IMPACT OF SOCIAL MEDIA EXPOSURE ON ACADEMIC PERFORMANCE

Project Report submitted towards the partial fulfillment for the short internship Course as part of UG Curriculum

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CERTIFICATE

This is to certify that Mr. Kaushlendra (Enrolment Number: A8979121008) has completed the research for the Bachelor of Statistics degree from the Department of Statistics, Amity School of Applied Sciences, Amity University Uttar Pradesh, Lucknow, on "Impact Of Social Media Exposure On Academic Performance." Dr. Shailja Pandey, Assistant Professor, Department of Statistics, Amity University Uttar Pradesh, Lucknow, oversees its completion. Dr. Asita Kulshreshtha, Head of Institution, Department of Statistics, Amity School of Applied Sciences, Amity University Uttar Pradesh, Lucknow, and Dr. Gunjan Singh, Assistant Professor, Department of Statistics, Amity University Uttar Pradesh, Lucknow. Lucknow. The dissertation represents the results of the student's own original research and study, and its contents do not serve as the foundation for the awarding of any other degree to the candidate or anyone else

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Abstract

The use of social media has increased substantially during the past few decades. This expansion has led to it being highly popular for student communication. In reality, these social networking sites can be a helpful tool for kids to interact with one another and their teachers. However, excessive usage of social media might hurt students' grades and call into question this practise. This study aims to investigate the benefits and drawbacks of social media use on academic attainment by polling students. The survey looked into the most well-liked student social network and the one that was best for their academic performance. The survey received 158 responses, and descriptive information reveals a connection between students' academic success and the amount of time spent on social media. The results of this study can be used to create a workable plan for improving students' use of internet media in order to improve their academic achievement. The poll received 158 replies, and the descriptive statistics reveal a link between the students' use of social media and their academic accomplishment. The findings of this study can be used to develop a practical strategy for enhancing students' utilisation of online resources in order to raise their academic performance.

Keywords: Social media networks; Academic Performance.

Objectives And Questionnaire

1. Which social media site are students most likely to use?
2. On average, how often do you use social media each day?
3. How may social media platforms improve communication between students and teachers and foster closer bonds between them?
4. How could the instructional value of the lecture be improved by the social media platform?
5. Can social media improve educational outcomes

CHAPTER 1

Introduction

With the advancement of internet technology, social media use has rapidly expanded. They are very well-liked and have a significant impact on all facets of our lives, but particularly on our schooling. Over the past ten years, researchers have focused more on social media usage and how it affects educational operations. The authors of [1] demonstrate how social media may be used for a variety of goals, including fostering the art of learning, engaging with students, assisting them in creating their own communities so they can collaborate, and exchanging ideas with educational personnel. They also give the findings of the data analysis.
The report is concluded in chapter 3, which offers more explanation of the findings.

The purpose of this project is to gather data on social media usage and how it impacts academic achievement. This essay will be formatted as shown below.

In the second chapter, we look at the literary works that are relevant to our research. chapter 2 describes the research methodology, while chapter 3 explains the data analysis and findings, 4th chapter, which offers additional discussion of the findings, comes to an end.

The aim of this project is to gather data on social media usage and how it affects academic achievement. For this essay, use the structure listed below.
The chapter 2 provides the research methodology. The report's fourth and final chapter of our analysis looks at the literary works that are connected to our research chapter 3 and covers the data analysis and conclusions, offers a more in-depth explanation of the findings.

CHAPTER 2

Data Collection And Methodology

In this study, a questionnaire distribution was used to adopt a quantitative methodology. In this study, we surveyed students' views on social media use and how it impacted their academic performance. We also asked about their daily social media use and which social media platform they thought will help advance education the most. Two sections make up the questionnaire. The first is about the respondents' personal information, like their gender, educational background, and subject of study. The survey's second portion asks a variety of questions about social media usage.

The survey's actual objective is to gather data on the following issues:

R1 : Which social networking platform is the most well-liked among students?

R2 : How often do you use social media each day?

R3 : How can social media platforms enhance the instructional value of the lecture?

R4 : How could the lecture's educational approach be improved by social media sites?

R5 : Is using social media in the classroom advantageous?

This investigation examined the impact of student social media use on academic performance using a cross-sectional survey. An evaluation form was made using Google Forms. Data was gathered from students' WhatsApp groups and emails, and an analysis of the data was performed using a spreadsheet.

CHAPTER 3

Graphical Analysis

The information that was acquired and presented in this section is examined. There are 158 respondents, 91 (57.6%) men and 67 (42.4%) women, who span a range of ages and socioeconomic statuses.

