RAYAT SHIKSHAN SANSTHA'S

SADGURU GADGE MAHARAJ COLLEGE , KARAD

(An Autonomous College)

DEPARTMENT OF STATISTICS

A Project Report On

"Awareness Of Social Media Privacy & Security"

Submitted by,

Mr.Nangare shambho satish

Roll no : - 23

M.Sc-I (2023-24)

Under The Guidence of

Prof.Mrs.A.S.Patil

CERTIFICATE

This is to certify that Shambho satish nangare have satisfactorily completed the project entitled: "Awareness Of Social Media Privacy & Security".

As a team in the academic year 2023-2024, this work is submitted to the Department as a fulfilment for degree of Master of Science in Statistics. Throughout the semester they carried out work with sincerity & has presented on the time and with enthusiasm.

 I wish them grand success in future.

Place: Karad

Date:

       Examiner   **Project guide**

                                             (Mrs.Patil.A.S)

PG Co-ordinator   **Head**

Department of Statistics   **Department of Statistics**

      (Dr.Patil S.P.)   **(Mrs.Mahajan S.V.)**

ACKN0WLEDGMENT

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Introduction

Social media is any digital technology that allows people to share ideas, information and thoughts via online communities and networks. Social media provides students with multiple ways to connect virtually with others (family, friends/peers, teachers, members of interest groups, and even strangers). Most popular social media platforms are completely free. However, they may contain paid add-ons, as well as regular targeted advertising. The platforms are user-friendly, and while there are age restrictions for some (e.g. Facebook requires users to be at least 13), these terms of use are often unknown or ignored. If students have access to a suitable electronic device and an email address or phone number, these platforms are available at their fingertips. This ease of access makes it difficult to know exactly where your students are socialising online, as well as why and how they are using the various platforms. While some students may be excluded from using social media, either by bans from their parents or by limited access to technology, it's still important that they understand its complexities and how to use it safely, as they are likely to engage with it in the future.

The ease of creating, posting and sharing content creates equal opportunities for students to have both positive and negative experiences online. Young people can engage in as much or as little social media use as they like; but even with all the right information and the best intentions from parents, carers and educators, it can be tough to understand how some students are using social media without invading their privacy.

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.

Objective of the study

The main objectives of this study are

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

Significance of the study

The study aims to focus on college 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.

Hypothesis of the study

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

H0 : 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.

H1 : There would be significant differences on the concerns related to privacy issues while using social media across the gender and the year of study of the respondents.

Research methodology

This study's goals were achieved by the use of the descriptive research technique as its methodology. We went out to students and had them fill out questionnaires as primary sources, which provided the information needed to accomplish the study's goals.

Sources of data

- Primary data

Main purpose of questionnaire is to collect data from those who fill it out. Questions about social media knowledge and involvement are included in the Likert scale questionnaire. There are multiple choice and closed-ended questions on the survey.

The Population of the Study

   The population of the study are students enrolled in UG and PG courses in the S.G.M college , karad . The respondents comprise various disciplines viz., Art , Commerce , Science etc.

Target population in the s.g.m college

Sr.no	Course type	Target population
1	UG	5922
2	PG	1205
Total		7127

   It is clear from above table that the total target papulation is 7127. The sample size determined by using yamane's 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 formula.

- Yamane's formula: $n = \dfrac{N}{1+N(e^2)}$

Where, n = sample size

N = population size

e = acceptable sampling error

$$n = \frac{7127}{1+7127(0.07^2)}$$

= 198.40

Based on above formula , the sample size of the current study is 198.40

Technique

The data are analysed using the statistical analysis techniques such as graphical distribution, percentage analysis, chi–square test have been employed.

Tools

Microsoft Excel.

Jupyter Notebook.

Understanding the data

The following table shows first five rows from the dataset.

	Sr.No	Gender	Age	Study	Reading privacy policy	Cybercrime	Trolling	Social media addiction	Digital footprint	Health (sleep deprivation, blurred vision, anxiety etc)	...	Installing internet security software	Making posts visible to limited audience	Removing unnecessary personal Information	Using strong passwords	Victim of cyber bullying	thr
0	1	Male	18 - 20	UG	Yes	Agree	Disagree	Agree	No idea	Agree	...	Yes	Yes	No	Yes	No	
1	2	Male	21 - 25	UG	Yes	Agree	Agree	Agree	Disagree	Agree	...	No	Yes	Yes	Yes	No	
2	3	Male	18 - 20	UG	No	Disagree	Agree	Agree	Agree	No idea	...	No	No	Yes	Yes	No	
3	4	Male	21 - 25	UG	Yes	No idea	Agree	Disagree	No idea	Disagree	...	Yes	No	No	Yes	Yes	
4	5	Male	18 - 20	UG	Yes	Agree	Agree	Agree	No idea	Agree	...	No	Yes	Yes	No	Yes	

There are 198 rows and 21 columns in this dataset which are descibed below.

- Gender : Gender of respondents (Male / Female).
- Age : Age of respondents (18 to 20 / 21 to 25 / above 25).
- Study :
- Reading privacy policy : is respondents reading privacy policy of social media (Yes / No).
- Cybercrime : opinion on cybercrime associated with social media (Agree / Disagree / No idea).
- Trolling : opinion on trolling associated with social media (Agree / Disagree / No idea).
- Social media addiction : opinion on social media addiction (Agree / Disagree / No idea).
- Digital footprint : opinion on digital footprint associated with social media (Agree / Disagree / No idea).
- Health : opinion on health related issues associated with social media (Agree / disagree / No idea).
- Avoiding friend request : is respondents avoiding friend requests from unknown persons (Yes / No).
- Installing internate security software : is respondents installing security software (Yes / No).
- Making post visible : is respondents making post visible to limited audience (Yes / No).

- Removing unnecessary personal information : is respondents removing unnecessary personal information on social media (Yes / No).
- Using strong password : is respondents using strong passwords (Yes / No).
- Victim of cyber bulling : is respondents experienced any cyber bulling relatead issues (Yes / No).
- Received threating masseges : is respondents received threating masseges (Yes / No).
- Photos missused : is respondents photos missused while using socil media (Yes / No).
- Account hacked : is respomdents social media account hacked (Yes / No).
- Concerns : is respomdents have concerns while using social media (Yes / No).
- Satisfaction : satisfaction of reliability and quality of information in social media (Very satisfied / Satisfied / Unsure / Dissatisfied / Very dissatisfied).

