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Awareness Of Social Media Privacy & Security: A Study Among Engineering Students In Spsr Nellore Dist., A.P.

1. INTRODUCTION

Social media and social networks are emerged as a popular communication medium among the public especially among the youth. These are easy to use, instant access, and 24 *7 available. Youth are spending lot time by using these tools through their smart phones. These provide enormous benefits to its users, at the same time users are also facing lot of troubles by using the social media. When people posted their personal information and sensitive ones in these networks, the information is hacked, morphed, misused and creating lot of new issues to the users, public and in the society. The present study is focusing how the engineering students aware of the privacy and security issues in the social media sites. The aim is to investigate know their awareness of these issues. At present no such study is conducted among the engineering students.

Significance of the study

. The study aims to focus on engineering students' use of social media. This study would benefit in building awareness of online privacy issues among engineering students. The results of the study will help to tackle barriers of using social media as an information source.

Objective of the study

The main objectives of this study are

- ❖ To explore the awareness on privacy and security issues of social media.

Hypothesis of the study

Based on the above objective of this study the following hypothesis formed

.
H₁. There would be no significant differences on the concerns related to privacy issues while using social media across the gender and the year of study of the respondents.

Methodology

The research methodology used for this study is survey and a structured questionnaire is used as a tool for collecting the primary data from the respondents of this study.

The Population of the Study

The population of the study was students enrolled in four year B. Tech courses in the selected engineering colleges in SPSR Nellore district, Andhra Pradesh. These respondents comprised various engineering disciplines viz., computer science, civil, mechanical, electrical, and electronics and communication.

Table 1.1
Target population in the selected colleges

S.No.	College Name	Target population
1	N.B.K.R Institute of Science & Technology, Vidyanagar	1237
2	Narayana Engineering College, Nellore	959
3	P.B.R Visvodaya Institute of Technology & Sciences, Kavali	980
4	Audi Sankara College of Engineering & Technology, Gudur	1065
Total		4241

It is clear from Table 1.1 that the total target population of all four engineering colleges was 4241. The investigator selected samples from each college by using a sample size formula.

Sample size

Since the population is large to study in view of time and cost involved, a sample of students has been drawn by using the following sample size formula (<https://www.surveymonkey.com/mp/sample-size-calculator/>).

$$\begin{aligned}
 \text{Sample size formula} & : \frac{z^2 \times p(1-p)}{e^2} \\
 & \frac{z^2 \times p(1-p)}{1 + \left(\frac{z^2 \times p(1-p)}{e^2 N} \right)} = 853
 \end{aligned}$$

N = Population size = 4241 p = standard of deviation = 0.5
 z = Z score = 1.96 e = Margin of error = 0.03

Based on the above formula, the sample size for the current study was 853, which is 20.11% of the target population. This is the minimum sample size to estimate the true population proportion.

Sample selection

The investigator adopted the proportionate stratified simple random sampling method for the selection of the sample. The below Table 1.11.7 clearly depicts the college-wise data about the sample students in the final and third year.

Table 1.
Proportionately selected students sample

S.No.	College Name	Final year students	Third year students	Proportionately selected total students sample
1	N.B.K.R Institute of Science & Technology, Vidyanagar	117	132	249
2	Narayana Engineering College, Nellore	87	106	193
3	P.B.R Visvodaya Institute of Technology & Sciences, Kavali.	91	101	197
4	Audi Sankara College of Engineering & Technology, Gudur	112	102	214
Total		407	441	853

Scope and limitations of the study

The target population of the study is confined to 3rd and final year B.Tech students of various courses in the four selected engineering colleges in SPSR Nellore district, Andhra Pradesh. The prime focus of the study to know the awareness of privacy and security issues in using social media.

Design of a questionnaire

The researcher designed a structured questionnaire based on the review of literature and the objective of the study. The respondents of the study are 3rd and final year students of B.Tech

degree courses, who are highly conversant in English language; hence the questionnaire was prepared in simple English language. The questions are specific and are closed-ended like yes or no, multiple answers, agree or disagree etc.

