

# Navigating the Cyber World: An In-depth Analysis of Internet Usage, Risks, and Influences on Adolescents

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## Abstract

*This study surveyed aged 10 years and up to learn more about their online habits. In order to learn more about the online habits of this group, the survey asked questions regarding the frequency, duration, and motivations for respondents' time spent online. The study also looked at high-risk behaviours like excessive screen time, increased social media use, and extended gaming sessions as possible indicators of problematic internet use. Indicators of internet addiction or reliance, such as a disregard for commitments in real life, emotional anguish when not online, and problems managing online use, were also analysed in the study. As an added goal, the research aimed to determine what motivates and drives children to engage in excessive internet use in order to shed light on what kinds of media, apps, or social networking sites are most appealing to children. The research aimed to discover how children's internet use influences their school performance, health, and social and emotional growth. By achieving these aims, to shed light on the connection between internet use and addiction, giving actionable data that legislators, educators, parents, and medical professionals can utilise to address and mitigate the potential issues that may come from their children's online use.*

**Keywords:** Internet, cybersecurity, digital risks, online fraud, cyberbullying, cyber world

## INTRODUCTION

The advent of the Internet led to increased connectivity among humans and hence led to remarkable connection and worldwide interaction. This resulted in the way of communication and business deals among each individual. This marked change forced humanity into an era where the information is

readily available and the virtual boundaries have dissolved enabling unlimited communication across the globe [1].

However, as all the inventions result in some serious and immediate danger, similarly this invention has a myriad of threats and vulnerabilities that resulted in significant challenges to public security. In this study, it has been tried to explore the many different ways in which digital dangers can affect us. And also tried to look into the ways in which dangers can have big effects and how the Internet can affect the safety of human beings [2].

In the modern world, the Internet has brought both good things and bad things. One of the bad things is that there are many new types of dangers

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Received Date: March 05, 2024

Accepted Date: March 08, 2024

Published Date: April 04, 2024

**Citation:** Shilpi Saxena, Vicky Singh, Rahul Mandal, Mritunjay Kr. Ranjan, Pradnya Janardhan Dongardive. Navigating the Cyber World: An In-depth Analysis of Internet Usage, Risks, and Influences on Adolescents. Journal of Network Security. 2024; 12(1): 19–25p.

that can hurt people through their computers and phones. These dangers are not limited where someone lives or what time it is, they can happen to anyone, anywhere. No matter whatever age group you belong to, these cybercrimes may affect anyone. Technology can ruin lives and how to deal with the upcoming dangers [3]. It looks into different ways a person can be troubled online and also the reason behind it. Misuse of technology can result in cyber-attack which can steal personal information or trick others into giving them money or other personal details. This study also aims to help guide the creation of shields to protect ourselves from such cyber-attack [4].