Data Analysis

Graphical representation

❖ Age wise distribution of respondents

Age-wise distribution of student
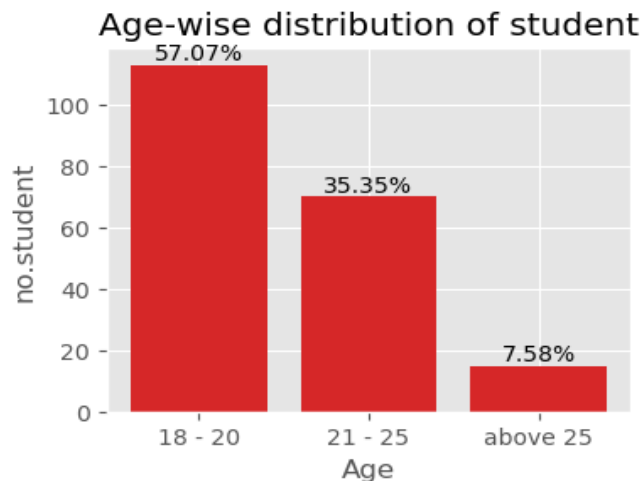
It is clear from the graph that majority of the respondents (57.07 percent) are in the 18 to 20 years of age group, followed by 35.35 percent in the 21 to 25 years age group. Only 7.58 percent of respondents are 25 years above the age group. It can be concluded that majority of the respondents (57.07 percent) are in the 18-to-20-year age group.

❖ Gender wise distribution
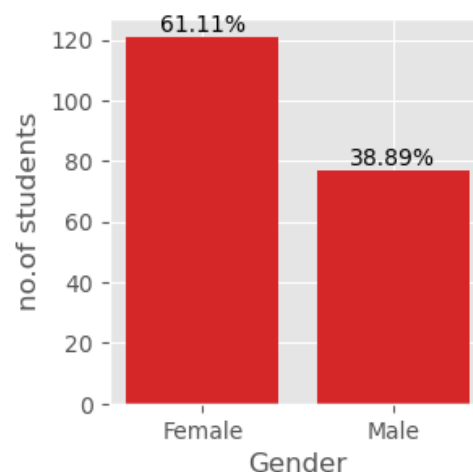
It is obvious from the above table that out of 198 respondents, 77(38.89percent) are male and the remaining 121 (61.11 percent) are female respondents.

❖ Study-wise distribution of respondents
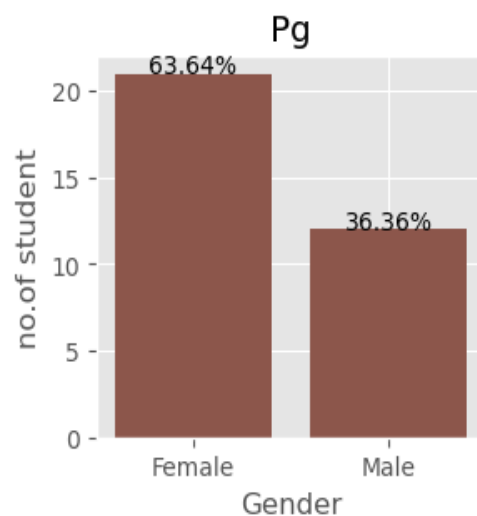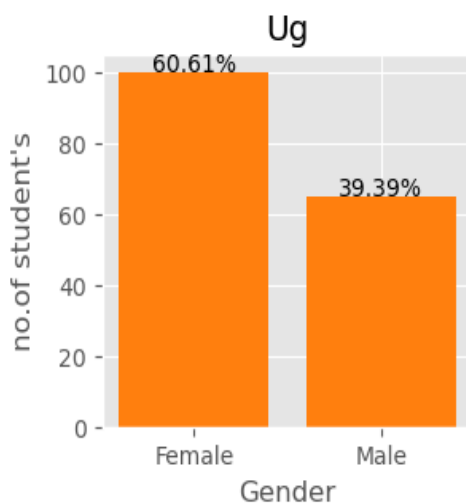
There are 165 respondents studying in under graduate courses were (60.61%) are female and (39.39%) are male and 33 respondents studying in post graduate courses were (63.64%) are female and (36.36%) are male .
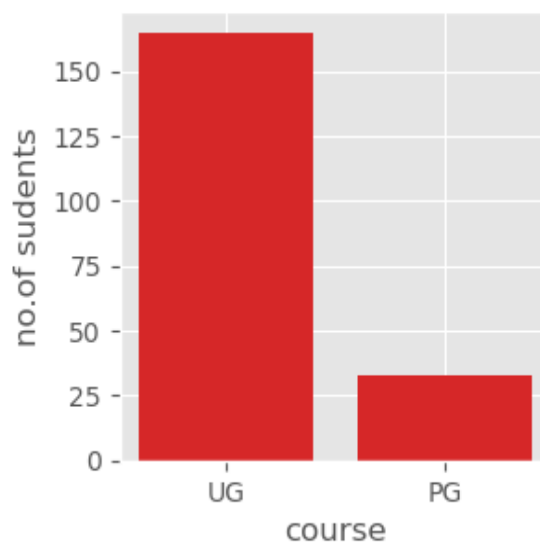
It is clear from the above graphs that the mejority of respondents (83.33%) of this study were UG students followed by PG stodents (16.66%).

