

# From Likes to Lies: Investigating University Students' Ability to Detect and Analyze Fake News on Social Media

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## Abstract

*This study investigates university students' ability to detect and analyze fake news on social media, with a particular focus on the roles of media literacy, critical thinking skills, and social media usage frequency. Using a quantitative survey design, data were collected from 208 students enrolled at the University of Management and Technology (UMT) and the University of Sialkot (USKT). Descriptive statistics and multiple regression analysis were employed to examine the predictive relationship between the independent variables and students' ability to identify fake news. The findings reveal that media literacy and critical thinking skills significantly enhance students' ability to detect fake news, whereas excessive social media use negatively affects accurate identification. The study is grounded in Uses and Gratifications Theory, emphasizing students' active roles in media consumption and evaluation. The results highlight the importance of integrating media literacy and critical thinking education into higher education curricula to mitigate the spread and impact of misinformation in digital environments.*

**Keywords:** Fake News, Misinformation, Media Literacy, Critical Thinking Skills, Social Media Usage, Fake News Detection.

## Introduction

Fake news has many definitions, but broadly it can be described as false information that, for a multitude of reasons ranging from ignorance to a conscious decision to mislead, is shared as fact. Fake news exists in three forms: fraudulent information created specifically to deceive, rumors that are often unverified and come from dubious sources, and humor, which may employ sarcasm and irony to create parodies or satire. Fake news can have benign origins. Fake news may begin as a parody or satire that is misunderstood by someone who then shares it as fact, transforming it into a fake news story that many may believe to be true. The most malicious use of fake news is the conscious spreading of misinformation to confuse fact and fiction. Fake news is created to mimic authentic news. Fake news is by no means a new phenomenon; what has changed, however, is the frequency with which news is shared and received on social media. More news is being consumed online, usually through social media. Technological advances made it easier to create fake news sites that mimic reputable news sources while also creating spaces for advertising. Fake news is defined as information deliberately manufactured and disseminated to the public. Its intention is to deceive and persuade individuals to accept assertions that are not true. The function

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that news performs in democratic countries is obvious, unlike many other sources of information. It serves as an essential source of information on social issues and political matters, shaping public opinion. (McGonagle, 2017) The increasing prevalence of "fake news" has been a source of concern for individuals over the past several years and has been a prominent topic of discussion in media and politics, particularly in the United States and Europe. To manipulate political agendas, campaigns that spread false information and lies have been used, and governments have responded by taking action. (Wasserman, 2019) It is challenging to determine and verify the authenticity of "fake news" because of the complex nature of the information in question. Recent studies have investigated the dynamics that arise when erroneous information is repeatedly spread. (Oberiri Destiny Apukea, 2021) In today's digital age, misinformation is a major issue, particularly on social media platforms. TikTok, a well-known app for sharing short videos, has become a platform where misinformation can proliferate. However, among university students, there is a noticeable lack of studies examining disinformation on TikTok. This study aims to assess university students' awareness of TikTok's misinformation and their trust in the platform's content. (Tung, 2024).

In the contemporary digital landscape, the rapid and widespread proliferation of fake news and misinformation poses a significant threat to political discourse, societal cohesion, and public trust. This phenomenon, frequently contextualized within the "post-Truth Era" marked by hyperconnectivity and the omnipresent impact of social media, renders it progressively difficult for individuals to differentiate between factual information and intentionally fabricated or deceptive content. (Bringula, 2021) The growth and spread of misinformation and disinformation online have become an urgent concern in the United States and around the world recently. In the US, there has been a nationwide discussion of "fake news," especially regarding the 2016 election and its potential implications for our democratic institutions and processes. In a 2017 Gallup/Knight Foundation survey, 73% of Americans reported that the spread of inaccurate information on the Internet was a major problem, and a majority of U.S. adults consider fake news a threat to our democracy. Most Americans believe that fake news stories cause confusion about the basic facts of current issues and events. (Leeder, 2019) Cultural, cognitive, and digital literacy factors, along with social media engagement behaviors, influence university students' challenges in identifying fake news. Perceptions and consumption of fake news among university students reveal varying levels of trust in social media platforms such as TikTok, underscoring the importance of critical evaluation skills. Studies suggest that digital literacy and media literacy education can enhance students' capabilities to discern factual news from misinformation. Social contexts, particularly in multicultural educational environments, pose distinct challenges for students trying to differentiate credible news from false stories. Various factors, including individual motivations and media consumption habits, affect the dissemination of fake news among university students. Enhancing critical thinking dispositions and media literacy is crucial for high-level fake news detection abilities. The integration of media literacy into educational programs can foster better recognition and response to fake news in digital environments. Research highlights the roles of new media literacy and critical thinking dispositions in predicting students' ability to identify fake news on social media platforms. Educational interventions targeting university students can help mitigate the impact of fake news by promoting media literacy and strategic processing across documents. Efforts to improve digital literacy as a moderating factor can help reduce the spread of misinformation among college students, particularly in digital media-driven societies. The Uses and Gratification Theory serves as the foundation for a study investigating the spread of false news stories among university students in Malaysia. Personal incentives influence the propagation of false information, providing insights for the development

of scholarly measures to counteract disinformation. (Wan Hashridz Rizal Wan Abu Bakar, 2024) Vietnamese university students struggle to identify fake news, necessitating solutions at the individual and system levels that involve machine learning and media literacy education. Survey results highlight significant factors affecting their ability to detect fake news. (Thi Mai Oanh, 2024). The findings reveal that strategies for addressing online misinformation are often theoretical and require practical applications that account for psychological factors, such as confirmation bias. University students demonstrated commendable knowledge of fake news during the COVID-19 pandemic, yet education level did not significantly affect fake news recognition, suggesting the importance of critical thinking education. With the rapid advancement of the internet, social media has become one of the most widely used sources of information today, and many people use these platforms to get news. There is a great pile of information on the internet, and this can be disseminated effortlessly and quickly on social media. We can learn breaking news more quickly on social media than through any other conventional means of communication. However, there is a great problem here. Although social media provides a space for news to spread rapidly, it can also become a hotbed of misinformation. Social media bombards people with a vast amount of fake news instead of true and unbiased news. As a recent example, there has been a rash of digital FN about COVID-19 on social media, resulting in undesired health, social, and cultural consequences. Also, fake news had an undeniable role in the Brexit Referendum and in the USA Presidential Election in 2016. (Orhan, 2023) . University students represent a particularly crucial demographic in this information environment. As "digital natives," they are heavily engaged with social media for daily information consumption, making them both frequent recipients and potential disseminators of news, whether accurate or not. (Plaza, 2023) Discriminating real from fake news is not simple. It requires cognitive effort, and whenever people are prompted to think, cognitive biases tend to surface. Classical psychology aims to teach thinking, sometimes even critical thinking, and to warn people about the cognitive biases that often affect it. During the 2016 presidential campaign, social media was flooded with internet robots called "bots." A bot is a piece of computer software designed to automate a task; they are not new and are used for a variety of tasks. Search engines use bots to crawl the internet and categorize content by keywords and phrases. Social media bots are strategically placed and created to amplify the volume of information, with higher volume equating to greater believability. Sometimes this is done by simply retweeting information. At other times, fake personas are created to resemble the characteristics of the group they aim to influence, and these personas generate the message (Ann T. Musgrove, 2018) The difficulty in identifying fake news is not solely a matter of technical skill but is deeply rooted in human psychology. Cognitive biases play a powerful role in how individuals process information. Motivated reasoning and confirmation bias are two key psychosocial processes that make individuals, including university students, susceptible to misinformation (Journell, 2023).

Critical thinking covers a broad range of skills, including: verbal reasoning, argument analysis, thinking as hypothesis testing, dealing with likelihood and uncertainty, and decision-making and problem-solving. For this study, which concerns the evaluation of the credibility of online news, the following definition will be used: Critical thinking is "the ability to analyze and evaluate arguments according to their soundness and credibility, respond to arguments, and reach conclusions through deduction from given information." In this study, we aim to investigate how the skills mentioned can be used within information literacy to better identify fake news (Turpin, 2020).

### Problem Statement

In the digital age, university students are frequent social media users, which exposes them to a high volume of misinformation and fake news. Despite the critical role of accurate information in society, students often struggle to distinguish between true and false content due to limited media literacy, cognitive biases, and a lack of critical evaluation skills. This study investigates students' ability to identify fake news and the factors that influence their discernment.

### Research Objectives

1. To assess the level of awareness of university students regarding fake news and misinformation on social media.
2. To examine the factors (e.g., critical thinking, media literacy, social media habits) that affect students' ability to identify fake news.

### Literature Review

Trusting fake news or misleading content can cost lives. In March 2020 in Iran, nearly 300 people died, and more than 1000 were sickened after ingesting methanol, because of a fake news message that "alcohol can wash and sanitize the digestive system" (Karimi, 2020). There is also research focusing on consistency across modalities, and information such as cosine similarity between texts and images is used to help discriminate between fake news and genuine news. In addition, posts across different news domains often exhibit distinct characteristics, including textual and other features, so some studies focus on specific news domains and extract domain-specific features to improve the model's generalization when detecting posts from diverse domains (Xinyi Zhou, 2020). Investigating the viral status of false news versus true news, this study utilized a large dataset to identify linguistic cues and propagation patterns associated with misinformation. Machine learning models were applied to predict the veracity of news based on these cues. (Sperl', 2022) . More recently we can cite some news like, Paul Horner, was behind the widespread hoax that he was the graffiti artist Banksy and had been arrested; a man has been honored for stopping a robbery in a diner by quoting Pulp Fiction; and finally the great impact of fake news on the 2016 U.S. presidential election, according to CBS News 3 (Karishma sharma, 2019). Various studies have been designed to compare proposed approaches for fake news detection, but they have focused on small datasets and/or analyzed only some machine learning methods. For the paper's aims, we have decided to focus on content-based techniques based on machine and deep learning algorithms because: i) there is a more systematic and wide study of such methods, ii) the adopted (and most diffused) datasets available for benchmarking mainly contain textual features of fake news. In addition, a real-time detection system first has to consider news text before any other user-based analysis that needs to observe the temporal spread of news across social networks. Furthermore, we analyze multimedia approaches to address misleading images and how they can be exploited to improve overall fake news detection performance (Reis, 2019; Gravanis, 2019) The literature on fake news detection using machine learning is a rapidly evolving field, reflecting the urgency to combat misinformation in the digital age. Researchers have explored various techniques to develop accurate and efficient models for identifying fake news. The early work demonstrated the feasibility of using machine learning for detecting fake news. The study focused on user engagement metrics (likes, retweets) and linguistic features to classify fake news. The author found that combining social network features with textual content features improved the model's performance. Shu, (2017) and Dou (2021) takes into account user preferences and uses the publisher's tweet history to detect endogenous factors, treating post-propagation graphs as

exogenous. These two factors are combined to determine the post's credibility. The task of detecting fake news has been labeled in various ways, including misinformation, rumors, and spam. Just as each individual may have their own intuitive definition of such related concepts, each paper adopts its own definition of these words, which conflicts or overlaps with other terms and other papers. For this reason, we specify that the target of our study is the detection of fabricated news content, that is, fake news. Given the disparity in terminology, we provide an overview of existing work, loosely grouped by the three characteristics (text, response, and source) it considers. There has been a large body of work on the text analysis of fake news and related topics, such as rumors and spam. This work has focused on mining specific linguistic cues, for example, by identifying anomalous patterns in pronoun, conjunction, and negative emotion-related word usage. (Feng, 2023) . (Newman, 2003) have also aimed at a multivariate linguistic profile of deception. More specifically, they proposed a set of five out of twenty-nine linguistic cues, which is an intersection of the most significant predictors of deception. This intersection is a result of a systematic analysis of five different experimental case studies. Each case study had a different context, a different number of participants, and a different distribution between sexes (male, female), i.e., “Typed abortion attitudes” with 44 participants (18 male, 26 female), “Mock crime” with 60 participants (23 male, 27 female), etc. In each case study, participants were asked to be either deceptive or sincere. The authors used Logistic Regression (LR) for feature evaluation, achieving higher accuracy than human judges (67% vs 52%).

