

Understanding Data Privacy: Assessing Students' Perceptions and Attitudes Toward Data Privacy in Higher Education Institutions of Agartala City

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ABSTRACT

In the contemporary digital landscape, data privacy has become an essential area of knowledge, particularly for young individuals, including students. The rapid advancement of information technology has significantly transformed the education system, offering substantial opportunities for students in higher education. However, concerns regarding data privacy and security have emerged alongside these opportunities. This study examines the level of awareness among students regarding data privacy and the measures they take to safeguard their personal information. A semi-structured questionnaire was used to collect the data needed to meet the aims. Employing a mixed-methods research design, the study integrates quantitative techniques—utilising tabulation with percentages—alongside qualitative approaches, such as case studies and theoretical descriptive analysis. The findings provide critical insights into students' awareness levels, contributing to the broader discourse on data privacy education in higher learning institutions.

Keywords- Data Privacy, Cybersecurity, Higher Education, Student Awareness, Social Attitudes.

INTRODUCTION

Social media is a medium of communication that enables humans to reach out to society in the contemporary digital world. This world is surrounded by rapidly advancing technological tools with pervasive internet connectivity. The rapid advancement of information technology has significantly transformed the education system, offering substantial opportunities for students in higher education (Vimercati et al., 2012). On the other hand, the issue of data privacy has emerged as a critical concern across the globe. As individuals increasingly engage with digital platforms for education, social interaction, and commerce, collecting, storing, and using personal data has raised significant ethical, legal, and social questions. Recent high-profile data breaches and revelations regarding the misuse of personal data have heightened public awareness and concern about data privacy implications (West, 2019). Consequently, understanding how different population segments perceive and respond to data privacy issues is essential for developing effective privacy protection strategies.

Among these population segments, college students represent a unique and vital demographic. They are typically among the most active users of digital technology, often engaging with multiple online platforms simultaneously and sharing personal information in ways that may compromise their privacy (Taneja et al., 2016). Despite being digital natives, studies have suggested that their understanding of data privacy risks and protective measures may be limited (Xu et al., 2011). Therefore, examining college students' perceptions and social attitudes toward data privacy is crucial for fostering a more informed and responsible user base.

Located in northeastern India, Agartala City has seen a rapid transition toward digitalisation, growing internet penetration, and increasing reliance on online services among its youth. However, there remains a paucity of empirical research focused on the awareness and attitudes toward data privacy among college students in this context. This study seeks to fill this knowledge gap by exploring the perceptions and social attitudes toward data privacy among college students in Agartala City.

The primary research objectives of this study are to assess the level of awareness regarding data privacy issues among college students, identify the factors influencing their perceptions and attitudes toward data privacy, and explore the implications of these perceptions for their online behaviours and practices. By focusing on Agartala, this research aims to contribute to the broader discourse on data privacy in India, providing insights that can inform policymaking, educational initiatives, and preventative measures to enhance data protection among young adults.

LITERATURE REVIEW

Data privacy has become a critical concern in today's digital era, especially with the widespread collection and sharing of personal information. The document examines various privacy definitions and protection techniques to safeguard sensitive data from unauthorised access and potential misuse.

M. Salazar and B. Woodward (2017), in their article "With Great Data Comes Great Responsibility: University Students' Perceptions on Data Privacy," provide a comprehensive exploration of university students' perceptions and awareness regarding data privacy. According to this study, 63% of their respondents rated their knowledge of privacy laws as low to neutral, with only 21% actively seeking information about privacy rights. Many respondents are unaware of browser tracking features, and they have limited education on privacy rights or best practices for safeguarding personal information. This article provides valuable insights into the complex interplay between technological integration, user behaviour, and institutional practices concerning data privacy.

Vimercati, Foresti, Livraga, and Samarati (2012), in their article "Data Privacy: Definitions and Techniques," conceptualise complexities of data privacy where syntactic privacy measures the degree of protection with numerical values, and semantic privacy, which any data release mechanism maintains. They also discuss two models: protect-and-mine and mine-and-protect. According to them, due to continuous advancements in technology and data mining require evolving privacy protection methods as no single approach provides complete security.

Among students, increasing dependence on the internet and digital platforms, coupled with rising cybercrime, and the necessity to understand data privacy and cybersecurity issues. **Madhab Chandra Das** (2022), in his research "Data Privacy on the Internet: A Study on Awareness and Attitudes among the Students of the University of Chittagong in Bangladesh," on 180 university students awareness level, their skills with data privacy, and found that to lack of awareness about putting personal information on social media platforms encourages incidents of cybercrime. He also reviewed that female students exhibit higher data security awareness than male students. His findings reflect that 51.6% of his respondents keep their social media profiles private, while 45.2% have public profiles. Among all, 74.2% of respondents reported being victims of cyber threats or privacy violations. His research suggested that students' awareness and education regarding data privacy and cybersecurity are essential among university students in Bangladesh.