It can be conclude that more than half of the respondents in this study were undergraduate students .
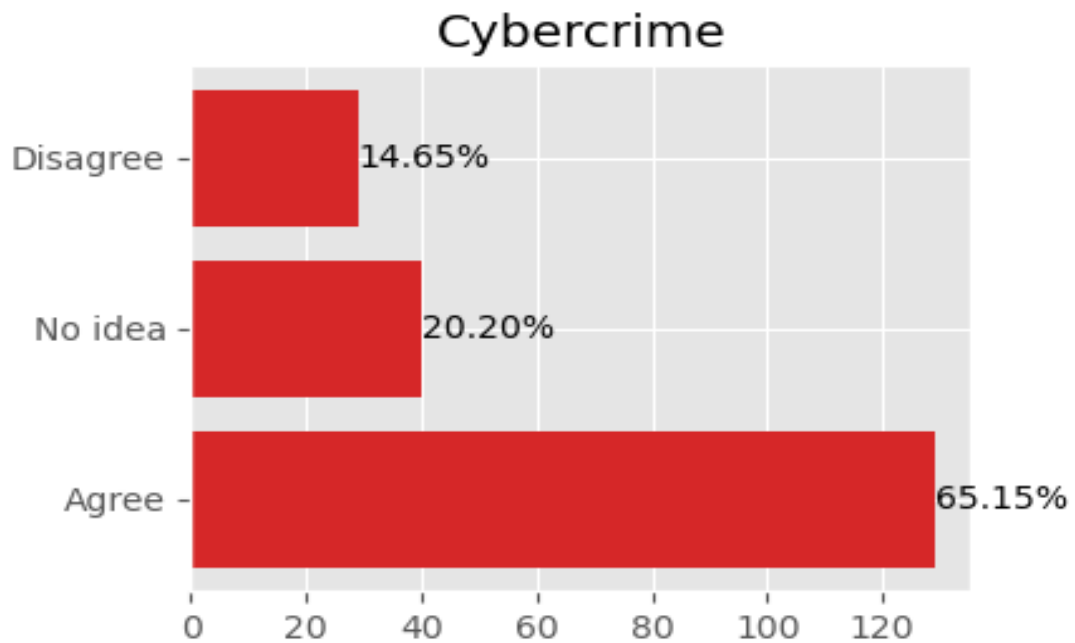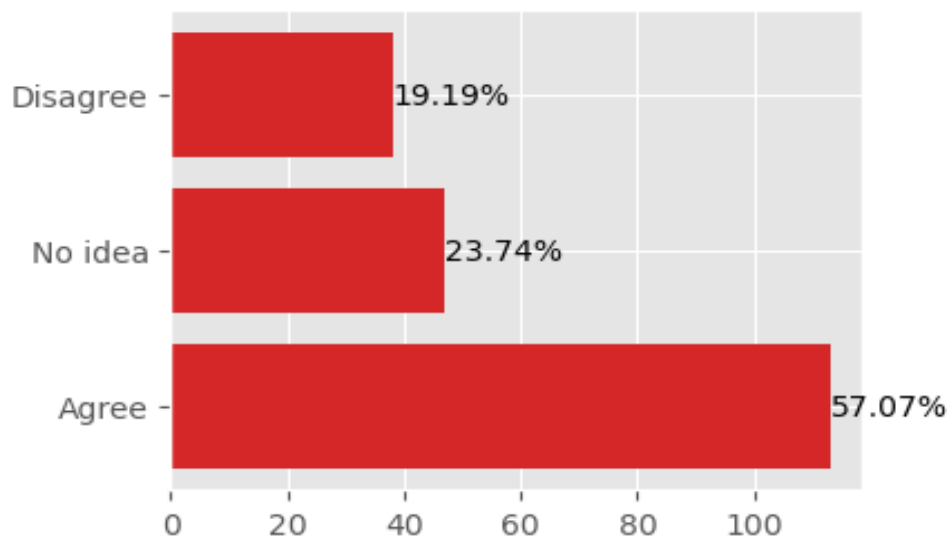
❖ Reading privacy policies of social media
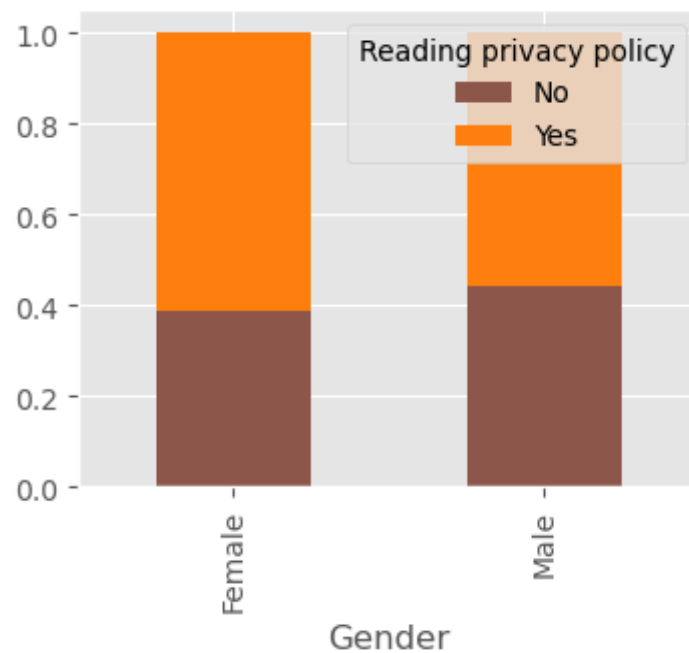
One question was designed to determine the awareness of the privacy policies of social media sites among the respondents. It is Clear from the above graph that the majority of the respondents (59.09 %) read the privacy policies; however, 40.90 % respondents negatively. Among the respondents Male are 55.84 % and Female are 61.15 % reading the privacy policies. It can be concluded that majority of respondents (59.09 %) are reading privacy policies of social media sites.

