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## **St. Xavier's College of Education**

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about a significant change in the education system (Yenugu, 2022). Supported by the National Research Foundation, the transformation towards a student-centric, research-oriented, and competency-based system is set to unfold by 2030.

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## Evaluating Cyber Security Awareness among Secondary School Students

### Abstract

*This study investigates the cybersecurity awareness among secondary school students. A sample of 162 students from both government and private schools was surveyed, focusing on their understanding of cybersecurity. Findings indicate a varied level of cybersecurity awareness, with 17.9% demonstrating high awareness, 65.43% moderate, and 16.67% low. Gender did not significantly impact awareness, but students who are in higher classes (11th grade) showed better awareness compared to their counterparts. The study underscores the need for targeted educational interventions to enhance cybersecurity awareness and promote responsible internet usage among students.*

**Keywords:** Internet, Cyber Security, Awareness Secondary School Students

## Introduction

In the digital age, cybersecurity and responsible internet usage are crucial for safeguarding personal information and ensuring a secure online environment. Platforms like Facebook, WhatsApp, Twitter, Instagram, Chat GPT have revolutionized education by breaking down barriers related to distance, time, and cost. They play a key role at all levels of education, from primary to higher education, helping students with assignments, projects, and staying updated. However, as technology evolves, so do its risks, making cybersecurity an important issue. Studies have highlighted concerns about careless internet use impact on students, including issues like addiction due to parental neglect and the rise of cyber bullying. Chang and Golightly (2023) in their paper explored cyber security issues for teenagers, focusing on social media's impact and the lack of awareness about digital privacy. It identified seven motivations for hacking, including emotional, financial, and political reasons, and emphasizes children's vulnerability to cyber threats. The study highlights various hacking methods and advocates for enhanced privacy measures and a proactive approach to online safety, stressing the importance of being well-informed to protect oneself online. Kaur and Saini (2023) addressed the rise of cyber bullying due to increased internet and social media use. It evaluated Indian government measures like help lines and legal actions against cyber bullying. The review highlights anonymity and psychological factors as key contributors to cyber bullying and suggests that adolescents who intervene can help mitigate its effects. Social acceptance is identified as crucial in reducing cyber bullying vulnerability.

This study aims to explore how secondary school students use internet and how aware they are of cybersecurity. Adolescents use various platforms extensively, but their understanding of online dangers and safe practices is often unclear. The research involves surveys to assess students' knowledge and behaviours regarding cyber security.

## Significance of the Study

The significance of this study lies in the widespread use of digital technology and the surprising lack of cybersecurity awareness among young people. Many students are active online but don't fully understand how to protect themselves from cyber threats. This research aims to:

- Improve protection against online dangers by boosting awareness.
- Help students keep their personal and sensitive information safe.
- Encourage responsible and ethical behavior online.
- Reduce cybersecurity risks in schools.

## Statement of the problem

With the growing use of internet among students, it is crucial to understand their level of cybersecurity awareness. The research looks into how well students recognize and manage online threats and how informed they are about safe online practices.

## Operational Definitions

- **Awareness of Cybersecurity:** This refers to students' understanding of safe online practices and cybersecurity rules, measured through a special test.
- **Secondary School Students:** Students in classes IX and XI.

## Research Objectives

- To find the level of cyber security awareness of the secondary school students.
- To find the significant difference in the mean scores of Awareness of secondary school students towards cyber security on the basis of gender.
- To find the significant difference in the mean scores of Awareness of secondary school students towards cyber security on the basis of class in which they study.

## Null Hypotheses

- Ho1.** There is no significant difference in the mean scores of Awareness of secondary school students towards cyber security on the basis of gender.
- Ho2.** There is significant difference in the mean scores of Awareness of secondary school students towards cyber security on the basis of class in which they study.

## Scope of the Study

This research focuses on secondary school students in Patna, specifically those in classes IX and XI, with a sample of 162 students.

## Research Method used in the Study

Considering the multidimensional nature of the problem under investigation, the study uses survey method to get a detailed understanding of students' cybersecurity awareness.

## Population of the Study

In this study, the population comprises of Secondary school students of Patna.