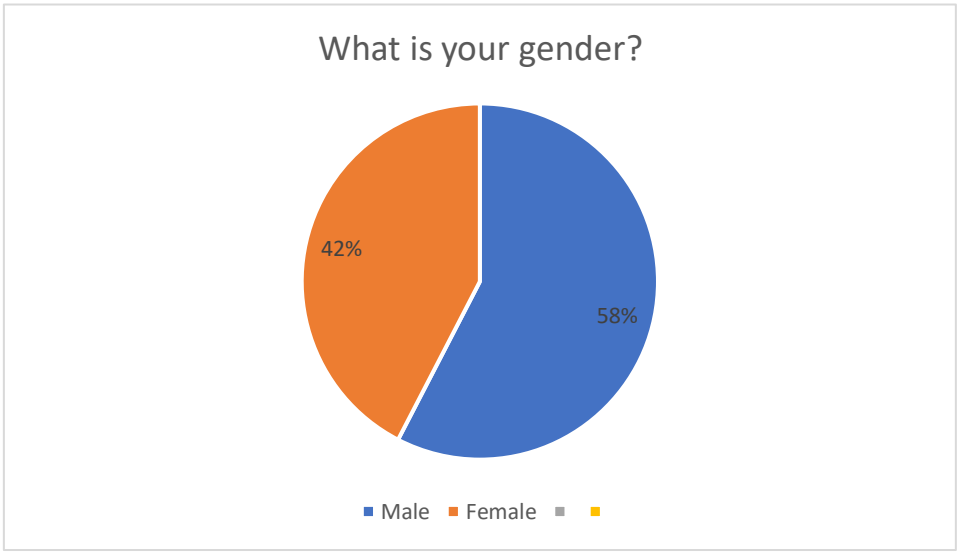

Figure 3.1 Gender

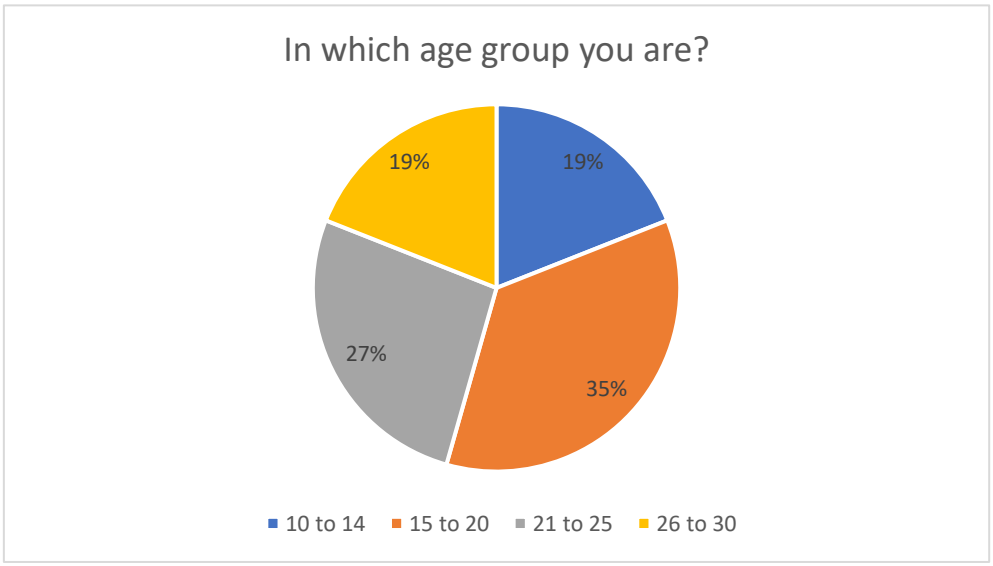

Figure 3.2 Age group

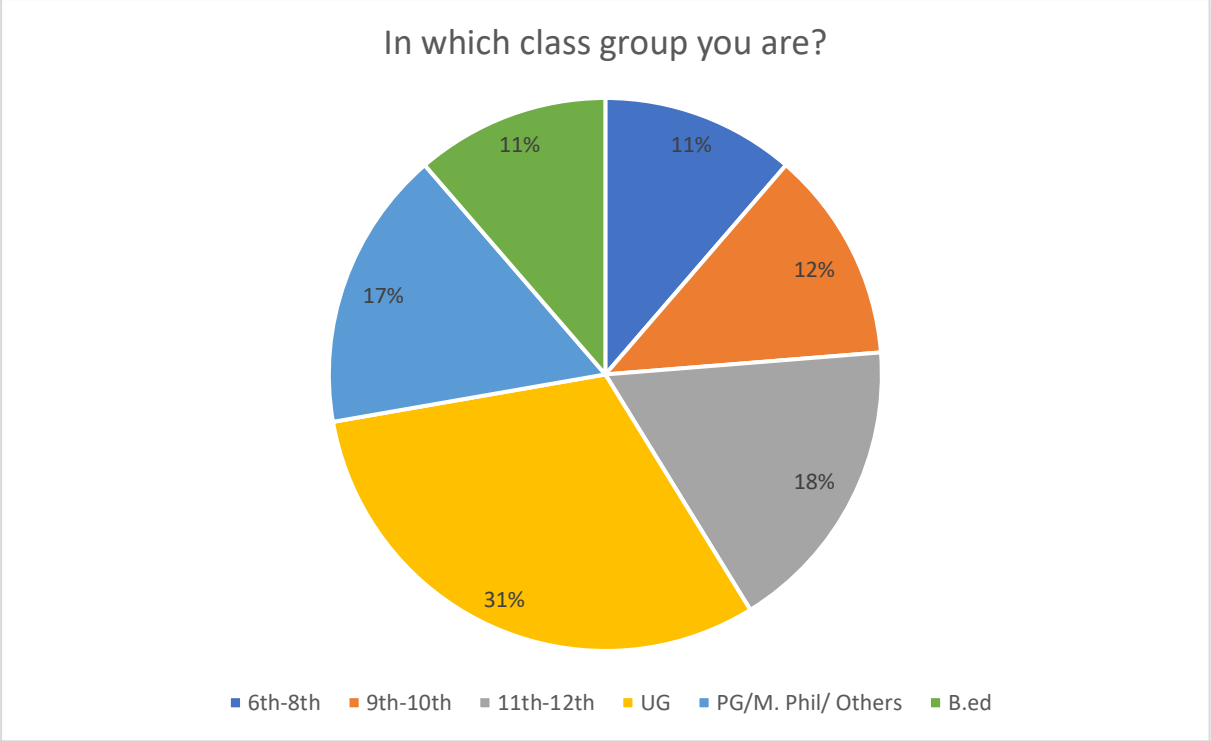

Figure 3.3 Class group

R1 – Which social media site are students most likely to use?

Figure 3.4 displays the overall sample size from all social networks. YouTube is the most utilised website for student interaction. The use of LinkedIn, Instagram, and What's up follows the use of Facebook and Twitter, and then other social media platforms. A total of 158 people were surveyed, and 20.9 percent of them use Twitter and 37.3 percent use YouTube for social interaction. According to the report, YouTube is more popular than Twitter among college students by roughly a 2-to-1 margin.

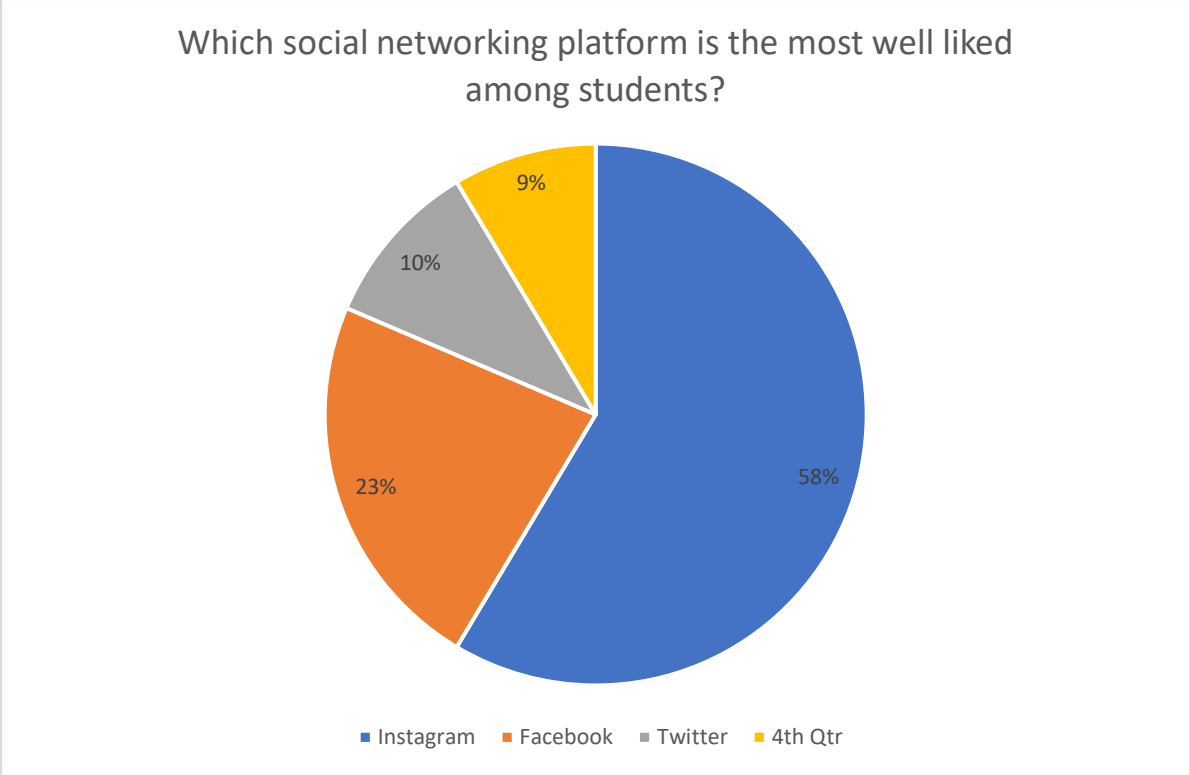

Figure 3.4 Popular social network among students

R2 – On average, how often do you use social media each day?

