

Online Privacy Awareness and Cybervictimization Among State University Undergraduates in Sri Lanka

KGL Chamuddika#

Faculty of Criminal Justice, General Sir John Kotelawala Defence University, Sri Lanka

#chamuddikakgl@kdu.ac.lk

Abstract: *The internet has both positive and negative consequences for its users. The higher education today is inseparable from technology and students must be able to navigate cyberspace. However, it appears many undergraduates lack awareness of online privacy and become vulnerable to cyber victimization. Consistence with this stream of research. This study aims to ascertain if there is relationship between privacy awareness and sex of the undergraduate and determine the nature of online safety measures practice among undergraduates. For this purpose, data were collected through a survey questionnaire from a random sample of 148 undergraduates, including all faculties from a metropolitan university in Sri Lanka. SPSS and excel were utilized for data analysis where the one-way ANOVA test and regression analysis were applied to determine the difference between variables. The regression analysis concluded with a negative relationship between privacy awareness and the female undergraduates. Findings of the research established though 31.5% of female undergraduates were concerned about security on social media accounts 16.4% of female undergraduates were exposed to unusual activities on their social media accounts, for male undergraduates it was 13.3%. To avoid such activities conducting awareness programmes from Faculty IT centres, organising awareness programs parallel to cybersecurity weeks, and workshops by Sri Lankan Emergency Readiness Team (SLCERT) would help to improve the knowledge of the students on online privacy.*

Keywords: *Online Privacy Awareness, State university, Undergraduates, Sri Lanka*

1. Introduction

Crime and crime-related incidents have become one of the most expanding forms in cyberspace. Though the use of computers started during the 1950s the Internet became a fact of life for people throughout the world during the mid-1990s (MAJID, 2006). For the last several decades, the Internet, computers and other forms of technology have transformed every aspect of life (Bossler & Berenblum, 2019). The internet has both positive and negative vibes for its users. Due to the dynamic pattern of human conduct, some individuals tend to commit criminal behaviour such as theft, burglary, housebreaking, homicide, etc. to determine their survival. Therefore, with the drastic advancement of technology, a broad platform has been established to commit conventional crimes in cyberspace from a modern perspective. According to Thomas and Loader, this transition has produced an unpredictable nature of the internet system that could endanger society (MAJID, 2006, p. 04).

The advent of technology has helped both the private and government sectors implement their practices in cyberspace (Nagahawatta, Warren, & Yeoh, 2020). Compared to developed countries, Sri Lanka paid less attention to e-learning in the education system, whereas university administrators have paid attention to some of the e-learning programmes during the

COVID pandemic. The transition caused by technology has affected undergraduates uncovered with technical issues due to inadequate awareness of online awareness of both male and female undergraduates.

A. Research Problem

With the contemporary societal issues, the education sector has become more vulnerable in the field of technology as many undergraduates do not have a proper concern for privacy awareness in cyberspace and this can lead to increase cyber victimization. Based on this scenario, the research expects to uncover who is the most vulnerable group in cyberspace and how far both male and female undergraduates pay attention to online privacy to defend their selves from cyber victimization.

B. Objectives of the research

This research was conducted to find out the relationship between privacy awareness and sex among university students.

To determine the nature of the identified relationship between privacy awareness and sex of the undergraduate variables.

To determine the nature of online safety measures practises among undergraduates.

2. Literature Review

Personal data of individuals are transmitted over the Internet where some of them are stored on digital devices, cloud or google drive on daily basis. Sometimes this may expose individuals to a higher risk of identity theft, fraud other types of crimes (Privacy Measures to Combat Cyber Crime, n.d.). According to the "Usage of Computer and Internet among Undergraduates: Knowledge, Awareness, and Concentration on Privacy and Security Management" research article 83.83% had good computer literacy while 61.23% had lower computer literacy among university undergraduates. It also pointed out

that there was a lack of security knowledge among undergraduates as the average standard was 51.23% (Nalaka & Diunugala, 2018).

Furthermore, the research conducted by Okanlawon et al., 2015 emphasized that, though university students showed a low knowledge of internet safety, the positive vibe was shown to enhance their knowledge of internet security. Online privacy, and safety can be addressed through different approaches such as individual, institutional basis, legislative or technology, and behavioural based (Grimmick, 2020).

However, when considering the length of privacy policies, lengthy policies have prevented individuals from thoroughly reading or understanding the terms of the agreement that are relevant to both the user and the service provider. An experimental survey carried out by Jonathan A. Obar and Anne Oeldorf-Hirsch analysed why individuals neglected the Privacy Policy and Term of Service, where the results showed that 74% skipped reading the privacy policy. The terms and conditions of the documents are particularly important, especially as they help to establish the transparency surrounding the privacy of the user (Williams, Ducoste, & Rege, 2020).