### Sample of the Study

162 Secondary school students of Patna is the sample of the present study.

### Tools used for the Study

For this study on "Awareness towards Cyber Security and Attitude toward the Use of Social Media," the following tools were used:

- Personal Data Sheet
- Self-constructed and validated Cyber Security Awareness Test (CSAT)

### Findings: -

The survey revealed the following insights regarding cybersecurity awareness:

**Table no. 1 Level of Awareness towards Cyber Security**

Variable	Types	High	Moderate	Low
Gender	Boys (56)	12 (21.43%)	33 (58.93%)	11 (19.64%)
	Girls (106)	19 (17.92%)	71 (66.98%)	16 (15.09%)
Class	9th (110)	20 (18.18%)	73 (66.36%)	17 (15.45%)
	11th (52)	11 (21.15%)	29 (55.77%)	12 (23.08%)
Total	162	29 (17.9%)	160 (65.43%)	27 (16.67%)

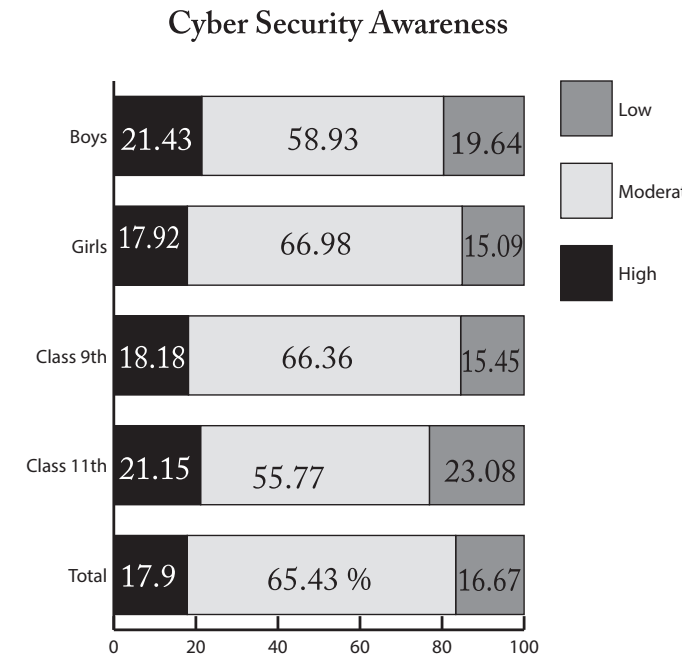
The data from Table 1 indicates that among 162 secondary school students, 17.9% have high, 65.43% have moderate, and 16.67% have low awareness of cyber security.

When comparing cyber security awareness by gender, among 56 boys, 21.43% have high, 58.93% have moderate, and 19.64% have low awareness. In contrast, among 106 girls, 17.92% have high, 66.98% have moderate, and 15.09% have low awareness.

Regarding class level, among 110 9th-grade students, 18.18% have high, 66.36% have moderate, and 15.45% have low awareness. Among 52 11th-grade students, 21.15% have high, 55.77% have moderate, and 23.08% have low awareness.

Regarding class level, among 110 9th-grade students, 18.18% have high, 66.36% have moderate, and 15.45% have low awareness. Among 52 11th-grade students, 21.15% have high, 55.77% have moderate, and 23.08% have low awareness.

**Figure 1 Graphical representation of Level of Awareness towards Cyber Security**



**Ho1.** There is no significant difference in the mean scores of Awareness of secondary school students towards cyber security on the basis of gender.

**Table 2 Difference in Cyber Security Awareness of Students on the basis of Gender**

On the basis of Gender					
Gender	N	Mean	SD	t-ratio	Remarks
Boys	56	14.77	6.012	0.419	NS*
Girls	106	14.38	5.434		

Table 2 indicates that the t-ratio is 0.419, which is below the table value of 1.98 at the 0.05 significance level. Thus, the null hypothesis is accepted, suggesting no significant difference in cyber security awareness between male and female students.

**Ho2.** There is significant difference in the mean scores of Awareness of secondary school students towards cyber security on the basis of class in which they study.

**Table 3 Difference in Cyber Security Awareness of Students on the basis of Class**

On the basis of Gender					
Class	N	Mean	SD	t-ratio	Remarks
9 <sup>th</sup>	110	13.25	5.408	4.401	S*
11 <sup>th</sup>	52	17.19	5.157		

Table 3 reveals that the t-ratio is 4.401, which is higher than the table value of 1.98 at the 0.05 significance level. Therefore, the null hypothesis is rejected, indicating a significant difference in cyber security awareness between 9th and 11th grade students, with 11th graders showing better awareness.