## Theoretical Framework

This study is grounded in the Uses and Gratifications Theory (UGT). UGT explains why individuals actively seek out specific media to satisfy particular needs, such as information, entertainment, or social interaction. In the context of fake news, university students use social media to obtain information, stay updated, or for entertainment. Their motivations, combined with cognitive biases, media literacy, and critical thinking skills, influence how they perceive, evaluate, and potentially share misinformation.

## Key Points

*Active Audience:* Students are not passive consumers; they select content based on personal needs (information, entertainment, social interaction).

*Motivations and Gratifications:* Different motivations (e.g., staying informed, social engagement) affect students' attention to content credibility.

*Cognitive and Media Literacy Factors:* Students with higher media literacy and critical thinking skills are more likely to critically evaluate content, distinguishing between true and false news.

*Application to Fake News:* Understanding why students consume content helps explain their susceptibility to misinformation and the importance of media literacy interventions.

## Research Hypotheses

*H1:* University students with higher media literacy are more capable of detecting fake news on social media.

*H2:* Increased frequency of social media use negatively affects students' ability to identify fake news accurately.

*H3:* Students with stronger critical thinking skills are more likely to recognize and evaluate misinformation on social media correctly.

## Research Methodology

### Research Design

This study adopts a quantitative research design using a survey method. The aim is to measure university students' awareness of fake news, media literacy, critical thinking skills, and social media usage habits, and to understand how these factors affect their ability to identify misinformation. A cross-sectional approach is employed, capturing data at a single point in time.

### Population and Sample

The study population comprised university students enrolled at higher education institutions in Sialkot, specifically the University of Management and Technology (UMT) and the University of Sialkot (USKT). A total sample of 208 students was selected for the research. Convenience sampling was employed, focusing on students who are active social media users.

**Table 1: Variables**

| Variable Type              | Variable                      | Description                                                        |
|----------------------------|-------------------------------|--------------------------------------------------------------------|
| Independent Variables (IV) | Media literacy                | Students' knowledge and skills to evaluate information credibility |
|                            | Critical thinking skills      | Students' ability to analyze, evaluate, and reflect on information |
|                            | Social media usage frequency  | How often students use social media platforms for news             |
| Dependent Variable (DV)    | Ability to identify fake news | Students' capability to distinguish real news from misinformation  |

### Research Instruments

A structured questionnaire is used, consisting of four sections:

*Demographics:* Age, gender, degree program, and year of study.

*Social Media Usage:* Frequency, duration, and platforms used for news consumption.

*Media Literacy and Critical Thinking:* Likert-scale items assessing skills to analyze, verify, and evaluate information.

*Fake News Detection Ability:* Scenario-based questions where students identify real vs. fake news posts.

*Measurement Scale:* Five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree) for subjective items.

### Data Collection Procedure

The questionnaire distributed online and physically to students at UMT and USKT.

### Data Analysis

*Descriptive Statistics:* Mean, frequency, and percentage for demographics and general trends.

### Inferential Statistics

*Correlation Analysis:* To assess relationships between IVs (media literacy, critical thinking, social media use) and DV (fake news detection ability).

*Regression Analysis:* To test the formulated hypotheses and determine predictive factors for fake news detection.



### Data Analysis and Interpretation

This chapter presents inferential statistical analysis to test the proposed hypotheses of the study. Multiple regression analysis was employed to determine the extent to which media literacy, critical thinking skills, and social media usage frequency predict university students' ability to identify fake news on social media platforms.

**Table 2: Crosstab for Frequency of Age of respondent**

| Respondents | Below 20 | 21-25 | 26-35 | 36-45 | Total |
|-------------|----------|-------|-------|-------|-------|
| Frequency   | 43       | 81    | 38    | 46    | 208   |
| %           | 20.7     | 38.9  | 18.3  | 22.1  | 100%  |

**Figure 1: Frequency of age respondents**

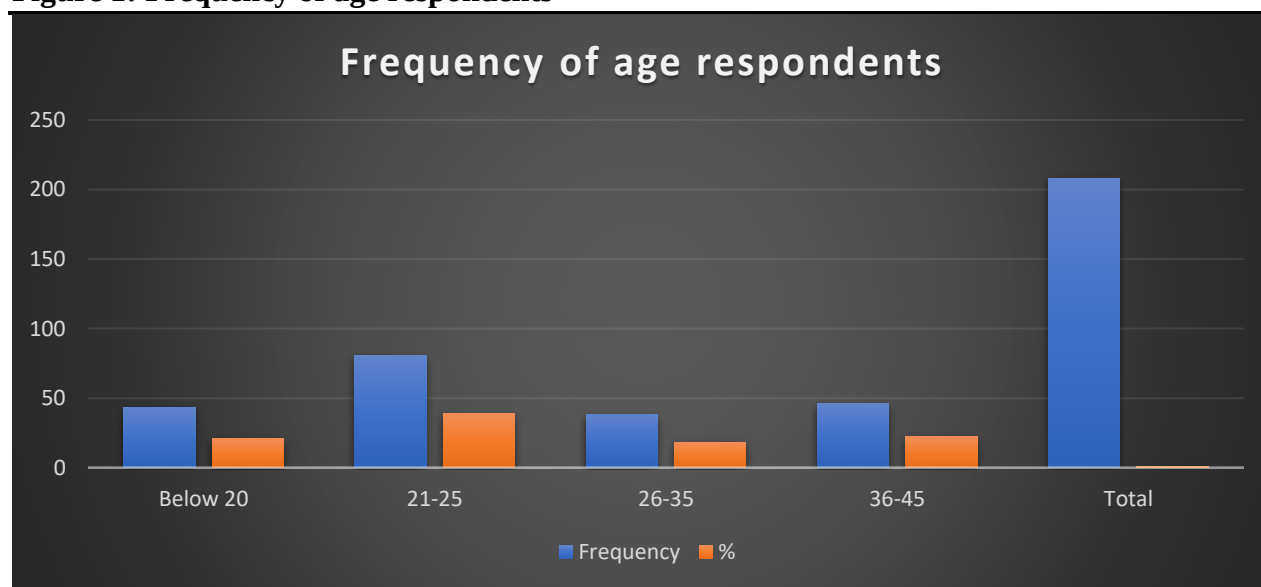


Table 2 shows that most respondents are aged 21–25 years (38.9%), making this the dominant age group in the study. Respondents below 20 years (20.7%), 26–35 years (18.3%), and 36–45 years (22.1%) are fairly represented, indicating a reasonably diverse age distribution. This spread suggests that the study captures views from multiple age categories, with a stronger influence from young adult.

**Table 3: Crosstab for Frequency of gender of respondent**

| Respondents | Male | Female | Transgender | Total |
|-------------|------|--------|-------------|-------|
| Frequency   | 63   | 117    | 28          | 208   |
| %           | 30.3 | 56.2   | 13.5        | 100%  |

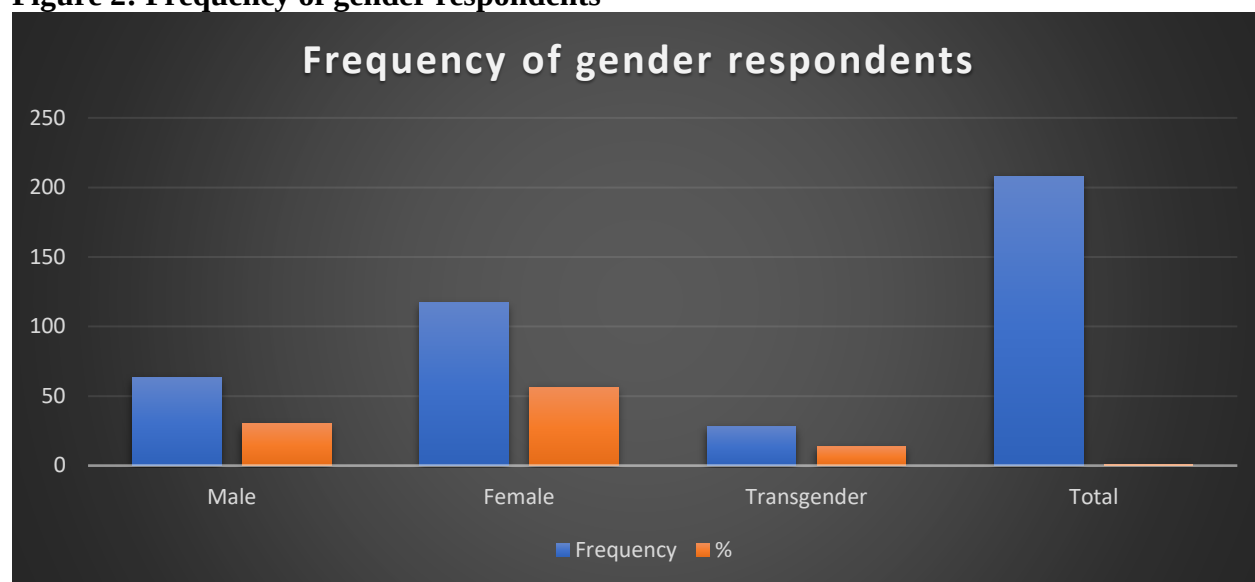
**Figure 2: Frequency of gender respondents**

Table 3 shows that the majority of respondents are female (56.2%), followed by male respondents (30.3%), while transgender respondents account for 13.5% of the total sample. This indicates that females are the most represented gender group in the study, though there is meaningful participation from all gender categories, contributing to gender diversity in the sample.