Two questions were used to assess social media usage. The following are the inquiries:

• How much time do you spend each day on social media?

• Are there specific periods of the day when you like to utilise social media?

23 percent of individuals polled reported to use social media for one to three hours per day, according to the statistics. Figure 3.5 shows that 20% of respondents think less than an hour is adequate for checking our social media profiles.

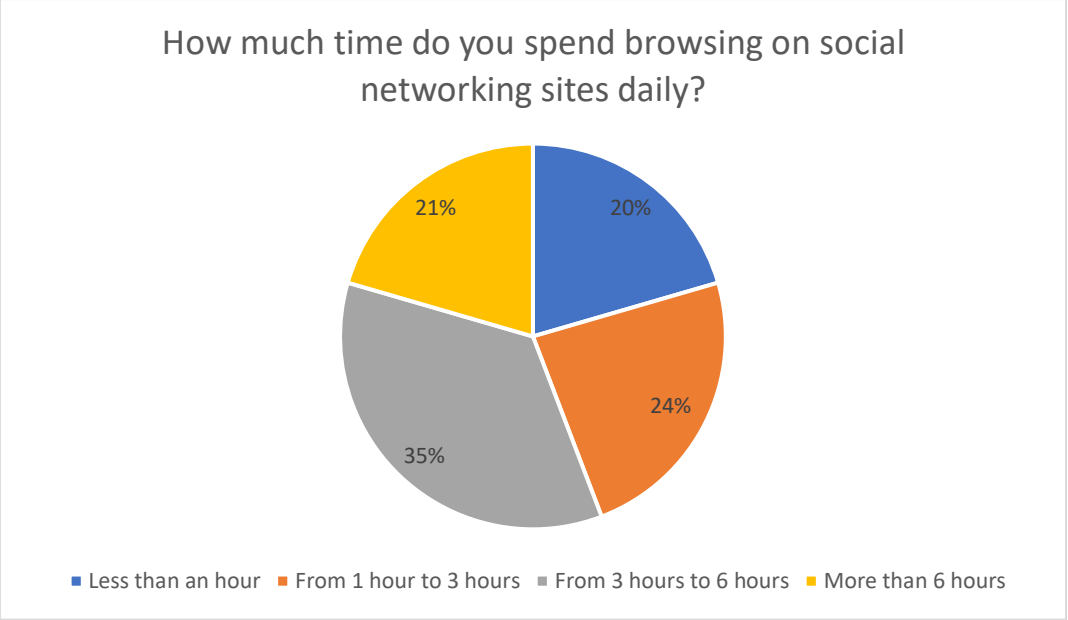

Figure 3.5 daily time spent surfing social media

Figure 3.6 reveals that a large fraction of survey participants (27%) concurs that there should be a set time of day for using social media. 33% are opposed to the notion and would like to see it used continuously, while 40% are neutral.

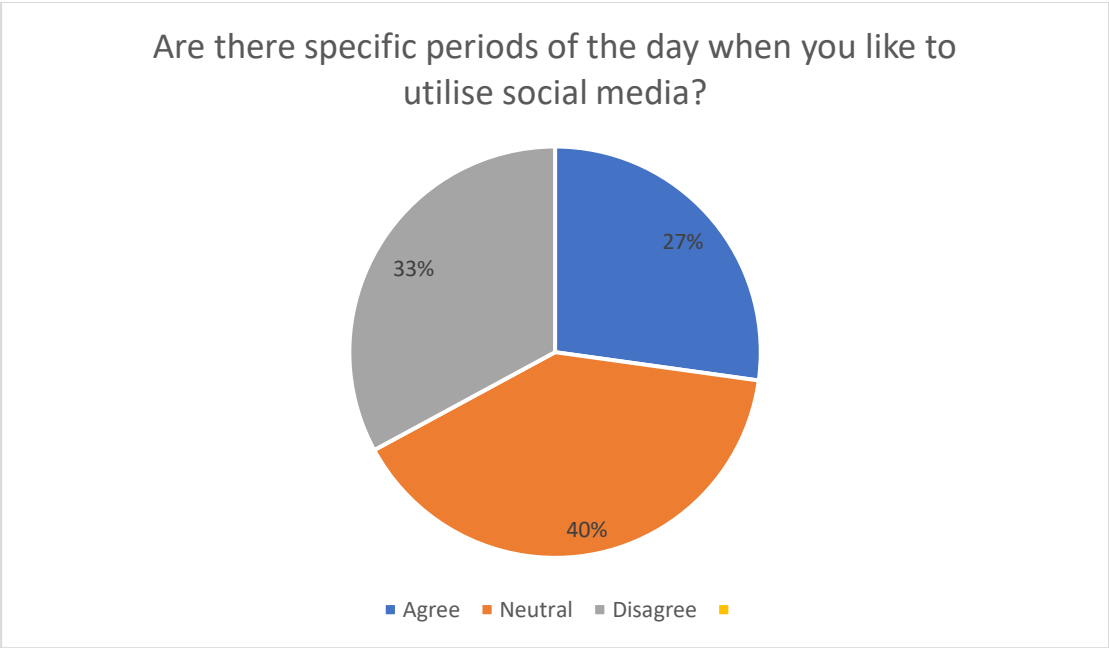

Figure 3.6 Reserving a specific amount of time each day for social media use

R3 – How may social media platforms improve communication between students and teachers and foster closer bonds between them?

To determine how social media has improved teacher-student communication, the following three questions were used:

- Are you allowed to view the instructors' social media profiles online?
- Do educators interact with their pupils on social networking sites?
- Are you interacting with your lecturers on social networking sites?

In Figure 3.7, replies from respondents whose teachers had granted them access to their social media accounts are displayed. 39% of individuals polled claim that no professors have ever given them access to their social media accounts; there are three possible responses: yes, to some extent, and no. Nevertheless, according to 30% of students, some of their teachers have given them access to their social media profiles.

Just over one-third of poll respondents, 30 percent, claim to have access to every professor's social media account.

The figures 3.8 and 3.9 display these statistics to show whether faculty members at their university are activating and using their social media accounts to interact with their students. The research found that 37% of respondents said academics don't interact with them on social media. This claim is supported by the fact that 35% of survey participants indicated they don't communicate with their instructors on social media.