Pilot study

A pilot study was employed to test the validity and reliability of the questions. About 50 questionnaires were distributed. Based on the suggestions received from the pilot study, some modifications were made while designing the final form of the questionnaire.

Collection of data

The investigator personally visited selected engineering colleges for this study. Questionnaires were distributed to the selected sample group. During the data collection, the investigator gave sufficient time for the respondents to fill out the questionnaire. The doubts raised by the respondents were clarified and explained the purpose of this research.

Presentation of the data

The data is presented in the form of tables and diagrams. Bibliographic details of references cited in each chapter are given at the end of the chapter following the 7th edition of APA style manual.

Analysis of the data

The data were analysed using the software package SPSS (Statistical Package for Social Sciences). Statistical analysis techniques such as frequency distribution, percentage analysis, ANOVA and Chi-square test have been employed.

2. REVIEW OF LITERATURE

Aldhaffer, Watson & Sajeev (2013) conducted a study at the University of Dammam, in Saudi Arabia and New England University in Australia. The study examines the awareness of SNS users on protecting their personal information and privacy settings offered by social networks. The data was collected using a hard copy of a questionnaire. The participants were between 18-25 years of age. The results disclosed that a majority of the respondents were aware of privacy settings; only 40% opined they changed privacy settings regularly. The study also found that 53% of respondents are not using mobile to change the privacy settings.

Dhull & Bharadwaj (2014) reported the results of a survey on the security features of social networking sites. The study found that a majority of the respondents were not interested in meeting the new friends that they added to SNS. The majority of male respondents (76.47%) did not respond to comments posted on their profile. The results also indicate that most of the respondents have good knowledge and awareness of posting information on social media sites.

Zolait et al. (2014) examined factors affecting security concerns among social media users at the University of Bahrain. The study employed convenience sampling and selected 338 social media users as participants. Majority of the respondents to this study age are between 21 and 30 years. The findings of the study show that participants have a higher awareness of information security, and the majority of the respondents believe that the users themselves should be responsible for protecting their information. The study also reveals that more than half of the respondents (54.7%) use complex passwords by including numbers, special characters.

Osatuyi (2015) article reported a study that analyses the concerning information privacy on a social media platform. The samples for the study were undergraduate students enrolled in a computer information systems course. The investigator collected 298 complete valid responses from the participants. The median ages of the respondents were 19 years and 65.8% were female. The findings of the study show that computer anxiety of the respondents is the main reason for the refusal to share personal information during online transactions.

Aljoha, Nisbet & Blincoe (2016) study determined the SNS user's information disclosure behaviour, their privacy protection settings, and awareness. The study concentrated on four social networks. The results of the study indicate that respondents kept private information and freely disclosed general information. The study found that 88.89% of respondents disclose their real name on Facebook, followed by Twitter 66.66%. Male respondents have disclosed more personal information than female one.

The Sri Lanka CERT-CC Youth Survey on Social Media Security 2017 investigated the use and perception of security and privacy aspects of social media by Sri Lankan youth. The survey adopts quantitative research and data collected by employing an online questionnaire which was developed by using Google Analytic tools. The study reveals that the main motive of

respondents to use social media is maintaining a relationship. Majority of the respondents of the study were in the 25-27 years age group. The results exhibit that 92% of the respondents reveal their real names and 74% disclose their images. The results also report that 67% of the respondents allowed their profile to be public searchable, and 47 % disclosed their contact details.

3. ANALYSIS

Personal information of the respondents

Table 3.1

Gender -wise distribution of respondents

Gender	No. of respondents
Male	433(50.76)
Female	420(49.24)
Total	853(100)

(Note: Figures in parentheses indicate percentage)

Table 3.1 shows the gender-wise distribution of respondents. It is obvious from the above table that out of 853 respondents, 433(50.76 percent) are male and the remaining 420 (49.24 percent) are female respondents. It can be concluded that male respondents were slightly higher than female respondents.