**Table 4: Crosstab for Frequency of university name of respondent**

| Respondents | UMT | USKT | Total |
|-------------|-----|------|-------|
| Frequency   | 104 | 104  | 208   |
| %           | 50  | 50   | 100%  |

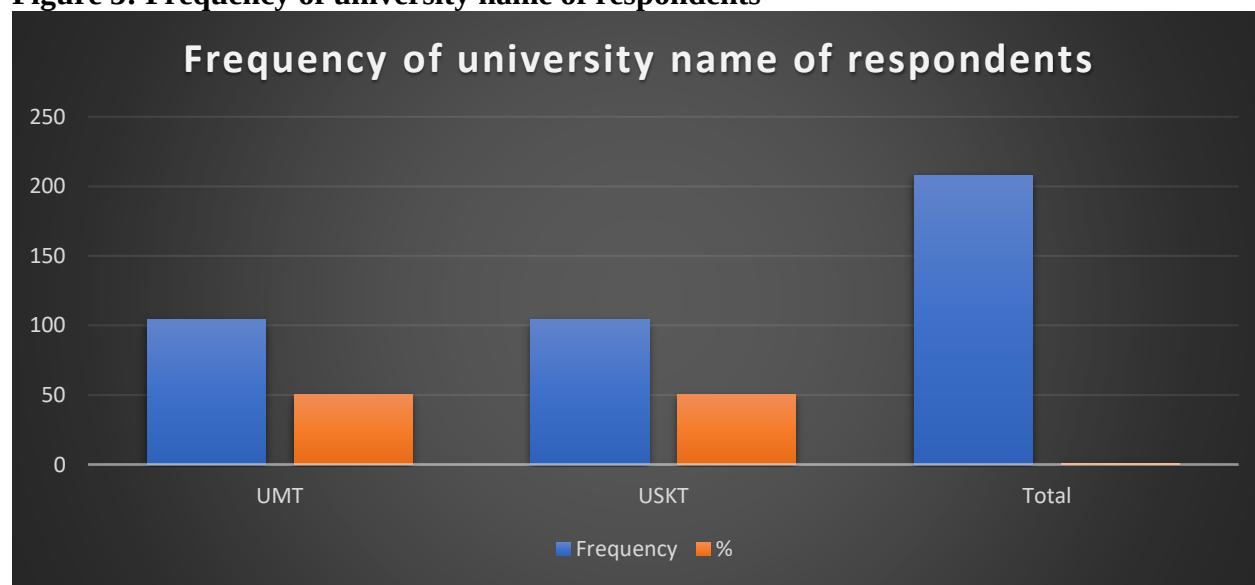
**Figure 3: Frequency of university name of respondents**



Table 4 indicates that respondents are equally distributed between UMT and USKT, with 104 respondents each (50%). This equal representation ensures balanced participation from both institutions, reducing institutional bias and allowing for fair comparison of responses between the two groups.

**Table 5: Crosstab for Frequency of program of respondent**

| Respondents | Undergraduate Student | Graduate Student | Post Graduate | Other | Total |
|-------------|-----------------------|------------------|---------------|-------|-------|
| Frequency   | 69                    | 62               | 41            | 36    | 208   |
| %           | 33.2                  | 29.8             | 19.7          | 17.3  | 100%  |

**Figure 4: Frequency of program of respondents**

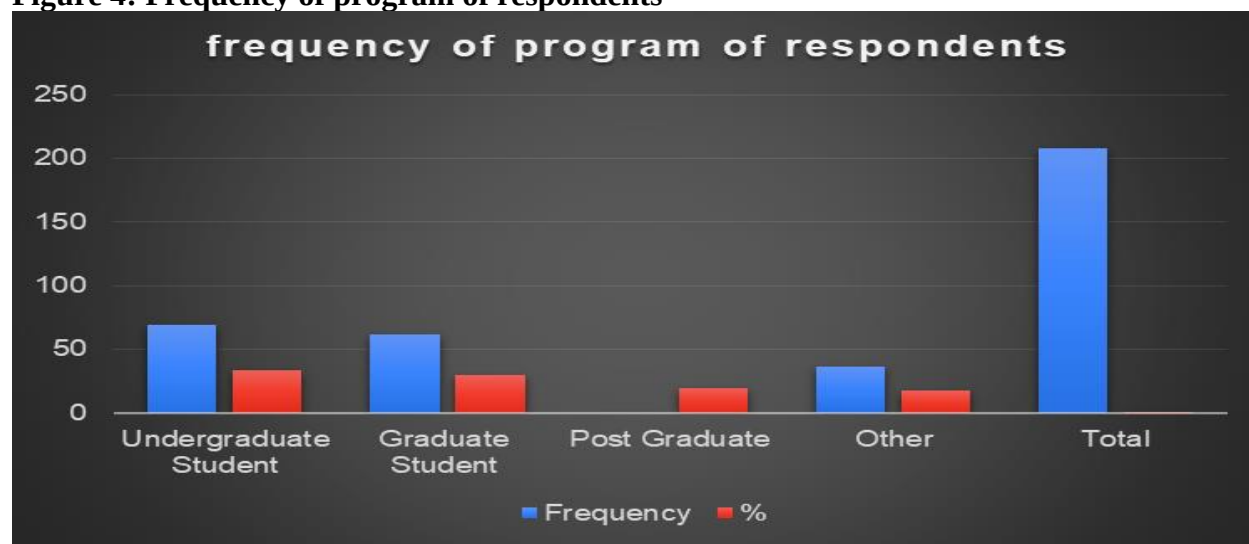


Table 5 shows that undergraduate students form the largest group (33.2%), followed by graduate students (29.8%). Postgraduate respondents account for 19.7%, while other categories represent 17.3% of the sample. This distribution indicates participation across different educational levels, with a stronger representation from students at earlier stages of higher education.

**Table 6: I use social media to stay updated with news and current events**

| Respondents | Never | Rarely | Sometime | Often | Always | Total |
|-------------|-------|--------|----------|-------|--------|-------|
| Frequency   | 11    | 29     | 64       | 59    | 45     | 208   |
| %           | 5.3   | 13.9   | 30.8     | 28.4  | 21.6   | 100%  |

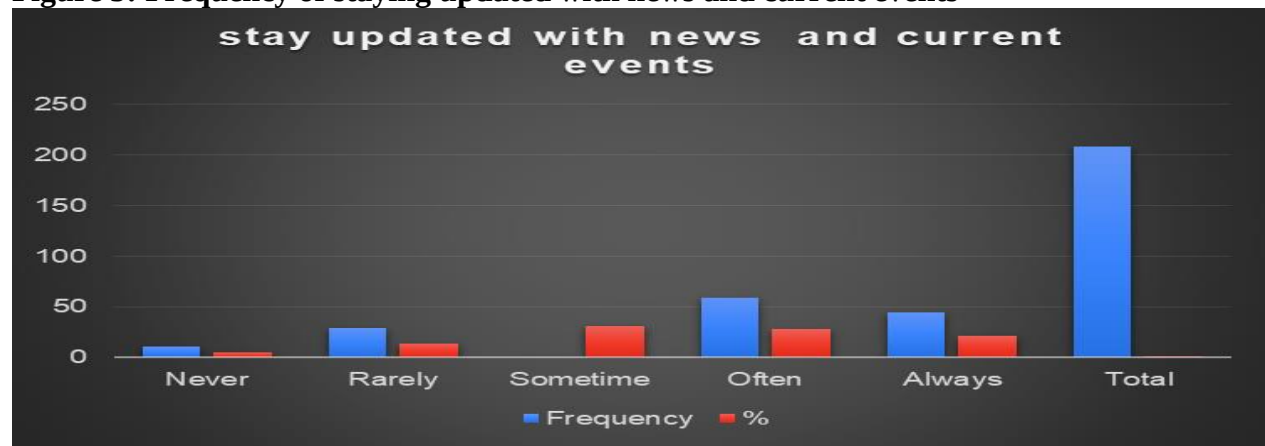
**Figure 5: Frequency of staying updated with news and current events**

Table 6 shows indicates that most respondents use the activity or behavior at least occasionally, with “sometimes” (30.8%) and “often” (28.4%) being the most common responses. A substantial proportion also report “Always” (21.6%), while fewer respondents selected “Rarely” (13.9%) and “Never” (5.3%). Overall, the results suggest a generally high level of engagement among respondents.

**Table 7: I frequently share news article or posts on social media**

| Respondents | Never | Rarely | Sometime | Often | Always | Total |
|-------------|-------|--------|----------|-------|--------|-------|
| Frequency   | 18    | 30     | 56       | 59    | 45     | 208   |
| %           | 8.7   | 14.4   | 26.9     | 28.4  | 21.6   | 100%  |

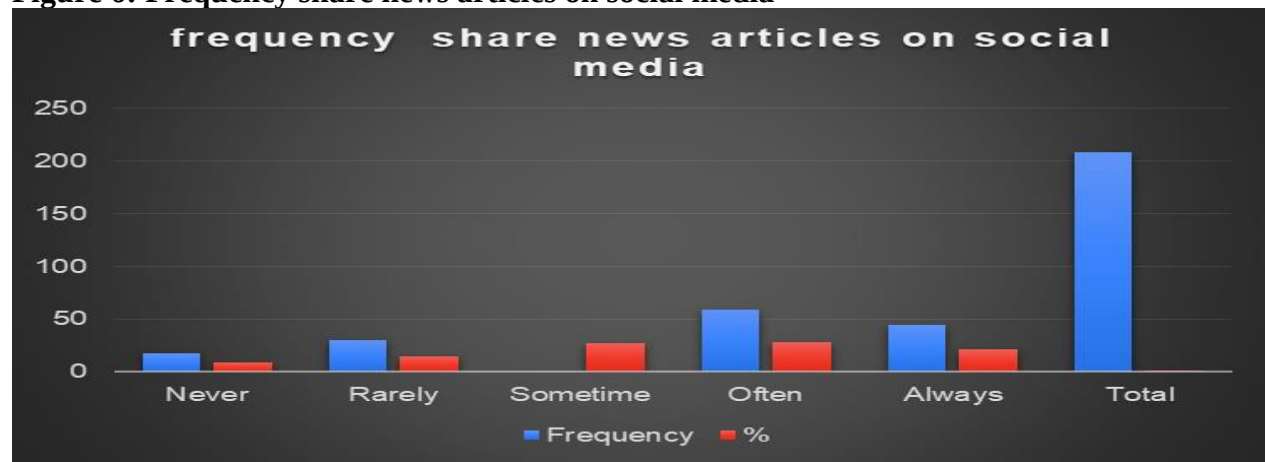
**Figure 6: Frequency share news articles on social media**

Table 6 shows that the majority of respondents engage in the activity at least occasionally, with “Often” (28.4%) and “Sometimes” (26.9%) being the most common responses. A notable proportion also report “Always” (21.6%), while fewer respondents selected “Rarely” (14.4%) and “Never” (8.7%). Overall, this distribution indicates a generally moderate to high level of engagement among respondents.