**LITERATURE REVIEW**

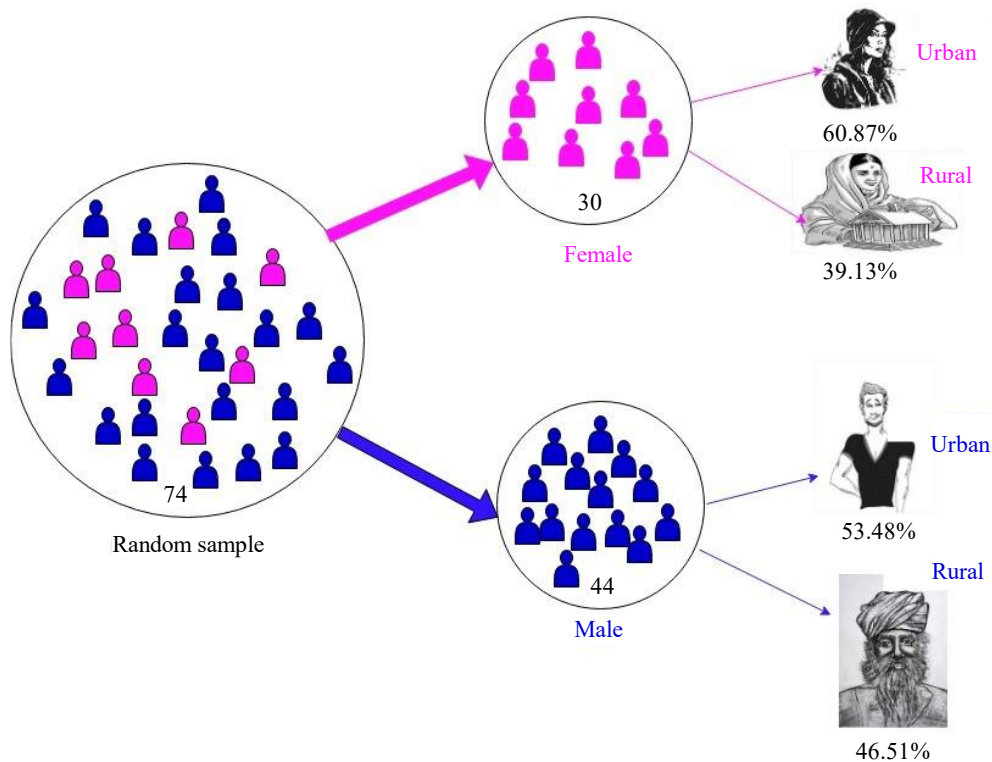
Majority of youths are mostly involved in technology rather than playing or spending quality time with their family. The study looks at the way of thinking about vulnerability and autonomy [5]. Family and relations’ involvement, family conflicts, children’s age, gender, parents’ care and many more factors highly affect technology addiction. Table 1 depicts the scenario with some of previous work [6–11].

**Demographics of The Study**

Demographics are population and group statistics (Figure 1). This data usually includes age, gender, race, ethnicity, income, education, marital status, occupation, and household composition [12].

**Table 1.** Literature review.

Citation	Description/finding	Illusion in real life (observed incident)	Risks
[6]	This paper examines how digital technology affects kids and families. The pros and cons of online activity and how parents can help kids avoid social media are also covered.	‘I am terrified’: AI-generated nude images of girls cause uproar at New Jersey School.	Online child sexual Abuse, cyberbullying, unusual behaviour, social isolation, depression
[7]	IOT devices are used to examine privacy issues in this paper. It also describes internet-connected devices without effective security and vulnerable to privacy and security threats.	Aadhaar data of 815 million on sale on the dark web.	Data Leakage, Data Tampering, Jurisdiction Risk, Impersonation.
[8]	This paper examines how IOT connects Indian users. Risk, security, and challenges from an Indian perspective are also covered.	KP and Bidhannagar Police have filed four FIRs against salaried people who were duped by the ‘CEO Fraud’ in the week since Durga Puja. They received WhatsApp phishing links disguised as their superiors’ contact numbers with their photos.	Trust and privacy, Data security, Password based attack and phishing, lack in media communication.
[9]	The study discusses IoT security goals and challenges, classifies attacks and countermeasures, and discusses future security directions and challenges to improve security and aid mass adoption.	Around 78% of Indian organization’s experienced a ransomware attack back in 2021, with around 80% attacks resulted in data encryption.	Node tampering, Malicious code injection, Traffic analysis attacks, RFID Spoofing, Encryption attack.
[10]	This study examines IoT security issues using current standards and protocols. Risks, new security protocols, and recent security projects are highlighted. Due to its threat to hardware, software, and data, it emphasises the need for communication and data audit standardisation.	Microsoft SQL servers hacked to deploy Trigona ransomware.	Identifying third-party indulgence, Exposure threats, Protocol base attack, Data-Base Attack.
[11]	The study shows the growing popularity of IoT and its cyberattack potential. It addresses architectural issues, vulnerabilities, future security concerns, and major threats like DoS, MiTM, and SCADA attacks. It also suggests IoT security improvements.	Hacker’s flood NPM with Bogus packages causing a Dos Attack.	Denial of Service (DoS) Attack, Man in The Middle (MiTM) Attack, Issues in IoT Framework, Data and Identity Theft.