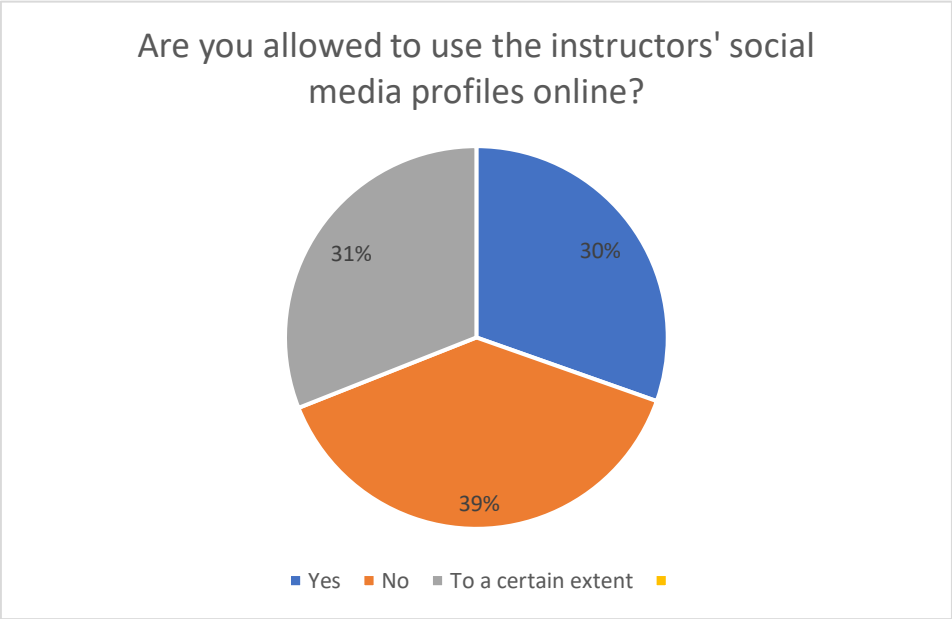

Figure 3.7 Educators allowing pupils access to their social media profiles

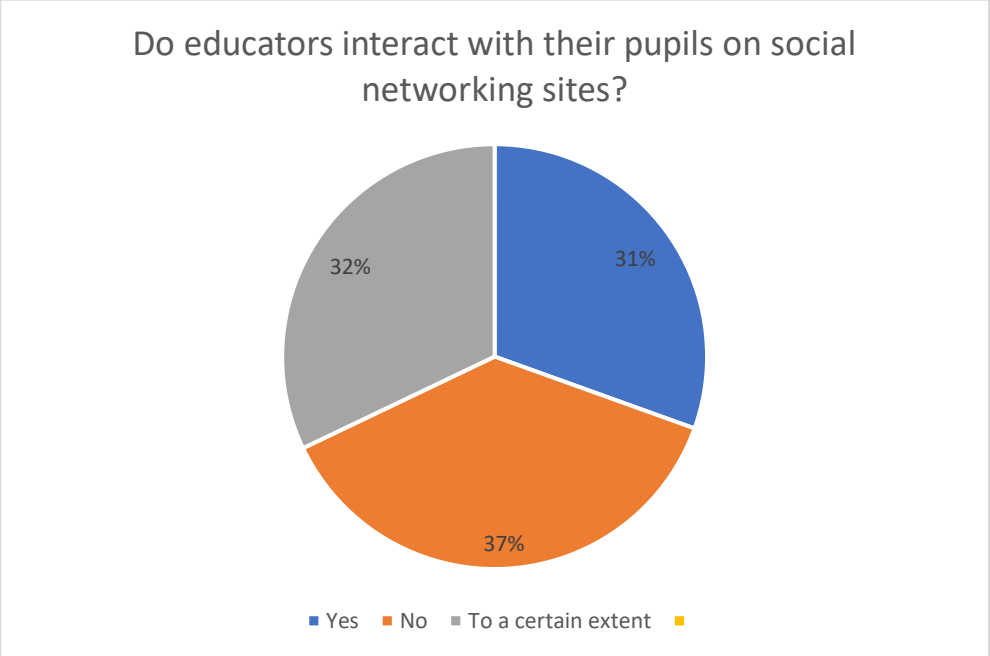

Figure 3.8 Students' active social networking platforms for faculty

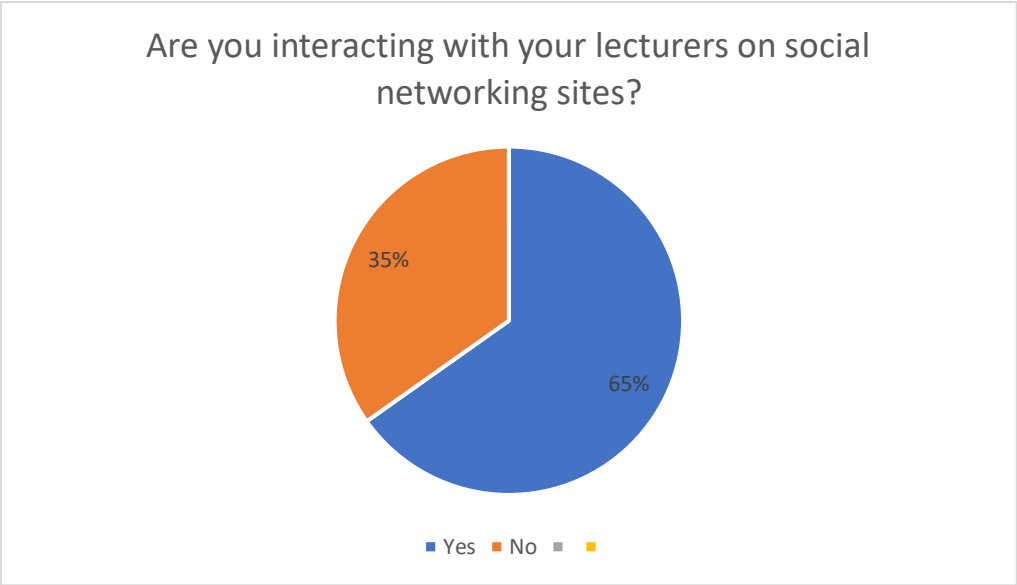

Figure 3.9 Between teachers and students, social networks facilitate communication.

3.4. **R4 –** How could the instructional value of the lecture be improved by the social media platform?

Three questions were used to assess the success of social media use in the lecture as an instructional strategy.

The following are the inquiries:

• Is it beneficial for students' academic achievement to interact with faculty members during the educational process?

• Do you believe that if a student uses social media during a lecture while feigning to be working on their academics, it will affect their understanding of the presentation?

• Do you think allowing pupils to use social media in class is a good idea?

According to the data, which is depicted in figures 3.10 and 3.11 out of 158 respondents (32% agree) and 41% of respondents (neutral) do not object to professors utilising social media during lectures, and these findings also suggest that this usage of social media improves students' academic performance.

However, the findings show that respondents do not agree with students utilizing social media during lectures for academic study; just 40% of respondents agree with this statement, while the remaining 40% are indifferent, and 20 % of respondents disagree.

