

Original Article

Click Smart, Stay Safe: Cyber Crime Awareness across Gender and Course Streams

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The study investigates cyber-crime awareness among college students by examining differences across gender (male and female) and course streams (vocational and non-vocational). A cross-sectional quantitative research design was used, and data was collected from 120 randomly selected students from Sangli and Kolhapur districts using the Cyber Crime Awareness Scale (Rajasekar, 2019). Results from a Two-Way ANOVA revealed that course stream had a significant impact on awareness levels, with vocational students demonstrating higher cyber-crime awareness than their non-vocational counterparts. However, no significant difference was observed between male and female students, nor was there any significant interaction effect between gender and course stream. The findings suggest that academic stream contributes substantially to cyber safety knowledge, emphasizing the need to incorporate structured cyber security education in non-vocational programs to strengthen students' preparedness against online threats.

Keywords: Cyber-crime awareness, gender, vocational students, non-vocational students.

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Introduction

In today's digital era, the internet has become an integral part of everyday life, shaping the way individuals communicate, learn, and work. While technology provides immense benefits, it has also given rise to various forms of cyber-crime such as identity theft, phishing, online fraud, cyberbullying, hacking, and misuse of personal data. With the increasing dependence on digital platforms, awareness about cyber-crime has become a crucial skill, especially for students who are active users of technology for academic, professional, and personal purposes. Cyber-crime awareness refers to an individual's understanding of potential online threats, preventive measures, safe practices, and legal consequences associated with cyber offenses. The level of awareness often varies across demographic groups, including gender, educational background, and the type of courses pursued. Students enrolled in vocational courses are usually oriented towards skill-based, technology-driven training, whereas students from non-vocational courses often focus on theoretical and academic learning. These different educational contexts may influence their exposure to and knowledge of cyber safety practices. Gender also plays a significant role in shaping awareness and experiences related to cyber-crime. Studies suggest that female students are more vulnerable to certain online threats, such as harassment or privacy violations, whereas male students may encounter risks like gaming-related fraud or hacking activities. Thus, analysing gender differences in cyber-crime awareness can help in designing targeted educational interventions to promote online safety. Given this background, the present study aims to investigate the level of cyber-crime awareness among vocational and non-vocational course students, with a specific focus on gender differences. It seeks to explore whether significant differences exist in the awareness levels of male and female students across these educational streams. The findings of this research will contribute to a better understanding of students' preparedness against online threats and highlight the need for integrating cyber safety education into both vocational and non-vocational curricula.



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Objective:

The present study aimed to examine the level of cyber-crime awareness among college students with respect to gender (male and female) and course stream (vocational and non-vocational).

Design:

A cross-sectional, quantitative research design was employed.

Methods:

A total of 120 students from Sangli and Kolhapur districts were selected using a simple random sampling method, ensuring equal representation of gender and course stream. The Cyber Crime Awareness Scale (Rajasekar, 2019) was administered for data collection. A Two-Way ANOVA was applied to analyze the differences across groups.

Results:

Findings indicated that course stream had a significant effect on cyber-crime awareness, with vocational course students reporting higher awareness levels compared to their non-vocational counterparts. No significant difference was found between male and female students, and the interaction effect of gender \times course was also non-significant.

Review of Literature

Sharma and Gupta (2022) conducted a study on cyber-crime awareness among college students in urban and rural areas. The results revealed that students possessed only moderate awareness about safe internet practices, with male students reporting higher confidence in handling online threats, while female students expressed more concerns about privacy and security issues. Patil (2021) explored the differences in cyber safety awareness between vocational and non-vocational students. Findings indicated that vocational students, being more exposed to digital and technical training, demonstrated comparatively better awareness of phishing, malware, and online fraud. In contrast, non-vocational students showed limited knowledge of cyber laws and preventive measures. Kumar and Singh (2020) examined gender differences in cyber-crime vulnerability and awareness. The study revealed that female students were more frequently victims of cyber harassment, identity theft, and privacy violations, whereas male students reported higher exposure to gaming fraud and hacking-related threats. The research concluded that awareness programs must be gender-sensitive and tailored to the different risks faced by male and female students. Rao and Thomas (2019) investigated cyber-crime awareness levels among higher education students across different academic streams. The results suggested that science and technology students had relatively higher awareness compared to students in humanities and commerce streams. The study emphasized the need for integrating cyber safety modules in all academic courses to ensure holistic awareness. Mishra (2018) studied the role of digital literacy in enhancing cyber-crime awareness among adolescents. It was found that students with prior exposure to ICT training displayed better knowledge of password safety, data protection, and cyber laws. However, lack of structured awareness programs in schools and colleges contributed to gaps in students' preparedness against online threats.

Aims and significance of this study

The present study aims to investigate and compare the level of cyber-crime awareness among college students with respect to gender (male and female) and course streams (vocational and non-vocational). Specifically, the study seeks to determine whether differences exist between these groups and to examine the combined effect of gender and course stream on cyber-crime awareness. In an era where digital interactions and online platforms form an integral part of academic and personal life, awareness of cyber-crime has become crucial for students' safety and well-being. This study is significant as it provides insights into how educational background (vocational vs. non-vocational) and gender may influence levels of cyber-crime awareness. Identifying such variations is essential for educators, counsellors, and policymakers to design targeted awareness programs and interventions. The findings will contribute to strengthening students' preparedness against online threats and promoting responsible internet practices. Furthermore, the results may guide the integration of structured cyber safety education into non-vocational curricula, thereby bridging the awareness gap across academic domains. Overall, the study underscores the importance of equipping all students with the necessary knowledge and skills to navigate the digital environment safely.