### Discussion

The findings reveal a predominant average attitude towards social media, with students primarily using it for entertainment and educational purposes. The popularity of YouTube for educational content aligns with previous studies. Gender differences in attitudes were contrary to earlier findings suggesting boys' predominant use of social media.

### Findings Related to Cyber Security

#### A) Percentage Analysis

- **Among 162 secondary school students:** 17.9% have high, 65.43% have moderate, and 16.67% have low awareness of cyber security.
- **By gender:** Among 56 boys, 21.43% have high, 58.93% have moderate, and 19.64% have low awareness. Among 106 girls, 17.92% have high, 66.98% have moderate, and 15.09% have low awareness.
- **By class:** Among 110 9th-grade students, 18.18% have high, 66.36% have moderate, and 15.45% have low awareness. Among 52 11th-grade students, 21.15% have high, 55.77% have moderate, and 23.08% have low awareness.

#### B) Findings and Discussion on Hypotheses Related to Cyber Security

- **Gender wise:** No significant difference in cyber security awareness between boys and girls.
- **Class wise:** Significant difference observed; 11th-grade students (mean score 17.19) have higher cyber security awareness than 9th-grade students (mean score 13.25).

### Implications on Education

- **Enhanced Cybersecurity Education:** Schools should develop tailored cybersecurity education programs to address gaps in awareness, particularly in government schools and lower-class levels.
- **Digital Citizenship Development:** Curriculum should integrate digital citizenship principles to promote ethical online conduct and responsible social media use.
- **Parental and School Collaboration:** Involving parents in cybersecurity education and fostering school-wide initiatives can enhance students' understanding of online safety.
- **Curriculum Development:** Interactive and experiential learning activities should be incorporated into the curriculum to engage students in practical cybersecurity and social media awareness exercises.
- **Technological Resilience:** Educators and policymakers must focus on developing a technologically resilient generation by addressing both cybersecurity knowledge and responsible social media usage.

### Recommendations

Based on the research findings on secondary school students' cyber security awareness and social media use, the following recommendations are proposed:

- **Cyber Security Education:** Introduce comprehensive programs in schools to improve students' understanding of online threats, safe practices, and cyberbullying prevention.
- **Digital Literacy:** Integrate digital literacy into the curriculum to help students navigate the digital world responsibly and critically assess online information.
- **Teacher Training:** Provide continuous training for teachers on social media trends and cyber threats to better support and guide students.
- **Research-Based Policies:** Develop and implement school policies based on ongoing research to balance safety with a positive online environment.
- **Peer Mentorship:** Establish peer mentorship programs to encourage responsible social media use and foster a supportive online community within schools.
- **Digital Citizenship:** Include digital citizenship topics in the curriculum to teach ethical online behaviour, respect for privacy, and the impact of online actions.

These measures aim to address social media challenges and improve cyber security awareness, ensuring a safer online experience for students.

## Conclusion

The study highlights a significant need for improved cybersecurity education and responsible social media practices among secondary school students. By addressing the identified gaps and implementing targeted educational strategies, stakeholders can better prepare students for the digital age, ensuring they navigate online spaces securely and ethically.

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*The National Institute of Standards and Technology (NIST) Cybersecurity Framework: <https://www.nist.gov/cyberframework> The Cybersecurity and Infrastructure Security Agency (CISA): <https://www.cisa.gov/>*



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# Attitude of Secondary School Tribal Students towards Parental Involvement in their Studies

## Abstract

*Education is an important virtue for all human life. Parental involvement is extremely important in a student's life. Parental Involvement has a positive influence on students' academic success. Parents are responsible for encouraging the students who are studying in secondary schools for better performance. Adolescents need care and support of their parents in their academic studies. Students believe their parents give them all the required resources to succeed in school.*

*The main purpose of the study was to find the significant difference in the attitude of Secondary School Tribal Students towards Parental Involvement based on their gender, board and stream (arts and science) The researcher used a survey method to conduct this study. The sample size was 150 secondary tribal students using a Simple Random Technique. A self-constructed and validated tool on Attitude of Secondary School Tribal Students towards Parental Involvement was used by the researcher. The interpretation of data was done by computing the t-test. The findings of the study revealed that there was a significant difference in the attitude of students towards Parental*