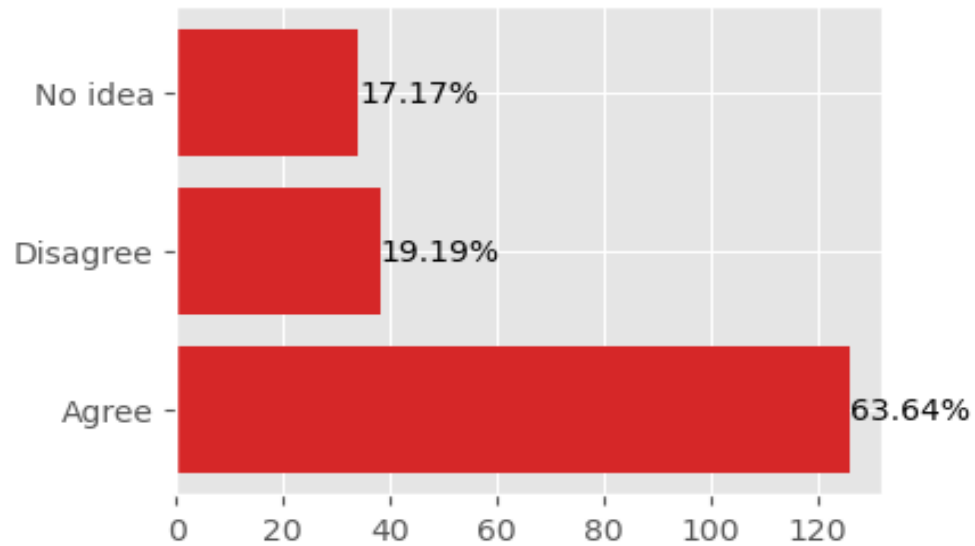❖ **Opinion on serious issues associated with social media**
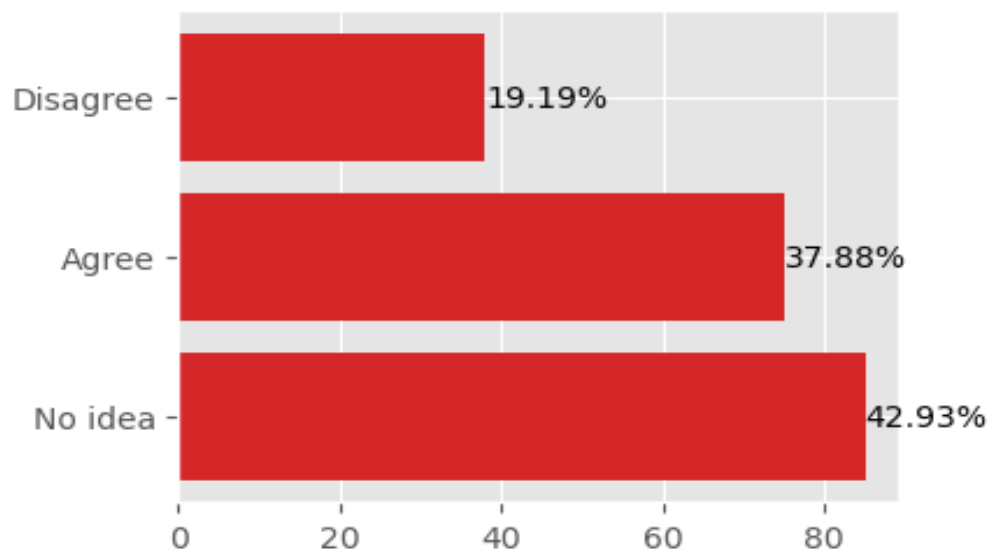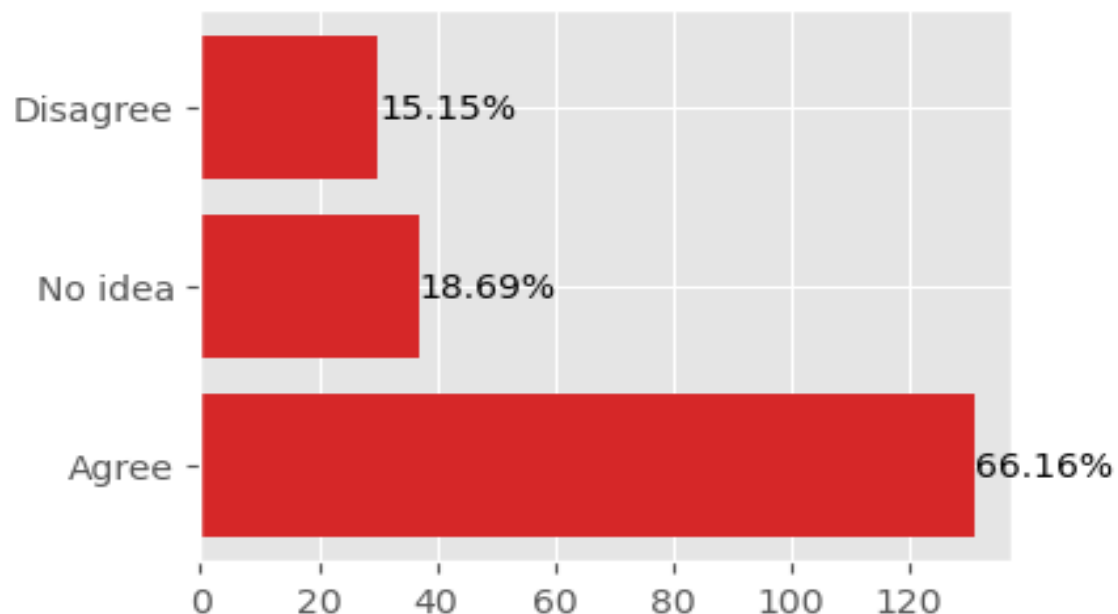
➢ **Cyber-crime :-**

Cybercrime

Disagree — 14.65%

No idea — 20.20%

Agree — 65.15%

0   20   40   60   80   100   120

➢ **Trolling :-**

Disagree — 19.19%

No idea — 23.74%

Agree — 57.07%

0   20   40   60   80   100

➢ Social media addiction :-

Response	Percentage
No idea	17.17%
Disagree	19.19%
Agree	63.64%

➢ Digital footprint :-

| Response	Percentage
Disagree	19.19%
Agree	37.88%
No idea	42.93%

➢ Health :-

Above graphs depict the data relating to the respondents' opinion on various serious issues associated while using social media. It is clear that majority of the respondents (66.16 percent) agreed that 'health issues', followed by 'cybercrime' (65.15 percent), 'social media addiction' (63.64percent), and 'trolling' (57.07 percent).

Furthermore, it is also evident from the table that majority of the respondents have no idea about 'digital footprint' (42.93 percent). The data further shows that majority of the female respondents (27.27 percent) and (44.63 percent) have no idea of 'trolling' and 'digital foot print'. It is clear that majority of the respondents (66.16 percent) agree with the serious issues of 'health' while using social media, followed by cyber-crime (65.15 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.

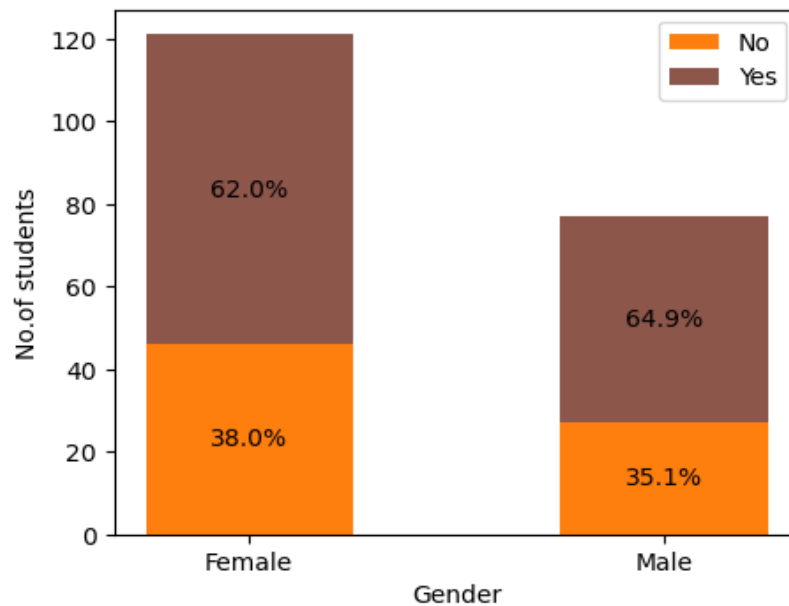❖ **Awareness of security precautions of social media**