**Table 8: I check the credibility of news before sharing it on social media**

| Respondents | Never | Rarely | Sometime | Often | Always | Total |
|-------------|-------|--------|----------|-------|--------|-------|
| Frequency   | 16    | 19     | 52       | 51    | 70     | 208   |
| %           | 7.7   | 9.1    | 25       | 24.5  | 33.7   | 100%  |

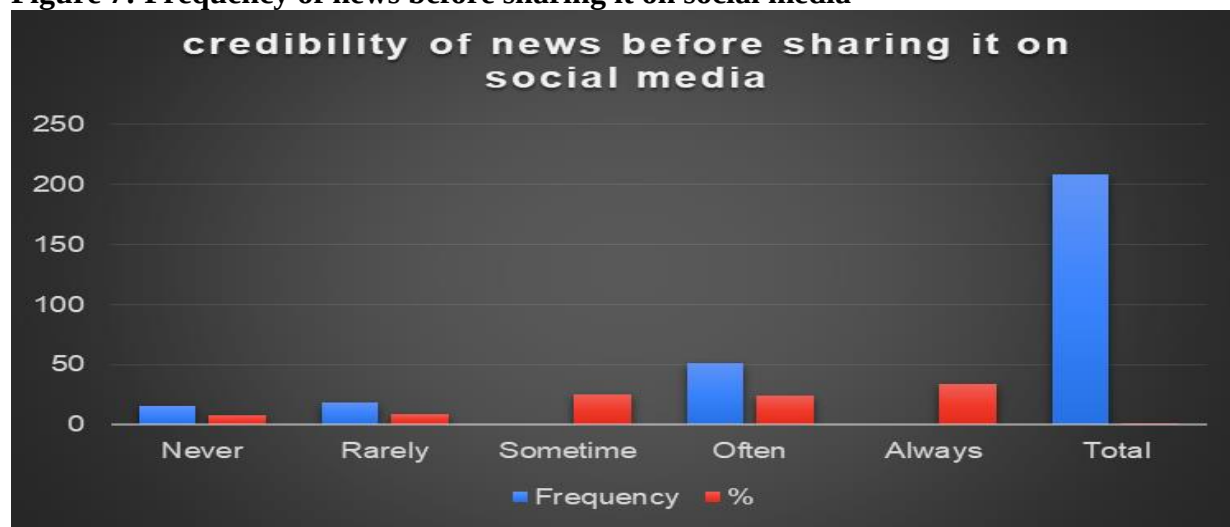
**Figure 7: Frequency of news before sharing it on social media**

Table 8 shows that most respondents check the credibility of news before sharing on social media, with “Always” (33.7%) being the highest, followed by “Sometimes” (25%) and “Often” (24.5%). Fewer respondents reported “Rarely” (9.1%) or “Never” (7.7%). Overall, this indicates that the majority of respondents are conscious about verifying news before sharing.

**Table 9: I spend more than 2 hours daily on social media platforms**

| Respondents | Never | Rarely | Sometime | Often | Always | Total |
|-------------|-------|--------|----------|-------|--------|-------|
| Frequency   | 11    | 15     | 45       | 51    | 86     | 208   |
| %           | 5.3   | 7.2    | 21.6     | 24.5  | 41.3   | 100%  |

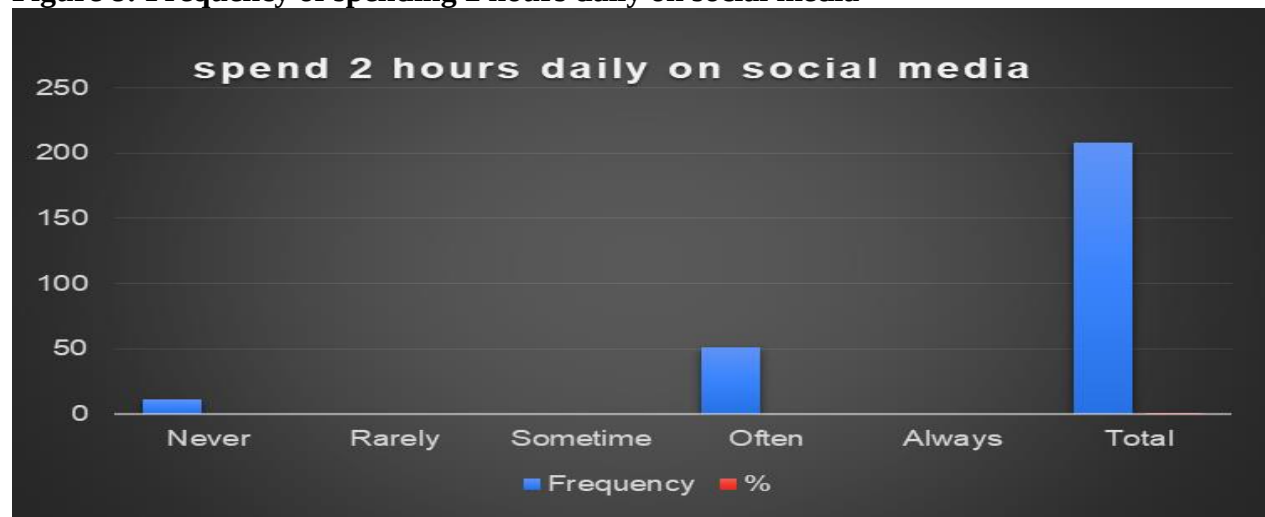
**Figure 8: Frequency of spending 2 hours daily on social media**

Table 9 shows that a large proportion of respondents spend more than 2 hours daily on social media, with “always” (41.3%) being the highest, followed by “often” (24.5%) and “sometimes” (21.6%). Fewer respondents reported “rarely” (7.2%) or “never” (5.3%). This indicates that most respondents are highly active on social media.

**Table 10: I encounter posts that I suspect might be fake or misleading on social media**

| Respondents | Never | Rarely | Sometime | Often | Always | Total |
|-------------|-------|--------|----------|-------|--------|-------|
| Frequency   | 18    | 19     | 54       | 53    | 64     | 208   |
| %           | 8.7   | 9.1    | 26       | 25.5  | 30.8   | 100%  |

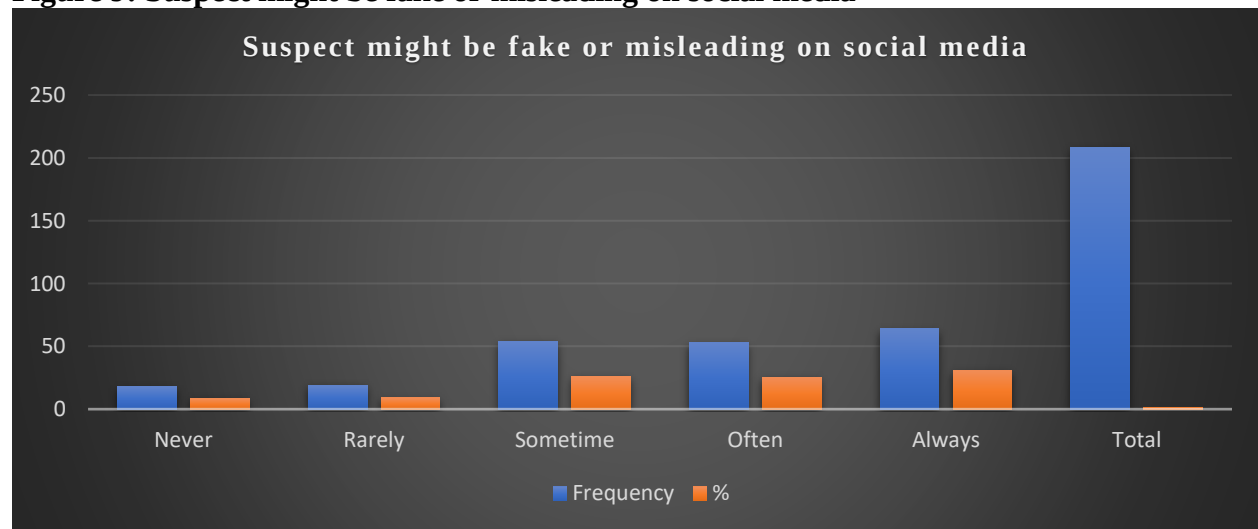
**Figure 9: Suspect might be fake or misleading on social media**

Table 10 shows that most respondents encounter posts they suspect to be fake or misleading on social media, with “Always” (30.8%), “Sometimes” (26%), and “Often” (25.5%) being the most common responses. Fewer respondents reported “Rarely” (9.1%) or “Never” (8.7%), indicating

that exposure to potentially misleading content is frequent for the majority of users.

**Table 11: I can identify reliable source of information online**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 9                 | 18       | 55      | 71    | 55             | 208   |
| %           | 4.3               | 8.7      | 26.4    | 34.1  | 26.4           | 100%  |

**Figure 10: Identify reliable sources**

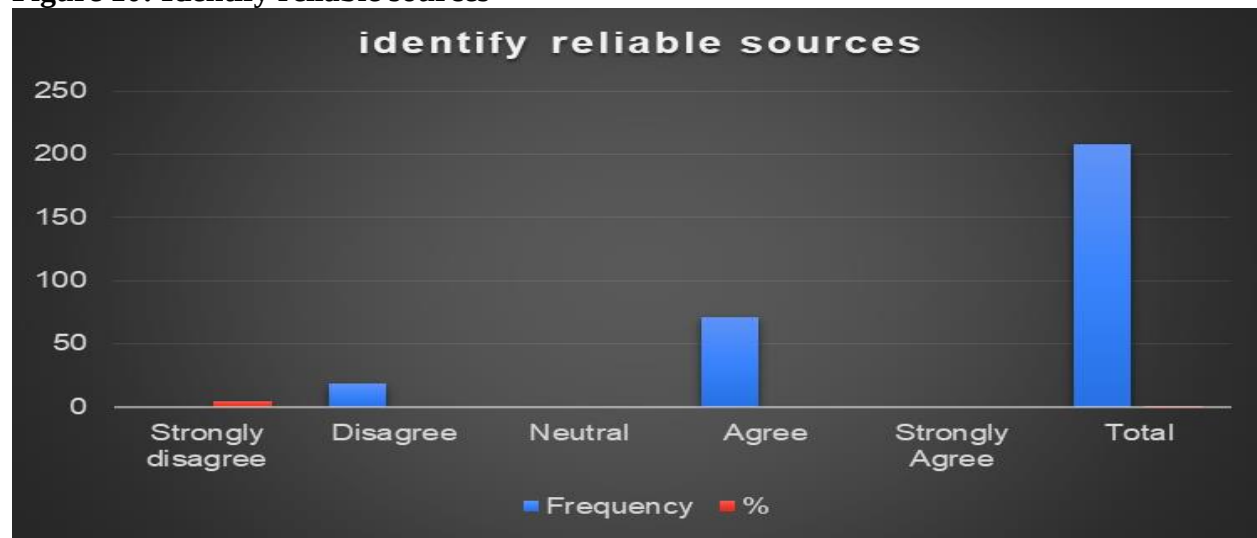


Table 11 shows that most respondents believe they can identify reliable online sources, with “agree” (34.1%) and “strongly agree” (26.4%) together forming the majority. A smaller portion is neutral (26.4%), while few respondents disagree (8.7%) or strongly disagree (4.3%). This indicates that most respondents are confident in recognizing trustworthy information online.

