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"Digital Literacy and Cyber Security Awareness among College Students"

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Abstract

In the digital era, college students extensively use the internet for academic, social, and financial activities. While digital platforms offer convenience, they also expose users to various cyber threats such as phishing, hacking, identity theft, and data breaches. Digital literacy plays a crucial role in enhancing cyber security awareness and safe online behavior. This study aims to analyze the level of digital literacy and cyber security awareness among college students and to examine the relationship between them. A structured questionnaire was used to collect primary data from 50 college students. This research paper found that there is positive relationship between digital literacy and cyber security awareness. Students with higher digital literacy tend to have better awareness of cyber risks and adopt safer online practices. The study concludes that digital literacy plays a significant role in enhancing cyber security awareness among college students. Although students demonstrate good basic knowledge and practices, there is a need to further strengthen advanced digital and cyber security skills through training programs, workshops, and awareness campaigns.

Keywords : Digital Literacy, Cyber Security Awareness, College Students, Online Safety, Cyber Threats.

1. Introduction

Digital literacy refers to the ability to effectively usage of digital tools, technologies, and platforms for communication, learning, and problem-solving. In today's world, college students rely heavily on digital technologies for online classes, social media, e-commerce, digital payments, and information sharing. However, increased digital usage has led to rising cyber security risks such as malware attacks, phishing emails, fake websites, cyber bullying, and financial fraud. Cyber security awareness is essential for protecting personal information and ensuring safe online activities. Students often lack proper knowledge about cyber threats and preventive measures, making them vulnerable to cybercrimes.

2. Statement of the Problem

Despite high usage of digital technologies, many college students are unaware of cyber security risks and safe practices. Lack of digital literacy may result in careless behaviour such as sharing passwords, clicking suspicious links, open APK files and using unsecured networks. This study attempts to understand the level of digital literacy and cyber security awareness among college students.

3. Objectives of the Study

1. To study the awareness of college students regarding digital literacy and cyber security.
2. To examine the relationship between digital literacy and cyber security awareness.

4. Research Methodology

4.1. Research Design- Descriptive research design was used for the study.

4.2. **Sample Size**- The sample consists of 50 UG and PG college students

4.3. **Data Collection**- Primary data was collected through a structured questionnaire.

5. Data Analysis and Interpretation

5.1. Demographic profile

Table -1-Demographic profile

Demographic profile	Parameters	Frequency	Percentage
Age	18–20	19	38
	21–23	30	60
	Above 23	1	2
	Grand Total	**50**	100
Gender	1. Male	32	64
	2. Female	18	36
	Grand Total	**50**	**100**
Level of Study	Postgraduate	21	52
	Undergraduate	29	58
	Grand Total	**50**	**100**

The above table presents the demographic characteristics of 50 respondents based on age, gender, and level of study.

The majority of respondents fall in the 21–23 years age group, accounting for 30 respondents (60%). This is followed by the 18–20 years group with 19 respondents (38%). Out of the total respondents, 32 (64%) are male and 18 (36%) are female. This indicates a higher participation of male respondents compared to female respondents in the study. With respect to educational level, 29 respondents (58%) are undergraduates, while 21 respondents (52%) are postgraduates. The demographic profile reveals that the respondents are predominantly young (21–23 years), male and mostly students pursuing undergraduate and postgraduate studies.

5.2. Daily Internet Usage:

Table 2. Daily Internet Usage:

Sr. No.	Daily Internet Usage:	Frequency
1	Less than 1 hour	28
2	1–3 hours	8
3	3–5 hours	5
4	More than 5 hours	9
	Grand Total	50

The table shows the daily internet usage pattern of 50 respondents. A majority of respondents (28 out of 50) use the internet for less than 1 hour per day, indicating low daily internet engagement among most users. It is observed that the most respondents are light internet users, with limited daily exposure, while a smaller proportion demonstrates high internet usage.