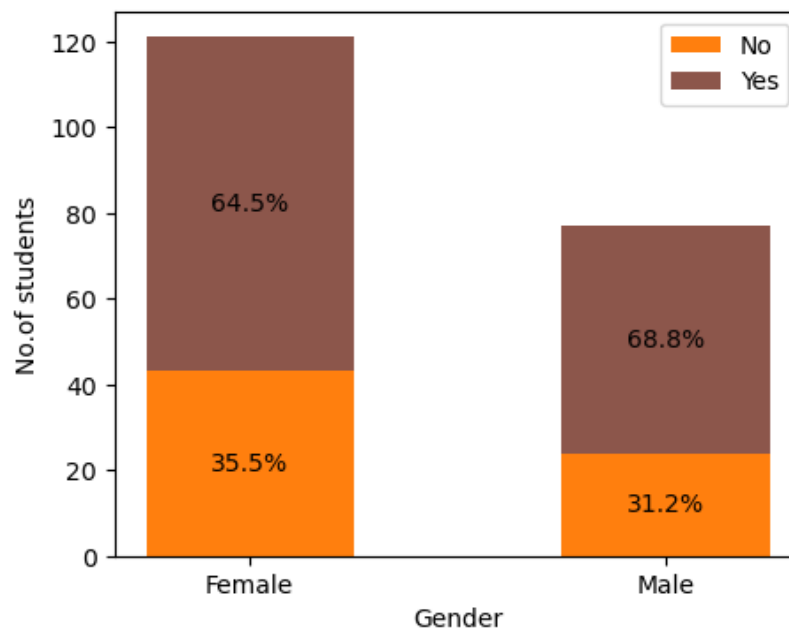➢ **Avoiding friend requests from unknown persons & location sharing :-**
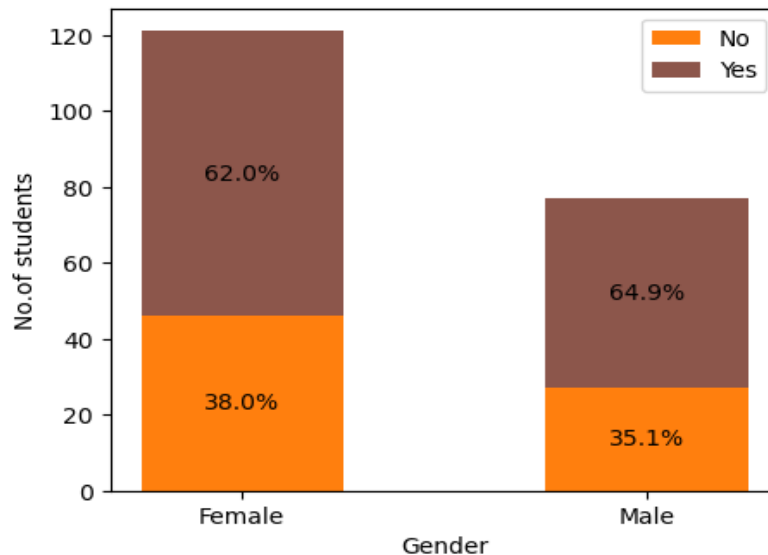
➢ **Installing internet security software :-**
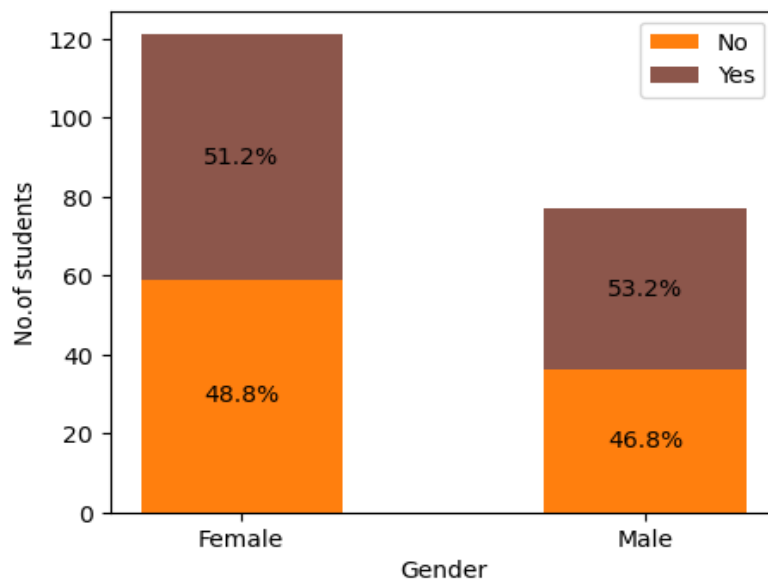
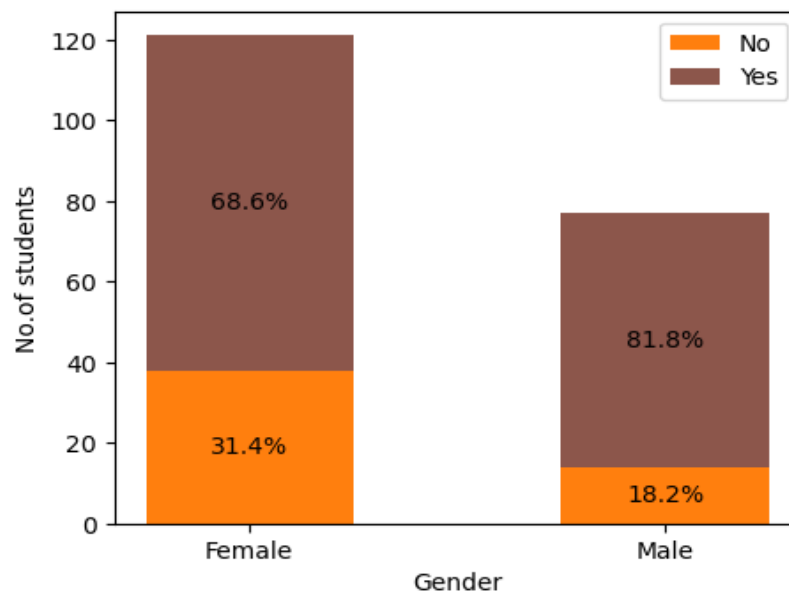## ➢ Making post visible to limited audience :-

➢ Removing unnecessary personal information :-

➢ Using strong password :-

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 above graphs.

