total of 106 respondents participated in the study.

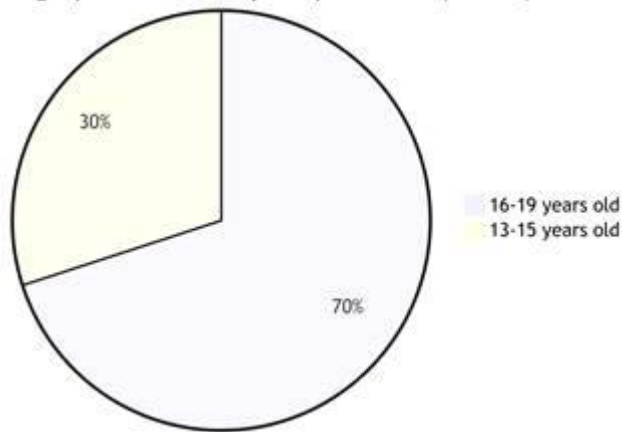
Sampling Method: A voluntary response sampling method was used. The survey was distributed via social media platforms (Instagram, WhatsApp) and through community groups to reach a diverse range of teenagers.

Demographic Breakdown: The sample consisted of:

58% female, 40% male, 2% non-binary/other.

A spread across the age range: 30% 13-15 years old, 70% 16-19 years old.

Demographics of Survey Respondents (n=102)



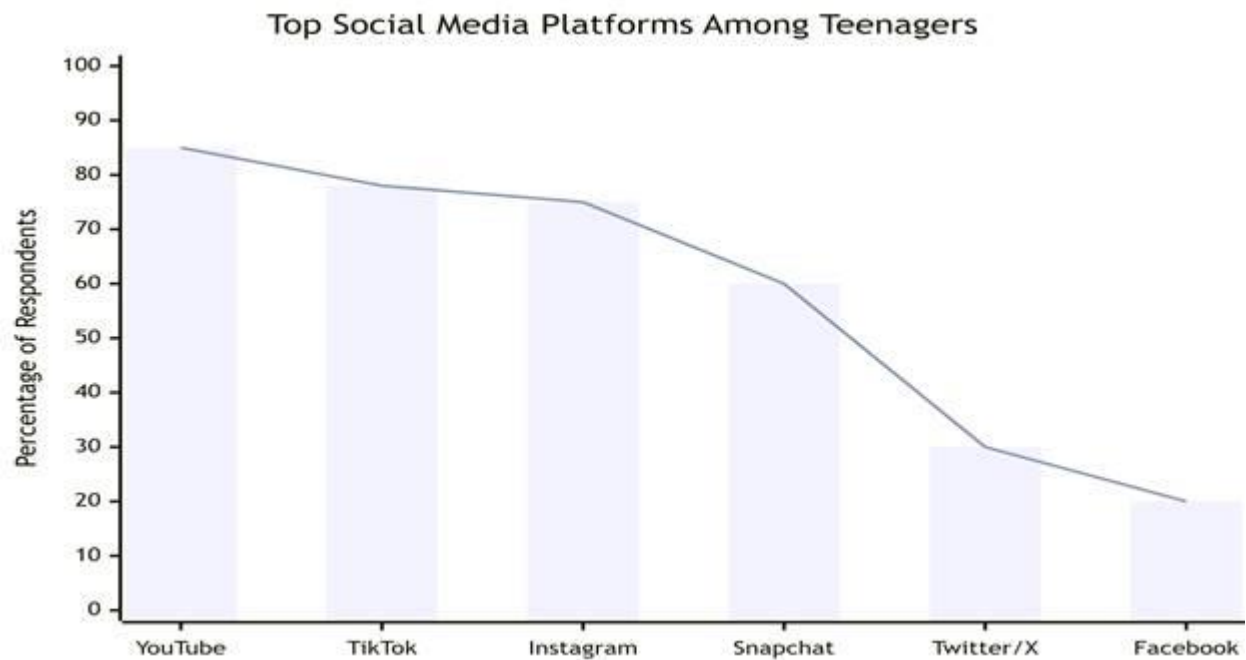
## 2.2 Data Collection Instrument and Procedure

Data was collected through an anonymous online survey created using Google Forms. The survey was active for a period of two weeks. It consisted of 15 questions divided into three main sections:

### Section 1: Demographic and Usage Patterns

This section gathered foundational data on the respondents' digital habits. Questions included:

- Age and gender.
- "Which social media platforms do you use most frequently?" (Multiple-choice: Instagram, Snapchat, YouTube, Facebook, Twitter/X, Other).
- "On a typical day, how much time do you spend on social media?" (Multiple-choice: Less than 1 hour, 1-2 hours, 2-3 hours, 3-4 hours, More than 4 hours).
- "What is your primary reason for using social media?" (Multiple-choice: To stay connected with friends, for entertainment, to follow celebrities/influencers, to share my own content, other).