**Figure 1.** Demographics layout.

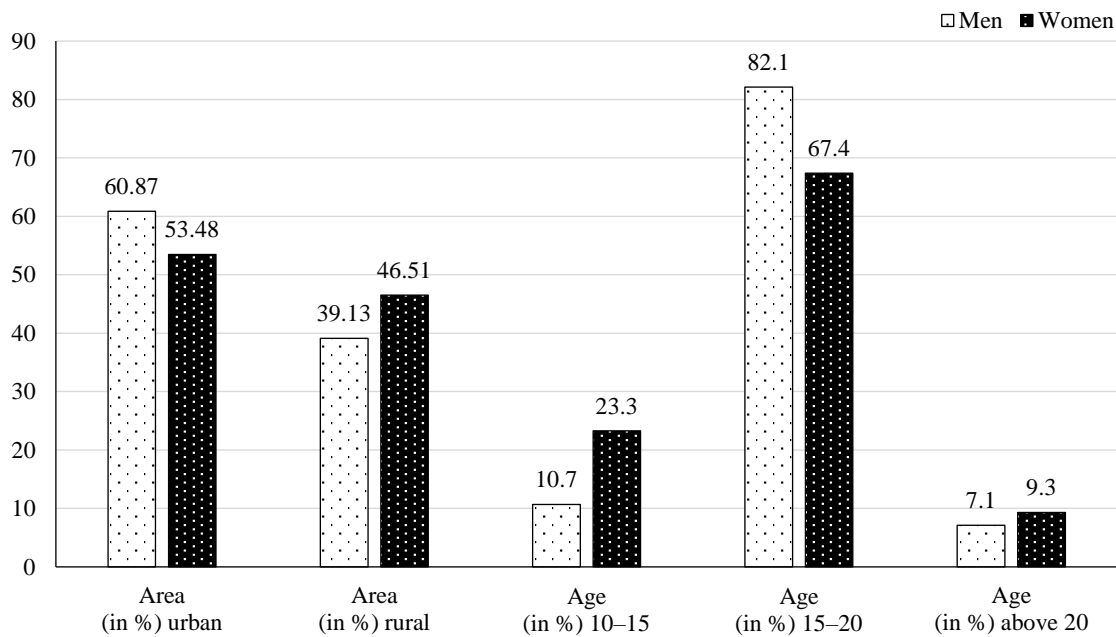
**Table 2.** Data sampling.

Gender	Area (in %)		Age (in %)		
	Urban	Rural	10–15 years	15–20 years	Above 20 years
Men	60.87	39.13	10.7	82.1	7.1
Women	53.48	46.51	23.3	67.4	9.3

The data of about 74 responses from individuals aged 10 years and above was collected (Table 2). The survey aimed to provide insights into the patterns of Internet usage among children, including the frequency, duration, and purposes of their online activities. Understanding these patterns is essential to create a baseline understanding of their digital behaviours [13]. It also identified the behaviours which were at high risk that may indicate problematic internet usage such as prolonged use of social networking sites, more screen time and excessive long gaming sessions. This survey also assessed the indicators of internet addiction or dependence, including signs of neglecting real-life responsibilities, emotional distress when offline, and an inability to control online usage. The poll also tries to identify the factors and motives behind excessive internet use [14]. This entails figuring out what information, software, or social media sites appeal to kids the most. The poll also aims to comprehend the effects of internet use on kids' social and emotional development, academic achievement, and physical and mental health. By fulfilling these goals, the study hopes to shed light on the connection between online use and addiction, providing useful information that parents, educators, legislators, and healthcare professionals may utilize to manage and reduce any possible problems brought on by children's online usage.