It is evident from the above graphs that majority of the respondents (63.05 %) 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 (75.20%) 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 (81.80 percent) aware of using stronger passwords is greater than their female (68.80 percent) counterparts. The study revealed that majority of the respondents (66.65 percent) is cautious and take precautions in removing the unnecessary personal information from their social media profiles. Further, it is followed by 62.50 percent of the respondents making posts visible to a limited audience.
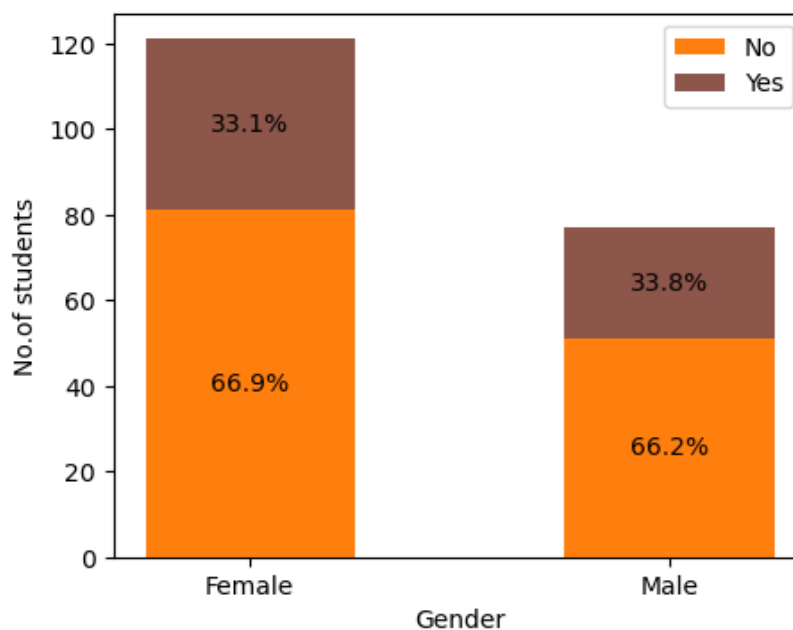
It can be concluded that majority of the respondents avoid friend requests from unknown persons.

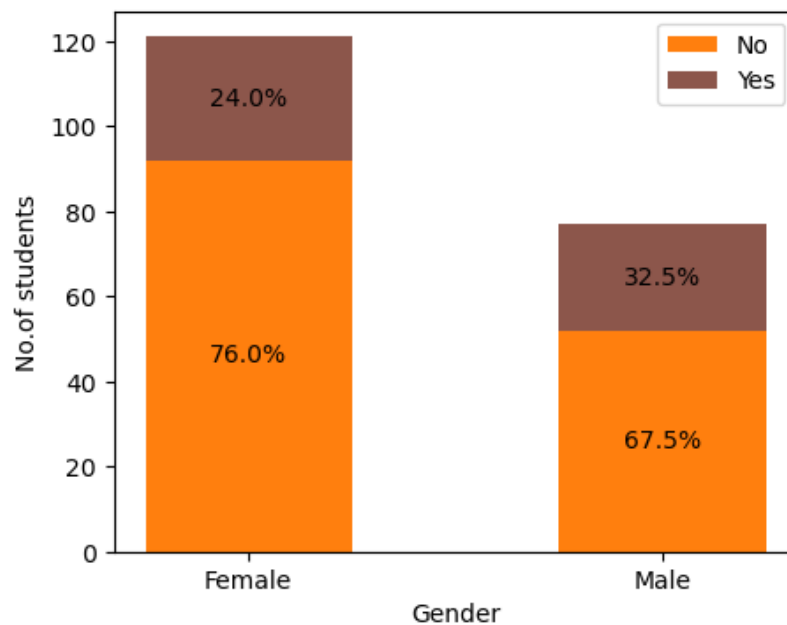❖ **Experienced issues of social media**
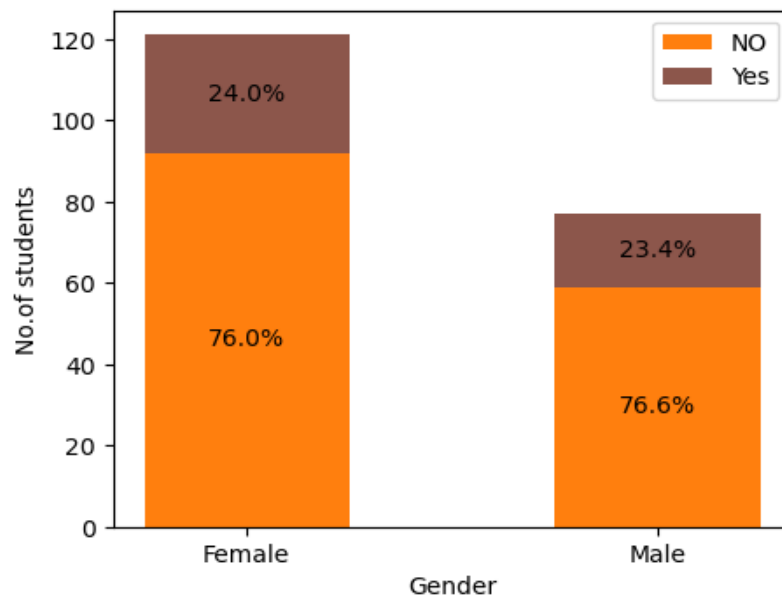
➢ **Victim of cyber-crime :-**
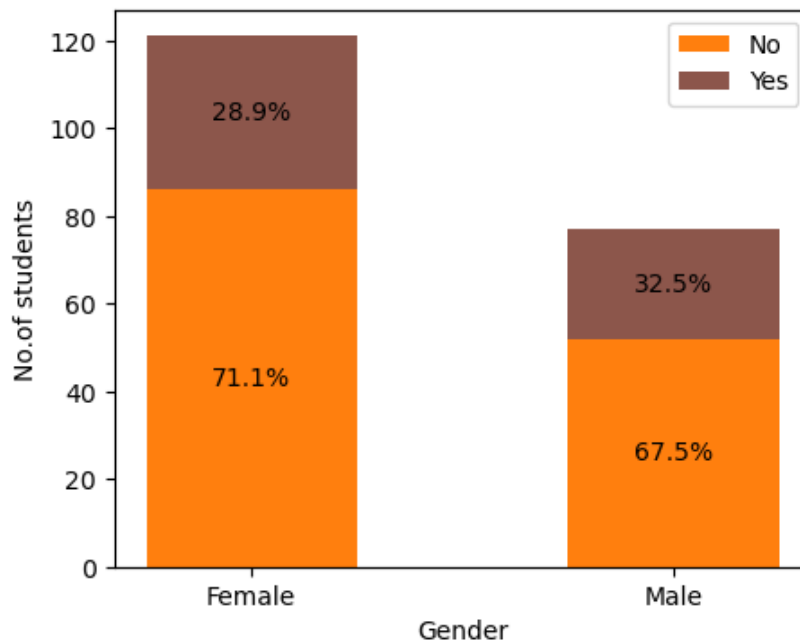
➢ **Received threatening message :-**