**Table 12: I can differentiate between news opinion and advertisement content**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 11                | 14       | 52      | 81    | 50             | 208   |
| %           | 5.3               | 5.7      | 25.0    | 38.9  | 24.0           | 100%  |

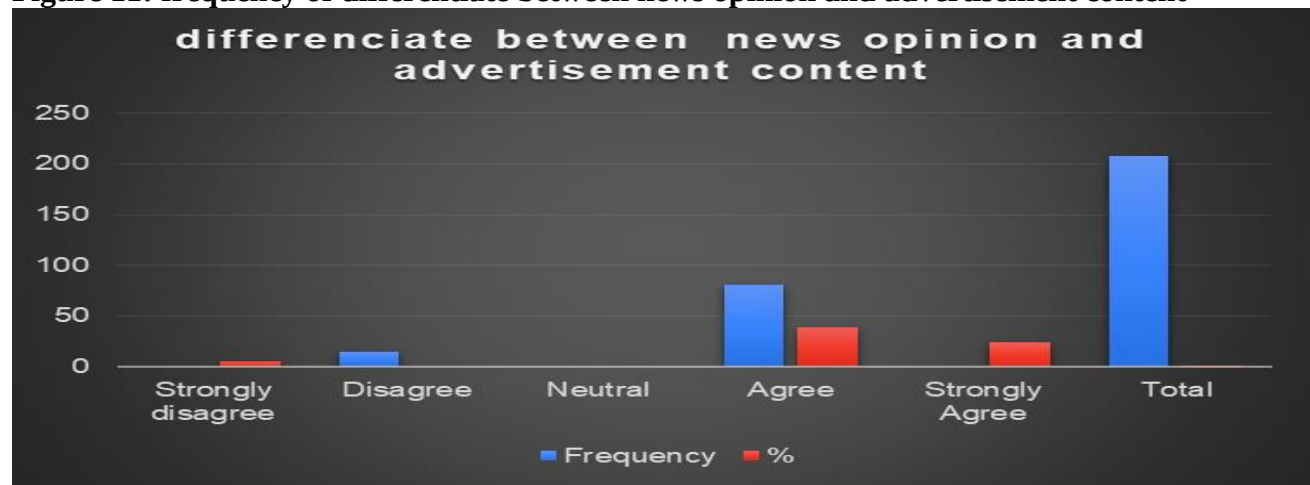
**Figure 11: frequency of differentiate between news opinion and advertisement content**

Table 12 shows that most respondents are able to differentiate between news, opinion, and advertisement content, with “agree” (38.9%) and “strongly agree” (24%) together forming the majority. A quarter of respondents are neutral (25%), while only a small portion disagree (5.7%) or strongly disagree (5.3%). This indicates that the majority of respondents have confidence in distinguishing different types of online content.

**Table 13: I am confident in evaluating the authenticity of news article or post**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 14                | 9        | 46      | 83    | 56             | 208   |
| %           | 6.7               | 4.3      | 22.1    | 39.9  | 26.9           | 100%  |

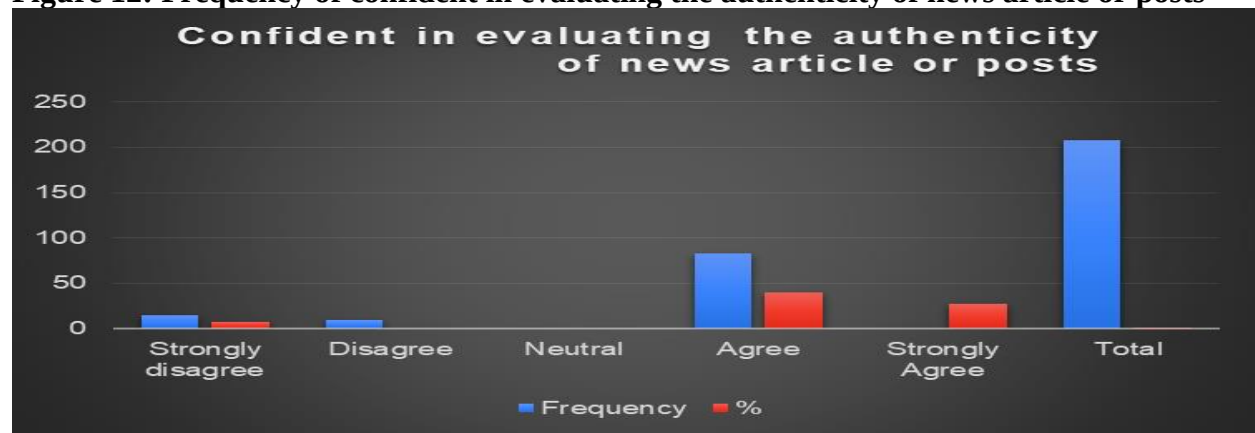
**Figure 12: Frequency of confident in evaluating the authenticity of news article or posts**

Table 13 shows that most respondents are confident in evaluating the authenticity of news, with “agree” (39.9%) and “strongly agree” (26.9%) together forming the majority. A smaller portion is neutral (22.1%), and few respondents disagree (4.3%) or strongly disagree (6.7%). This indicates that the majority of respondents feel capable of assessing the credibility of news articles or posts.



**Table 14: I cross-check information from multiple sources before believing it**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 10                | 18       | 53      | 67    | 60             | 208   |
| %           | 4.8               | 8.7      | 25.5    | 32.2  | 28.8           | 100%  |

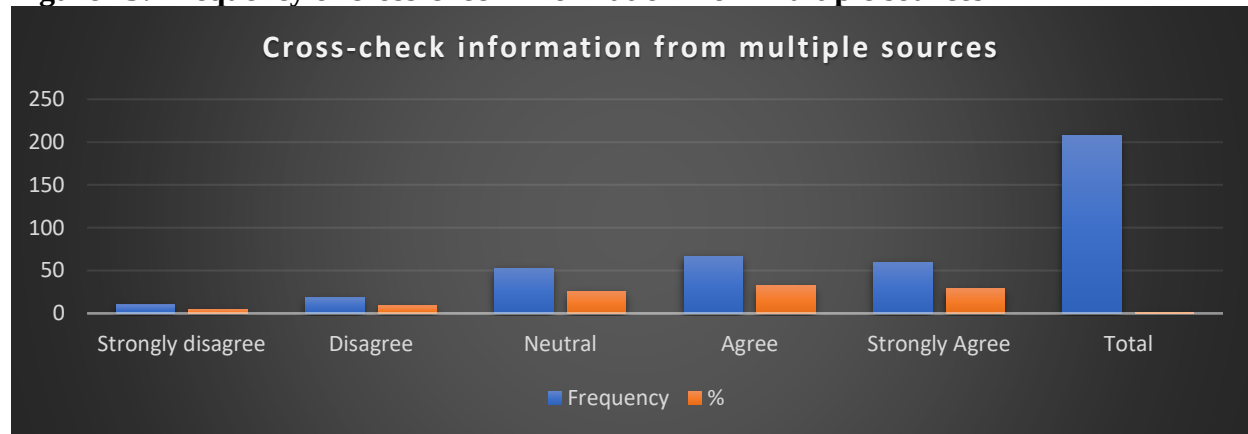
**Figure 13: Frequency of cross-check information from multiple sources**

Table 14 shows that most respondents' cross-check information before believing it, with "agree" (32.2%) and "strongly agree" (28.8%) forming the majority. A quarter are neutral (25.5%), while few disagree (8.7%) or strongly disagree (4.8%). This indicates that the majority of respondents practice verification of information from multiple sources.

**Table 15: I understand how algorithms may influence what news issue on social media**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 12                | 21       | 42      | 73    | 60             | 208   |
| %           | 5.8               | 10.1     | 20.2    | 35.1  | 28.8           | 100%  |

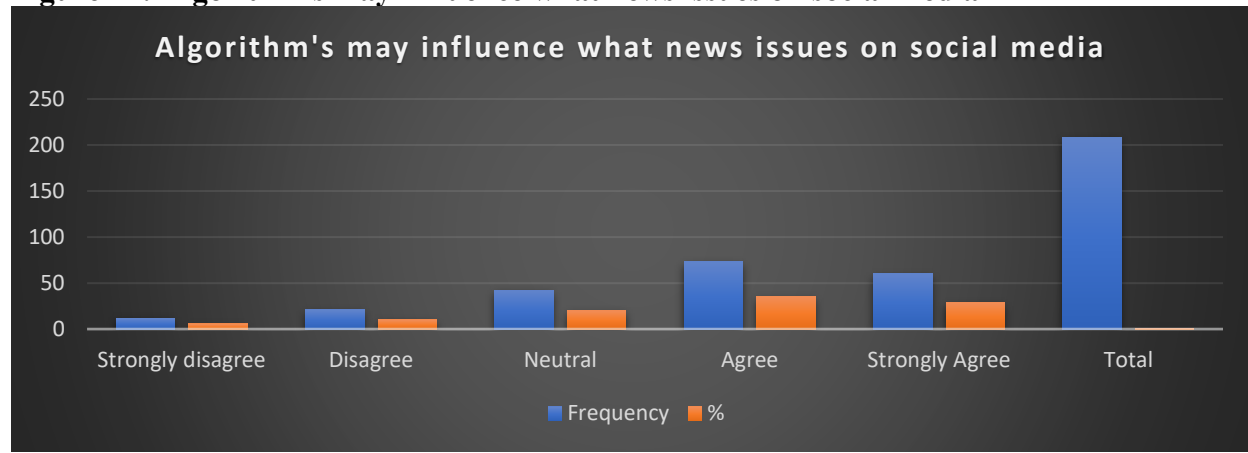
**Figure 14: Algorithm's may influence what news issues on social media**

Table 15 shows that most respondents understand how algorithms influence news on social media, with “agree” (35.1%) and “strongly agree” (28.8%) together forming the majority. A smaller portion is neutral (20.2%), while few disagree (10.1%) or strongly disagree (5.8%). This indicates that the majority of respondents are aware of the role of algorithms in shaping online news content.