Table 3.2

Age-wise distribution of respondents

Age	No. of respondents
18-20	414(48.5)
21-23	410(48.1)
23 above	29(3.4)
Total	853(100)

(Note: Figures in parentheses indicate percentage)

It is clear from the table that majority of the respondents (48.5 percent) are in the 18 to 20 years of age group, followed by 48.1 percent in the 21 to 23 years age group. Only 3.4 percent

of respondents are 23 years above the age group. It can be concluded that majority of the respondents (48.5 percent) are in the 18 to 20 year age group.

Table 3.3
Year of Study -wise distribution of respondents

Year	Gender		
	Male	Female	Total
3rd year	207(47.80)	239(56.90)	446(52.28)
Final year	226(52.19)	181(43.09)	407(47.71)
Total	433(100)	420(100)	853(100)

(Note: Figures in parentheses indicate percentage)

Table-3.3 represents the year of study -wise distribution of respondents. It is clear from the table that majority of the respondents (52.28 percent) of this study were 3rd year students followed by final year students (47.71 percent). It is evident from the table that majority of the female respondents (56.90 percent) are 3rd year and the majority of the male respondents (52.19 percent) are final year engineering graduate students.

It can be concluded that slightly more than half of the respondents (52.28 percent) in this study were 3rd year undergraduate engineering students.

Table 3.4
Reading privacy policies of social media

Response	Gender		
	Male n=433	Female n=420	Total N=853
Yes	269 (62.12)	250 (59.52)	519 (60.8)
No	164 (37.87)	170 (40.47)	334 (39.2)
Total	433 (100)	420 (100)	853 (100)

(Note: Figures in parentheses indicate percentage)

One question was designed to determine the awareness of the privacy policies of social media sites among the respondents. It is clear from the above table that majority of the respondents (60.8 percent) read the privacy policies; however 39.2 percent responded negatively. Among the respondents, male are 62.12 percent and females are 59.52 percent reading the policies. It can be concluded that majority of the respondents (60.8 percent) are reading the privacy policies of social media sites.

Table 3.5
Opinion on serious issues associated with social media

Issues	Opinion	Male n=433	Female n=420	Total N=853
Cybercrime	Agree	294(67.9)	265(63.1)	559(65.5)
	Disagree	60(13.9)	54(12.9)	114(13.4)
	No idea	79(18.2)	101(24.0)	180(21.1)
Trolling	Agree	266(61.4)	230(54.8)	496(58.1)
	Disagree	83(19.2)	80(19.0)	163(19.1)
	No idea	84(19.4)	110(26.2)	194(22.7)
Social media addiction	Agree	270(62.4)	268(63.8)	538(63.1)
	Disagree	93(21.5)	79(18.8)	172(20.2)
	No idea	70(16.2)	73(17.4)	143(16.8)
Digital footprint	Agree	181(41.8)	153(36.4)	334(39.2)
	Disagree	84(19.4)	80(19.0)	164(19.2)
	No idea	168(38.8)	187(44.5)	355(41.6)
Health (sleep deprivation, blurred vision, anxiety etc)	Agree	280(64.7)	283(67.4)	563(66.0)
	Disagree	73(16.9)	52(12.4)	125(14.7)
	No idea	80(18.5)	85(20.2)	165(19.3)

(Note: Figures in parentheses indicate percentage)

Table 3.5 depicts the data relating to the respondents' opinion on various serious issues associated while using social media. It is clear that majority of the respondents (66.0 percent) agreed that 'health issues', followed by 'cyber crime' (65.5 percent), 'social media addiction' (63.1 percent), and 'trolling' (58.1 percent).

Furthermore, it is also evident from the table that majority of the respondents have no idea about ‘digital footprint’ (41.6 percent). The data further shows that majority of the female respondents (26.2 percent) and (44.5 percent) have no idea of ‘trolling’ and ‘digital foot print’. It is clear that majority of the respondents (66.0 percent) agree with the serious issues of ‘health’ while using social media, followed by cyber crime (65.5 percent).