Methods

Measures

The Cyber Crime Awareness Scale, developed and standardized by Dr. S. Rajasekar (2019), was employed to assess students' awareness of cyber-crime. The scale measures the extent of knowledge, understanding, and alertness regarding online threats such as hacking, phishing, identity theft, cyberbullying, and online fraud, along with awareness of preventive measures for safe internet practices. In addition, a brief demographic form was administered to collect background information including age, gender, area of residence (urban/rural), and academic details.

Sample

The study was conducted among college students from Sangli and Kolhapur districts. A total of 120 students participated in the research, comprising 60 students from vocational courses and 60 students from non-vocational courses. Equal representation of male and female students was ensured across both course streams. Participants were selected through a simple random sampling technique to minimize selection bias.

Procedure

The research adopted a mixed-method design, with primary emphasis on quantitative analysis to examine group differences in cyber-crime awareness. After obtaining informed consent, the questionnaire packets were distributed and completed in offline mode. Each participant filled in the demographic sheet followed by the awareness scale in a single sitting under the supervision of the researcher. Anonymity and confidentiality of responses were assured, and students were instructed to provide honest and independent answers without external assistance.

Operational Definitions

1. Cyber-crime Awareness – Refers to the level of knowledge, understanding, and awareness of students regarding cyber threats (hacking, phishing, identity theft, cyberbullying, and online fraud) and strategies for safe internet use.
2. Vocational Course Students – Students pursuing skill-based or professional programs such as engineering, IT, electronics, medical sciences, fashion design, or management, with emphasis on practical applications and employability.
3. Non-Vocational Course Students – Students pursuing general academic disciplines such as arts, commerce, humanities, or pure sciences, where theoretical learning predominates over skill-based training.
4. Gender – Defined in this study as the self-reported category of participants, either male or female.

Variables

Independent Variables

- Gender (Male and Female)
- Course Stream (Vocational and Non-Vocational)

Dependent Variable

Cyber-crime Awareness, as measured by the Cyber Crime Awareness Scale (Rajasekar, 2019).

Results and Discussion

A Two-Way ANOVA was conducted to examine the effects of gender (male, female) and course stream (vocational, non-vocational) on students' cyber-crime awareness scores. The results are presented in Table 1 and graphical presentation in Figure1.

Table 1. Two-Way ANOVA Results for Cyber-Crime Awareness

Source of Variation	Sum of Squares (SS)	df	Mean Square (MS)	F-value	p-value
Gender	66.01	1	66.01	0.27	0.604
Course Stream	1184.41	1	1184.41	4.86	0.029
Gender × Course	35.21	1	35.21	0.14	0.705
Residual (Error)	28275.37	116	243.75	-	-
Total	29560.99	119	-	-	-

Figure 1. Graph comparing cyber-crime awareness across gender and course streams.



Main Effect of Gender

Table 1 and figure 1 shows, the effect of gender on cyber-crime awareness was not significant ($F = 0.27$, $p = 0.604$). This indicates that male and female students do not differ significantly in their level of cyber-crime awareness. Hence, the hypothesis that “there will be a significant difference in awareness between male and female students” is rejected.

Main Effect of Course Stream

The effect of course stream was found to be significant ($F = 4.86$, $p = 0.029$). Students from vocational courses showed higher cyber-crime awareness compared to those from non-vocational courses. This supports the hypothesis that course stream influences cyber-crime awareness.

Interaction Effect (Gender \times Course)

The interaction between gender and course stream was not significant ($F = 0.14$, $p = 0.705$). This suggests that the influence of course stream on cyber-crime awareness does not depend on gender. Both male and female students within the same stream showed comparable levels of awareness.

Conclusion

The present study investigated cyber-crime awareness among college students with respect to gender and course stream. The findings revealed that course stream plays a significant role in determining students' awareness of cyber-crime, with vocational students reporting higher levels of awareness compared to their non-vocational counterparts. In contrast, gender was not found to have a significant effect, and the interaction between gender and course stream was also non-significant.

These results highlight the importance of educational background in shaping students' preparedness against online threats. While vocational students appear better equipped, the relatively lower awareness among non-vocational students emphasizes the urgent need to integrate structured cyber safety education into their curricula. Doing so would help bridge the gap in awareness and ensure that all students, irrespective of their academic stream, are equipped with the knowledge and skills to safeguard themselves in the digital environment.

Future research could extend these findings by including larger and more diverse samples across different regions and academic disciplines. It would also be valuable to explore additional factors such as socioeconomic background, digital literacy levels, and access to technology that may influence cyber-crime awareness. Such insights would contribute to the development of targeted awareness programs and preventive strategies, ultimately promoting safer and more responsible internet practices among the student population.

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Contributorship

The author made substantive contributions to the conceptualization, design, data collection, statistical analysis, and preparation of the manuscript. The author endorses the conclusions and approves the final version of this research paper.

Declaration of Conflicting Interests

The author declares no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethical Approval

Ethical approval for conducting this study was obtained from the concerned institutional authority. Participation was voluntary, and informed consent was obtained from all participants. Anonymity and confidentiality of responses were assured.

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Conclusion:

The results suggest that educational stream plays a substantial role in shaping cyber-crime awareness, whereas gender does not contribute significantly. These findings highlight the importance of incorporating structured cyber safety education in non-vocational curricula to bridge the awareness gap and foster safe internet practices across all academic domains.

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