5.3. Main purpose of internet use:

Table-3. Main purpose of internet use

Sr. No.	Main purpose of internet use	Frequency
1	Education	48
2	Entertainment	25

Sr. No.	Main purpose of internet use	Frequency
3	Online Shopping	18
4	Social Media	35
	Grand Total	**126**

The above table shows how respondents mainly use the internet, based on a total of 50 respondents. This question was a multiple-response type, allowing students to select more than one option. Education (48 respondents) is the most common purpose of internet use. This indicates that a large proportion of users rely on the internet for learning activities such as online classes, research, and academic resources. Social Media (35 respondents) is the second most significant purpose, highlighting the importance of platforms for communication, networking, and social interaction. Entertainment (25 respondents) ranks third, suggesting that a moderate number of users use the internet for watching videos, listening to music, gaming, and other leisure activities. Online Shopping (18 respondents) is the least preferred main purpose, indicating that comparatively fewer respondents primarily use the internet for purchasing goods and services. It is observed that that educational use dominates internet usage among respondents, followed by social networking, while commercial activities like online shopping are less prominent.

5.4. Awareness level of college students regarding Digital Literacy

Table -4-Awareness level of college students regarding Digital Literacy

Sr. No.	Digital Literacy awareness	5	4	3	2	1	Total Score	Mean
1	Use a computer/ smartphone confidently.	130	68	18	2	0	218	4.36
2	Know how to use email, Google search, and online learning platforms.	130	64	15	6	0	215	4.3
3	Create and edit documents using MS Word/Google Docs.	105	80	21	2	1	209	4.18
4	Know how to use spread sheets (Excel/Google Sheets).	80	76	27	10	1	194	3.88
5	Install and use mobile or computer applications.	105	104	6	0	1	216	4.32
6	Know how to evaluate the reliability of online information.	85	92	24	0	2	203	4.06
7	Use digital tools for academic purposes (Zoom, LMS, etc.).	95	84	12	4	4	199	3.98
8	Understand basic concepts like cloud storage and online collaboration.	90	92	15	4	2	203	4.06

The table presents the awareness level of college students about different aspects of digital literacy using a five-point scale. The mean scores indicate the overall level of awareness for each skill. Students show very high awareness in basic digital operations. The highest mean score is for using a computer/smartphone confidently (Mean = 4.36), indicating that most

students are extremely or somewhat aware of basic device usage. A similarly high level of awareness is observed for installing and using mobile or computer applications (Mean = 4.32) and using email, Google search, and online learning platforms (Mean = 4.30). Awareness related to creating and editing documents using MS Word/Google Docs is also high (Mean = 4.18). Skills such as evaluating the reliability of online information and understanding cloud storage and online collaboration show moderately high awareness (Mean = 4.06 each). Using digital tools for academic purposes (Zoom, LMS, etc.) has a mean score of 3.98. The lowest mean score is observed for using spreadsheets (Excel/Google Sheets) (Mean = 3.88). This study found that college students possess a high level of digital literacy, especially in basic and frequently used digital activities. However, more advanced or technical skills such as spreadsheet usage and critical evaluation of online information require further strengthening through targeted digital literacy training programs.

5.5 Awareness level of college students regarding Cyber Security

Table -5-Awareness level of college students regarding Cyber Security

Sr. No.	Cyber Security Awareness	5	4	3	2	1	Total Score	Mean
1	Aware of cyber threats like hacking, phishing, and malware.	90	100	15	4	0	209	4.18
2	Use strong and unique passwords for accounts.	95	108	12	0	0	215	4.3
3	Regularly update devices and applications.	80	112	18	0	0	210	4.2
4	Avoid clicking on suspicious links or emails.	130	76	6	0	3	215	4.3
5	Know what two-factor authentication (2FA) is.	70	100	24	6	0	200	4
6	Aware of privacy settings on social media platforms.	115	80	18	2	0	215	4.3
7	Use antivirus or security software.	125	64	21	4	0	214	4.28
8	Know how to protect personal data online.	100	88	9	8	1	206	4.12
9	Avoid using public Wi-Fi for sensitive transactions.	120	72	15	6	0	213	4.26