It may be inferred from the data that respondents are concerned about their health. They are aware that spending an excessive amount of time on social media may lead to health issues.

It can be concluded that majority of the respondents ‘Agree’ with the serious issues associated while using the social media.

Table 3.6
Awareness of security precautions of social media

Precautions	Response	Male n=433	Female n=420	Total N=853
Avoiding friend requests from unknown persons & location sharing	Yes	341(78.75)	310(73.80)	651(76.31)
	No	92 (21.24)	110(26.19)	202(23.68)
Installing internet security software	Yes	231(53.34)	213(50.71)	444(52.05)
	No	202(46.65)	207(49.28)	409(47.94)
Making posts visible to a limited audience	Yes	290(66.97)	263(62.61)	553(64.83)
	No	143(33.02)	157(37.28)	300(35.16)
Removing unnecessary personal Information	Yes	315(72.74)	272(64.76)	587(68.81)
	No	118(27.25)	148(35.23)	266(31.18)
Using strong passwords	Yes	351(81.06)	290(69.04)	641(75.14)
	No	82(18.93)	130(30.95)	112(13.13)

(Note: Figures in parentheses indicate percentage)

A question with five relevant options has been put to the respondents to measure the awareness of their security precautions while using social media. The responses presented in Table-3.3

It is evident from the above table that majority of the respondents (76.31 percent) opined that they avoid friend requests from unknown persons and also do not share their location. This shows that respondents are cautious about accepting friend requests from strangers. More than

three quarters (75.14 percent) of the respondents responded that they are aware of using strong passwords.

The data also show that there is a significant difference between male and female respondents regarding their awareness of using strong passwords. It is obvious that the number of male respondents (81.06 percent) aware of using stronger passwords is greater than their female (69.04 percent) counterparts. The study revealed that majority of the respondents (68.80 percent) is cautious and take precautions in removing the unnecessary personal information from their social media profiles. Further, it is followed by 64.83 percent of the respondents making posts visible to a limited audience.

It can be concluded that majority of the respondents avoid friend requests from unknown persons.

Table 3.7
Experienced issues of social media

Issues	Opinion	Male n=433	Female n=420	Total N=853
victim of cyber bullying	Yes	139(32.1)	122(29.0)	261(30.6)
	No	294(67.9)	298(71.0)	592(69.4)
Received threatening message	Yes	140(32.3)	135(32.14)	275(32.2)
	No	293(67.7)	285(67.9)	578(67.8)
photos misused	Yes	134(30.9)	100(23.8)	234(27.4)
	No	299(69.1)	320(76.2)	619(72.6)
Account hacked	Yes	107(24.7)	104(24.8)	211(24.7)
	No	326(75.3)	316(75.2)	642(75.3)
Received pornographic content	Yes	146(33.7)	106(25.2)	252(29.5)
	No	287(66.3)	314(74.8)	601(70.5)

(Note: Figures in parentheses indicate percentage)

To examine respondents' experience of privacy and security- related issues one question was posed. The above table shows the data related to the issues. It is very clear from the table that majority of the respondents are not experiencing the issues relating to privacy and security. The data revealed that one third of the respondents (32.2 percent) received threatening messages, followed by 30.6 percent victimized by cyber bullying, 29.5 percent received pornographic content and 27.4 percent experienced that their photos were misused.

The results of this study are similar, but much higher than the results of Sri Lanka Youth survey (2018) on social media security and privacy. Where only a few (4 percent) experienced cyber bullying, followed by 6 percent received pornographic content and 8 percent received threatening messages. Kasahara, Houlihan and Estrada (2019) study also report that there are gender differences existing in reporting cyber bullying issues, and they suggested that there is a need to conduct a study to look into cultural factors influencing cyber bullying.

It can be concluded that majority of the respondents are not experiencing issues relating to privacy and security.