Bhatnagar and Pry (2020), in their study "Student Attitudes, Awareness, and Perceptions of Personal Privacy and Cybersecurity in the Use of Social Media: An Initial Study," examine college students' attitudes, awareness, and perceptions of personal privacy and cybersecurity risks associated with social media usage. The study aims to assess student perceptions of social media privacy, determine if security matters to college students, and evaluate whether universities should provide better cybersecurity education.

Objective of the Study

1. To examine students' awareness and knowledge of data privacy issues.
2. To investigate whether perceptions of cyber safety vary among different age groups of college students.
3. To find a relation between data sharing habits and trust in institutions.
4. To identify factors influencing privacy concerns and behaviours.
5. To investigate the role of social media and digital Literacy in shaping privacy perceptions.

METHODOLOGY

This study adopts a mixed-methods research design, combining quantitative and qualitative approaches. The case study method provides an in-depth analysis of college students' perceptions and social attitudes toward data privacy. A total of 110 college students enrolled in various institutions across Agartala city were selected for data collection. The students were selected using stratified random sampling to ensure representation from different colleges, disciplines, and academic years, and selected on the basis that colleges would be categorised based on factors such as government, semi-government, and private institutions. For qualitative interviews, purposefully selected students who have strong opinions or experiences related to data privacy issues. A survey (online and offline) was conducted through both closed-ended and open-ended questionnaires.

RESULTS AND DISCUSSION

Students' awareness and knowledge of data privacy issues

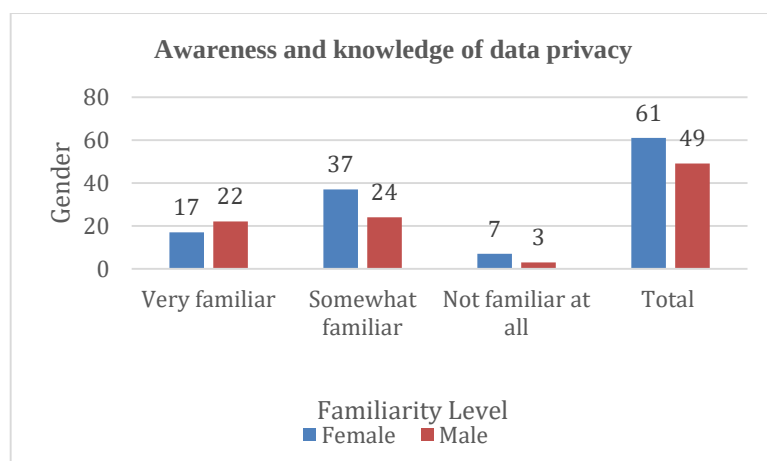
Level of Familiarity

This study concern about data privacy awareness among colleges and university students in Agartala city. Respondents were selected from seven different colleges and three universities. Among the respondents, 71% are students of undergraduate courses and 29% are in postgraduate courses. 110 respondents completed the survey and gave their responses. Among the respondents, there are 61 female students and 49 male students.

Table 1: Awareness and knowledge of data privacy

Familiarity Level	Female	Male	Total
Very familiar	17	22	39
Somewhat familiar	37	24	61
Not familiar at all	7	3	10
Total	61	49	110

Source: Primary data



The survey assessed students' awareness and knowledge of data privacy, asking them to grade their familiarity with the topic on a scale of 1 (very familiar), 2 (somewhat familiar), and 3 (not familiar at all). The responses

were categorised by gender to evaluate whether there are differences in data privacy awareness and knowledge based on gender. Among male students, 44.9% reported being "Very familiar" with data privacy, which is notably higher than the 27.9% of female students who selected the same option. This indicates that a larger proportion of male students feel confident or well-informed about data privacy concepts. A greater percentage of female students, 60.7%, described themselves as "Somewhat familiar" with data privacy, compared to 49.0% of male students. This suggests that while female students may not feel as familiar with the topic as their male counterparts, they still have a moderate level of awareness of it. A slightly higher percentage of female students (11.5%) reported being "Not familiar at all" with data privacy compared to male students (6.1%). This finding suggests that a portion of female students may have less awareness or knowledge about data privacy than male students.