The table highlights the level of cyber security awareness among college. The mean scores reflect students' overall understanding and practices related to cyber security. Students demonstrate a high level of awareness of common cyber threats such as hacking, phishing, and malware, with a mean score of 4.18, indicating strong basic knowledge of cyber risks. Awareness and practice of using strong and unique passwords is very high (Mean = 4.30). A similarly high level of awareness is seen in avoiding suspicious links or emails (Mean = 4.30) and awareness of privacy settings on social media platforms (Mean = 4.30). Students also show strong awareness of regularly updating devices and applications (Mean = 4.20) and using

antivirus or security software (Mean = 4.28), which are essential preventive security measures. Knowledge about protecting personal data online (Mean = 4.12) and avoiding public Wi-Fi for sensitive transactions (Mean = 4.26). The lowest mean score is observed for knowledge of two-factor authentication (2FA) (Mean = 4.00). It is observed that college students possess a strong level of cyber security awareness, particularly in everyday safe online practices. However, advanced security concepts such as two-factor authentication and personal data protection could be further strengthened through awareness programs and training workshops.

5.6. Relationship between Digital Literacy and Cyber Security

Table 6- Relationship between Digital Literacy and Cyber Security

Sr. No.	Relationship between Digital Literacy and Cyber Security	5	4	3	2	1	Total Score	Mean
1	Higher digital literacy improves awareness of cyber security risks.	70	84	30	10	0	194	3.88
2	Digital skills help me identify phishing emails and fake websites.	60	108	30	0	1	199	3.98
3	Good digital literacy is better at protecting personal data.	70	80	36	6	1	193	3.86
4	Digital literacy increases confidence in handling cyber threats.	100	92	12	6	0	210	4.2
5	Believe lack of digital skills makes students more vulnerable to cyber-attacks.	65	84	42	2	1	194	3.88
6	Learning digital technologies has improved online safety practices.	70	96	27	6	0	199	3.98
7	There is a strong link between digital knowledge and cyber security awareness.	55	116	21	4	1	197	3.94

The table presents respondents' opinions on the relationship between digital literacy and cyber security. The mean scores for all statements range between 3.86 and 4.20, indicating an overall positive perception. The findings clearly indicate a strong positive relationship between digital literacy and cyber security awareness. Higher levels of digital literacy not only improve awareness and confidence but also enhance safe online behavior and reduce vulnerability to cyber threats. This emphasizes the importance of promoting digital literacy to strengthen cyber security preparedness.

6. Findings

The study reveals that college students possess a fairly high level of digital literacy, especially in basic digital skills such as using smartphones and computers, accessing emails, online learning platforms, and installing applications. Students mainly use the internet for educational purposes, followed by social media and entertainment. The findings also indicate that students have a strong level of cyber security awareness, particularly regarding common threats like phishing, malware, and hacking, and safe practices such as using strong passwords, avoiding suspicious links, and using antivirus software. However, relatively lower awareness is

observed in advanced skills such as using spreadsheets, evaluating online information, and understanding two-factor authentication. Overall, the analysis shows a positive relationship between digital literacy and cyber security awareness. Students with higher digital literacy tend to have better awareness of cyber risks and adopt safer online practices.

7. Conclusion

The study concludes that digital literacy plays a significant role in enhancing cyber security awareness among college students. Although students demonstrate good basic knowledge and practices, there is a need to further strengthen advanced digital and cyber security skills through training programs, workshops, and awareness campaigns. Educational institutions should incorporate digital literacy and cyber security education into the curriculum to promote safe and responsible use of digital technologies. This will help students protect themselves from cyber threats and develop secure online behavior in the digital age.

8. References

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