These findings are illustrated in Figures 3.11 and 3.12

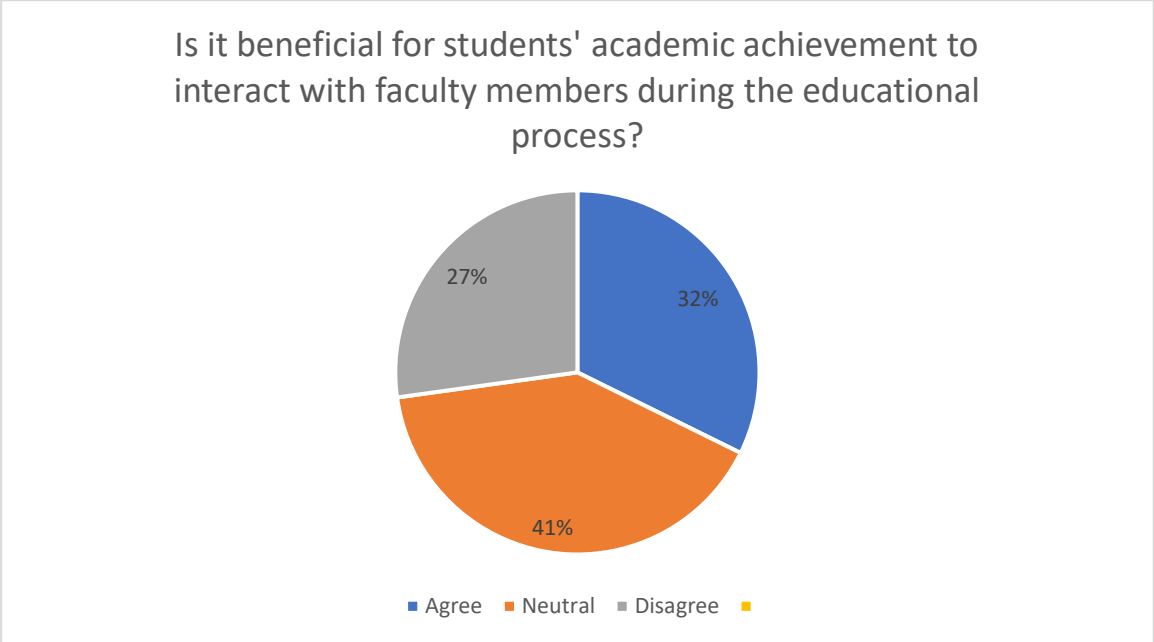

Figure 3.10 lecturers using social media in class

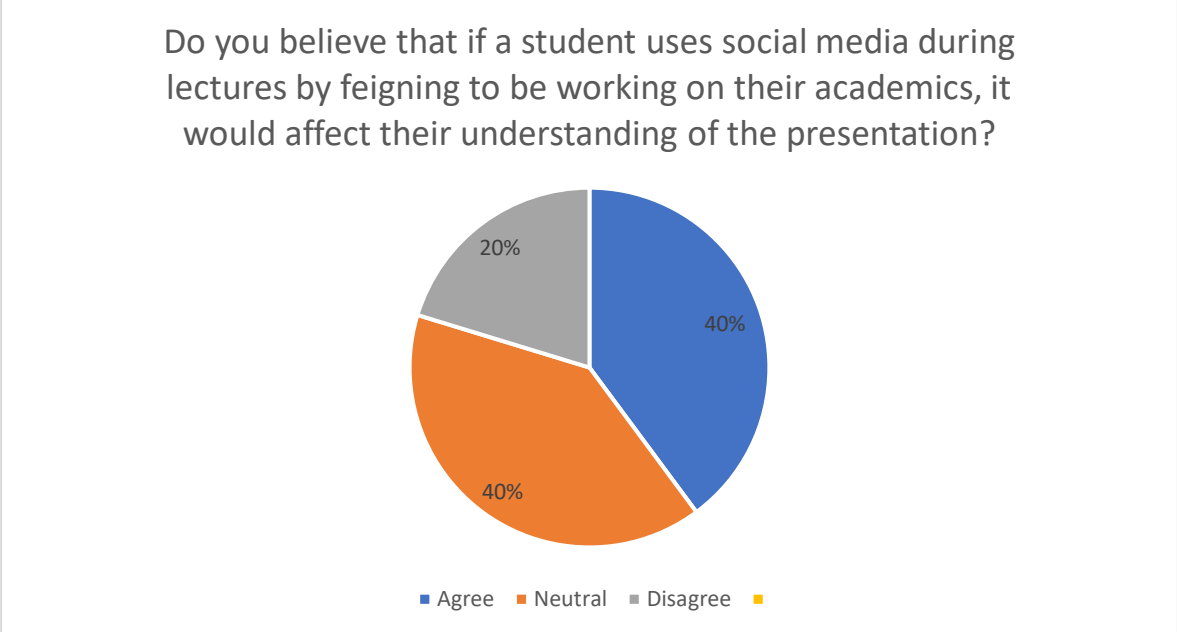

Figure 3.11 students utilizing social media during lectures for academic purposes

We generally questioned the respondents if they agreed with the usage of social media by students or teachers during class lectures. Figures 3.12 of the data show that 35% of respondents oppose using social media during lectures, 32% percent of respondents agree with this statement, and 35% of respondents are undecided.

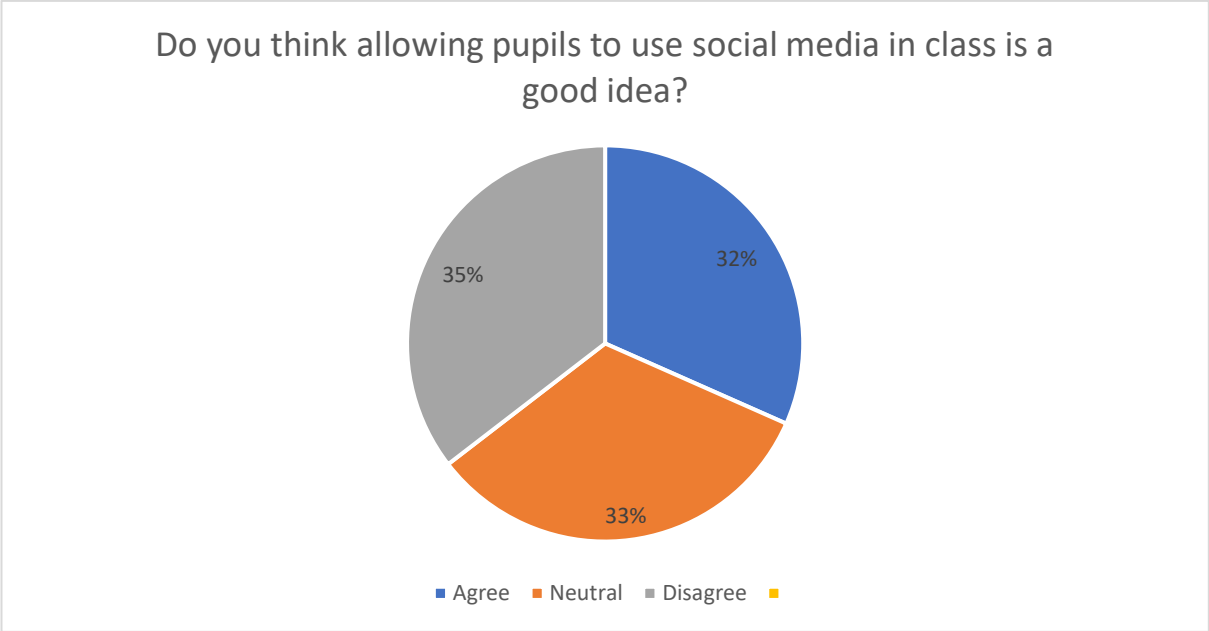

Figure 3.12 Social media usage during lectures

3.5 R**5** – The effectiveness of social media networks in advancing the educational process has been investigated using four questions.