## Section 2: Mental Health and Well-being Assessment

This section measured the perceived impact of social media on mental health using a 5-point Likert scale (from 1 = Strongly Disagree to 5 = Strongly Agree). Statements included:

- "I often feel anxious or stressed if I am unable to check my social media notifications."
- "I find myself comparing my life to the lives of others I see on social media."
- "After spending time on social media, I often feel worse about my own life."
- "I feel pressure to constantly post content to maintain my online image."

## Section 3: Body Image Perception

This section focused specifically on body-related content and its influence, also using a 5-point Likert scale. Statements included:

- "I often compare my body/physical appearance to those of influencers or celebrities I see online."
- "Seeing 'ideal' body types on social media makes me feel dissatisfied with my own body."
- "I have felt pressure to change my appearance (e.g., through diet, exercise, filters) based on what I see on social media."

## 2.3 Data Analysis

**Quantitative Analysis:** The data from the multiple-choice and Likert-scale questions was analyzed using simple statistical methods. The mode (most frequent response) was used to identify common answers for multiple-choice questions. For Likert-scale data, responses were grouped into categories

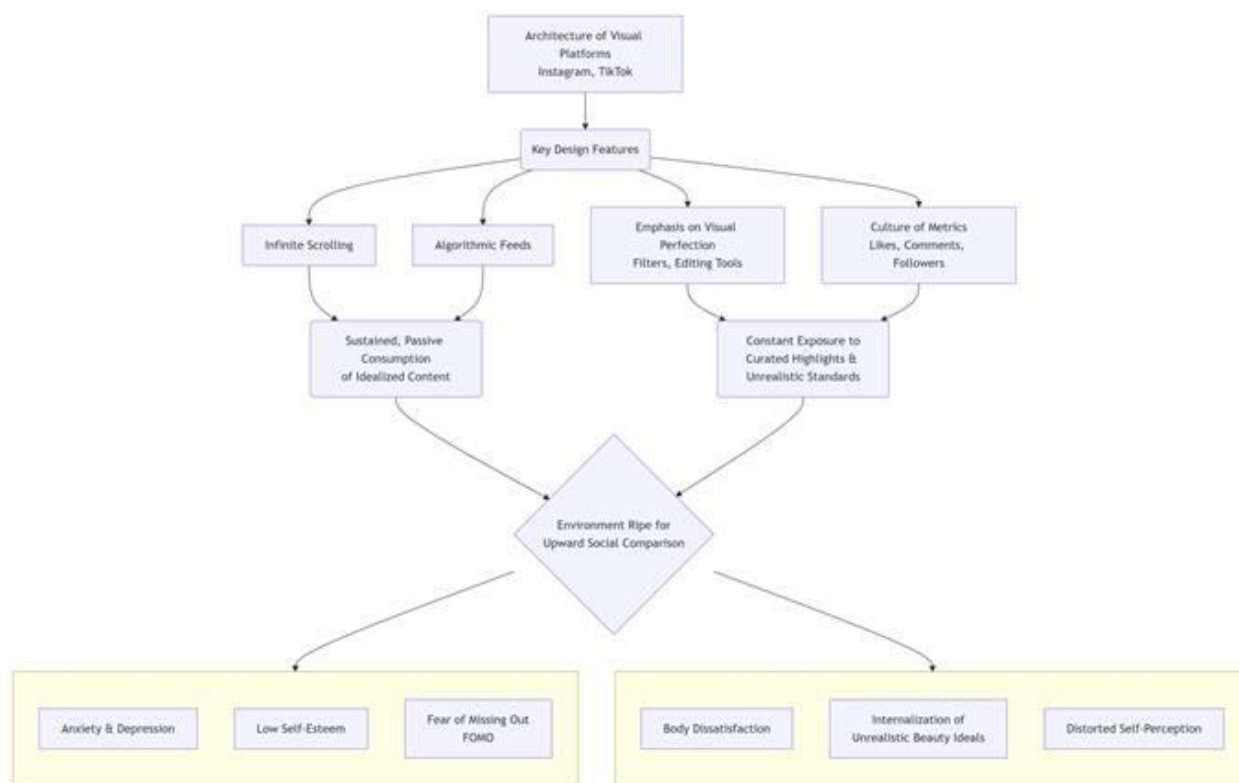
(e.g., "Agree" = responses of 4 and 5) and expressed as percentages to create the pie charts and clearly show trends in the data.