Interpretation of Awareness and Knowledge Aspects

Awareness about data privacy is crucial among the young generation. Findings of the study show that the higher percentage of male students who report being "Very familiar" with data privacy have greater awareness of the topic. This could be due to various factors, such as previous exposure to privacy-related discussions, education, or personal interest. In contrast, female students report being "Somewhat familiar" more often, indicating that while they are aware of data privacy issues, they might not feel as confident or informed.

Knowledge: The data highlighted that male students are likely more knowledgeable about data privacy, as evidenced by their higher familiarity ratings. Which may have two indications, one is their own interest, and the second one is related to the approaches where some awareness initiatives are unintentionally tailored towards male-dominated technical spaces. Female students, while generally aware of data privacy, might have gaps in their knowledge, as indicated by the higher number of "Not familiar at all" responses. This could suggest that there is a need for more targeted education or resources on data privacy for female students to bridge this knowledge gap.

Observations show that gender is one of the important elements for understanding the knowledge and awareness level among the students. Male students are more likely to consider themselves 'Very familiar' with data privacy, indicating higher awareness and knowledge about data privacy. Hence, female students have limited knowledge regarding data privacy. This indicates that the use of technology without proper awareness can lead to an unsafe situation where many female students are unaware of the device access settings. This pattern suggests that male students may have a greater understanding or more exposure to data privacy concepts, while female students may benefit from additional education or resources to increase both awareness and knowledge in this area.

Perceptions of cyber safety vary among different age groups of college students.

Assessing Age Group Differences

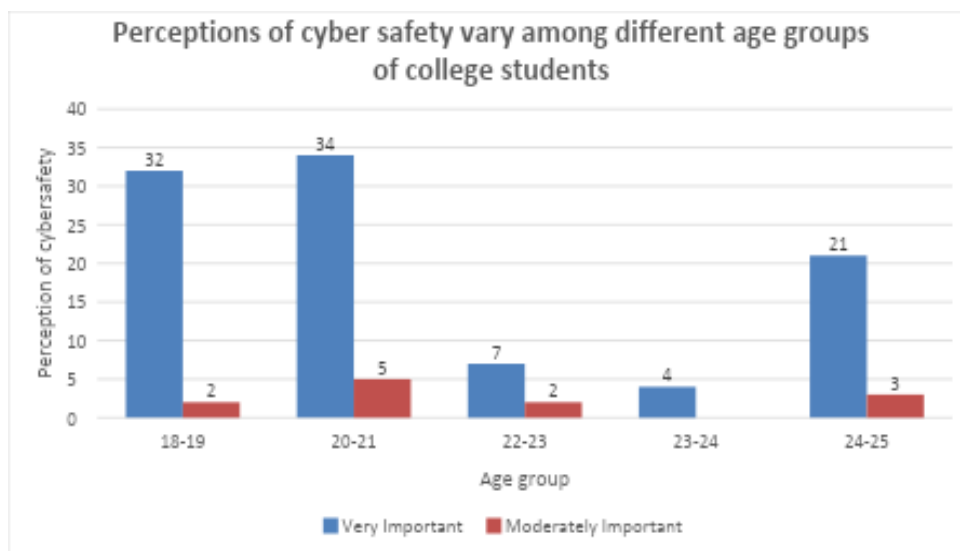
Here investigating whether perceptions of cyber safety vary among different age groups of college students. Each student rated their cyber safety awareness as 1, very important, 2, moderately important, and 3, not important. The responses are on how important students from different age groups consider cyber security awareness. Responses fall into two categories: Very important and Moderately important.

Frequency Table by Age Group

Age Group	Very Important	Moderately Important	Total
18-19	32 (94.1%)	2 (5.9%)	34
			30.90%
20-21	34 (87.2%)	5 (12.8%)	39

			35.45%
22-23	7 (77.8%)	2 (22.2%)	9
			8.18%
23-24	4 (100%)	0	4
			3.63%
24-25	21 (87.5%)	3 (12.5%)	24
			21.81%
Total	98	12	110
	89.09%	10.90%	100%

Source: primary data



Source: primary data

Interpretations of Perceptions of cyber safety vary among different age groups of college students

Across all age groups, most students consider cyber security awareness to be "Very important." The 18-19 and 23-24 age groups show the highest proportion rating it "Very important." The 22-23 age group has the highest proportion of "Moderately important" responses, but "Very important" is still the majority. Cybersecurity awareness is overwhelmingly considered "Very important" by students in all age groups. There is little variation between age groups, with only minor increases in "Moderately important" responses among older students.