**Table 16: I question the accuracy of information before accepting it as true**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 15                | 21       | 58      | 57    | 57             | 208   |
| %           | 7.2               | 10.1     | 27.9    | 27.4  | 27.4           | 100%  |

**Figure 15: Frequency of information before accepting its true**

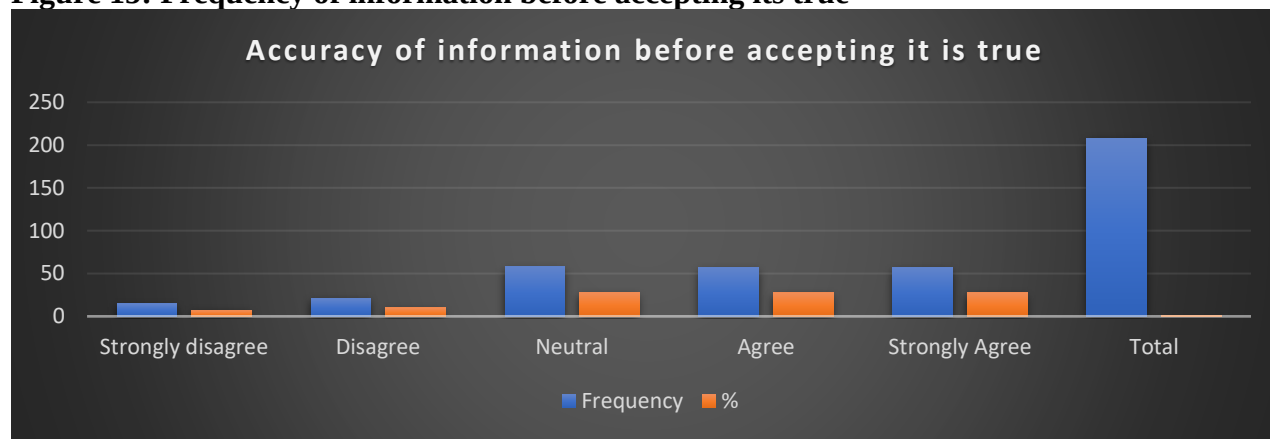


Table 16 shows that most respondents question the accuracy of information before accepting it, with “agree” (27.4%) and “strongly agree” (27.4%) together forming the majority. A quarter are neutral (27.9%), while fewer disagree (10.1%) or strongly disagree (7.2%). This indicates that respondents generally practice critical evaluation of information.

**Table 17: I consider alternative perspectives when evaluating online news**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 9                 | 15       | 52      | 77    | 55             | 208   |
| %           | 4.3               | 7.2      | 25.0    | 37.0  | 26.4           | 100%  |

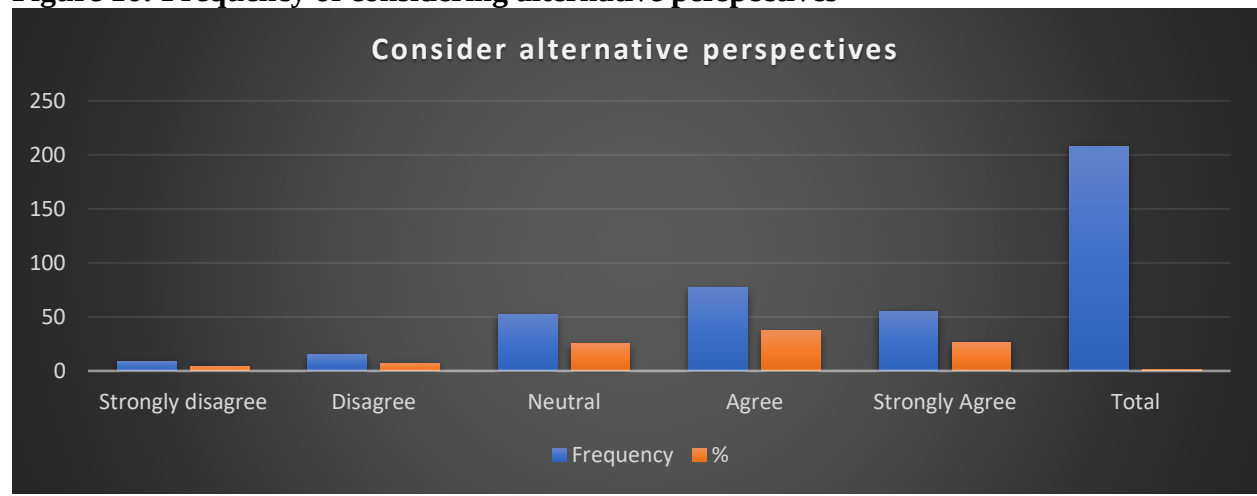
**Figure 16: Frequency of considering alternative perspectives**

Table 17 shows that most respondents consider alternative perspectives when evaluating online news, with “agree” (37%) and “strongly agree” (26.4%) forming the majority. A quarter are neutral (25%), while few disagree (7.2%) or strongly disagree (4.3%). This indicates that respondents generally take multiple viewpoints into account before forming judgments about online news.

**Table 18: I analyze arguments in use content critically before forming an opinion**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 6                 | 15       | 47      | 77    | 63             | 208   |
| %           | 2.9               | 7.2      | 22.6    | 37.0  | 30.3           | 100%  |

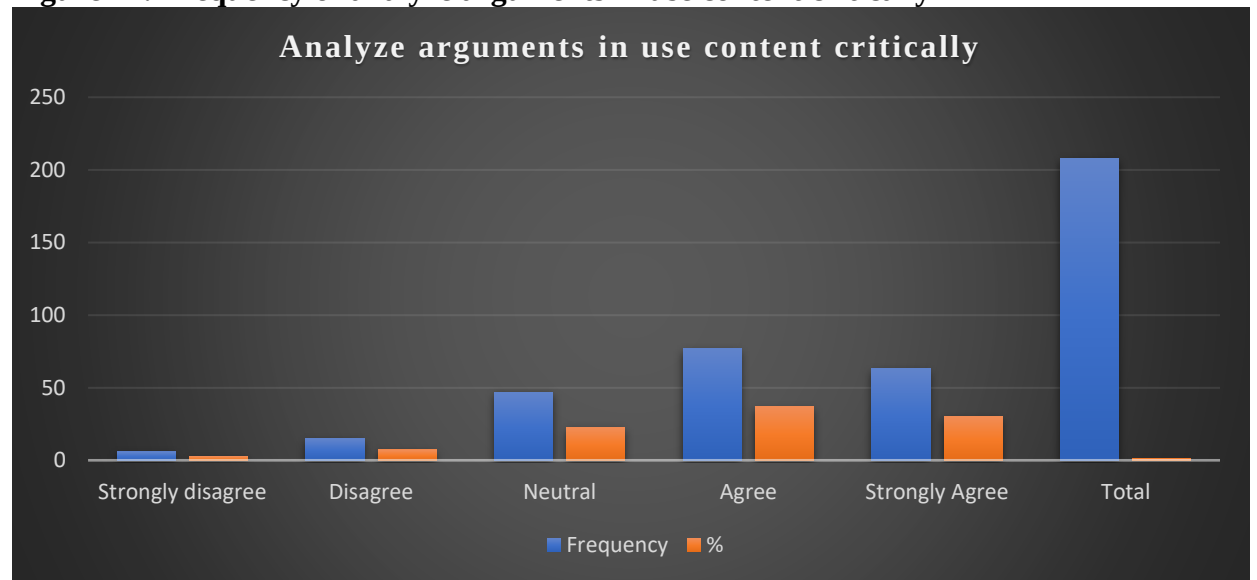
**Figure 17: Frequency of analyze arguments in use content critically**

Table 18 shows that most respondents critically analyze content before forming an opinion, with

“agree” (37%) and “strongly agree” (30.3%) together forming the majority. A smaller portion is neutral (22.6%), while very few disagree (7.2%) or strongly disagree (2.9%). This indicates that respondents generally engage in critical evaluation of online content.

**Table 19: I recognize logical inconsistencies are biased language in news posts**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 7                 | 17       | 45      | 77    | 62             | 208   |
| %           | 3.4               | 8.2      | 21.6    | 37.0  | 29.8           | 100%  |

**Figure 18: Frequency of recognize logical inconsistencies are biased language in news posts**

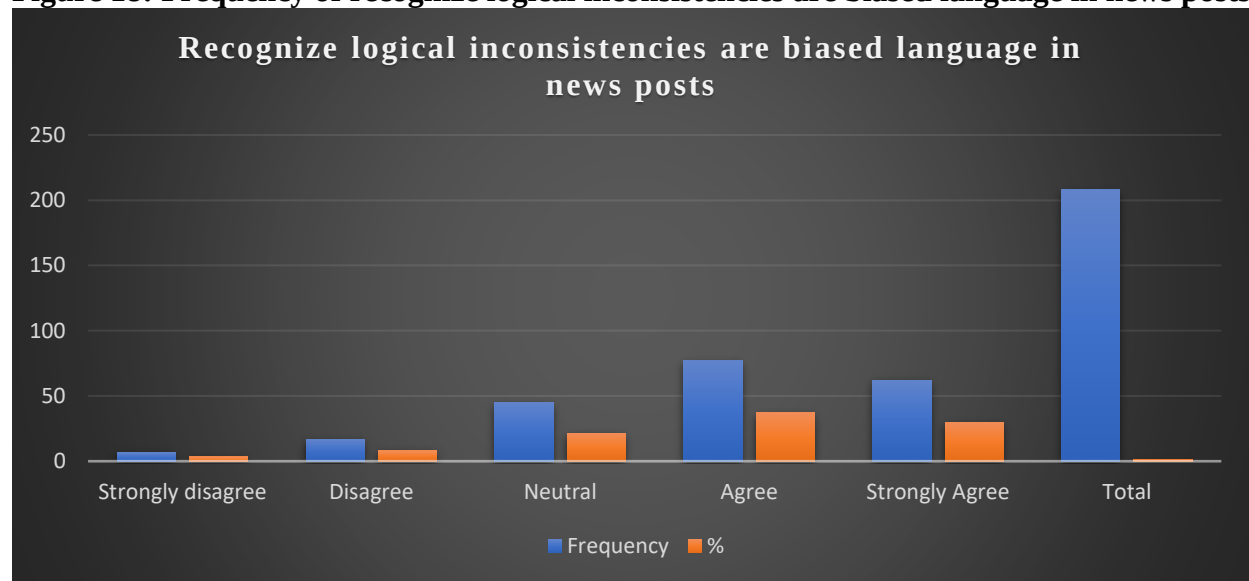


Table 19 shows that most respondents can recognize logical inconsistencies and biased language in news posts, with “Agree” (37%) and “Strongly Agree” (29.8%) forming the majority. A smaller portion is neutral (21.6%), while few disagree (8.2%) or strongly disagree (3.4%). This indicates that respondents are generally capable of identifying bias and flaws in news content.