## DESCRIPTIVE ANALYSIS

Descriptive analysis summarizes and describes vital aspects of a dataset or phenomenon. Data is organized, summarized, and presented in a meaningful way to reveal its characteristics [15]. With the witness of responses, distribution between genders (44 males and 30 females). The majority of respondents fell within the 10–15 years age group (9.9%), followed by 15–20 years (73.2%), and above 20 years (16.9%). On an average 22.5%, respondents reported internet usage for more than 6 h/day (Figure 2).



**Figure 2.** Data sampling chart.

**HYPOTHESIS OF THE STUDY**

- *H<sub>01</sub>*: The quantity of time spent online each day and emotions of anxiety or unease when unable to access it are correlated. Particularly, people who use the internet more frequently are more prone to feel such unfavourable sentiments.
- *H<sub>02</sub>*: According to almost 50% of respondents, excessive internet use has a negative impact on both academic achievement and real-world relationships. People who acknowledge the negative effects of using the internet are more likely to report interpersonal issues and declining academic performance.
- *H<sub>03</sub>*: The frequent late-night internet use, which was reported by 53.6% of respondents, is linked to disturbed sleep cycles. People who use the internet late at night are more prone to experience sleep problems.

**RESULT AND DISCUSSION USING MIXED METHODS**

The average internet usage in a day had a wide variety of replies, with the majority devoting 3 to 4 h/day. This shows that the people polled use the internet extensively in their daily lives. According to the report, there are many different types of internet-accessing devices, with smartphones, laptops, and desktop computers being the most popular. The prevalence of mobile devices underscores the need for mobile optimization and responsive design for internet content. The reasons given by respondents for utilizing the internet were varied. Information searching, amusement, communication, and professional or academic goals are a few typical objectives. Understanding these explanations sheds light on the numerous ways in which respondents' lives are impacted by the internet. According to this question's analysis, a sizable percentage of respondents spend more than 2 h every day using social media [16].

This research emphasizes how social media affects how people use the internet on a daily basis and implies that it is a key component of online engagement. According to the findings, the majority of survey participants use the internet for non-academic purposes. This outcome highlights the internet's dual use in both instructional and recreational situations. About 40% of respondents said that being unable to access the internet makes them feel anxious or uneasy. This raises questions about potential internet addiction because it shows a degree of dependence. Due to this addiction 34.4% children agree that they neglect responsibilities (e.g., chores, homework) because of internet use. Another side coin is that a significant number of respondents believed that they do not prioritize online friendships over real-

life friendships [17]. Positively, a sizable portion of respondents do not value online interactions over in-person friendships. It suggests that many people successfully balance their offline and online social activities. This harmony points to a clear appreciation of the importance of interpersonal interactions, the promotion of emotional bonds, and the mitigation of the risk of social isolation. Making in-person relationships a priority shows a dedication to creating and fostering meaningful connections, which can enhance mental health and increase a person's sense of social connectivity. A healthy and meaningful social life is facilitated by this harmony between real-world and digital connections. About 50% of respondents acknowledge that excessive internet use has had detrimental effects on their lives, such as relationship problems and a deterioration in their academic performance. This finding emphasizes the possible negative effects of problematic internet use in the real world, and encourages a diverse and rewarding social life [18].

According to the survey, a sizable majority of respondents have trouble restricting their internet use. This could be a precursor to internet dependence or addiction. According to analysis, using the internet late at night is a practice that many people engage in, which reflects the appeal of online activities that can interfere with sleep cycles. About 53.6% respondents agree to this and sleep on time. About 52% of respondents acknowledge going to social events primarily for the purpose of posting pictures on social media. This implies a change in the drives behind social interaction. This addiction leads to connections that are less genuine, contrived, and more surface-level. People could place more importance on getting the perfect shot than really interacting with others [19]. This type of conduct can degrade the value of face-to-face interactions and prevent the emergence of deep, impromptu bonds. Since not everyone agrees to be shown on social media, it might also encourage a culture of approval seeking and privacy worries. Overall, it may diminish the depth and authenticity of actual social interactions. Online pornographic material consumption is preferred by a certain percentage of responders. This discovery emphasizes the wide variety of internet usage patterns. One group of respondents' preference for online pornographic content consumption highlights the wide variation of internet usage behaviours [20].