Table 3.8
Concerns of privacy issues while using social media

Response	Gender			Year of Study		
	Male n=433	Female n=420	Total N=853	3 rd Year n=446	4 th Year n=407	Total N=853
Yes	246 (56.81)	237 (56.42)	483 (56.62)	267 (59.9)	216 (53.1)	483 (56.62)
No	187 (43.18)	183 (43.57)	370 (43.37)	179 (40.1)	191 (46.9)	370 (43.37)
Total	433 (100)	420 (100)	853 (100)	446 (100)	407 (100)	853 (100)

(Note: Figures in parentheses indicate percentage)

Chi-Square Test				
	Value	df	P- value	Level of Significance
Gender	.013	1	.910	Not Significant P>0.05
Year of study	4.00	1	.046	Significant P< 0.05

It is clear from Table 3.8 that more than half of the respondents (56.62 percent) opined that they are concerned about privacy issues while using social media. A good number (43.37 percent) of respondents responded that they are not much concerned about privacy issues.

It is found from the table that almost equal numbers of male (56.81 percent) and female (56.42 percent) respondents opined that they are concerned about privacy issues while using social media. There is no significant difference found between male and female respondents' concern of privacy issues. It is also evident from the Chi-square test. The Chi-square value is 0.013 and degrees of freedom are 1. The value of *P* is not statistically significant at 0.05 levels. This supports the hypothesis **H1**.

It is further evident from the table that majority of the 3rd year respondents (59.9 percent) opined that they are concerned about privacy issues; while the remaining (40.1 percent) respondents are not worried about that issue. It is also clear that more than half of the 4th year (53.1 percent) respondents opined that they are worried about privacy issues.

There is a significant difference observed between 3rd year and 4th year respondents with regard to the concern about privacy issues. More percentage (59.9 percent) of third year respondents are worried about privacy issues than the fourth year (53.1 percent) respondents. This is also evident from the Chi-square test. The Chi-square value is 4.00 and degrees of freedom are 1. The value of *P* is statistically significant at 0.05 levels. This doesn't support the hypothesis **H1**.

It can be concluded that majority of the respondents (56.6 percent) worry about privacy issues while using social media. This conclusion corroborates the findings of the studies Atulomah and Onuoha (2011), Aldhafferri, Watson and Sajeev (2013).

However, this finding differs with the finding of Gross and Acquisti (2005) study at Carnegie Mellon University, where numerous students did not care about the privacy risks.

It is further concluded that there is no significant difference found between male and female respondents' concern about privacy issues and there is a significant difference observed between 3rd year and 4th year respondents with regard to the worry about privacy issues.

Table 3.9
Satisfaction of reliability and quality of information in social media

Satisfaction Level	Gender		
	Male n=433	Female n=420	Total N=853
Very satisfied	87(20.09)	50 (11.90)	137(16.1)
Satisfied	213(49.1)	221(52.61)	434(50.9)
Unsure	89(20.55)	108(25.71)	197(23.1)
Dissatisfied	22(5.08)	15(3.57)	37(4.3)
Very dissatisfied	22(5.08)	26(6.19)	48(5.6)
Total	433(100)	420(100)	853(100)

(Note: Figures in parentheses indicate percentage)

The data relating to the satisfaction of the respondents with regard to the quality and reliability of information in social media are presented in Table 3.9.

It is evident from the table that half of the respondents (50.9 percent) are satisfied with the information, followed by a significant percentage of respondents (23.1 percent) who responded that they are unsure of the quality and reliability of information in social media. A small percentage (4.3) and 5.6 percent of the respondents were dissatisfied and very dissatisfied with the reliability of information available on social media.

The table data also explain that majority of the female respondents (25.71 percent) are unsure of the information on social media sites. Further, the table shows that majority of male respondents (20.09 percent) opined that they are very satisfied, but only 11.90 percent of females responded positively.

It can be concluded that majority of the respondents, both male and female, are satisfied with the quality and reliability of information on social media.