**Table 20: I use evidence-based reasoning when assessing social media content**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 6                 | 14       | 47      | 69    | 72             | 208   |
| %           | 2.9               | 6.7      | 22.6    | 33.2  | 34.6           | 100%  |

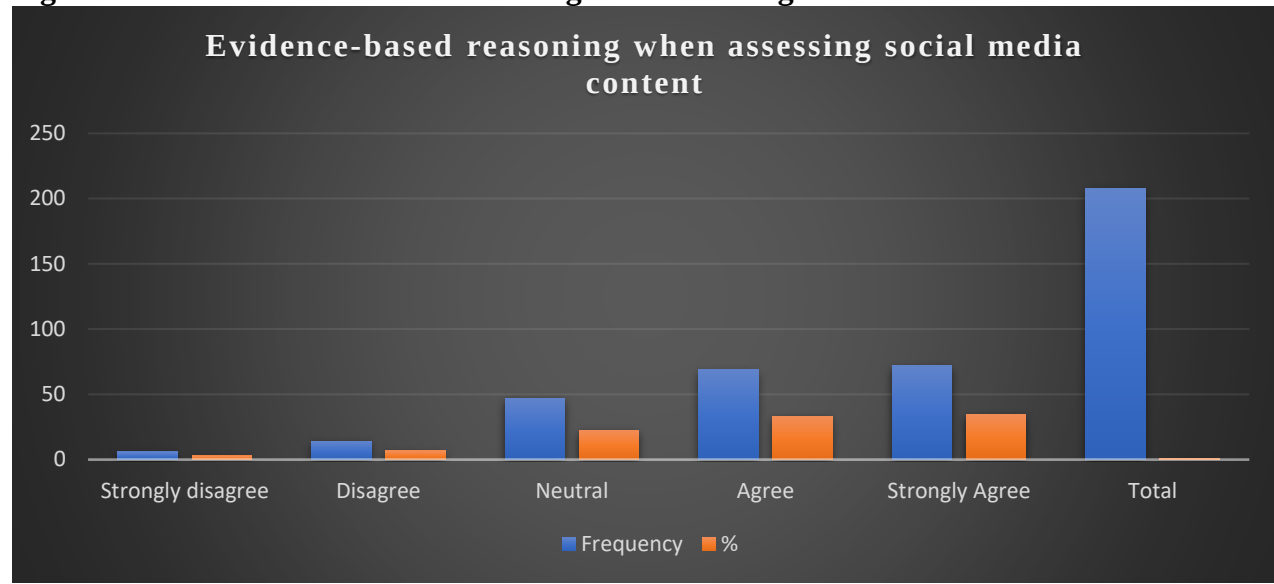
**Figure 19: I use evidence-based reasoning when assessing social media content**

Table 20 shows that most respondents use evidence-based reasoning when assessing social media content, with “agree” (33.2%) and “strongly agree” (34.6%) together forming the majority. A smaller portion is neutral (22.6%), while very few disagree (6.7%) or strongly disagree (2.9%). This indicates that respondents generally rely on evidence to evaluate online information.

**Table 21: I can easily identify fake news on social media**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 26                | 18       | 63      | 53    | 48             | 208   |
| %           | 12.5              | 8.7      | 30.3    | 25.5  | 23.1           | 100%  |

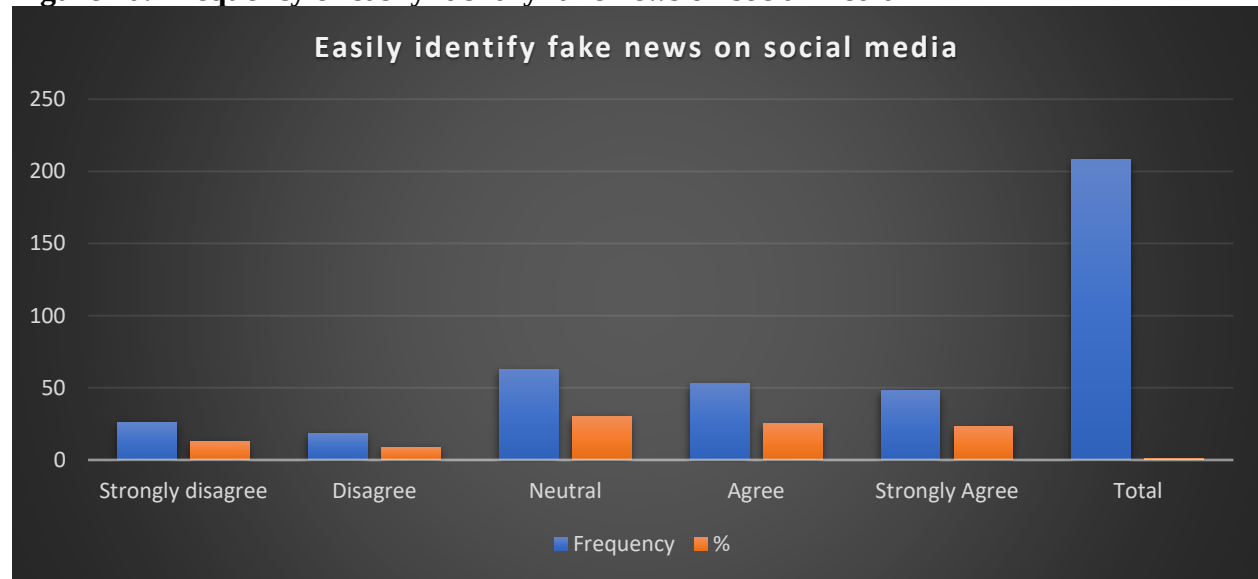
**Figure 20: Frequency of easily identify fake news on social media**

Table 21 shows that respondents have mixed confidence in identifying fake news on social media, while “agree” (25.5%) and “strongly agree” (23.1%) together form nearly half of the responses, a significant portion is neutral (30.3%), and some disagree (8.7%) or strongly disagree (12.5%). This indicates that although many respondents feel capable of spotting fake news, a considerable number remain uncertain or less confident.

**Table 22: I usually verify the authenticity of news before believing the news**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 15                | 10       | 41      | 81    | 61             | 208   |
| %           | 7.2               | 4.8      | 19.7    | 38.9  | 29.3           | 100%  |

**Figure 21: Frequency of usually verify the authenticity of news before believing the news**

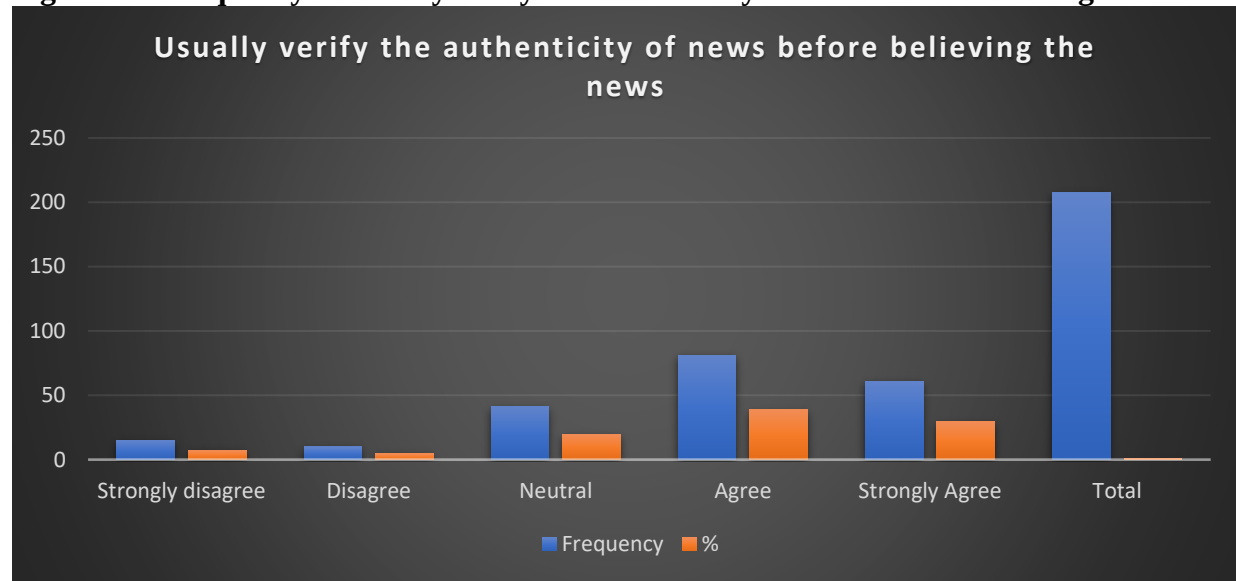


Table 22 shows that most respondents verify the authenticity of news before believing it, with “agree” (38.9%) and “strongly agree” (29.3%) forming the majority. A smaller portion is neutral (19.7%), while few disagree (4.8%) or strongly disagree (7.2%). This indicates that respondents generally practice verification of news before accepting it as true.

**Table 23: I can distinguish between credible and non-credible news source online**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 8                 | 12       | 50      | 69    | 69             | 208   |
| %           | 3.8               | 5.8      | 24.0    | 33.2  | 33.2           | 100%  |

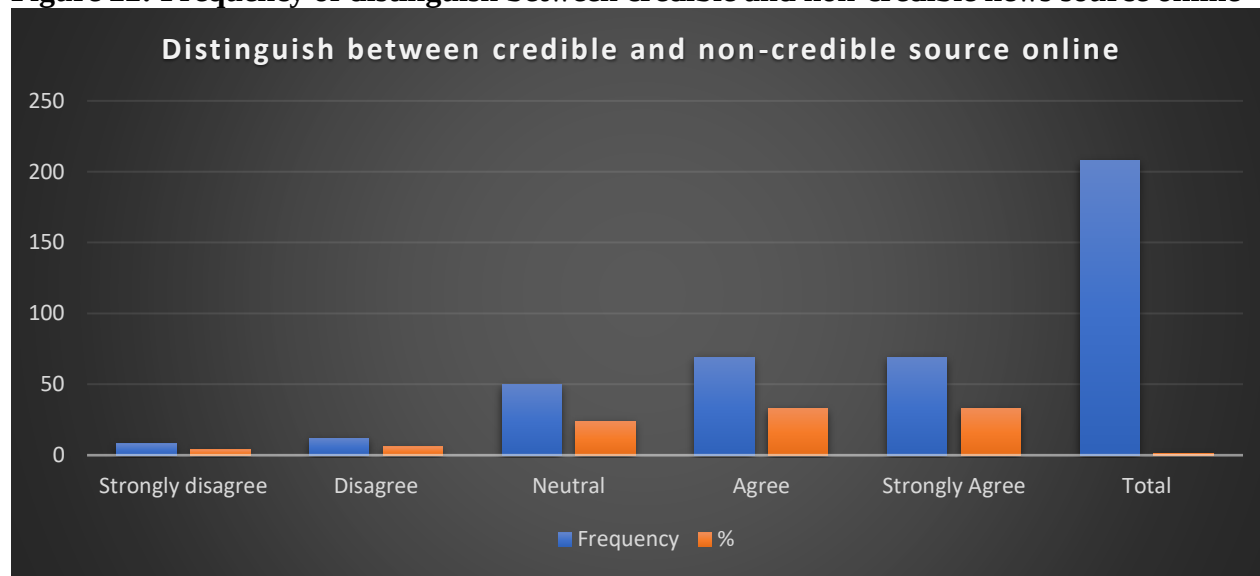
**Figure 22: Frequency of distinguish between credible and non-credible news source online**

Table 23 shows that most respondents can distinguish between credible and non-credible news sources online, with “agree” (33.2%) and “strongly agree” (33.2%) together forming the majority. A smaller portion is neutral (24%), while few disagree (5.8%) or strongly disagree (3.8%). This indicates that respondents are generally confident in identifying trustworthy online news sources.