Below are the inquiries:

- Can the instructor effectively communicate the necessary information via social networking sites?
- Do you believe that students' success in school is significantly influenced by their use of social networking sites?
- Do you believe social media has improved faculty communication but not academic quality of learning?

• Which social media channels are most beneficial for the educational process?

The statistics show that 44% of respondents concur that using social networks, a teacher can quickly confirm the accuracy of information. Additionally, 30% of respondents are neutral, but 25% of them concur that the teacher did not adequately communicate the required information via social media. These facts are illustrated in Figure 3.13

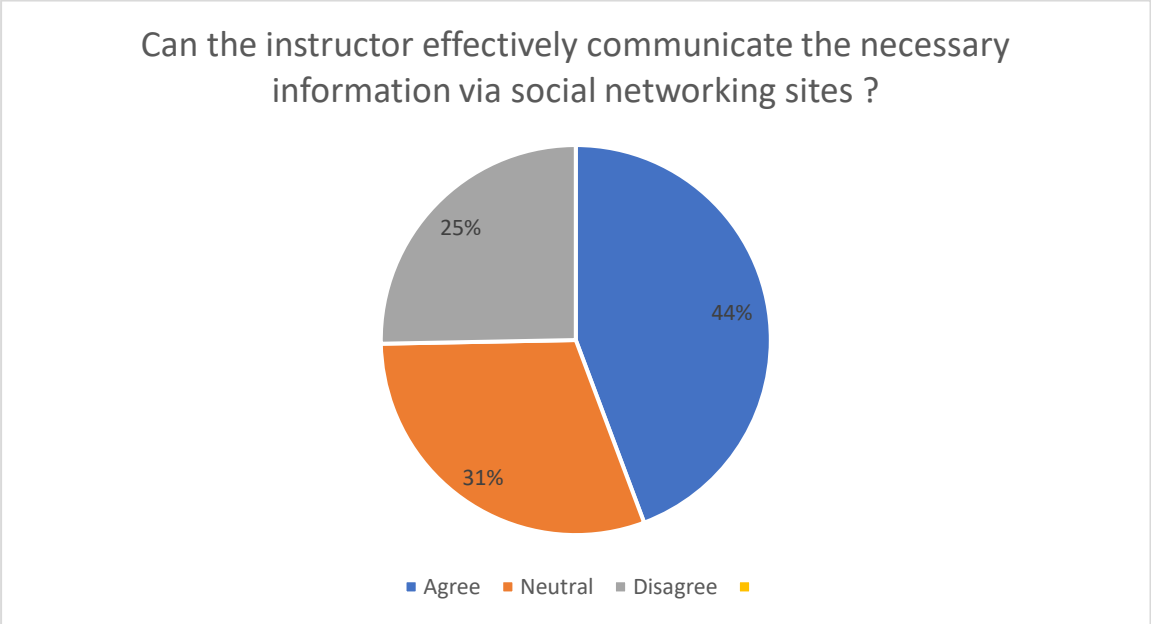

Figure 3.13 the dissemination of reliable information through social media

The use of social media by students improves their academic performance, according to 35% of respondents. However, another 40% voiced their disapproval, and 25% denied that social media had a positive impact on children's academic achievement. Figure 3.14 shows the various responses.

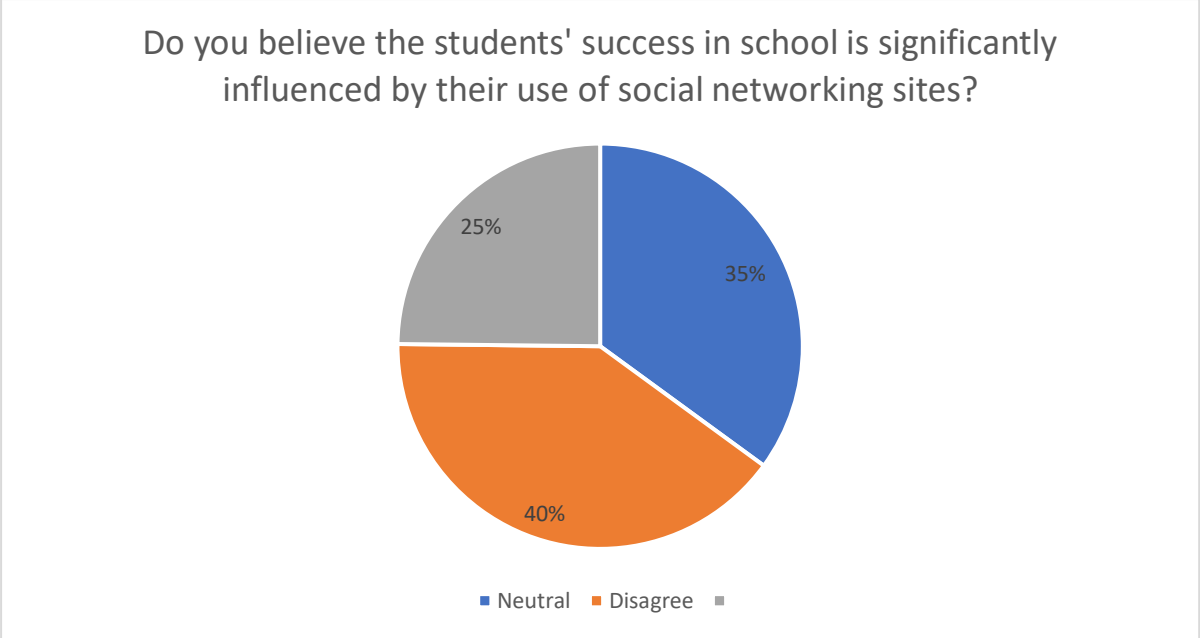

Figure 3.14 Utilizing social networking to boost students' academic performance

Figure 3.15 shows that, while 52% of respondents agreed, 28% were neutral, and 20% disagreed with the statement that social media had increased student-teacher contact but had not raised the standard for academic achievement. We asked the students which social network they thought would help the educational process the most at the end of the questionnaire. Twitter, Facebook, and other social media platforms like LinkedIn, Instagram, and WhatsApp are the next greatest websites for enhancing learning after YouTube.