4. FINDINGS

The major findings of the study are

- ❖ Majority of the respondents (60.8 percent) are reading the privacy policies on social media.
- ❖ Majority of the respondents (76.31 percent) are avoiding friend requests from unknown persons.

- ❖ Majority of the respondents are not experiencing the issues relating to privacy and security.
- ❖ Majority of the respondents (56.6 percent) are worried about privacy issues while using social media.
- ❖ Half of the respondents (50.9 percent) are satisfied with the quality and reliability of information in social media.

4.1 RECOMMENDATIONS

Based on the results and findings of the study, the following recommendations are made for effective utilization of social media. The findings emphasised the need for supervision and guidance of faculty and library professionals to seemingly use social media as an information source

The study result showed that respondents need to be conversant with the advanced privacy settings, anti-virus software installation, and creating strong passwords to prevent the hacking and stealing of personal information.

- It is suggested that the users of social media should not assume that all privacy policies are identical; they vary from one platform to another; also, they do not provide sufficient information about how they disperse the personal information.
- It is suggested that the computer science departments in the engineering institutions need to focus by organising workshops and seminars to enlighten the students about the pros and cons of social media usage.
- There is a high need to sensitise and educate all the students about the evil acts of trolling, cyber bullying, and posting inappropriate content on social media.

REFERENCES

- Aldhafferi, N., Watson, C., & A.S.M, S. (2013). Personal Information Privacy Settings of Online Social Networks and Their Suitability for Mobile Internet Devices. *International Journal of Security, Privacy and Trust Management*, 2(2), 1–17.
<https://doi.org/10.5121/ijstpm.2013.2201>
- Aljohani, M., Nisbet, A., & Blincoe, K. (2016). A survey of social media users privacy settings & information disclosure. In Johnstone, M.(Ed.). (2016). *The Proceedings of 14th*

Australian Information Security Management Conference, 5-6 December, 2016, Edith Cowan University, Perth, Western Australia. (pp.67-75). This Conference Proceeding is posted at Research Online. <http://ro.ecu.edu.au/ism/198>

Atulomah, B. C., & Onuoha, U. D. (2011). Harnessing collective intelligence through online social networks: a study of librarians in private universities in Ogun state, Nigeria. *Ozean Journal of Social Sciences*, 4(2), 71–83. <http://ozelacademy.com/ojss.htm>.

Dhull, S., & Bharadwaj, M. (2014). Social Networking Security: Awareness among Indian Users. *International Journal of Engineering Research and Applications*, 30–34. http://www.ijera.com/special_issue/AET_Mar_2014/CSE/Version%20%202/G3034.pdf

Gross, R., & Acquisti, A. (2005). Information revelation and privacy in online social networks. *Proceedings of the 2005 ACM Workshop on Privacy in the Electronic Society (WPES '05)*. 71–80. <https://www.heinz.cmu.edu/~acquisti/papers/privacy-facebook-gross-acquisti.pdf>

Kasahara, G. M., Houlihan, D., & Estrada, C. (2019). Gender Differences in Social Media Use and Cyberbullying in Belize: A Preliminary Report. *International Journal of Psychological Studies*, 11(2), 32. <https://doi.org/10.5539/ijps.v11n2p32>

Osatuyi, B. (2015). Personality Traits and Information Privacy Concern on Social Media Platforms. *Journal of Computer Information Systems*, 55(4), 11–19. <https://doi.org/10.1080/08874417.2015.11645782>

Sample Size Calculator: Understanding Sample Sizes. (n.d.). SurveyMonkey. Retrieved 7 March 2021, from <https://www.surveymonkey.com/mp/sample-size-calculator/>
Youth Survey on Social Media Security and Privacy. (n.d.). Retrieved January 26, 2019, from <http://www.slcert.gov.lk/Downloads/YourthSurvey2018.pdf>

Zolait, A.H.S., Al-Anizi, R.R., Ababneh, S., Bu Asalli, F. & Butaiba, N. (2014). User awareness of social media security: the public sector framework. *Int. J. Business Information Systems. 17(3).261–282.*