The Relation Between Data Sharing Habits and Trust in Institutions

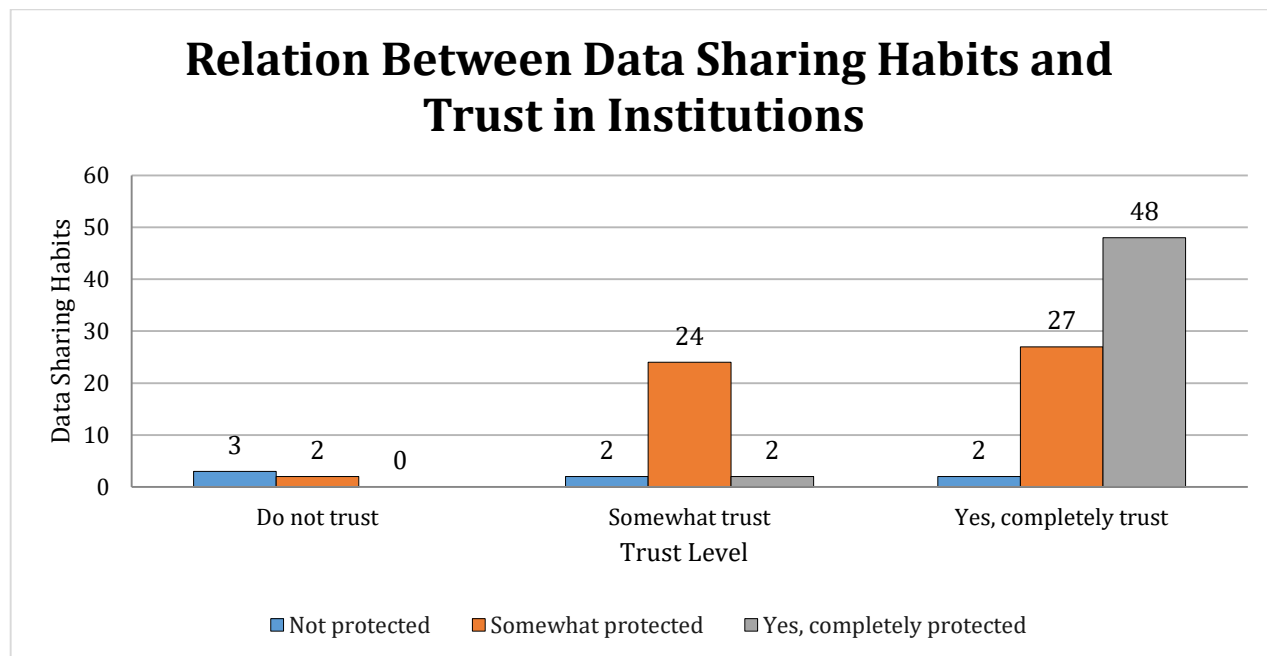
Level of protection

Here evaluating whether students who trust their institutions are more likely to share personal information online. Here's an analysis summary based on the data regarding the relation between students' trust in institutions and their willingness to share personal information online/ to safeguard personal information.

Protection Level	Do not trust	Somewhat trust	Yes, completely trust	Total
Not protected	3	2	2	7
Somewhat protected	2	24	27	53
Yes, completely protected	0	2	48	50
Total	5	28	77	110

Source: primary data

The above table, derived from empirical data, illustrates the intricate relationship between user trust in institutions and their perceived level of protection against cyber threats, revealing a significant portion of users who, despite some level of trust, do not feel entirely secure. There is a powerful, statistically significant association between trust in institutions and perceived data protection.



Source: primary data

Interpretations of the Relationship between Data-Sharing Habits and Trust in Institutions

Students who have a high level of trust in their institution generally feel that their personal data is well-protected. This perception of data security overwhelmingly influences their willingness to share personal information online. When students completely trust the institution, they overwhelmingly report that their data is “completely protected.” This sense of security directly correlates with their confidence in sharing personal data.

On the other hand, students with lower levels of trust in their institution are less likely to feel that their data is fully protected. Instead, they tend to feel that their data is "not protected." This lack of trust and perceived security is a significant barrier to their willingness to share personal information online. The data shows that a lower sense of security often leads to reluctance in sharing personal details. Yes, the data confirms that students who trust their institutions are more likely to share personal information online. This is strongly supported by the association between trust and perceived data protection. The relationship between these factors is not only statistically significant but also aligns with established research to link trust and data-sharing behaviour. There is a strong, statistically significant association between students’ trust in their institution and their confidence that their data is protected. This trust is a key driver of willingness to share personal information online. Students

who trust their institutions to safeguard their personal information are significantly more likely to believe their data is adequately protected. This strong correlation suggests that trust in institutions is a major factor influencing students' willingness to share personal information online.