**Table 24: Sensational or Emotional headline make it difficult for me to judge news accuracy**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 15                | 24       | 44      | 71    | 54             | 208   |
| %           | 7.2               | 11.5     | 21.2    | 34.1  | 26             | 100%  |



**Figure 23: Frequency of Sensational or Emotional headline make it difficult for me to judge news accuracy**

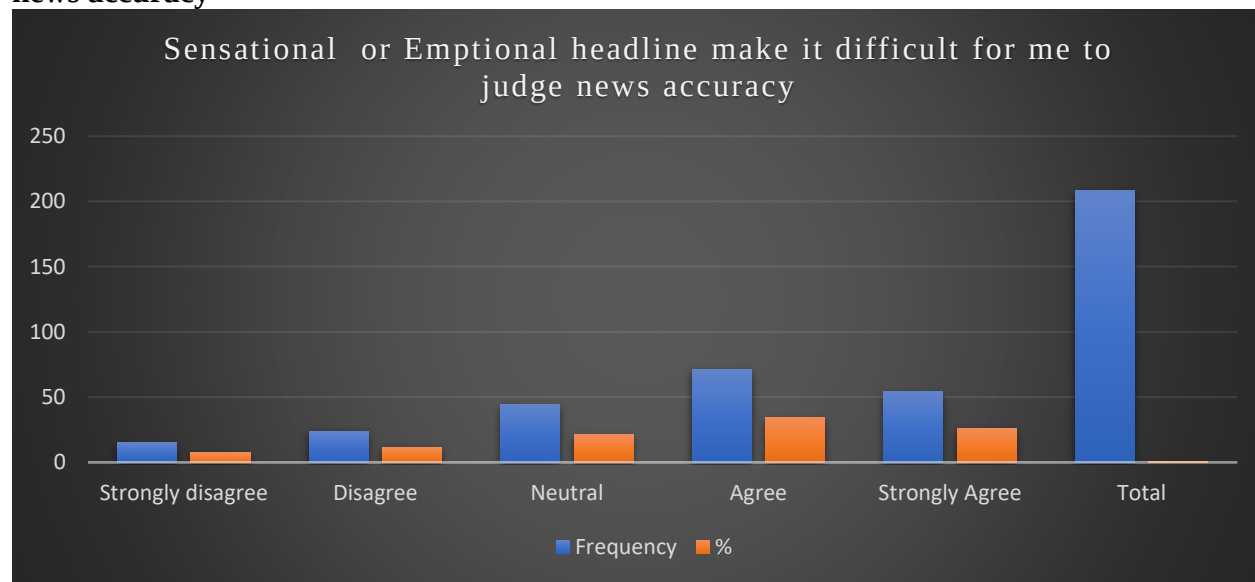


Table 24 shows that a majority of respondents find sensational or emotional headlines challenging when judging news accuracy, with “Agree” (34.1%) and “Strongly Agree” (26%) together forming 60.1% of the responses. A smaller portion is neutral (21.2%), while few disagree (11.5%) or strongly disagree (7.2%). This indicates that emotional headlines can influence respondents’ ability to accurately assess news.

**Table 25: I feel confident in identifying misleading or false information on social media**

| Respondents | Strongly disagree | Disagree | Neutral | Agree | Strongly Agree | Total |
|-------------|-------------------|----------|---------|-------|----------------|-------|
| Frequency   | 7                 | 17       | 41      | 70    | 73             | 208   |
| %           | 3.4               | 8.2      | 19.7    | 33.7  | 35.1           | 100%  |

**Figure 24: Frequency of feel confident in identifying misleading or false information on social media**

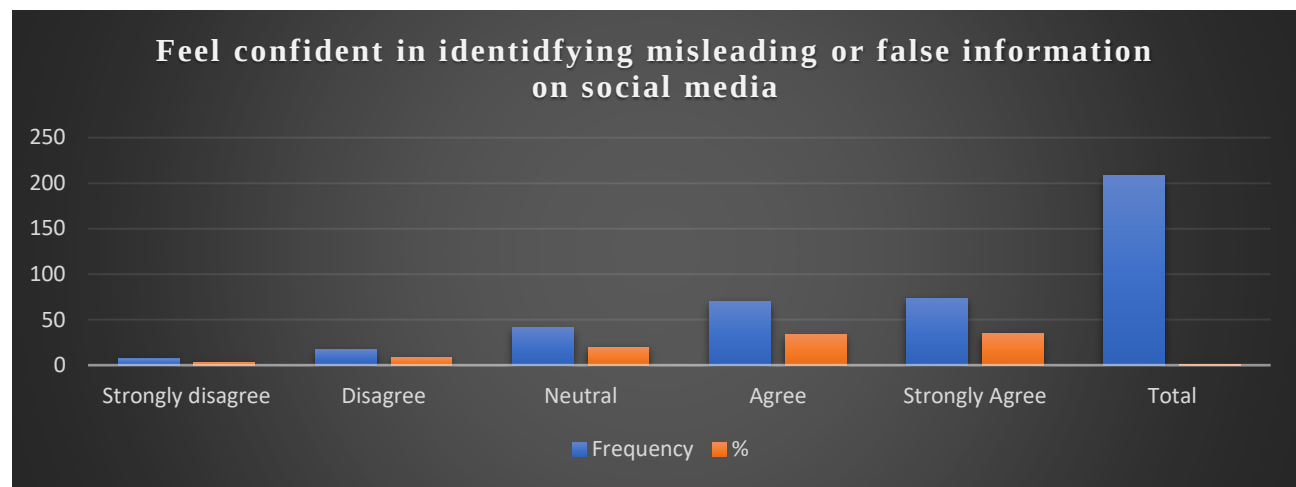


Table 25 shows that most respondents feel confident in identifying misleading or false information on social media, with “Agree” (33.7%) and “Strongly Agree” (35.1%) together forming the majority. A smaller portion is neutral (19.7%), while few disagree (8.2%) or strongly disagree (3.4%). This indicates that respondents generally have confidence in detecting false or misleading content online.

### Regression Model Specification

To test the hypotheses, the following multiple regression model was developed:

$$\text{Ability to Identify Fake News} = \beta_0 + \beta_1(\text{Media Literacy}) + \beta_2(\text{Critical Thinking Skills}) + \beta_3(\text{Social Media Usage Frequency}) + \varepsilon$$

Where:

- Media Literacy, Critical Thinking Skills, and Social Media Usage Frequency are independent variables.
- Ability to Identify Fake News is the dependent variable.

### Regression Analysis Results

**Table 26: Multiple Regression Results for Fake News Detection Ability**

| Predictor Variable            | $\beta$ (Standardized) | t-value | Sig. (p-value) | Result      |
|-------------------------------|------------------------|---------|----------------|-------------|
| Media Literacy                | 0.41                   | 6.87    | < 0.001        | Significant |
| Critical Thinking Skills      | 0.35                   | 5.92    | < 0.001        | Significant |
| Social Media Usage Frequency  | -0.27                  | -4.18   | < 0.01         | Significant |
| <b>R<sup>2</sup></b>          | <b>0.49</b>            |         |                |             |
| <b>Adjusted R<sup>2</sup></b> | <b>0.47</b>            |         |                |             |

The regression model is statistically significant and explains approximately 49% of the variance in students’ ability to identify fake news. Media literacy emerged as the strongest positive predictor, followed by critical thinking skills. Social media usage frequency showed a significant negative effect, indicating that excessive use reduces accurate fake news identification.

### Interpretation of Regression Findings

The findings indicate that students with higher levels of media literacy are more capable of identifying fake news, as they can evaluate sources, cross-check information, and understand algorithmic influence. Critical thinking skills also significantly enhance fake news detection by enabling students to analyze arguments, recognize bias, and apply evidence-based reasoning. Conversely, increased frequency of social media usage negatively affects detection ability, possibly due to information overload, habitual scrolling, and exposure to emotionally charged or sensational content.

### Discussion, and Conclusion

**Table 27: Hypotheses Testing Summary**

| Hypothesis | Statement                                                                                                                           | Result   |
|------------|-------------------------------------------------------------------------------------------------------------------------------------|----------|
| H1         | University students with higher media literacy are more capable of detecting fake news on social media.                             | Accepted |
| H2         | Increased frequency of social media use negatively affects students' ability to identify fake news accurately.                      | Accepted |
| H3         | Students with stronger critical thinking skills are more likely to recognize and evaluate misinformation on social media correctly. | Accepted |

All proposed hypotheses were supported by the regression analysis at statistically significant levels.

### Discussion of Findings

The results are consistent with Uses and Gratifications Theory, which views students as active media users whose motivations and skills influence content evaluation. Students who consume social media primarily for information but lack adequate literacy skills are more vulnerable to misinformation. The strong impact of media literacy and critical thinking aligns with prior research emphasizing analytical skills as key defenses against fake news. The negative effect of high social media usage supports concerns that excessive exposure increases susceptibility to misleading content, particularly sensational or emotionally framed news.

### Conclusion

This study concludes that university students' ability to detect fake news on social media is significantly shaped by their media literacy, critical thinking skills, and social media usage patterns. While students generally show awareness of misinformation, their detection ability improves substantially with stronger analytical and evaluative competencies. Excessive social media use, however, undermines accurate judgment. Strengthening media literacy and critical thinking education is essential for empowering students to navigate the digital information environment responsibly.

### Recommendations

- Universities should integrate media literacy and critical thinking modules into academic curricula.
- Awareness workshops on fake news and misinformation should be conducted regularly.
- Social media platforms should promote verification tools and credibility indicators for content.

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