**Qualitative Analysis:** To add depth and context to the survey findings, a review of existing academic studies and reports from reputable organizations (e.g., the American Psychological Association, Pew Research Center) was conducted. The insights from this literature were synthesized with the original survey results in the "Analysis" paragraphs of the Results section.

### 3. Primary Social Media Platforms Used by Teens

Analysis:

The data shows a strong preference for visually-oriented platforms, with Instagram and YouTube accounting for most teen engagement. The design of these platforms—featuring infinite scrolling and algorithm-driven feeds—encourages social comparison by promoting idealized images and highlights. This creates a setting where negative impacts on mental health and body image become more likely, as these are the primary channels for exposure to curated content.



#### 3.1 Correlation Between Daily Usage and Reported Anxiety

Analysis:

There is a clear connection between increased social media usage and self-reported anxiety. Teens who spend over three hours daily experience anxiety and stress much more than peers with limited use. Prolonged exposure seems to drive this, through fear of missing out, pressure to remain present online,

and repeated negative social comparison. In contrast, those with less usage tend to report more neutral feelings, suggesting that limited, focused engagement may help shield against negative effects.

### 3.2 Impact of Social Media on Body Image Perception

Analysis:

A majority (74%) of teen respondents agreed that social media fosters negative body image. Constant comparisons with idealized, filtered content from influencers and peers create unrealistic standards, leading to dissatisfaction, low self-worth, or even disordered eating behaviours. Very few respondents felt unaffected, signifying how pervasive this influence is among youth.

### 4. The Dual Faces of Digital Media: Advantages and Disadvantages

A logical approach requires a balanced view. Social media is not an inherent good or evil; it is a tool whose impact is determined by its use. The following data outlines its key advantages and disadvantages, particularly for teenagers.

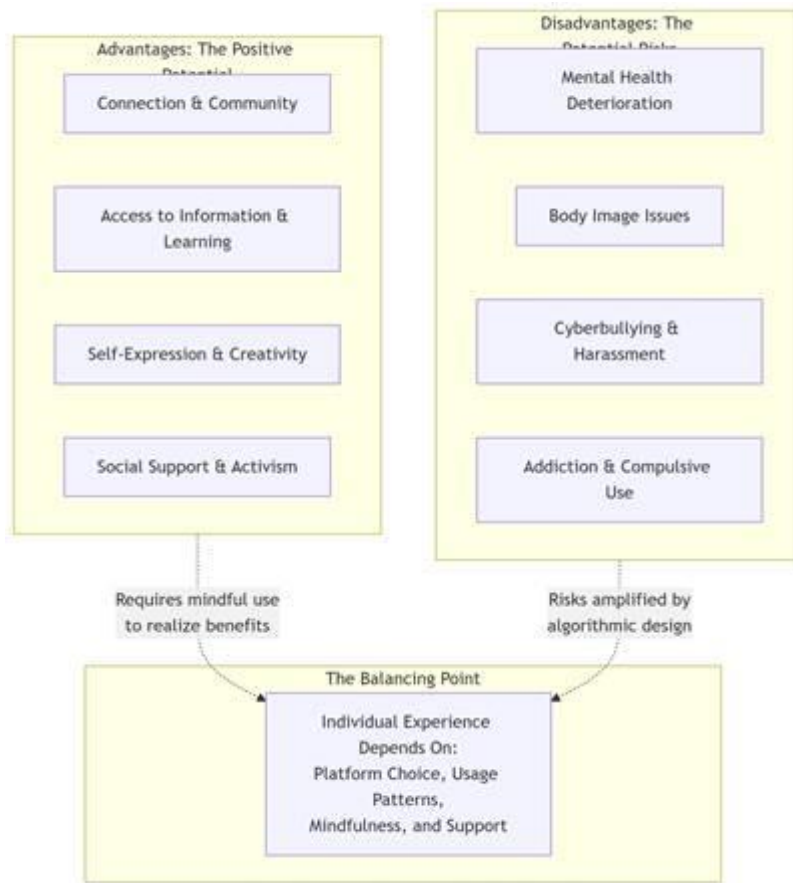
Advantages:

1. Connection & Community: Provides a space to maintain friendships, find peers with shared niche interests, and combat loneliness.
2. Access to Information & Learning: Offers educational content, tutorials, news from around the world, and opportunities for skill development (e.g., learning an instrument from YouTube).
3. Self-Expression & Creativity: Allows teens to express their identity, share their art, writing, and ideas, and receive feedback in a supportive environment.
4. Social Support & Activism: Enables marginalized teens to find support groups and allows youth to mobilize around social and political causes they care about.