According to 47% of the 158 respondents, YouTube is the finest social network for advancing education, while Facebook is the best social network for advancing education, according to 28% of the respondents are Twitter user base. The results are shown in figure 3.16

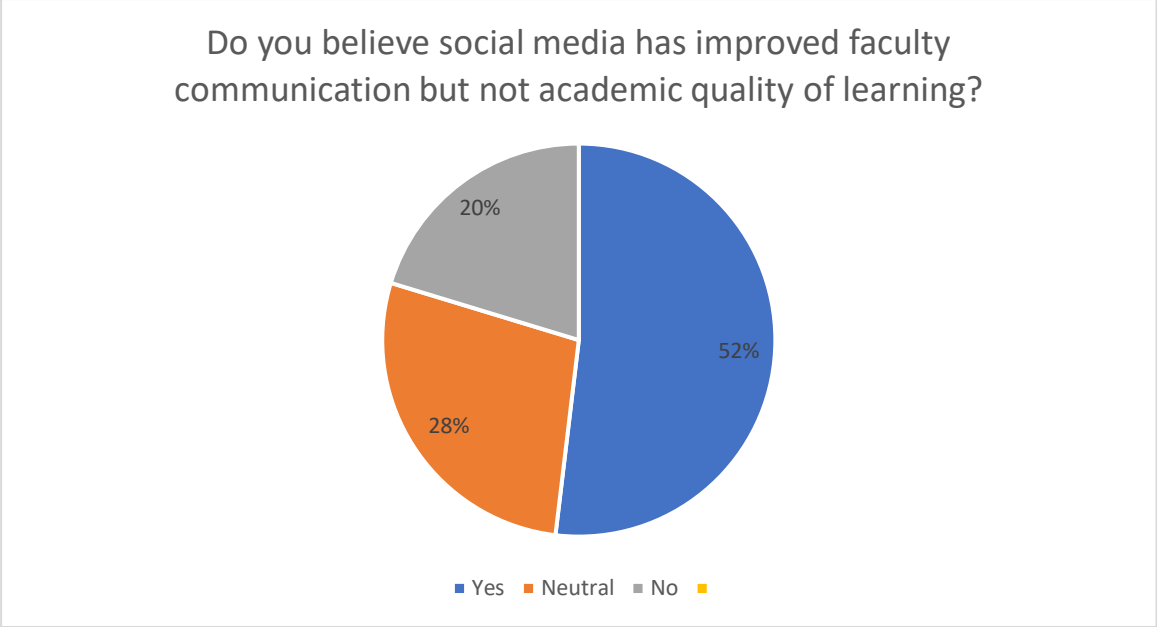

Figure 3.15 Social networks promote communication with faculty members, not the quality of study.

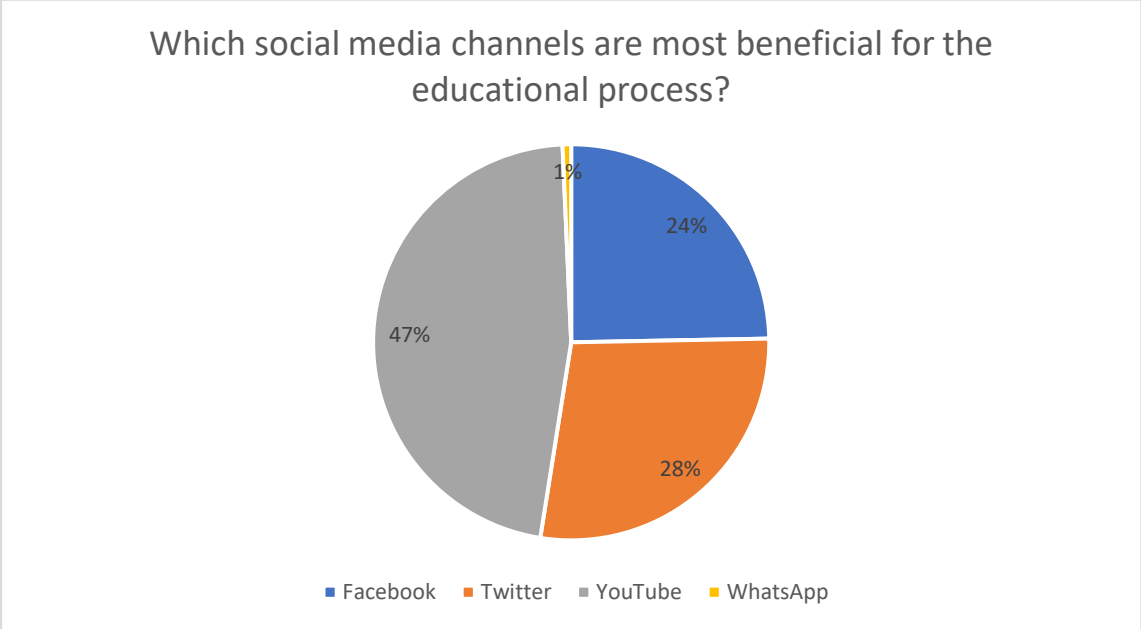

Figure 3.16 The top social networks for education

CHAPTER 4

Inferential Analysis

Introduction

When we have data in the form of frequencies, ordinal levels of measurement, or nominal levels of measurement, we employ this. There are several uses for the chi-square test.

The survey includes the total number of responses received across all social media platforms. In order to connect with one another, 59 of the 158 respondents use YouTube, while 41 use Instagram. In terms of student communication, Instagram is second only to YouTube in popularity.

The chi-square of goodness of fit assesses the null and alternative hypotheses, just like all hypothesis tests.

H_0 : Students use social media at the same rate as they are supposed to, according to observation.

H_a : The frequency of social media use by students is not consistent between what was observed and what was expected.

4.2.1 Chi-square as a Test of Goodness of Fit

To determine whether the observed value of a particular phenomenon differs considerably from the expected value, the Chi-Square goodness of fit test is utilized. The phrase "goodness of fit" is used in the Chi-Square goodness of fit test to compare the expected probability distribution to the observed sample distribution. How well a theoretical distribution (such the normal, binomial, or Poisson) fits the empirical distribution is determined by the Chi-Square goodness of fit test. Intervals are created from the sample data for the Chi-Square goodness of fit test.

Following that, the observed and actual numbers of points inside each period are compared.

Establish the hypothesis for the Chi-Square goodness of fit test, which is based on both the null and the alternative hypothesis, with regard to the process.

a) Null hypothesis: The null hypothesis states that there is no discernible difference between the observed and expected result in the Chi-Square goodness of fit test.

b) Alternative hypothesis: In the Chi-Square goodness of fit test, the alternative hypothesis asserts that there is a significant difference between the observed and expected value. Using the calculation, determine whether the chi-square value is significant at the.05 or.01 levels for the specified degrees of freedom. Reject the null hypothesis in that case. Accept the null hypothesis if not significant.