## ➢ Photo misused :-

➢ Account Hacked :-

To examine respondents' experience of privacy and security-related issues one question was posed. The above graphs shows the data related to the issues. It is very clear from the graphs that majority of the

respondents are not experiencing the issues relating to privacy and security. The data revealed that one third of the respondents (33.4 percent) received threatening messages, followed by 31.04 percent victimized by cyber bullying, 28.25 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 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.

❖ Normality of data
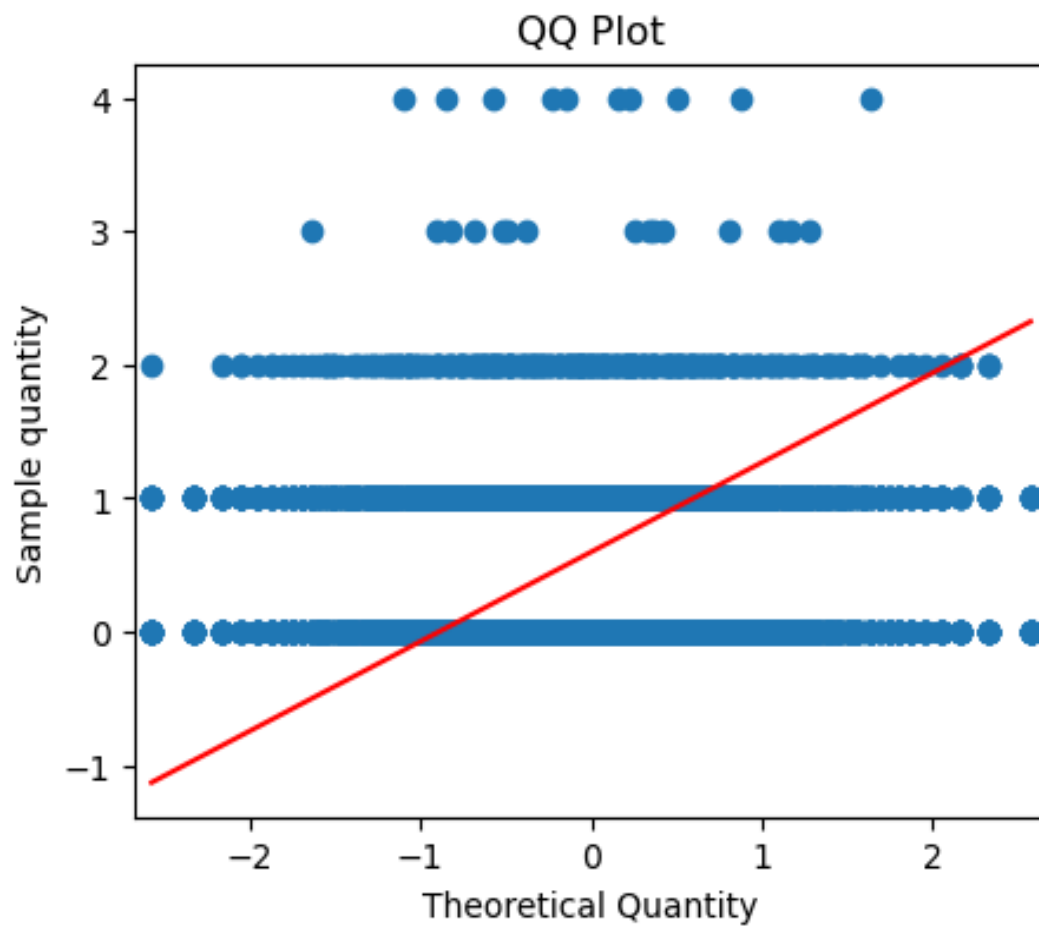
QQ Plot

Here a point in the plot appears in the straight line.

Thus, by the Q-Q plot data is normal distributed

❖ Concerns of privacy issues while using social media

Response	Gender			Study		
	Male (77)	Female (121)	Total (198)	UG (165)	PG (33)	Total (198)
Yes	45 (58.44%)	69 (57.03%)	114 (57.57%)	97 (58.78%)	17 (51.51%)	114 (57.57%)
No	32 (41.55%)	52 (42.97%)	84 (42.42%)	68 (41.21%)	16 (48.48%)	84 (42.42%)
Total	77 (100%)	121 (100%)	198 (100%)	165 (100%)	33 (100%)	198 (100%)