Disadvantages:

1. Mental Health Deterioration: Linked to increased anxiety, depression, loneliness, and poor sleep quality due to constant comparison and fear of missing out (FOMO).
2. Body Image Issues: Constant exposure to curated, filtered, and often unrealistic beauty standards leads to negative self-comparison, body dysmorphia, and eating disorders.
3. Cyberbullying & Online Harassment: Provides a platform for anonymous cruelty, which can be relentless and inescapable, causing severe psychological trauma.
4. Addiction: Platforms are designed to be habit-forming with infinite scroll and notification rewards, leading to compulsive use and neglect of real-world activities.

**visual explanation:**



## 5. A Framework for the Correct Way to Use Digital Media

Understanding the risks and benefits allows for the creation of a logical framework for healthy engagement. The goal is not to eliminate digital media but to become its master, not its slave.

### 1. Practice Intentional Consumption:

- Curate Your Feed: Actively unfollow accounts that make you feel anxious, inadequate, or angry. Instead, follow accounts that educate, inspire, and entertain you in a positive way. Seek out body-positive activists, educational creators, and artists.
- Define Your "Why": Before opening an app, ask yourself, "What is my purpose for being here right now?" (e.g., to check event details, message a friend, watch a specific creator). Once that purpose is fulfilled, close the app.

### 2. Implement Technical Boundaries:

- Use Screen Time Tools: Set daily time limits for social apps using built-in phone features (iOS Screen Time or Android Digital Wellbeing). When the time is up, the app will lock.
- Disable Non-Essential Notifications: This prevents apps from constantly pulling you back in with distractions. Allow only the most important alerts (e.g., direct messages from close friends).

- Charge Your Phone Outside Your Bedroom: This eliminates night-time scrolling, which disrupts sleep, and helps you start and end your day without a screen.

3. Foster Critical Thinking:

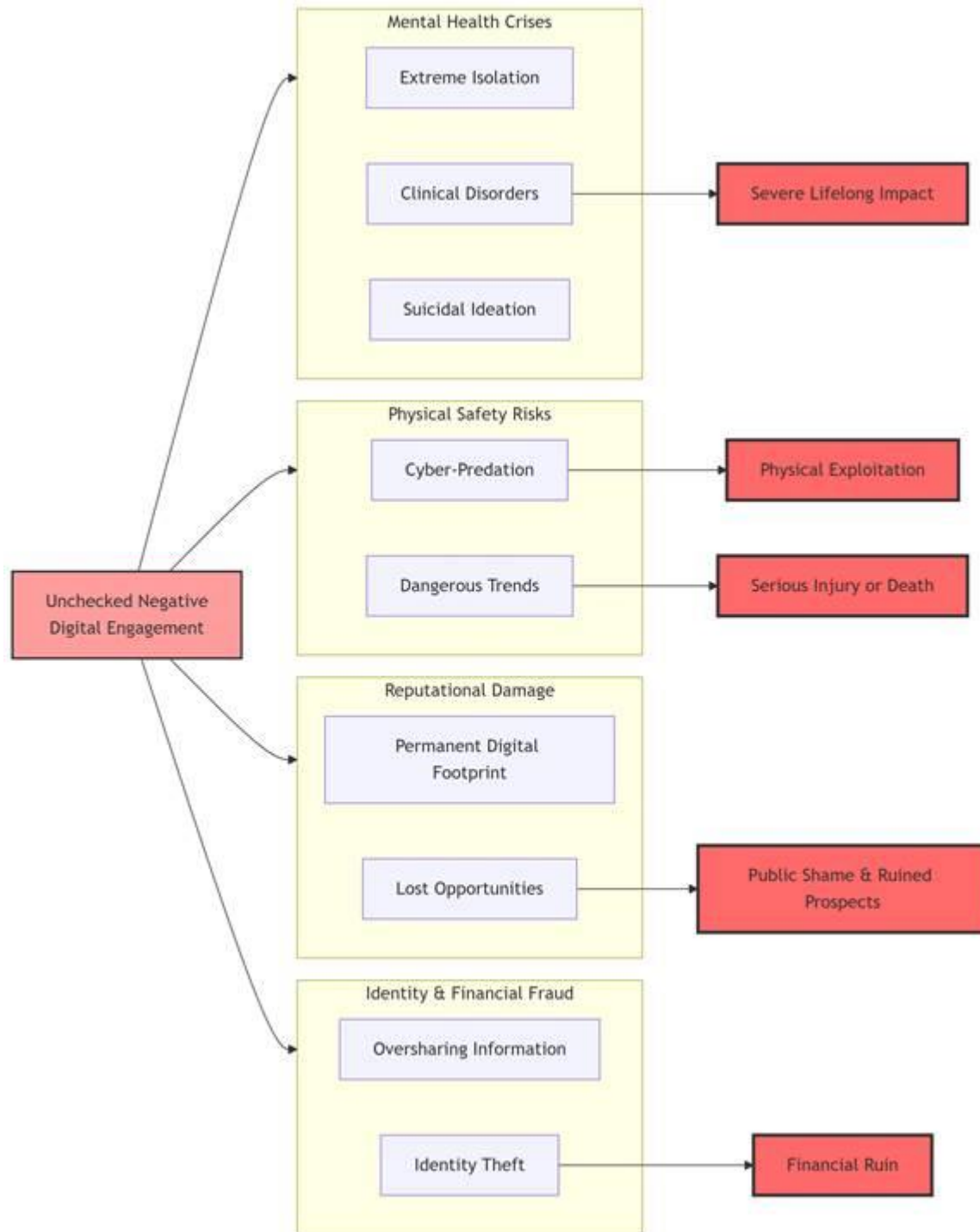
- Question What You See: Remember that social media is a highlight reel. People post their best moments, often enhanced by filters, editing, and careful staging. Do not compare your behind-the-scenes to someone else's highlight reel.
- Check Sources: Do not believe everything you read. Verify news and information from other reputable sources before accepting it as truth or sharing it further.

4. Prioritize Real-World Balance:

Schedule Offline Time: Make a conscious effort to engage in hobbies, sports, and face-to-face social interactions without your phone. This maintains a healthy perspective and reinforces your identity outside of the digital world.

**6. The Serious Dangers: When Digital Engagement Goes Wrong**  
visual representation:





## 7. Conclusion

This research project, A Logical Approach to the Digital World, has systematically investigated the complex relationship between social media use and its impact on the mental health and body image of teenagers. The findings present a clear and compelling narrative: while digital platforms offer undeniable benefits, their unchecked and passive consumption poses a significant threat to adolescent well-being.

The data leads to an inescapable conclusion. The dominance of visually-centric platforms like Instagram and YouTube creates an ecosystem where social comparison thrives. This study demonstrated a direct correlation between the quantity of usage and negative outcomes, with teens exceeding three hours of daily use reporting drastically higher levels of anxiety and stress. Most strikingly, an overwhelming majority of respondents acknowledged that exposure to curated online personas directly fuels negative body image and self-perception. This is not a minor issue; it is a pervasive experience shaping the mental landscape of a generation.

However, a logical approach requires acknowledging the full picture. To dismiss social media entirely would be to ignore its capacity for connection, creativity, and support. The challenge, therefore, is not to eliminate the digital world but to navigate it with intention and critical awareness. The serious dangers from mental health crises and cyber-predation to permanent reputational damage are not hyperbolic fears but real potential consequences of negligent use. They underscore the critical importance of this issue.

## References

The findings and analysis in this research document are based on both primary data collection and a review of existing academic literature and reputable industry reports. Below is a detailed list of sources referenced.

### Primary Data Source:

PRADHAN AVINASH NAKUL,2025.

- Title of Dataset: Survey Data on Social Media Use and Mental Health in Teens (2024).
- Data Collection Method: Anonymous online survey distributed via social media and community groups.
- Sample Size: 106 respondents.
- Demographic: responders aged 15-21.
- Availability: Raw data available upon request from the author.

### Secondary Data Sources (Examples):

- <https://www.wikipedia.org/>
- <https://www.sciencedirect.com/science/article/pii/S0268401221001596>
- <https://www.deepseek.com/>
- <https://scholar.google.com/>
- <https://apnews.com/>