Most European countries use extensive legislation, sectoral legislation to protect online privacy in legal terms and self-regulation and technology-based frameworks where the protection of privacy is granted to individuals as well as related organizations or institutions (Ranasinghe, n.d.).

Furthermore, based on the findings of Elçi and Seçkin (2016) emphasised that cyberbullying spread among students has adversely affected their studies. The findings of the research have established that female undergraduates have less awareness of online privacy than males which has affected to arise family matters due to cyberbullying. The research findings of Govani & Pashley (2007) established that although most

university undergraduates are aware of the repercussion of providing personal information on websites, undergraduates continually publish their sensitive information on websites.

Based on the Literature it is emphasised that numerous articles have been published related to online privacy awareness related to undergraduates. However, the research articles based on privacy awareness related to selected university has not been published. Therefore, this research expects to fill the gap through this research.

3. Methodology

This was survey research in nature and designed under quantitative methods which include descriptive analysis and inferential analysis to examine the relationship between privacy awareness and sex. The sample of the research was selected from simple random sampling (list-based sampling frame) and the target population was all undergraduates at the selected university. The sample of the research was selected as 148 undergraduates from all years including distinct faculties of the selected metropolitan university located in the Colombo District.

To gather data, primary data collection (online questionnaire) was utilized. The gathered data were analysed using the Statistical Package of Social Sciences (SPSS), through one-way ANOVA and Excel. Books, journal articles, and other resources from the internet were utilized as secondary data.

Limitation

- Based on the ethical issue, the name of the university is unable to be revealed.
- Less opportunity to test the accuracy of the sensitive questions as this was conducted in survey method due to the time limitation.

4. Results and Discussions

A. Demography of respondents

Based on the gathered data 148 undergraduates participated in the survey, where out of 148 responses 104 (70.3%) were female undergraduates and 44 (29.7%) male undergraduates. 36.48% (54) were from Humanities and Social Sciences faculty, while 32.4% (48) were from Applied Science faculty. 10.8% (16) Management faculty, 8.1% (12) Technology faculty and 5.4% (18) Medical faculty responded to the questionnaire. Compared to other Faculties the highest number of respondents were from (36.49%) Humanities and Social Sciences faculty with the highest number of female (41.10%) and male undergraduate (32%) respondents.

Based on the gathered data it indicated that the highest numbers of respondents were from Southern province (29%), Western province (26%) and Sabaragamuwa province (11%) respectively.

Table 1. Nature of the Respondents
(Source: Primary Data, 2022)

Faculty	Male	%	Female	%	Total response	%
Humanities and Social Sciences	24	32.00	30	41.10	54	36.49
Applied Science	22	29.33	26	35.62	48	32.43
Management	10	13.33	6	8.22	16	10.81
Technology	8	10.67	4	5.48	12	8.11
Medical	11	14.67	7	9.59	18	12.16
Grand total	75	100	73	100	148	100

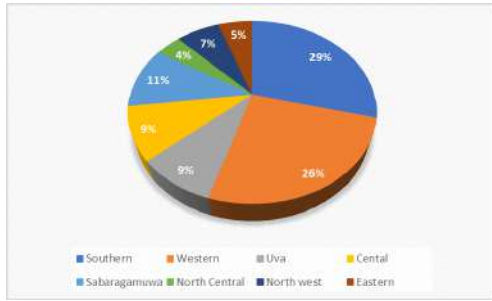


Figure 1. Demography of the respondents' Province wise

Table 2. One Way ANOVA

	<i>n</i>	<i>R</i>	Sig
Female	73	-0.88	
Male	75	-0.32	0.00
Total	148		

B. The relationship and the nature of the identified relationship between privacy awareness and sex among university students.

To study the relationship between privacy awareness and gender, one-way ANOVA was applied to identify the difference between variables.

Table 3. Nature of identified relationship between sex of the undergraduate through regression analysis

	Sum of squares	df	Mean squares	F	Sig
Between groups	3716.861	2	1858.413	21.282	0.00
Withing groups	17202.559	74	87.323		
Total	20919.420	72			

H0: Privacy awareness among Female and Male undergraduates is equal

H1: Privacy awareness among Female and Male undergraduates are not equal

Based on the results of the ANOVA test, the $\alpha=0.05$ value is less than to alpha value. Since it was less than

0.05 H0 hypothesis was rejected, and results concluded within 95% confidence level that privacy awareness among male and female were not equal.

Furthermore, to study the nature of the identified relationship regression analysis was applied.