Concerns of privacy issues

No 42.42%

Yes 57.57%

No Yes
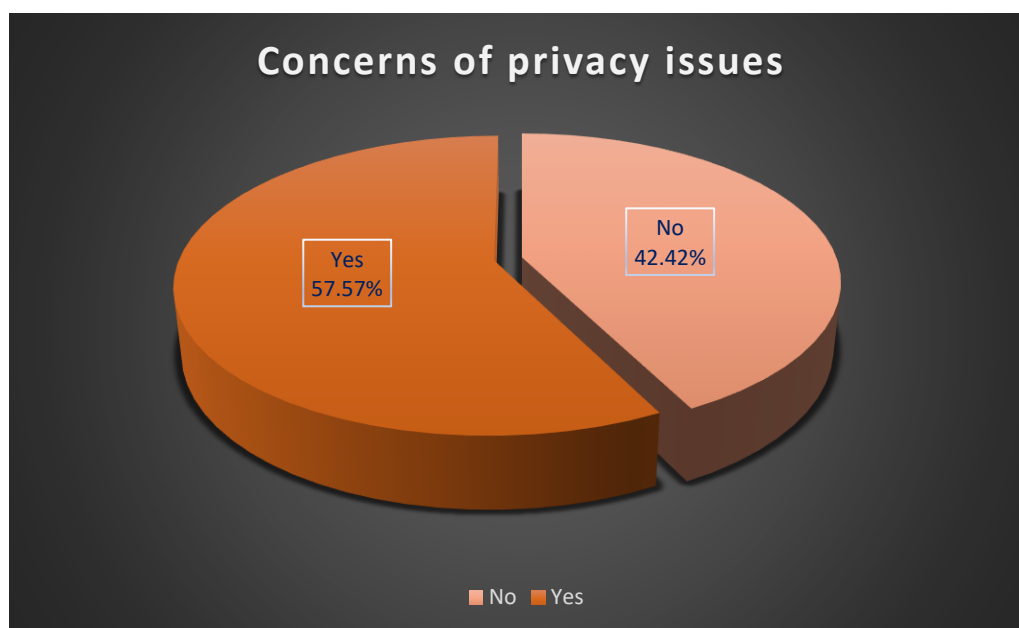
It is clear from Table that more than half of the respondents (57.57 percent) opined that they are concerned about privacy issues while using social media. A good number (42.42 percent) of respondents responded that they are not much concerned about privacy issues.

It is found from the table that almost equal numbers of male (58.44 percent) and female (57.03 percent) respondents opined that they are concerned about privacy issues while using social media.

It is further evident from the table that majority of the under graduate respondents (58.78 percent) opined that they are concerned about privacy issues; while the remaining (41.21 percent) respondents are not worried about that issue. It is also clear that more than half of the post graduate (51.51 percent) respondents opined that they are worried about privacy issues.

It can be concluded that majority of the respondents (57.57 percent) worry about privacy issues while using social media.

❖ Satisfaction of reliability and quality of information in social media

Response	Dissatisfied	Satisfied	Unsure	Very dissatisfied	Very satisfied	Grand Total
Female	7	63	32	7	12	121
Male	8	39	20	3	7	77
Grand Total	**15**	**102**	**52**	**10**	**19**	**198**
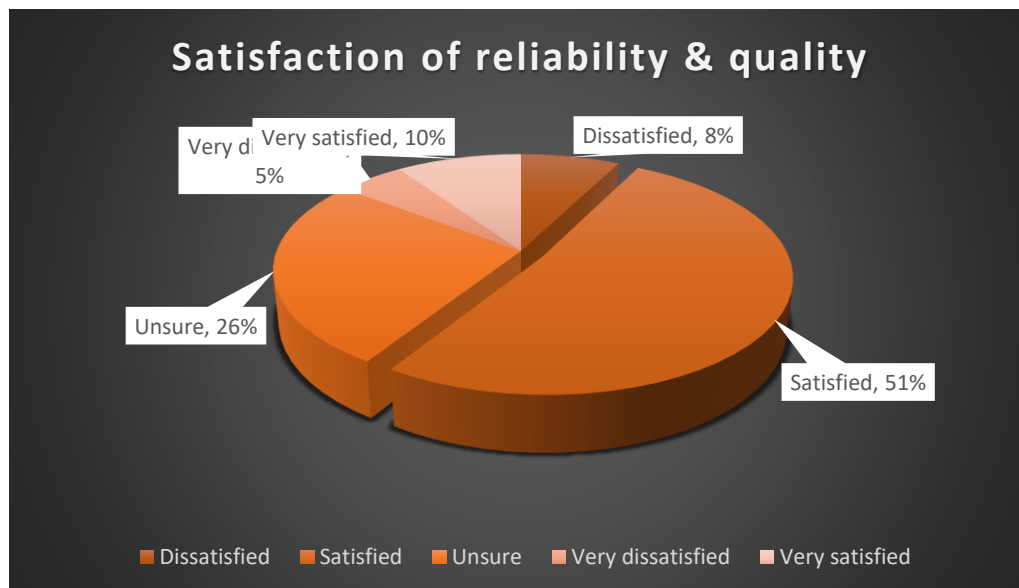
The data relating to the satisfaction of the respondents with regard to the quality and reliability of information in social media are presented in above graph.

It is evident from the graph that half of the respondents (51 percent) are satisfied with the information, followed by a significant percentage of respondents (26 percent) who responded that they are unsure of the quality and reliability of information in social media. A small percentage (8) and 5 percent of the respondents were dissatisfied and very dissatisfied with the reliability of information available on social media.

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.

❖ Analysis using chi-square test

➢ To check the independency between concern related to privacy issues while using social media across the gender.

Hypothesis :-

Ho : There would be no significance difference between concern related to privacy issues while using social media across the gender.

H1 : There would be significant difference between concern related to privacy issues while using social media across the gender.

Output :-

d.f is 1
chi square statistics is 0.032073276687234344
critical value is 3.841458820694124
p value is 0.8578669274006101

Conclusion :-

Here p value > level of significance
Hence, we accept Ho at 5% level of significance
i.e. There would be no significant difference between concern
related to privacy issues while using social media across gender.

➢ **To check the independency between concern related to privacy issues while using social media across the year of study.**

➢ **Hypothesis :-**

Ho: There would be significance difference between concern related to privacy issues while using social media across the year of study.

H1: There would be no significant difference between concern related to privacy issues while using social media across the year of study.

Output :-

d.f is 1
chi square statistics is 3.9228533140913324
critical value is 3.841458820694124
p value is 0.04763396865728897

Conclusion :-

Here p value < level of significance
Hence, we reject Ho at 5% level of significance
i.e. There would be significant difference between concern related to privacy issues while using social media across the year of study.

❖ Major finding

The major findings of the study are

➢ Majority of the respondents (59.09 percent) are reading the privacy policies on social media.
➢ Majority of the respondents (63.05 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 (57.57 percent) are worried about privacy issues while using social media.
➢ Half of the respondents (51 percent) are satisfied with the quality and reliability of information in social media.

❖ Recommendation

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.

Reference

➢ 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.

➢ Livingstone, S., & Brake, D. R. (2010). On the Rapid Rise of Social Networking Sites: New Findings and Policy Implications. Children & Society, 24(1), 75–83. [DOI: 10.1111/j.1099-0860.2009.00241.x]

➢ Raynes-Goldie, K. (2010). Aliases, Creeping, and Wall Cleaning: Understanding Privacy in the Age of Facebook. First Monday, 15(1). [DOI: 10.5210/fm.v15i1.2775].