Factors influencing privacy concerns and behaviours

Privacy concerns among college students demonstrate discernible variation across age and gender categories. Evidence from the present study indicates that female students report significantly higher levels of concern regarding digital security and personal data protection than male students. Qualitative responses further substantiate this trend; for instance, one female respondent reported the loss of her scholarship funds due to inadequate awareness of digital privacy practices. This incident resulted in a marked behavioural shift, wherein the respondent adopted stricter data-sharing practices and refrained from disclosing personal information on digital platforms without verifying their authenticity.

Across the data, respondents acknowledged the perceived convenience of digital services but simultaneously expressed apprehension regarding data privacy. This duality reflects a broader pattern of risk-benefit negotiation, shaped primarily by limited privacy literacy among students. The findings underscore a systemic gap in students' understanding of data governance mechanisms, despite their high dependence on digital platforms for academic and administrative purposes.

The role of social media and digital literacy in shaping privacy perceptions

This study highlights that students' engagement with social media platforms directly influences their awareness of data collection and willingness to share personal information, particularly within the context of human-centred learning analytics and AI systems in education. Most of the respondents share that, for any academic context, they are using AI tools. Students don't have any idea of institutional ethical considerations. Still, the higher education institutions are struggling to establish guidelines and privacy policies regarding AI. Respondents shared that student in their class is constantly engaged and highly dependent on different AI tools. Students' multiliteracy, encompassing both traditional and digital literacy not able to complement each other. The results indicate that 87% of the students don't have a proper understanding of AI and its capabilities and limitations. 16% of respondents have shared their interest in blogging and being a content creator, which indicates their frequent involvement in social media. For them, it is normal to share personal information in the digital world, for them, oversharing of information is normal. Only three respondents shared their concern about the risk

social media -Normalizes Oversharing, Influences Self-Image, Creates Risk Exposure, **digital literacy** -critically assess information, understand privacy policies, and use privacy tools effectively, Builds Critical Evaluation Skills, promotes Responsible Use

RECOMMENDATION

In 2026, digital literacy and data privacy are no longer just about awareness of operating computers or smart gadgets – rather, it is about navigating an environment where AI-generated content, social search, and algorithmic bubbles are norms. Social media can lead to misinformation and can be used for any social disturbance if we can't strengthen our skills. Out of all observation few practical recommendations were proposed to enhance students' digital literacy.

Practice 'AI Awareness'. By early 2026, most major platforms have implemented mandatory 'Made with AI' labels for realistic synthetic content. The literacy exercise and deep dive can help the students to understand the process of creation. **Yearly 'Algorithm Audit'** can create safety to break the filter bubble. Exploring different areas to make an uneven flow for the algorithm reflection. Students must strengthen privacy and safety hygiene through the literacy exercise by reviewing the privacy and safety settings on every platform, every month.

CONCLUSION

The study examined students' awareness and practices regarding data privacy, focusing on the protection of personal, academic and digital information shared through social media platforms, online educational portals, and institutional learning management systems (LMS), email services and mobile applications.

The study revealed that students in higher education institutions use the internet extensively for academic, communication, financial and official purposes. However, the survey identified significant gaps in data privacy awareness and cyber security practices. Approximately 78% of respondents acknowledged that protecting personal data is essential for online security, indicating a high level of awareness and cyber security practices. Approximately 78% of respondents acknowledged that protecting personal data is essential for online security, indicating a high level of awareness regarding the importance of privacy. Despite this, only 26% reported reading privacy policies before installing applications or accessing online services, while 62% admitted that they had shared personal information through unfamiliar websites, links or applications at least once.

Regarding online security practices, 81% of respondents reported using passwords to secure their online accounts, while 59% used two-factor authentication. Approximately 47% regularly reviewed application permissions before granting access to personal information, and only 34% reported reading privacy policies before accepting the terms and conditions of mobile applications or websites.

The study also identified several risky online behaviours. Nearly 43% of students admitted clicking on unfamiliar links received through emails or social media at least once, and 37% acknowledged sharing personal information with third-party applications without verifying their authenticity. Furthermore, 62% of respondents were unaware of the privacy settings available in their institutional LMS or online learning platforms, indicating limited understanding of how academic data are collected, shared and arranged.

Overall, the findings reveal that although students demonstrate a relatively high level of awareness regarding the importance of data privacy, their knowledge of privacy legislation and adoption of effective data protection practices remain inadequate. These results highlight the need for higher education institutions to strengthen digital literacy initiatives through awareness campaigns, cyber security training and practical guidance on safe online behaviour and responsible use of institutional digital platforms.

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