Although it is crucial to accept each person's decision, this behaviour can have a number of negative implications. Desensitization brought on by it could affect relationships in real life. Additionally, binge drinking can result in addiction, which is bad for your mental and emotional health. A digital footprint left by internet consumption creates privacy and security problems as well. This preference also emphasizes the need for sex education and age-appropriate online content regulation to encourage responsible and healthy internet use, particularly among younger users who may be more susceptible to its effect (Table 3).

**H<sub>0</sub>D<sub>1</sub>**

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[(n\sum x^2 - (\sum x)^2)] [(n\sum y^2 - (\sum y)^2)]}}$$

Where, r is correlation coefficient.

By using the given formula and the data collected from survey the value of r=0.299. By this, a value of correlation coefficient 0.2999 suggests a positive correlation between the two variables, but it is not a strong correlation. It is somewhat positive but not highly so (Table 4).

**Table 3.** Description with respect to Hypothesis 1.

Time spent on internet (x)		Feel anxious or uneasy when you are unable to access the internet (y)	
Mean	3.3	Mean	2.6216
Standard deviation	0.95	Standard deviation	0.7887
Count	74	Count	74

**Table 4.** Description with respect to Hypothesis 1.

Time spent on internet (x)		You experienced negative consequences in your life due to excessive internet use (y)	
Mean	3.3	Mean	2.5
Standard deviation	0.95	Standard deviation	0.62
Count	74	Count	74

**Table 5.** Description with respect to Hypothesis 1.

Time spent on internet (x)		You stay up late at night using the internet (y)	
Mean	3.3	Mean	2.65
Standard deviation	0.95	Standard deviation	0.77
Count	74	Count	74

**H<sub>1</sub>D<sub>2</sub>**

By using the given formula and the data collected from survey the value of  $r=0.046$ . By this, a value of correlation coefficient 0.2999 suggests very less positive correlation between the reported negative consequences in life due to excessive internet use and the extent of internet use. The correlation coefficient is not significantly different from zero (Table 5).

**H<sub>2</sub>D<sub>3</sub>**

By using the given formula and the data collected from survey the value of  $r=0$ , By this, a value of correlation coefficient 0.2999 suggests, there is no statistically significant correlation between staying up late at night and using the internet. The correlation coefficient is exactly zero.

**CONCLUSION**

Three different scenarios about the relationship between using the internet and different outcomes are shown by the data that is presented. A correlation coefficient of 0.299 (or 0.2999) in the first case indicates a weak but positive association between internet use and the variable under study. However, the correlation is not substantial enough to be deemed significant. Although there may be a weak positive correlation between the two, the evidence indicates that it is not consistent, and its practical importance is yet unknown. In the second scenario, a correlation coefficient of 0.046 indicates a very weak positive link between the extent of internet use and the reported negative effects of excessive use. But according to the p-value, there is no statistical significance in this link. This suggests that while a little positive correlation is seen, it might have happened by accident and that there is not enough data to establish a meaningful association. A correlation coefficient of 0 in the third case indicates that there is no connection at all between using the internet and staying up late. In this case, the p-value corroborates the inference that there is no association between the two variables. In conclusion, our findings suggest that although there might be a few modest correlations between internet use and the variables under investigation, these correlations are not substantial or strong. This implies that there may be confounding variables that were overlooked in the analysis, or the variables are not closely related in a linear pattern. The findings emphasize the importance of interpreting correlation coefficients in the context of their significance, as a weak correlation may not necessarily translate to a practically meaningful or reliable relationship. Additional investigation and the examination of other variables are necessary to achieve a more thorough comprehension of these connections.

**Future Aspects**

Future studies should take into consideration the influence of new platforms and technologies in order to keep up with the continuously changing digital scene. Through the exploration of these domains, scholars can augment the all-encompassing comprehension of the intricate relationship between internet usage and diverse consequences, directing the formulation of more knowledgeable regulations and measures in the era of digitalization.

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