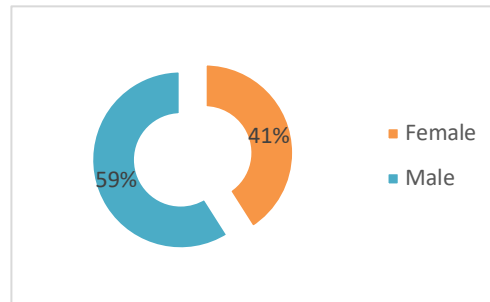


Figure 2. Attention towards privacy policies, terms and services, data use policy, web cookies and community standards

Two hypotheses were built up to test the relationship.

H0: There is a relationship between privacy awareness and the gender of undergraduates.

H1: There is no relationship between privacy awareness and the gender of undergraduates.

Based on the results of the regression analysis the $\alpha=0.05$ value is less than to alpha value. Since it was less than 0.05 H0 hypothesis was rejected where the results concluded that there is a negative relationship between gender and privacy awareness. (R) value of male (-0.32) indicated the relationship between male

undergraduates and privacy awareness levels inconsiderable, whereas (-0.88) indicated a strong negative relationship among female undergraduates.

Overall results of the tests emphasised female undergraduates have a higher risk of exposing to illegal cyber activities such as online harassment, phishing, scams etc in cyberspace.

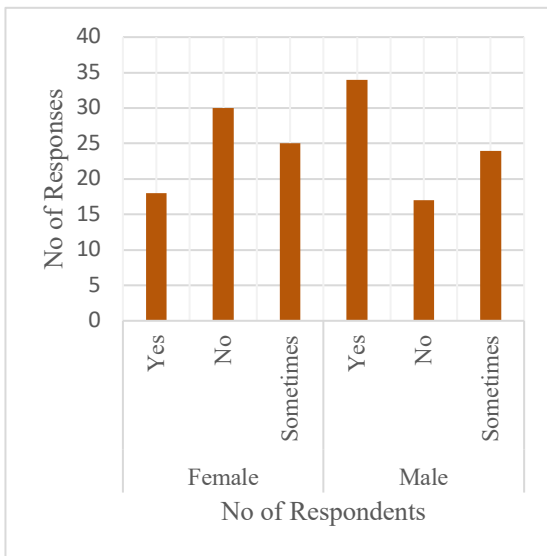


Figure 3. Utilizing the internet for entertainment, communication Educational and personal work

Virtual space provides an opportunity for any third party to amend, restore or crack, the personal data of another if they are unsecured. Protection in cyberspace can be established by paying more attention to safety practices in cyberspace. As per the responses assembled data female undergraduates (41.09%) were not paying attention to privacy policies, terms and services, data use policy, web cookies and community standards given by website or web browser than male undergraduates (22.67%).

Overall, male undergraduates (59%) have access to the internet for entertainment,

communication Educational and personal work more than female undergraduates (41%).

Considering online privacy safety measures not saving passwords of the email account or other social media accounts on the device, using a strong password/two-factor authentication, changing social media /email password regularly to keep the account safe and updating the laptop, mobile phone with latest dates/ virus guards and firewall were the measures that have been practised by both undergraduate. Although 31.5% of female undergraduates change their email and social media passwords frequently 16.4% of female undergraduates have stressed that they were exposed to unusual activity on their social media accounts. This establishes existing knowledge on privacy awareness is not enough among female undergraduates.

5. Conclusion

In conclusion, it should be noted that all university undergraduates utilize the internet for their daily routine for various purposes, such as entertainment, education, communication, and personal use. When involve in cyberspace, any individual has a risk of exposure. It is important to be aware of online privacy to get rid of such activities. Though the Personal Data Protection Act No 09 of 2022 and Computer Crimes Act No 24 of 2007 enacted in Sri Lankan context, individuals need to be more aware of those laws as they have inadequate knowledge in such acts. Especially organize awareness programs parallel to cybersecurity weeks, workshops by Sri Lankan Emergency Readiness Team and conduct special awareness programmes that include training on cyber security and privacy settings and to identify the nature of the symptoms related to cyber-attacks. IT centres of the university could assist with such practical sessions to improve the knowledge of the students on online privacy and cybercrime legislation are suggestions for the identified issues such as encourage to use strong backup system and proper virus guards for the

protection of the individual's data and privacy, encourage these undergraduates to practice strategies like surf incognito mode and Encourage them to deactivate password saving password auto fills.

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Author Biography



K.G.L. Chamuddika is currently employed as Lecturer (Probationary) in the Faculty of Criminal Justice at KDU. She completed her B.A.(Hons.) Criminology degree from the the University of Sri Jayewardenepura. Her research interest areas are gender studies, cybercrimes, and forensic science.