Testing Hypothesis Of Equal Probability

The Chi-square test is a practical tool for contrasting experimental results with those that would be predicted theoretically based on a given hypothesis. The equation to determine X2 is

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Concept and Calculation of Chi Square

Where;

O_i = observed frequency of a phenomenon or even which the experimenter is studying

E_i = expected frequency of the same phenomenon based on "no difference" or "null" hypotheses.

The chi-square as a test of goodness of fit assesses the null and alternative hypotheses, just like all hypothesis tests.

H_0 – Students will have an influence on the amount of social networking sites used.

H_a - Students will have no influence on the amount of social networking sites used.

The Chi-square test is a practical tool for contrasting experimental results with those that would be predicted theoretically based on a given hypothesis. The equation to determine X2 is

The following example can be used to demonstrate how to apply the aforementioned formula.

The data is shown in the first row of the first column of table 2. (Oi).

1. The distribution of replies in the second row is consistent with what one would expect if all answers were picked equally, according to the null hypothesis (Ei).

Table 4.1 Responses from subjects regarding the social media used

S. NO.	Social media used	Observed (O)	Expected (E)	(O-E)	$(O-E)^2$	$(O-E)^2/E$
	Insta	41	39.5	1.5	2.25	0.05
	Facebook	25	39.5	-14.5	210.25	5.32
	Twitter	33	39.5	-6.5	42.25	1.06
	YouTube	59	39.5	-10.5	110.25	2.79
	Total	**158**				

No. of levels (k) = 4

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

$X^2 = \sum 365/158$

$X^2 = 2.31$

X^2 = Calculated chi square= 2.31

Degree of freedom= No. of levels -1 (k)

Degree of freedom= 4.1

Degree of freedom = 3

Entering table of X^2, we find in row d.f = 3 a value 7.21 given under the heading

Levels of significance respectively

obtained value in 2.31, which is far above the given value in table

If calculated chi-square value </= the value in table 2.2

We are unable to disprove the null hypothesis. But from the results it may be stated quite confidently that the value of calculate chi-square is less than critical value.

Consequently, we are unable to reject the null hypothesis.

4.2.2 Chi square test of independence

A specific version of Pearson's chi-square test is the chi-square (X2) test of independence. Chi-square tests by Pearson are nonparametric assessments of categorical variables. They are employed to ascertain whether your data differ considerably from your expectations. To ascertain if two categorical variables are connected, you can perform a chi-square test of independence, also referred to as a chi-square test of association. When two variables are connected, the likelihood that one will have a particular value depends on the value of the other variable.

The observed frequencies, or the number of observations in each combined group, are used in the chi-square test of independence calculations. In order to determine if two variables are unrelated, the test compares observed frequencies to those you would anticipate. Similarities will exist between observed and anticipated frequencies.

The chi-square of independence assesses the null and alternative hypotheses, just like all hypothesis tests.

H_0 : Men and women both prefer to use social media during specific times or hours each day.

Ha : The use of social media is not favoured by either men or women at particular times of the day or for a set amount of time each day.

There are 91 men and 67 women listed in the third double entry, also known as a two-way double entry, in the following table.

Table 4.2: Reserving a specific amount of time each day for social media use

Gender	Agree	Neutral	Disagree	Total
Male	29	30	31	91
Female	14	32	22	67
Total	43	62	53	158

As mentioned above, we give the data in contingency table format for this. The computed anticipated frequencies are listed in brackets next to the corresponding observed frequencies. Table 4.3 provides the contingency table and the method for calculating predicted frequencies.

Table 4.3: Contingency table with O_i and E_i for the given data given in table 4.2

Gender	**Agree**	**Neutral**	**Disagree**	**Total**
Male	29 (30.3)	30 (30.3)	31 (30.3)	91
Female	14 (20.3)	32 (20.3)	22 (20.3)	67
Total	43	62	53	158

The method to determine each cell's anticipated frequency in a particular cell:

43 x 91/158 = 67.4 62 x 91/158 = 35.7 53 x 91/158 = 30.52

43 x 67/158 = 18.23 62 x 67/158 = 26.29 53 x 67/158 = 22.47

To determine the value of X2, apply the conventional formula.

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Table 4.4 Computation of X^2

O_i	E_i	$(O_i - E_i)$	$(O_i - E_i)^2$	$(Oi - Ei)^2/E_i$
29	30.3	-1.3	1.69	0.05
30	30.3	-0.3	0.09	0.02
31	30.3	0.7	0.0049	0.00016
14	30.3	6.3	39.69	1.95
32	30.3	11.7	136.89	6.75
22	30.3	1.7	2.09	0.14
				X^2

With the aid of the normal formula, the value of X2 may be calculated.

For 2 df circuit value at .05 level is 5.99. our obtained value of X^2 is 19.86. It is far higher than the table value. Therefore, we reject the null hypothesis

Steps

1) Create the null hypothesis first.

2) Use the technique in the table to determine the expected values.

3) Calculate the discrepancy between the observed and expected values for each cell.

4) Square each discrepancy and divide it by the anticipated frequency in each cell,

5) Add these values together, and you get X2 as the result

Recommendations

It is suggested that we avoid using social media during lectures and that more analysis be done on how social media use affects the relationships that students develop with one another.

Conclusion

The major goal of this research was to examine how students utilise social media and how that use relates to their academic achievement. The absence of student engagement is one weakness of the study. In reality, the study showed that the use of social media sites online has enhanced communication between teachers, staff, and students, assisting in the transmission of factual information and enhancing students' grasp of concepts and course material. According to the information gathered, the majority of respondents do not advise using social media while in class. The social media platforms that students believe to be most beneficial to education are Twitter and YouTube.

References

[1] Al-Khalifa, H. S., & Garcia, R. A. (2013). "The state of social media in Saudi Arabia higher education."

American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS) (2018) Volume 40, No 1, pp 77-88

International Journal of Technology and Educational Marketing (IJTEM), 3, 65-76.

[2] Camilia, N. C., Ibrahim, S. D., & Dalthu, B. L. (2013). "The effect of social networking sites usage on the studies of Nigerian students." The international Journal of Engineering And Science, 2, 39—46.

[3] Junco, R., Heiberger, G., & Loken, E. (2011). "The effect of Twitter on college student engagement and grades." Journal of Computer Assisted Learning, 27, 119—132.

[4] Tariq, W., Mehboob, M., Khan, M. A., & Ullah, F. (2012). "The impact of social media and social networks on education and students of Pakistan", International Journal of Computer Science Issues, 9, 407—411.

[5] Alwagait, E., Shahzad B., & Alim S. (2014). "Impact of social media usage on students' academic performance in Saudi Arabia", Computers in Human Behavior.

[6] Shahzad B., Alwagait E., & Alim S. (2015) "Investigating the relationship between social media usage and students grades in Saudi Arabia: A mixed method approach", Recent Advances in Electrical Engineering and Educational Technologies, 211—214.

[7] Curtis, A. (2011). The brief history of social media.

[8] The effects of social media on college students. 2015. Available from: