INFORMATION SEEKING AND INFORMATION SHARING ON SOCIAL MEDIA PLATFORMS IN THE AGE OF MISINFORMATION: A CROSS-SECTIONAL STUDY OF MEDICAL STUDENTS OF JAMMU AND KASHMIR

Thesis Submitted for the Award of the Degree of

DOCTOR OF PHILOSOPHY

In

Library Science

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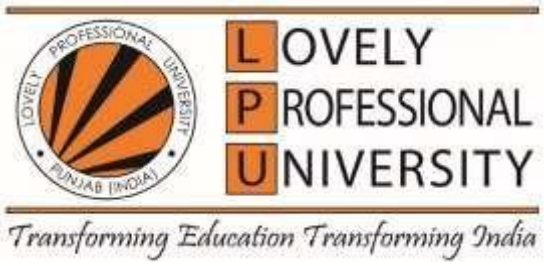

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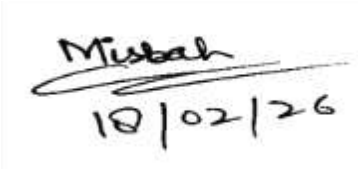
2026

DECLARATION

I, Misbah Ul Huda, hereby declare that the present work in the thesis entitled "Information Seeking and Information Sharing on Social Media platforms in the age of Misinformation: A cross-sectional study of medical students of Jammu and Kashmir" in fulfilment of the degree of **Doctor of Philosophy (Ph.D.)** is an outcome of the research work carried out by me under the supervision of Dr. Khusbu Thakur, working as Assistant Professor in the School of Social Sciences and Languages at Lovely Professional University, Punjab, India. In keeping with the general practice of reporting scientific observations, due acknowledgements have been made whenever work described here has been based on findings of other investigators. This work has not been submitted in part or in full to any other university or institute for the award of any degree.



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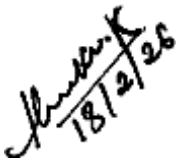
CERTIFICATE

This is to certify that the work reported in the Ph.D. thesis entitled "Information Seeking and Information Sharing on Social Media platforms in the age of Misinformation: A cross-sectional study of medical students of Jammu and Kashmir" submitted in fulfilment of the requirement for the award of the degree of **Doctor of Philosophy (Ph.D.)** in the School of Social Sciences and Languages, is a research work carried out by Misbah Ul Huda, 12105747, and is a bonafide record of his/her original work carried out under my supervision and that no part of the thesis has been submitted for any other degree, diploma or equivalent course.



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DEDICATION

I lovingly dedicate this thesis to my dear parents,

Mrs. Hameeda Begum

and

Mr. Ghulam Mohammad Rather,

whose prayers and unwavering support have been my greatest strength.

I also dedicate this work to my beloved aunt,

Dr. Afroza Iqbal,

whose warmth and constant faith in me have been a true source of strength and inspiration.

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Misbah Ul Huda

TABLE OF CONTENTS

S.No.	Title	Page No.
1.	**Declaration**	**i**
2.	**Certificate**	**ii**
3.	**Acknowledgment**	**iii**
4.	**Table of Contents**	**iv-viii**
5.	**List of Tables**	**ix-x**
6.	**List of Figures**	**xi-xii**
7.	**List of Abbreviations**	**xiii**
8.	**Abstract**	**xiv-xx**
9.	**Chapter 1: Introduction**	**1–12**
1.1.	Background of the study	2
1.1.1.	Information seeking and Information sharing on social media	2-3
1.1.2.	Age of misinformation	3-5
1.2.	Significance of the study	5
1.3.	Statement of the problem	5-6
1.4.	Objectives of the study	6-7
1.5.	Formulation of hypotheses	7
1.6.	Scope of the study	7-8
1.7.	Study period	8
1.8.	Methodology	8-11
1.8.1.	Data analysis	8-9
1.8.2	Statistical analysis	9-11
1.9.	Style of bibliographic references	11
1.10.	Limitations of the study	11
1.11.	Chapterization	11-12
10.	**Chapter 2: Review of literature**	**13–47**
2.1.	Introduction	14-15
2.1.1.	Social Media	15-25
2.1.2.	Information Seeking	25-32
2.1.3.	Information Sharing	32-37
2.1.4.	Information seeking and information sharing on social media	38-39
2.1.5.	Misinformation	39-46
2.2.	Conclusion	46-47
11.	**Chapter 3: Information Seeking on Social Media**	**48-68**
3.1.	Information	49-51

3.2.	Information Seeking: Background	51-55
3.3.	Information seeking: Definition	55-56
3.3.1.	Motivations	56-57
3.4.	Information seeking on social media	57-60
3.4.1.	Social media definition	57-58
3.4.2.	Role of social media in information seeking	58-59
3.2.3.	Role of social media in seeking information amongst students	59-60
3.5.	Information seeking behaviour	60-62
3.6.	Challenges	62-64
3.6.1.	Misinformation	64-65
3.7.	Role of libraries	65-66
3.8.	Conclusion	66-67
3.9.	Overview of information seeking concepts	68
12.	**Chapter 4: Misinformation on social media**	**69-90**
4.1.	Background	70-72
4.2.	History	72-73
4.3.	Types of misinformation	73-75
4.4.	Role of Social Media in the spread of misinformation	75-77
4.5.	Fake news as a form of misinformation	77-78
4.6.	Understanding the mechanism behind misinformation spread on social media	78-82
4.7.	Infodemic	82-84
4.8.	Impact	84-86
4.9.	Combating Misinformation	86-88
4.10.	Role of Libraries	88-89
4.11.	Conclusion	89-90
13.	**Chapter 5: Data Analysis and Interpretation**	**91–169**
5.1.	List of medical colleges	92-104
5.2.	Analysis and Interpretation	105
5.3.	Designing the Questionnaire	105-111
5.3.1.	Selection of Sample	106
5.3.2.	Sample size	106
5.3.3.	Administering the Questionnaire	106
5.3.4.	Steps in Questionnaire Designing	107
5.3.5.	Final Questionnaire	107-109
5.3.6.	Distribution of Questionnaires	109-110
5.3.7.	Reliability of Questionnaire	110-111
5.4.	Analysis of Medical students' response	111-113
5.4.1.	Gender-wise Distribution	111-112
5.4.2.	Age-wise Distribution	112
5.4.3.	Year-wise Distribution	113
5.5.	Use of social networking sites	114-117
5.6.	Analysis Seeking and Sharing Information on Social	117-128

	Media, both gender-wise and age-wise	
5.7.	Extent of Social Media Usage for Seeking Information	128-134
5.8.	Analysis of Misinformation on Social Media, both gender-wise and age-wise	134-139
5.9.	Analysis of consuming and sharing misinformation on Social Media, both gender-wise and age-wise	139-1491
5.10.	Users' capability to differentiate between credible information and misinformation on social media	149-153
5.11.	Evaluating Information Literacy and Critical Thinking in Combating Misinformation on Social Media	154-158
5.12.	Analysis of Attitudes Toward Verification of Information on Social Media	158-167
5.13.	Library Visit Frequency and User Engagement	167-169
14.	**Chapter 6: Findings, conclusions, and suggestions**	**170-190**
6.1.	Findings of the study	171-178
6.1.1.	Findings based on analysis of Medical students' Responses	171-174
6.1.2.	Findings based on the objectives of the study	174-178
6.2.	Testing of Hypotheses	178-185
6.3.	Conclusion	186-188
6.4.	Suggestions	188-189
6.4.1.	Suggestions for medical students	188-189
6.4.2.	Suggestions for medical libraries	189
6.4.3.	Suggestions for medical colleges	189
6.5.	Areas for further research	190
15.	**Bibliography**	**191-246**
16.	**Appendices**	**247-266**

LIST OF TABLES

S.No.	Table No.	Title of the Table	Page No.
1.	**Table 1**	Information search process (ISP)	54
2.	**Table 2**	Information Seeking: Overview	68
3.	**Table 5.3.7**	Distribution of Questionnaire (N=675)	109–110
4.	**Table 5.3.8**	Reliability Test for Users' Questionnaire	111
5.	**Table 5.4.1**	Gender-wise Distribution of Respondents (N=668)	111
6.	**Table 5.4.2**	Age-wise Distribution of Respondents (N=668)	112
7.	**Table 5.4.3**	Year-wise Distribution of Respondents (N=668)	113
8.	**Table 5.5.1**	Preferred device for accessing social media	114
9.	**Table 5.5.2**	Preferred social media platforms	115
10.	**Table 5.5.3**	Time spent on Social Media	116
11.	**Table 5.6.1.2**	Kruskal-Wallis test	119
12.	**Table 5.6.1.3**	Mann-Whitney U test	121
13.	**Table 5.6.2.2.1**	Kruskal-Wallis test	124
14.	**Table 5.6.2.2.2**	Post Hoc test (Dunn's test)	125
15.	**Table 5.6.2.3**	Mann-Whitney U test	127
16.	**Table 5.7.1.1**	Social Media Platforms Used for Seeking Information, Gender-wise	129
17.	**Table 5.7.1.2**	Chi-Square test	130
18.	**Table 5.7.1.3**	Standardised Residuals Analysis	130–131
19.	**Table 5.7.2**	Reasons and Motivations for Information Seeking on Social Media	132
20.	**Table 5.7.3.1**	Types of Information Students Seek on Social Media	133
21.	**Table 5.7.3.2**	Types of Information Students Share on Social Media	134
22.	**Table 5.8.1.2**	Kruskal-Wallis test	136
23.	**Table 5.8.1.3**	Mann-Whitney U test	138
24.	**Table 5.9.1.2**	Kruskal-Wallis test	140
25.	**Table 5.9.1.3**	Mann-Whitney U test	142
26.	**Table 5.9.2.2.1**	Kruskal-Wallis test	145

27.	**Table 5.9.2.2.2**	Post Hoc test (Dunn's test)	146
28.	**Table 5.9.2.3**	Mann-Whitney U test	148
29.	**Table 5.10.1.1**	Methods Used to Evaluate Credibility	150
30.	**Table 5.10.1.2**	Chi-Square test	151
31.	**Table 5.10.1.3**	Standardised Residuals Analysis	151–152
32.	**Table 5.10.2**	Hypothesis Testing	153
33.	**Table 5.11.1**	Strategies for Identifying Misinformation on Social Media	154
34.	**Table 5.11.2**	Sources and Factors Contributing to the Spread of Misinformation on Social Media	156
35.	**Table 5.11.3**	How Users Handle Misinformation on Social Media	157
36.	**Table 5.12.2**	Kruskal-Wallis test	160
37.	**Table 5.12.3**	Mann-Whitney U test	162
38.	**Table 5.12.4**	Kruskal-Wallis test	164
39.	**Table 5.12.5.1**	Chi-Square test	166
40.	**Table 5.12.5.2**	Standardised Residuals	166
41.	**Table 5.13**	Frequency of Library Visits	167
42.	**Table 5.13.1**	Public Perception of Librarians' Role in Combating Misinformation	164

LIST OF FIGURES

S.No.	Figure Number	Title of the Figure	Page No.
1.	**Figure 1**	A nested model of information seeking and information searching research areas	62
2.	**Figure 5.3.4**	Steps in Questionnaire Designing	107
3.	**Figure 5.4.1**	Gender-wise Distribution of Respondents (N=668)	111
4.	**Figure 5.4.2**	Age-wise Distribution of Respondents (N=668)	112
5.	**Figure 5.4.3**	Year-wise Distribution of Respondents (N=668)	113
6.	**Figure 5.5.1**	Preferred device for accessing social media	114
7.	**Figure 5.5.2**	Preferred social media platforms	115
8.	**Figure 5.5.3**	Time spent on Social Media	117
9.	**Figure 5.6.1.1**	Q-Q plot and Histogram	118
10.	**Figure 5.6.1.2**	Box plot	120
11.	**Figure 5.6.1.3**	Box plot	122
12.	**Figure 5.6.2.1**	Q-Q plot and Histogram	123
13.	**Figure 5.6.2.2**	Box plot	126
14.	**Figure 5.6.2.3**	Box plot	128
15.	**Figure 5.7.2**	Reasons and Motivations for Information Seeking on Social Media	132
16.	**Figure 5.8.1.1**	Q-Q plot and Histogram	135
17.	**Figure 5.8.1.2**	Box plot	137
18.	**Figure 5.8.1.3**	Box plot	138
19.	**Figure 5.9.1.1**	Q-Q plot and Histogram	139
20.	**Figure 5.9.1.2**	Box plot	141
21.	**Figure 5.9.1.3**	Box plot	143
22.	**Figure 5.9.2.1**	Q-Q plot and Histogram	144
23.	**Figure 5.9.2.2**	Box plot	147
24.	**Figure 5.9.2.3**	Box plot	149
25.	**Figure 5.10.1**	Methods Used to Evaluate Credibility	150
26.	**Figure 5.11.1**	Strategies for Identifying Misinformation on Social Media	154
27.	**Figure 5.11.2**	Sources and Factors Contributing to the Spread of Misinformation on Social Media	156
28.	**Figure 5.11.3**	How Users Handle Misinformation on Social Media	158

29.	**Figure 5.12.1**	Q-Q plot and Histogram	159
30.	**Figure 5.12.2**	Box plot	161
31.	**Figure 5.12.3**	Box plot	162
32.	**5.12.4**	Box plot	164
33.	**Figure 5.13**	Frequency of Library Visits	167
34.	**Figure 5.13.1**	Public Perception of Librarians' Role in Combating Misinformation	169

LIST OF ABBREVIATIONS

AD Test	Anderson-Darling Test
AI	Artificial Intelligence
AIIMS	All India Institute of Medical Sciences
ANOVA	Analysis of Variance
APA	American Psychological Association
ASCOMS	Acharya Shri Chander College of Medical Sciences
ASNS	Academic Social Networking Sites
BDS	Bachelor of Dental Surgery
COVID-19	Coronavirus Disease 2019
GMC	Government Medical College
ICT	Information and Communication Technology
ILC	Information Literacy Competency
IS	Information Systems
ISB	Information Seeking Behaviour
ISFS	Information Seeking in Facebook Scale
ISP	Information Search Process
MBBS	Bachelor of Medicine and Bachelor of Surgery
MD	Doctor of Medicine
MS	Master of Surgery
MSI	Misinformation Sharing Index
OPAC	Online Public Access Catalogue
Q-Q plot	Quantile-Quantile plot
RISP	Risk Information Seeking and Processing Model
SD	Standard Deviation
SKIMS	Sher-I-Kashmir Institute of Medical Sciences
SMIP	Social Media Induced Polarisation
SNS	Social Networking Sites
SPSS	Statistical Package for the Social Sciences
TRA	Theory of Reasoned Action
UNICRI	United Nations Interregional Crime and Justice Institute
WEF	World Economic Forum
WHO	World Health Organisation

ABSTRACT

Social media, as an interactive digital space, has emerged as an indispensable feature of modern society, categorically transforming the manner in which we locate, gather, and propagate information through these interconnected platforms, consequently becoming a go-to source of information for students, especially in the medical field. This arises from the fact that it helps them stay updated on contemporary developments in their field, personalise their information consumption, facilitate interaction with their peers, and access information in diverse formats. Nowadays, medical students can go through YouTube tutorials about surgical techniques, share updated World Health Organisation (WHO) reports on healthcare emergencies, and discuss assignments on WhatsApp groups. Such practices emphasise the utility of social media platforms among medical students, rendering them virtually indispensable in the current learning environment. Subsequently, users maintain an active presence on multiple social media platforms in order to capitalise on the diverse benefits that they offer.

However, these diverse benefits have an overlooked dark side. Challenges like misinformation, fake news, privacy violations, information overload, and addiction risks have emerged as the major challenges in the current information ecosystem, therefore raising critical concerns about medical students' navigation through various social media platforms to seek and disseminate information, given that the information they consume today will influence their decisions tomorrow. Since users are the focal point of libraries, it is very important to have a thorough understanding of what information students seek and share online in the present era.

This thesis investigates the question in detail by concentrating on the information seeking and information sharing of medical students in Jammu and Kashmir. This includes all the government, autonomous, and private medical colleges in the region. The context of Jammu and Kashmir makes the study distinctive, as medical students from this place not only have to deal with the dark side of social media, but they also have to manage the frequent internet shutdowns, political sensitivity, internet censorship, and multiple infrastructural constraints. In the face of these regional challenges, social media remains a vital information lifeline, yet the very same source increases its vulnerability to unreliable and manipulated content.

Aims and Objectives of the study

The study aimed to accomplish the following objectives:

1. To find the extent to which social media is used for seeking information.
2. To identify the reasons and motivations for information sharing on social media.
3. To determine what type of information students seek and share on social media platforms.
4. To examine the role of information literacy and critical thinking as a practical solution to combat misinformation.
5. To analyse the gullibility and lack of knowledge in recognising misinformation on social media platforms.
6. To assess ways to spot, stop, fact-check, debunk, and combat misinformation on social media.
7. To facilitate the role of the library professionals and the library's trust to combat misinformation.

Formulation of Hypotheses

The study has developed the following assumptions for verification:

H1. There is a significant difference in using social media for seeking and sharing information, both gender-wise and age-wise.

H2. There is no significant variation in the seeking and sharing of misinformation among students.

H3. A significant number of users frequently consume and share misinformation on social media.

H4. A significant number of users are not capable of differentiating between credible sources of information and misinformation.

H5. There is a significant difference in the perception of users to identify, stop and debunk academic misinformation.

H6. There is a significant difference in attitudes towards the verification of information before sharing on social media among different categories of users.

Scope and limitations of the study

The interactive facilities provided by social media have made everyone addicted to these platforms. People rely on social media for entertainment, fun, information seeking and sharing, etc. Although there are several studies that have been conducted on different facets of information consumption, fewer studies have been found that discuss the seeking and sharing of information on social media in the era of misinformation.

Therefore, the study aims to gain insight into how undergraduate medical students use social networking sites to find and exchange information despite growing concerns about widespread misinformation and its possible effects on their academics.

Statement of the problem

Many studies conducted throughout the world have investigated various aspects of social media. However, there is no detailed study on how medical students of Jammu and Kashmir seek and share information on these platforms, which are rife with misinformation. Jammu and Kashmir is a politically sensitive region with frequent internet shutdowns and limited access to social media due to connectivity issues. Thus, exploring this contemporary issue within the unique socio-political landscape of Jammu and Kashmir becomes both timely and essential.

Research Methodology

The study adopted a quantitative, cross-sectional, survey-based research design. The data was collected using a structured, self-administered questionnaire created using Google Forms. The population comprised MBBS and BDS students from all the medical colleges of Jammu and Kashmir. A non-probability convenience sampling technique was employed to collect responses from the students. Following data collection, SPSS, R programming, and Excel were used for data analysis. Subsequently, the data was presented through appropriate statistical tests and supported by tabular and graphical representations.

Target Population

The present study is restricted to the medical students studying in 13 different government, semi-government, as well as private medical colleges of Jammu and Kashmir, including:

1. Government Medical College, Baramulla
2. Government Medical College, Anantnag
3. Government Medical College, Srinagar
4. Sher-I-Kashmir Institute of Medical Sciences, Srinagar
5. Government Medical College, Jammu
6. Government Medical College, Kathua
7. Government Medical College, Rajouri
8. Government Medical College, Doda
9. All India Institute of Medical Sciences, Jammu
10. Acharya Shri Chander College of Medical Sciences, Jammu

11. Government Dental College, Srinagar
12. Institute of Dental College, Sehora
13. Indira Gandhi Dental College and Hospital, Amphalla.

Sampling

The scholar personally visited each college to collect data directly from the respondents. A proportionate sample representing approximately 9% of the student population was selected from each college. Of the 675 responses initially collected, 668 were finalised after removing incomplete and inconsistent entries.

Analysis and Interpretation of Data

Once the data collection was completed, several statistical techniques, including the Anderson-Darling test, Kruskal-Wallis test, Mann-Whitney test, histograms, etc., were used to analyse, tabulate, and validate the data.

Chapterization

The study has been organised into six chapters covering different aspects of the study. The chapters are mentioned below:

Chapter 1: Introduction

This first chapter covers the foundational concepts of the study, including information seeking, information sharing, and misinformation on social media. The chapter also includes the objectives, hypotheses, scope of the study, methodology, style of bibliographic references, limitations of the study and chapterization of the study.

Chapter 2: Review of literature

This chapter provides an extensive investigation of the body of research on various aspects of social media. It has been divided into several themes, such as social media, information seeking, information sharing, information seeking and information sharing on social media and misinformation.

Chapter 3: Information seeking on social media

This chapter discusses how the technology, especially social media, has changed how we find and use information, highlighting the numerous benefits that social media offers to individuals and how it has seamlessly integrated into our daily lives, earning its reputation as a go-to source for efficient and instantaneous access to information, anytime and anywhere. It includes information, background, motivations of information seeking, information seeking in the digital age, misinformation (Information seeking context), information seeking behaviour (ISB), information seeking on social media, challenges and conclusion.

Chapter 4: Misinformation on social media

This chapter offers an understanding of various aspects of misinformation. The chapter has been divided into the following subsections: background, history, types, social media, fake news, and understanding the mechanism (how and why), impact, combating misinformation, the role of libraries and conclusion.

Chapter 5: Analysis and Interpretation

This chapter serves as the core of the study, and it describes the analysis as well as the interpretation of the data. The chapter has been divided into various subsections in order to facilitate an in-depth analysis of each aspect of the system in a systematic manner.

Chapter 6: Findings, conclusions, and suggestions

The chapter includes important findings, valuable suggestions and the conclusion of the study. Additionally, it also recommends other areas that could be explored in future research.

Major findings of the study

The data provided by the medical students served as the basis for the main conclusions that are presented here. The findings have been arranged in a manner consistent with the study objectives:

Regarding the extent to which social media is used for seeking information, the findings of the present study reveal that a considerable proportion of the users had a neutral approach towards choosing social media as a first choice for seeking information. Medical students mainly prefer YouTube, WhatsApp, and Instagram for seeking information. They also spend a considerable amount of time on social media daily, signifying a strong engagement.

Regarding the reasons and motivations for information sharing on social media, it was found that the top motivations that drive students to social media were the availability of study materials, ease of use and the latest medical news.

Regarding the type of information students seek and share on social media platforms, the findings reveal that entertainment content, news and current events, and educational content were the most sought-after information types. When it comes to types of information shared more often, educational content, medical news and trends, and entertainment content are the most popular choices. This suggests a trend where students consume diverse content but prefer to share academically relevant content.

Regarding the gullibility and lack of knowledge in recognising misinformation on social media platforms, it was observed that gender did not have an impact on how

students consume misinformation on social media. On the contrary, age does affect the information sharing of students. The study also revealed that females were more likely to critically respond to misinformation, whereas males tended to ignore it or believe it. Regarding the role of information literacy and critical thinking as a practical solution to combat misinformation, the findings of the present study observed that to assess the credibility of information, students most commonly relied on the source of information and personal judgment, while methods like reverse image search and asking experts were not found to be very popular. It is found that the majority of the students do not struggle to identify misinformation, as most of them consider themselves capable enough to differentiate between credible information and misinformation.

Regarding the ways that medical students use to spot, stop, fact-check, debunk, and combat misinformation on social media, it was found that when they come across some doubtful information, they mostly prefer to cross-verify that information with reputable sources and read beyond the headlines. Fact-checking tools and expert consultation are used less frequently by the students. Memes/deepfakes, lack of media literacy and political polarisation are considered to be the major sources of misinformation that dominate social media. When it comes to responding to misinformation, the most common action amongst all the medical students is to ignore the content, fact-check the false information and report the content.

Regarding the role of the library professionals and the library's trust to combat misinformation, the majority of the students have faith in librarians. They do believe that librarians have a role to play in combating misinformation. However, there is a small percentage of users who do not deem libraries as important institutions when it comes to tackling misinformation.

Conclusion

Social media has ingrained itself into the lives of medical students. They use it to seek information, express their thoughts, consume and share a lot of content online. Different platforms cater to varied academic, professional and personal needs of the users. As digital natives, they have become a major force behind the growing use of social networking sites. Students use multiple platforms to stay updated regarding the latest happenings in their field. They spend a considerable period of time on these platforms to seek as well as share diverse types of information, including educational content, news and current events, etc. As a result, social media has emerged as one of their primary information sources. Therefore, their extensive usage of social media raises the

possibility that they may come across false information in addition to other difficulties, including information overload, privacy violations, and security threats.

Medical students understand the serious repercussions of misinformation. They also consider themselves capable enough to identify misinformation. A majority of the students are of the opinion that librarians have a role in combating misinformation. They see the libraries as trusted spaces with expertise in fact-checking and research, curating and sharing reliable sources of information, and promoting media and information literacy. Their involvement could bridge the gap between awareness and action, equipping students with tools to navigate the turbulent waters of social media information flows. The thesis concludes with a clear message that the ability to navigate the current information landscape is as important as any other task assigned in a classroom. Mastering the skill of seeking and sharing information online in a responsible manner will not only make them better medical students, but it will also make them better guardians of public trust and health.

CHAPTER – 1

INTRODUCTION

1.1. Background of the study

The emergence of social media has not only redefined human interaction but has also significantly transformed the information ecosystem of the present world. "As society moves further into the digital age, the nature of information consumption, assimilation, and circulation has changed drastically" (Paor & Heravi, 2020). With advancements in technology, the public now has access to an unprecedented range of channels through which information can be accessed, consumed, and shared with others (Kim & Sin, 2016). Many people around the world have incorporated social media platforms as their primary source of information. Among them, college students are most active, using multiple platforms daily (Duggan et al., 2015). They frequently utilise these platforms to satisfy a number of daily and academic information needs (Kim et al., 2014; Rainie, 2012). Apart from seeking information, students increasingly use social media to share information, opinions, and resources online. This has contributed to an exponential growth in both the consumption and sharing of information in recent years. Social media's bi-directional information flow, which allows users to concurrently search, consume, and exchange information, is responsible for these advancements (Ardevol-Abreu & Zuniga, 2017). In addition, "social media provides resources and contexts that allow for a larger degree of freedom and autonomy for self-directed learning and exploration" (National School Boards Association, 2007). However, due to the enormous volume of information generated daily and the lack of conventional systems to verify its credibility, social media has inevitably become a place where inaccurate, misleading, and unverified content thrives alongside credible sources. As a result, social media has become a fertile ground for the rapid dissemination of misinformation. Therefore, there is a dire need to understand how students navigate through this information landscape amidst such a growing global challenge.

1.1.1. Information seeking and Information sharing on social media

Before finding out why students share information on social media, it is important to know what information they seek. Information seeking may be aimed at changing people's standpoint or the way they view the world and developing a shared understanding (Sonnanwald, 2006). Advances in information and communication technology (ICT) have drastically changed how students access and acquire

information. Individuals often seek out and share information on various social media platforms. The main motives are self-promotion, obtaining "knowledge, belonging to a peer community, and interaction with peers" (Meishar-Tal & Pieterse, 2017). Numerous studies have examined how digital media, more specifically social media networks, are utilised to seek information (Rainie, 2012). Tang et al. (2022) defined Information seeking as "a conscious effort to acquire information due to the need to solve a problem, fill the knowledge gap, or satisfy a perceived need". Research indicates that multiple social media platforms are used as information sources in academic settings as well, such as writing research papers (Head & Eisenberg, 2011). This might be because students consider themselves capable of finding information sources as well as information for either academic or research purposes (Ren, 2000).

Similarly, students share information with their peers for many reasons, for example: to collaborate with other like-minded people, to achieve common goals, to obtain knowledge, and to build mutual bonds (Oh & Syn, 2015). This might be because information sharing brings valuable and entertaining content to others and helps individuals define themselves for others (Choi et al., 2014). Right now, millions of young students use these platforms to seek as well as share information. Considering the amount of false information on social media, it becomes quite challenging for them to locate the relevant and credible information. As a result, choosing the most appropriate platform to seek information, assessing its relevance, and then acting upon that accordingly has become a key skill in today's digital era. Seeking or simply accessing the information online has shifted from knowing what to learn and how to obtain information towards a deeper need for cognitive processing of information effectively (Tang et al., 2022). At the same time, users face several difficulties when sharing information on social media. There are not many studies that discuss these challenges; therefore, social media's involvement in the information sharing process is still seen as fraught with difficulties (Muliadi et al., 2024).

1.1.2. Age of misinformation

Information is an elusive and controversial concept (Yuexiao, 1987). It requires truth (Scarantino & Piccinini, 2010). Information inherently contains truth, therefore, truth becomes an important standard for a sentence to be considered information (Floridi, 2003). Furthermore, one strong belief about information is that it must be true. "If it were not true, then the meaning associated with it would be wrong or misleading" (Stahl,

2008). George (2008) made it clear by distinguishing data and information as one which contains no claim and the other which does. The discourse of information has a multitude of directions. In the present social media era, the discourse around information disorders is compelling. Therefore, we have to bear in mind that whenever we get any kind of information, we have to consider the possibility that its source might be trying to deceive us (Hume, 1977).

In recent years, the world has been grappling with a major issue of misinformation. In fact, many researchers are calling it a major threat to the public (Muhammed & Mathew, 2022). Wardle and Derakhshan (2017) used a broader term, namely "information disorder," to describe the various kinds of misinformation that exist in the modern era. They categorised it further into three categories: misinformation, disinformation and mal-information. In general, misinformation is the information which is fake or misleading and spreads unintentionally (Wu et al., 2019). It is not a new challenge, but modern technologies have amplified its spread to the point that it has become a global issue now (Adams et al., 2023). Social media has been greatly affected by misinformation, particularly after the 2016 US Presidential elections, when it was believed to have a major influence on the election results (Levin, 2017). These platforms allow the dissemination of misinformation in an anonymous and decentralised manner to a wider audience (Vicario et al., 2016). Since social media is very distracting and people do not pay much attention to the factual accuracy of the content they come across, they end up falling for misinformation (Linden, 2022).

The sharing or seeking of information on social media platforms, particularly when there are pieces of evidence that social media helps spread misinformation, raises concerns that these practices could negatively reshape online culture (Chadwick & Vaccari, 2019). It is worrisome how often inaccurate content appears on social media (Chen et al., 2015). "The growth and spread of misinformation and disinformation online have become an urgent concern in the United States and around the world in recent years" (Leeder, 2019). As Mintz (2012) observes, the ease of information sharing online facilitates the spread of misinformation on a broader scale. Numerous studies acknowledge "the informational value of social media; they highlight general trends on how college students use social media to acquire information" (Head & Eisenberg, 2010; Kim et al., 2011). However, "the extent to which students share misinformation is unclear," and their motivations for sharing such information are also unclear (Chen

et al., 2015).

1.2. Significance of the study

Social media is an integral part of life for people across the globe. People use various social media platforms to satisfy different information needs, such as consuming information, collaborating with others, sharing content, and watching entertaining content. However, social media is not all bright. There are numerous challenges that one faces while consuming or sharing information on these platforms, such as information overload, misinformation, privacy concerns, data misuse, manipulation of information, declining trust in online content and rapid spread of unverified content. Since the people in power are not doing much about it, research and collective efforts are needed to address this issue, raise awareness, and develop effective solutions.

The main intention of the study is to find out how medical students are navigating the modern information environment, which is filled with a huge amount of misinformation. This is the first time an effort has ever been made to study various aspects of social media in the context of misinformation. It is expected that this research will provide valuable insights and draw attention to an important area of research.

1.3. Statement of the problem

Social media has emerged as an excellent instrument which has transformed the present information landscape completely. It serves as a primary source of information for individuals globally. People look for a variety of information, interact with friends and family, share information with them, engage in entertainment, collaborate, stay updated with the latest information, create content, etc. It is very popular among youngsters as they have grown up with these technologies (Christopher, 2014). Additionally, social media is capable of serving the diverse needs of people without any geographical barriers or time restrictions. Due to the benefits that it offers, students, more specifically medical students, prefer these platforms in order to seek and share information regarding various aspects of life.

Social media platforms are loaded with benefits. Students can choose the platforms according to their needs. For example, they use YouTube to watch tutorials, WhatsApp for instant messaging, LinkedIn for professional networking and so on (Patmanthara et al., 2019). Moreover, students also share various kinds of information on social media.

The increased user participation on social media has led to information overload, along with a rapid increase in the spread of misinformation. Even though misinformation has existed forever, social media is being blamed for its amplification. This could be because there is no gatekeeping process on social media. Hence, medical students find it hard to navigate through such a complex information landscape in order to access the relevant information.

Many studies conducted throughout the world have investigated various aspects of social media (Snelson, 2016). However, there is no detailed study on how medical students of Jammu and Kashmir seek and share information on these platforms, which are rife with misinformation. Jammu and Kashmir is a politically sensitive region with frequent internet shutdowns and limited access to social media due to connectivity issues. These challenges highlight the importance of this study, which focuses on understanding how medical students navigate through the complex social media environment.

1.4. Objectives of the study

The main aim of this exploratory study was to explore the traits, motivations, and reasons of students who use social media to find and exchange information. Moreover, the impetus has been given to addressing the widely shared misinformation on social media platforms. Understanding the reasons behind information seeking and consumption was intended to help identify strategies to counter false information. It also emphasised the usefulness of information literacy and critical thinking in combating false information.

The study aimed to accomplish the following objectives:

1. To find the extent to which social media is used for seeking information.
2. To identify the reasons and motivations for information sharing on social media.
3. To determine what type of information students seek and share on social media platforms.
4. To examine the role of information literacy and critical thinking as a practical solution to combat misinformation.
5. To analyse the gullibility and lack of knowledge in recognising misinformation on social media platforms.

6. To assess ways to spot, stop, fact-check, debunk, and combat misinformation on social media.
7. To facilitate the role of the library professionals and the library's trust to combat misinformation.

1.5. Formulation of Hypotheses

The study assumed that social media has emerged as a major source of information for students, not only in everyday and leisure contexts, but also in the academic context (Selwyn & Gorard, 2016). It enables users in higher education to access alternative learning settings. Despite well-known problems, including the abundance of false information on social media, students use these platforms to fulfil their academic information demands (Leeder, 2019). In light of the aforementioned presumptions, the following hypotheses have been formulated for verification in the study:

H1. There is a significant difference in using social media for seeking and sharing information, both gender-wise and age-wise.

H2. There is no significant variation in the seeking and sharing of misinformation among students.

H3. A significant number of users frequently consume and share misinformation on social media.

H4. A significant number of users are not capable of differentiating between credible sources of information and misinformation.

H5. There is a significant difference in the perception of users to identify, stop and debunk academic misinformation.

H6. There is a significant difference in attitudes towards the verification of information before sharing on social media among different categories of users.

1.6. Scope of the study

The interactive facilities provided by social media have made everyone addicted to these platforms. People rely on social media for entertainment, fun, information seeking and sharing, etc. Although several studies have been conducted on different facets of information consumption, there aren't many studies that discuss information sharing and seeking in the era of misinformation. Therefore, the aim of the study was to gain insight into how undergraduate medical students seek and share information on social media despite growing concerns about widespread misinformation and its possible

effects on their academics.

To achieve the above-mentioned objectives, the present study was restricted to the medical students studying in 13 different government, semi-government as well as private medical colleges of Jammu and Kashmir, such as: (1) Government Medical College, Baramulla, (2) Government Medical College, Anantnag, (3) Government Medical College, Srinagar, (4) Sher-I-Kashmir Institute of Medical Sciences, Srinagar, (5) Government Medical College, Jammu, (6) Government Medical College, Kathua, (7) Government Medical College, Rajouri, (8) Government Medical College, Doda, (9) All India Institute of Medical Sciences, Jammu, (10) Acharya Shri Chander College of Medical Sciences, Jammu, (11) Government Dental College, Srinagar, (12) Institute of Dental College, Sehora, (13) Indira Gandhi Dental College and Hospital, Amphalla. This list was chosen from the National Medical Commission and the Dental Council of India.

1.7. Study period

This study was carried out from August 2021 to August 2025. The study was started in 2021, and all the stages of the study, including written work, were completed by the end of 2025.

1.8. Methodology

As a method of data collection among the medical colleges of Jammu and Kashmir, a survey was conducted using a structured questionnaire designed mainly to focus on the objectives and scope of the study, including both closed-ended and open-ended questions. To test the validity of the research, a pilot study was also conducted. After that, data collection was carried out through non-probability convenience sampling, targeting readily available individuals. The questionnaire consisted of questions based on descriptive, binary, multiple-choice and Likert scales. The questionnaires for the pilot study and final data collection are mentioned in detail in Chapter 5.

1.8.1. Data Analysis

Being the most skill-intensive task in the research process, data analysis involves critically examining the collected data to study the attributes of the research focus and discern patterns among the parallel variables. A research study begins with formulating a hypothesis; however, data analysis helps in validating or refuting the proposed hypothesis.

In the present study, data collected through questionnaires has been evaluated and analysed to obtain meaningful results. Following quantitative research procedures, the raw data has been organised into themes and patterns; in due course, hypotheses were also tested using statistical analysis. Based on the interpretation of the findings, conclusions have been drawn, and then the final report was prepared.

By feeding the data obtained from the questionnaires into the statistical packages R programming and SPSS, the resulting output has been checked for typographical errors. R programming and SPSS have been used for statistical analysis to comprehensively examine the data and generate frequency distribution tables, graphs, and other variable-related tables to establish relationships among variables. Furthermore, separate tables have been prepared for each aspect of the study, supported by textual explanations as presented in Chapter 5.

Data provides the foundation or raw material for analysis, as conclusions based on imagination or guesswork cannot yield accurate answers to research questions. The quality of the results is greatly influenced by the sufficiency, relevance, and reliability of the data. Subsequently, the analysis of responses collected through questionnaires from selected respondents has been presented in Chapter 5, titled 'Data Analysis and Interpretation'. Based on this analysis, the findings and suggestions related to various aspects of the study have been discussed and presented in Chapter 6.

1.8.2. Statistical Analysis

Following data collection, the data were examined using the proper statistical tools and techniques. SPSS software and R programming were utilised for statistical analysis in order to derive meaningful insights. Various statistical tests, including the Chi-Square (χ^2) test, the Kruskal-Wallis test and the Mann-Whitney test, were applied to examine relationships and differences among variables. Additionally, descriptive statistics, including the mean and standard deviation (SD), were calculated to support the study's findings. Based on the responses received from the medical students to the questions propounded in the questionnaire, appropriate statistical tools such as descriptive statistics, specialised tests, and content analysis have been used for analysis. This was followed by presentation of the data in the form of bar diagrams, pie charts, and mostly tables. Details of various statistical techniques/tools used for this study are presented in the following section:

a) Descriptive Statistics

Descriptive statistics, using the simple percentage method, were employed to examine various aspects of the demographics of the selected respondents. This method was used to analyse the responses collected from respondents concerning the total population. In several instances, results were calculated based on the number of responses to questions that allowed multiple answers.

b) Normality

Before conducting any statistical comparisons regarding how different factors, such as age groups, gender, etc., affect choices about how information is used on social media, it's critical to determine if the data are distributed normally. Normality is a fundamental assumption for many parametric statistical tests, including t-tests and ANOVA. To evaluate the normality of the data, both graphical and statistical methods were employed. A Quantile-Quantile (Q-Q) plot and a histogram were used to visually examine the data distribution. In addition, the Anderson-Darling (AD) test was applied as a formal statistical test for normality. While the alternative hypothesis suggests a departure from the normal distribution, the null hypothesis of the AD test asserts that the data are normally distributed.

c) Kruskal-Wallis test

To ascertain whether the groups differ significantly from one another, the Kruskal-Wallis rank sum test was employed. This non-parametric test is appropriate when the assumption of normality is violated. In this study, normality was assessed using the Anderson-Darling test, Q-Q plot, and histogram, all of which revealed that the data deviated from normal distribution. As a result, the Kruskal-Wallis test was selected as a suitable alternative to the one-way ANOVA for comparing medians across multiple independent groups.

d) Mann-Whitney U test

The Mann-Whitney U test is used to compare two independent groups. When the data do not meet the assumptions of normality, it can be used as a non-parametric substitute for the independent samples t-test. While the Kruskal-Wallis test can be applied to two or more groups, the Mann-Whitney U test is more commonly used when the comparison involves exactly two groups. This test evaluates whether there is a statistically significant difference in the distributions of the two groups.

e) **Post Hoc test (Dunn's test)**

Dunn's test with Bonferroni correction has been used in a post-hoc pairwise comparison

to look more closely at which particular groups varied substantially. This analysis was performed following a significant result from the Kruskal-Wallis test, which indicated overall differences among the groups. The post-hoc test allowed for the identification of specific group pairs that showed statistically significant differences while controlling for the increased risk of Type I error due to multiple comparisons.

***f)* Chi-square test**

The Chi-square test is applied to examine if two variables are statistically associated with each other. A contingency table is used to compute the Chi-square (χ^2) value for testing the independence of two variables. To determine if there was a significant difference between the observed and anticipated frequencies across categories, the Chi-Square test was employed. This test is suitable for categorical data. It helps determine if the distribution deviates from what would be expected by chance. A significant result indicates a meaningful association or deviation.

1.9. Style of Bibliographic References

The reference list has been compiled in compliance with the guidelines of the American Psychological Association (APA), 7th edition (http://www.easybib.com). The prescribed style was consistently applied throughout the thesis. Bibliographical entries, including those in the literature review, are presented in alphabetical order in the list of Works Cited.

1.10. Limitations of the study

The major limitation of the study is the sample size. It encompasses only 13 medical colleges and addresses only a few aspects of social media platforms. Therefore, future research should involve institutions from all around India in order to have a better understanding of social media platforms. Another limitation is that this study only includes the most popular social networking sites. This leads to the exclusion of other platforms that may also be used for information seeking and information sharing by the students in general.

1.11. Chapterization

The study has been divided into six chapters as mentioned below:

Chapter 1: Introduction

This first chapter introduces the problem of the study. A brief definition of the title, the significance, and scope of the study, key concepts, objectives, hypotheses, and methodology have been mentioned here.

Chapter 2: Review of literature

A detailed review of the literature of related studies covering the areas of information seeking, information sharing, social media, and misinformation has been presented here so that the reader gets a clear picture of what has already been done in this area.

Chapter 3: Information seeking on social media

Giving a thorough explanation of social media and its growing dominance in the information seeking process is very important in the present times, as well as a key aspect of the study. Hence, a chapter has been incorporated here to cover it in detail.

Chapter 4: Misinformation on social media

This chapter emphasises several aspects of misinformation online. The dissemination of misinformation on social media has affected information seeking and information sharing on social media to a great extent. This study revolves around misinformation. Thus, this chapter has laid emphasis on misinformation as well as ways to combat it. Moreover, the propagation of misinformation has also been discussed briefly.

Chapter 5: Analysis and Interpretation

The analysis of the data that has been collected from the respondents is incorporated in this chapter. The data have been interpreted in order to arrive at relevant conclusions and is mentioned here.

Chapter 6: Findings, conclusions, and suggestions

The findings of the data collected and the conclusions drawn from the study have been presented here. Based on the study's findings, suggestions have been provided for improvement.

CHAPTER-2

REVIEW OF LITERATURE

2.1. Introduction

A literature review serves as a cornerstone to any academic research, offering multidimensional perspectives and analysis of pre-existing work done in a specific domain. It represents the comprehensive knowledge brought by different researchers into the specific area, specifying the potential strength, limitations, and even research gaps. The systematic analysis of a versatile frame of knowledge not only consolidates the existing research but also helps in identifying underlying complications that we further need to explore and investigate. By this process, researchers place their work within a multifaceted academic conversation and form a clear path for their study. In this chapter, we aim to build a comprehensive apprehension of the topic by exploring the principal areas related to it, acknowledging emerging trends, and identifying gaps that need to be further investigated. This chapter creates a strong underlying structure needed to address the objectives of the research while ensuring that it adds valuable insights to the developing conversation about social media and its multifaceted impacts.

Social media has completely transformed the information seeking process, communication among people, and information sharing and has connected people across the globe. Using social media applications such as Facebook, X, Instagram, etc. has become an essential part of our daily routine, affecting society in numerous ways, including education, communication, business, health sector, personal relationships, and entertainment etc. Consequently, these platforms have drawn many researchers and policymakers across the globe to thoroughly explore and investigate various aspects related to them.

This chapter offers a comprehensive overview of the existing literature on information seeking and information sharing on social media in the present age of misinformation. A search has been conducted using a combination of various key terms such as “Social Media”, “Social Media Platforms”, “Information Seeking”, “Information Sharing”, “Misinformation”, etc., in various databases, publisher websites, and journals, both online and offline. These include platforms like Elsevier, Springer, Sage Publications and journals like ASLIB Journal of Information Management, The Journal of Academic Librarianship, etc. Furthermore, various bibliographies, relevant websites and search engines have also been used for an in-

depth literature review. Several related studies are available on this topic, but this study has reviewed around 419 research articles, 23 books, 87 websites, 12 theses and dissertations, etc., related to the topic. This chapter will serve as a vital starting point for anyone looking to understand, do research, or apply such knowledge in this evolving field. Additionally, the findings of the studies will be helpful to individuals, organisations, libraries, and academic institutions to serve people with diverse needs more efficiently.

The reviewed literature has been grouped under five thematic sections: (1) Social media, (2) Information seeking, (3) Information sharing, (4) Information seeking and information sharing on social media, and (5) Misinformation. The following sections cover the available literature on the topic.

2.1.1. Social Media

In the present world, social media is a multifaceted and dynamic phenomenon that has impacted every aspect of our lives. Social media has turned the world into a global village by allowing people to connect in real time regardless of geographical barriers. At the same time, it has become a powerful tool for the dissemination of information, enabling people to seek as well as share information every day. Real-time access to news updates, educational content, health information, job opportunities and entertainment posts and videos keeps users hooked to these platforms.

A study conducted by Ren et al. (2024) considered social media as a powerful attention driver for traditional media, guiding audiences toward professionally reported news. By sparking discussions and channelling attention to specific topics, social media creates an information-seeking cycle that benefits traditional media outlets. The findings concluded that traditional media can strategically increase viewership by leveraging social media discussions with heightened sentiment or by involving verified accounts to amplify relevant news topics.

Another remarkable study by Zhang et al. (2024) examined the effects of social media use on the academic performance of students, focusing on the roles of family bonding, collaborative learning, and mental well-being. Using data from 330 university students and a Partial Least Squares Structural Equation Modelling (PLS-SEM) approach, the study found that social media use positively impacted academic performance. Additionally, family bonding and collaborative learning strengthened this relationship, while mental well-being moderated the links between collaborative learning, academic

performance, and family bonding. The findings highlight the interconnected effects of social media, relationships, and well-being on students' educational outcomes.

Another study conducted by Brailovskaia and Margraf (2024), where they evaluated the Bergen Social Media Addiction Scale (BSMAS) across nine countries, involving 9,418 participants. The findings confirm its reliability and reveal that positive mental health reduces social media addiction, mediated by a sense of control in most countries except China and Russia. Activities like regular exercise and consistent sleep were identified as strategies to improve mental health and indirectly decrease social media addiction, offering practical insights for promoting digital well-being.

The dictionary definition of social media is “forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos)” (Merriam-Webster, 2023).

A noteworthy study by Ghosh et al. (2023) explored how social media-based learning affected the academic achievement of Bangladeshi university students throughout the pandemic. They employed structural equation modelling and gathered data from a sample of 302 university students. The results revealed a strong and positive association between social media usage and the academic achievement of Bangladeshi university students during the pandemic. Factors such as Facebook features, perceived usefulness, and personal tutorials all played significant roles in this relationship.

Young people have become increasingly dependent on social media. Swart (2023) explored the strategies and tactics employed by younger people to access, evaluate, and engage with news. This was done by conducting in-depth interviews with 36 students aged 16-22. The study reconceptualised news literacy as a type of situated knowledge. It emphasised the influence of social media on the attitudes, motivations, and perceptions of users.

Likewise, the research by Al-Qaysi et al. (2023) conducted a systematic review of disciplines, applications, and influential factors to find social media adoption in education. The primary takeaway from the study was that Facebook was prominently used in most of the analysed studies for educational purposes. The study also highlighted that the adoption of social media in an educational context was influenced by factors such as antecedents related to behaviour, moderating elements, and external factors.

One more noteworthy study by Kemp (2023) found the number of active social media users to be 60.6 per cent of the world's population, with an addition of 173 million new active users since 2022. The study further revealed that finding information remains the primary reason for using the internet across all age groups. However, women were found only half as likely as men to use social media do in southern Asia.

A scoping review was conducted by Chen et al. (2023). The review helped in identifying the trends in the use of social media images as data sources in articles from the social science research domain. The findings pointed out the frequent usage of images, geotags and profile information found on social media for data interpretation in various studies. The study also exposed the ongoing challenges of social media, such as ethical issues, privacy and copyright issues that hinder the usage of such data in social sciences.

Excessive social media usage is often referred to as "social media fatigue". It leads to feelings of exhaustion, burnout, and a sense of being overwhelmed. A quantitative assessment was conducted on the parameters linked to social media fatigue by Ou et al. (2023) through a meta-analysis of the combined literature. The findings suggested that environmental stressors had a lesser relationship with fatigue than psychological and behavioural stresses. It also demonstrated how the correlations between different stresses and social media fatigue are influenced by the sampling techniques, social media platforms, educational composition, and gender composition.

Added research by Bashar et al. (2022) described social media as a common place for information exchange among users. Their study focused on COVID-19 information seeking on social media. They also proposed a Semi-supervised Neural Network (SNTM) model for topic analysis and an Informed Neural Network model (INN) for Sentiment Analysis. They discussed how social media presents the opinions of its users only. Hence, it may not represent non-social media users.

The study done by Ghosh et al. (2022) examined the role of social media in improving the academic performance of students during the pandemic period. The study made use of a structured questionnaire, which was distributed electronically among the students. The findings indicate that the college students of Bangladesh have used social media as an alternative tool of learning, enabling them to maintain and even improve their academic performance throughout the pandemic period.

Social media has been found to amplify information inequity. Li and Cho (2021)

uncovered the moderating roles of social networks and engagement on such platforms, both offline and online. It predicted that increased social media engagement was linked to a narrower knowledge gap in the political domain; however, this effect was not seen in the health domain.

Multiple social media platforms have enabled people to create, as well as share and connect with others. Therefore, individuals use them based on their personal preferences, needs, and objectives. In their survey, Auxier and Anderson (2021) assessed the general utilisation of social media platforms and specific apps. Their findings indicated that YouTube (81%) and Facebook (69%) maintained their dominance in the online landscape. Notably, YouTube and Reddit demonstrated statistically significant growth since 2019. Approximately 30% of respondents mentioned using Pinterest or LinkedIn, while 40% of adults reported having used Instagram. About 25% of people used Snapchat or WhatsApp.

Research conducted by Liu et al. (2021) discussed the potential negative impact of social media on Generation Z. It was found that too much information found online did impact their psychological well-being. Moreover, practical suggestions were offered for social media users, platform owners, organisations, etc. The solutions emphasised the sustainable and responsible usage of these platforms during the COVID-19 pandemic as well as in the present time.

Another study carried out by Craig et al. (2020) examined the problematic usage of social media, including chatting with strangers, cyberbullying, and victimisation. Children aged 11-15 in 42 countries were the focus of the study. An interesting finding of the study pointed out the influence of region as well as gender on the misuse of social media.

Social media is considered to be an important platform for the sharing of healthcare information and, therefore, combating infodemics. A scoping review conducted by Tsao et al. (2020) pointed out the importance of trustworthy information in tackling any infodemic, false information, as well as fake news.

Habes et al. (2019) examined the relationship between social media and the academic achievement of students pursuing higher education. The study was conducted keeping the YouTube usage of the students as a central focus. The study involved 360 students who completed an electronic survey. The research findings revealed that the utilisation of social media, YouTube features, perceived usefulness, and social bookmarking all

played a substantial role in predicting students' academic success when it came to using social media platforms for online education in Jordan.

Social media benefits libraries in numerous ways, like increasing the use of the library, building virtual learning zones, etc. The study done by Anwar and Zhiwei (2019) examined specific aspects of social media, such as its utilisation, influencing factors, and issues, particularly concerning library usage. Their results highlighted how social media provided librarians with an innovative platform to connect with potential library users and address their requirements. Additionally, the study revealed that there were several obstacles and difficulties faced by library professionals when using social media to meet user demands.

To provide a comprehensive and in-depth analysis of the latest research on the use of social media for knowledge sharing, Ahmad et al. (2019) conducted a systematic review with an approach of collecting, evaluating, and synthesising data from previously published papers retrieved from digital databases covering the period from 2010 to 2016, spanning various topics. The result revealed a growing trend in the use of social media for knowledge sharing, which signifies a promising and relatively unexplored area for further research and a deeper contextual understanding of knowledge sharing.

Jalali and Boyer (2019) conducted a study to examine the association between educational factors of university students and their use of virtual social networks. The authors engaged in a discussion regarding the inevitable integration of online social networking technology into the lives and educational experiences of students. Consequently, both the learner and the teacher are confronted with novel challenges. The findings demonstrated that the variable with the highest correlation coefficient was associated with social networks and the quality of schooling.

Social media is fighting a battle against misinformation, which often misleads people to make wrong decisions, stimulates negative emotions, and hence poses a serious threat to society. Bruns (2019) examined the scholarly research being impacted by the restrictions from social media applications. Multiple platforms, such as Facebook and X, were found to severely limit platform data access through their Application Programming Interfaces (APIs). This impairs various investigations of phenomena like abuse, hate speech, trolling, and disinformation campaigns. Research on holding platforms accountable for policies that facilitate irresponsible social media usage also gets hampered as a result of this.

Moreover, social media is held responsible for the rise in mental health issues among younger individuals. A comprehensive analysis of how social media affects teenage psychological discomfort, anxiety, and depression, carried out by Keles et al. (2019) found an "association" between using social media and having mental health issues. Thirteen research papers were categorised into four categories during the data analysis period. The categories included time spent on social media, type of activity performed, investment, and social media addiction. It was revealed that they affected many psychological aspects, such as distress, anxiety, and depression.

A research article by Kapoor et al. (2018) conducted a comprehensive review of 132 papers published between 1997 and 2017 in selected information systems (IS) journals which focused on social media and social networking. Their analysis highlights the behavioural aspects of social media, particularly around reviews, recommendations, and its integration for organisational purposes. The paper discussed how social media is no longer just a platform for socialising and congregation. They are now recognised for their ability to encourage the aggregation of information, resources, and users in a meaningful way.

Alfaris et al. (2018) evaluated the association between academic achievement and social media use. They examined the usage trends and reasons behind using social media and employed a stratified random sampling approach for data collection. The findings disclosed that even though nearly all students use social media, only a small fraction do so for academic purposes. Consequently, academic achievement and social media use were not shown to be significantly correlated.

Multiple studies on social media have mostly focused on its bright side only. However, there are multiple issues associated with it. Baccarella et al. (2018) attempted to uncover the dark side of social media in their paper titled “Social media? It's serious! Understanding the dark side of social media”. Cyberbullying, addiction, trolling, online witch hunts, privacy abuse, and fake news were some of the examples of challenges that hamper appropriate social media usage. Researchers suggested using social media more frequently, analysing it properly to investigate the long-term effects of using social media on users.

Consistent with previous research, Han (2018) examined the issue of social media burnout from three major angles, including ambivalence of users, their emotional exhaustion, and depersonalisation. Additionally, a new scale to gauge a user’s social

media burnout was also designed. The study revealed that such mixed feelings significantly have a negative influence on user's decision to continue social media usage.

Another remarkable study done by Vivakaran and Neelamalar (2018) analysed the role of social media usage for academic purposes in developing countries like India. The findings of the study indicated that social media usage in the field of teaching is still at an early stage. However, whatever limited use of social media exists for teaching purposes, all platforms are used as teaching aids in a uniform manner. In particular, YouTube was found to be among the most popular platforms for teaching and learning purposes.

Even though people are very cautious about what they see, they are still exposed to information that they did not search for. Fletcher and Nielson (2018) examined the accidental exposure of users to online news in four countries. They compared incidentally exposed users with non-users and found that incidental exposure has a stronger influence on young people and those who have the least interest in news. The findings also revealed that incidental exposure was more effective on YouTube and X than Facebook.

Added research by Chugh and Ruhi (2017) tried to analyse the role of social media. Their main focus was on investigating the role of Facebook as an educational tool in higher education. Multiple benefits, such as a heightened level of interaction between teachers and students, as well as among students themselves, were found to improve academic performance. Furthermore, the use of Facebook in education was found to offer the convenience of learning and foster higher levels of student engagement.

In light of social media's pervasive role in people's lives, a study was conducted by Alhabash and Ma (2017) to explore the motivations and uses of four popular social media platforms. The study compared those platforms using the Uses and Gratifications (U&G) approach. The motivations behind using each platform revolved around activities such as information sharing, entertainment, convenience, self-expression, social interaction, and self-documentation.

One more research article by Moghavvemi et al. (2017) used YouTube as a case study and examined the use of social media as an additional teaching and learning tool. Based on the findings of the quantitative survey among the students and the qualitative outcomes of the interview, a scale was created to evaluate the academic learning

concept. The findings showed that many students turn to YouTube to find solutions to their homework problems and for any other queries they might have.

Social media addiction is very common nowadays, which results from spending too much time on social media. Blackwell et al. (2017) investigated the role of extraversion, neuroticism, attachment style, and fear of missing out (FOMO) in compulsive social media use. Extraversion was a significant predictor of use and addiction, and extraverted individuals were found to be using more social media since they crave interaction. Subsequently, attachment anxiety and avoidance were considered to be predictors of social media addiction.

Even though most individuals use social media responsibly, there is a small percentage of users who have grown obsessed with it. The main objective of the study done by Andreassen et al. (2017) was to examine the link between social media addiction, narcissism, and self-esteem. The study found a close relationship between them. Furthermore, the study found that females are more addicted to social media than males. Similarly, lower age groups, less education, and poor socioeconomic background were found to be the reasons behind increased social media addiction.

Manca and Ranieri (2016) reported the results of a survey of the Italian academic staff, intended to identify the uses of social media in university teaching practices. The results showed that the use of social media in this context remains relatively minimal and constrained. Academics have a limited inclination to adopt social media for various reasons, including cultural reluctance, pedagogical concerns, and institutional limitations.

Woods and Scott (2016) investigated the usage of social media and its impact on the quality of sleep, self-esteem issues, anxiety, and depression. The results indicated that such issues were found among those students who have higher levels of social media usage.

Another remarkable study done by Eijnden et al. (2016) tested the reliability and validity of the Social Media Disorder (SMD) Scale, which helps in identifying users with addiction and users with higher engagement on these platforms without addiction. This was done by carrying out three online polls with a total of 2198 Dutch users aged between 10 and 17. This study produced proof that the short 9-item scale is a reliable and accurate psychometric tool for measuring SMD.

Despite the interconnectivity that social media provides, younger adults have been

found lonelier than other groups. Pittman and Reich (2016), in their paper, proposed that image-based platforms like Snapchat and Instagram have the potential to boost loneliness due to the intimacy they offer, whereas text-based platforms like X and Yik Yak offer little intimacy and do not affect loneliness.

Wang and Meiselwitz (2015) revealed a steady increase in the adoption of social media in higher education. A literature review of the empirical research was conducted in this regard. The results of the study revealed multiple benefits of social media, such as social support, increased retention rate via peer support, and an increase in perceived knowledge. Furthermore, the study discussed the negative impact of the use of social media on students' engagement in learning. The study came to the conclusion that there was still little research on how social media affects academic viewpoints and student learning.

When defining social media, it becomes important to define it while considering the unforeseen developments that lie beyond the horizon of the rapidly changing technologies. Carr & Hayes (2015) in their paper titled "Social Media: Defining, Developing, and Divining" defined social media as "Internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others".

Social media has become a ubiquitous and powerful tool in the modern world, connecting and influencing billions of users across the globe. Pew Research Centre (2015), a nonprofit organisation that has conducted various research on social media, in their most recent study defined social media users as those who said "yes" to "Do you ever use a social networking site like Facebook, X or LinkedIn?". Their definition keeps changing with the changing circumstances.

Social media allows the sharing of extensive information and knowledge in the world, with social factors playing a significant role in it.

Individuals use social media for a lot of professional and academic knowledge exchange. This was examined by Gaal et al. (2015) in their study. The key points of the research revealed the discouragement of organisations regarding the unauthorised usage of social media. Furthermore, it also mentioned that these organisations encourage the sharing of work-related information on social media.

Ngai et al. (2015) did a structured review of the literature from the five top online

databases. A total of 46 articles focusing on social media were analysed during the research. The insights from the analysis highlighted the impact of social media on various aspects of everyday life. The study further revealed that this influence has led to increased academic research on the adoption of social media. Additionally, this paper brought to light various aspects related to social media, including the effects of adoption and the reasons behind that.

The use of social media has become a part of everyday life, and it is very important to know why businesses and nonprofit organisations use it. Hallikainen (2014) suggested a value-based perspective to examine why people utilise social media platforms. The model considers how people view social capital and social rewards as outcomes of using social media platforms.

In a quantitative study conducted by Gikas & Grant (2013), the researchers examined the purpose of social media, paying special attention to mobile devices in higher education. They also focused on the perceptions of users about using the devices as learning tools. The findings suggested that social media promotes interaction, offers collaboration opportunities and also allows students to create content and communicate using social media and Web 2.0 tools.

A significant share of social media network users is college students. They use multiple social media platforms on a daily basis. The study conducted by Sponcil and Gitimu (2013) was meant to investigate the influence of social media usage on college students' social interactions and self-perception. Notably, Facebook emerged as the most favoured website, with its popularity showing a consistent upward trend. The study also discussed how lurking was one of the significant motivations for students to use social networking sites.

One more research article by Whiting (2013) sought to demonstrate the importance of the Uses and Gratification theory to social media in order to explore and discuss the uses and gratifications that one receives from social media. Twenty-five in-depth interviews with users of social media were conducted as part of an exploratory study for the paper. The top ten uses and benefits of social media, according to this study, are social contact, information searching, leisure, amusement, relaxation, communicative utility, convenience utility, expression of opinion, information sharing, and

surveillance/knowledge of others.

Social media creates highly interactive platforms by utilising mobile and web-based technologies, making it easy for people to collaboratively share, create, discuss, and modify user-generated content. Kietzmann et al. (2011) offered a paradigm for defining social media by identifying seven functional building blocks. These building blocks are presence, connections, reputation, sharing, conversations, identity, and groups. These aspects are very helpful in understanding the functionalities of social media. This study illustrated the consequences that each block can have on how businesses should participate in social media. Different social media activities were defined by how much they concentrated on any or all of these blocks.

Social media and Web 2.0 technologies influence the decision-making process. Power and Wren (2011) discussed the positive as well as negative impacts of social media and Web 2.0 technologies on individuals, groups, and organisations. The findings suggested that the influence of social media on rationality and the effectiveness of decision-making can be extensive, and the impact depends on the type of social media application used.

Kaplan & Haenlein (2010) defined social media "as a group of internet-based applications that are built on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content". They also emphasised how it has become an integral part of everyone's lives in the present world. Additionally, they classified social media platforms according to their characteristics, as follows: collaborative projects, blogs, content communities, social networking sites, virtual gaming worlds, and virtual social worlds.

2.1.2. Information Seeking

Social media has become the primary source of information, whether it be academic or everyday life information. But these days, misinformation is a major problem on social media. This emphasises how crucial it is to understand how students effectively traverse the abundance of misinformation on social media to seek the right information. Chen et al. (2024) explored the experiences, beliefs, and information-seeking behaviours of college-going students in Oklahoma during the COVID-19 pandemic. Using a qualitative research approach guided by the Health Belief Model, the study found that students primarily sought information from internet sites, broadcast news, health professionals, and governmental sources. However, exposure to misinformation

from these channels created significant emotional distress, highlighting the challenges students faced in navigating reliable COVID-19 information during this period.

Another closely related study was conducted by Glodici et al. (2024), and the predictors of digital health literacy and information-seeking behaviours among Romanian university students during the COVID-19 pandemic were examined. Using data from 1,381 students collected through a web-based questionnaire, the study highlighted the need to strengthen digital literacy skills through tailored educational programs that prioritise quality, accuracy, and timeliness in health information. Recommendations include fostering partnerships between educational institutions and public health authorities and developing smartphone applications to provide real-time health guidance, emphasising the critical role of digital health literacy in mitigating misinformation during health crises.

One more study conducted by Bilandzic and Myrick (2024) explored information-seeking and avoidance behaviours during the early phase of the COVID-19 pandemic in the U.S. and Germany, using the Risk Information Seeking and Processing Model (RISP). Their comparative survey revealed that perceived information-gathering ability, information norms, and danger characteristics contributed to increased information seeking and reduced avoidance in both countries. Ideology also played a role as right-leaning ideologies correlated with lower information norms in both nations, but uniquely influenced hazard perception and emotional responses in the U.S.

Another noteworthy research done by Tonmoy et al. (2023) explored the usage of information sources as well as the information-seeking behaviour of the students. Data collection was conducted through questionnaires. The study found that the COVID-19 pandemic has caused a big increase in the need for diverse information, and the sources of this information have shifted over the period leading up to and during the pandemic. However, most students encountered difficulties when trying to find accurate COVID-19 information, mainly due to the abundance of misinformation.

Hwang and Jeong (2023) examined how misinformation exposure and subsequently accepting the false information impacted information seeking. The study found that avoiding information, rather than actively seeking it, was linked to a higher chance of being exposed to misinformation. Moreover, individuals who tended towards heuristic processing, as opposed to systematic processing, were more likely to accept misinformation when exposed to it.

Another study conducted by Yang and Khan (2023) determined the factors that cause information-seeking anxiety based on quantitative data. Anxiety related to libraries, information and communication technology (ICT), themes, and resource quality were found to be the major deterrents among graduates. Consequently, possessing the right information at the appropriate time becomes a Herculean task in the present world.

One more research article by Yap et al. (2023) covered the barriers to information seeking in their study by examining the information acquired and shared by flood victims in Sarawak, Malaysia. A questionnaire survey was administered to 118 victims in two flood-ravaged villages. The study inferred that no matter how fast social media provides the information, it still can not be considered reliable and accurate.

Khosrowjerdi et al. (2023) examined how individuals from the ten most affected countries searched the internet for COVID-19-related content in September 2020. The results found an inconsistency due to the prioritisation of languages used while conducting online searches. However, it supported the assumption of the Activation Model of Information Exposure, suggesting that people do not welcome the negative information that they find regarding their searches.

Another remarkable research done by Williams-Ilemobola et al. (2022) assessed how ISB influenced the services provided to the specially abled by the Federal universities in South-west, Nigeria. The survey conducted for this purpose revealed some interesting facts regarding this. It was found that advisory and consultancy services were mainly offered to the users. Contrary to this, users opted for education and consultancy services more often.

The belief in one's ability plays a major role in the academic success of individuals. Tang et al. (2022) investigated its impact on the academic excellence of students. Data collected from online students revealed that seeking or simply accessing information in a digital age has shifted from knowing what to learn, how to learn, and how to secure information, to knowing how to cognitively process information more effectively.

Likewise, Humbhi et al. (2022) examined the information needs, information sources, and information-seeking behaviours of undergraduate students. The study disclosed that most of the students need information for their semester work as well as job-related information. While seeking the needed information, they encountered a variety of obstacles, including inadequate internet access, the absence of ICT resources, ignorance about OPAC usage, and a lack of ICT expertise.

At present, the availability of appropriate information seeking instruments becomes essential. A structured model was constructed by Uslu and Durak (2022) to investigate the relationship between information-seeking strategies and various social media-related beliefs, personality traits, and information literacy. Information literacy and personality attributes were included in the model. The results revealed that information literacy had a direct impact on the information seeking strategies of the students. Personality traits were also found to greatly impact online information-seeking strategies.

Furthermore, Elia (2022) investigated the availability of COVID-19-related information for the Tanzanian people. In line with the aim, quantitative research was conducted on 636 respondents. The results indicated that the pandemic has heightened individuals' proactive efforts to seek information. People are turning to various sources to search for and collaboratively share COVID-related information. Demographics such as age, gender, education, and marital status do not affect the information seeking behaviour.

During the COVID-19 outbreak, Chauhan et al. (2021) examined the different aspects of information-seeking behaviour. Its influence on the online seeking of information among common people was also discussed in this study. The study revealed that individuals choose social networking platforms over conventional sources for their information needs. Well-educated people used social media to gain access to real-time information, and therefore, they were found to be well-informed regarding healthcare information.

Information anxiety and information overload have been found to predominantly stem from social media exposure. Since information overload and information anxiety are associated with each other, this leads to a tendency to avoid information. A model was proposed by Sororya et al. (2021) to comprehend how information anxiety and avoidance are affected by information seeking, information sources, and information overload. A total of 321 Finnish adults participated in an online survey that was used to collect the data. Respondents mentioned that conventional sources, including mass media and print media, and official websites, were more reliable than unconventional sources, including social media and personal networks.

Added research by Oliveira and Greenidge (2020) focused on determining the extent to which academic libraries across the globe are being used to satisfy the information

seeking needs of graduate students from distance learning programs. While examining their behaviours, it was found that students were satisfied with the services and resources provided by their libraries. Moreover, students preferred using their information searching skills before asking the librarians for help.

Information needs and behaviour may vary from one student to another due to differences in curricula. When it comes to the use of mobile phones for such activities, Fan et al. (2020) revealed that although the college students owned mobile devices, they did not prefer using them for academic purposes more often. They also did not use the mobile library services. Technical issues, including poor signal coverage, sluggish loading times, reading difficulties on mobile devices, and a dearth of specialist mobile applications, were considered the major reasons behind not using these devices for educational purposes.

Information behaviour covers a wide range of human behaviours and strategies regarding seeking, using, and sharing information in any form. Ebrahimzadeh et al. (2020) tried to discover strategies, drives and implications of preferring collaborative information-seeking behaviours by researchers on ResearchGate. PhD students were interviewed for this purpose. The results suggested that collaborations were usually done to satisfy nonformal communications and complex information needs. The factors that contributed to it were readily available information sources and locating relevant information.

While seeking information, students encounter numerous challenges. Gyesi (2020) aimed to investigate these challenges of information-seeking behaviours along with information needs, information sources, and library use of graduate students. The results of the study suggested that the challenges users encounter in seeking information are mostly technical, like unstable technical connections, low internet speed, password errors, and unavailability of computers. Therefore, university authorities and libraries need to collaborate to address such issues. This would ensure that information needs are properly met and thus improve the academic performance of students.

Another research done by Gordon et al. (2020) explored the information-seeking behaviours of academic mathematicians at 4 Canadian universities. The findings of the study revealed that a significant number of individuals were not successful in remaining up to date with their information needs. The results uncover the opportunities for

academic librarians to keep up with the evolving needs of mathematicians and adapt new technologies to satisfy those needs.

Wijetunge and Alahakoon (2019) did a comparative study on the information seeking patterns of law students at two Sri Lankan universities. Research recommended the introduction of a programme that would provide free-of-cost resources and prioritise the use of e-resources, online catalogues, emails, and social media. However, considering the adverse impact of social media on academia, students need to be guided well to make responsible use.

Another remarkable study done by Yang and Huang (2019) surveyed the motivations for seeking information among Chinese citizens. The data were collected through the Qualtrics panel, and it found a lack of knowledge, negative affect, a mindset towards information seeking, and perceived skills of users to gather information as the motivations behind information seeking. Subsequently, more knowledgeable participants were likely to desire more information.

The study done by Howlader and Islam (2019) is in sync with the above study. A questionnaire was distributed among 450 students in order to analyse their behaviour with regard to information seeking. The undergraduate students were from Dhaka University, Bangladesh. The findings of the study revealed that the information skills of the undergraduates were poor, and they were not aware of the information sources available in the library.

In the research article by Al-Daihani (2018), information seeking of users through mobile phones was reviewed in a proper manner. A questionnaire was administered for this purpose, and the analysis disclosed that the students primarily used mobile phones for networking with fellows and consumption of entertainment content. Amongst the top seven categories chosen for this study, information seeking was placed at the bottom. Moreover, the reason behind this was found to be the challenges that students encountered while seeking information.

The goal of the study done by Naeem and Shahzad (2018) was to determine the impact of changing the ISB of users on university libraries. A comprehensive literature review was done, and a questionnaire was used in this study. The findings of this study suggested that social media is used for seeking information as well as staying updated.

Jamali and Shahbaztabar (2017) did an exploratory study to investigate the effects of internet filtering and emotions on ISB. The study indicated that filtering of information

resulted in both positive and negative impacts on the information-seeking behaviour of users. Not only does it encourage the use of social networking sites, but it also promotes the use of library material among users. However, it deprives students of accessing information that they need, and as a result, they take steps to bypass filtering.

Information seeking is a social activity, and individuals do assist each other in this seeking process. There are two major aspects of the information seeking process, as pointed out by Shah et al. (2017). Those include Social Information Seeking (SIS) and Collaborative Information Seeking (CIS). Both SIS and CIS were viewed as new technologies and tools that could benefit academics, professionals, technology designers, and end users.

To establish the extent to which individuals rely on social media, a cross-sectional study was conducted by Zucco et al. (2017). The findings of the study suggested that health organisations promote medical information using various social media platforms. This ensures the wider dissemination of healthcare information rapidly.

In addition to the above, a study done by Hamid et al. (2016) investigated foreign students' information-seeking requirements and the significance of social media in this regard. In this study, they selected 71 articles from several prominent resources. Multiple needs of users were identified in this study and subsequently categorised based on the role played by social media to fulfil such needs. Besides this, it discussed that anxiety during information searching, as well as peer support, positively influenced the information seeking. The seeking and sharing of information about mental health on social media has the potential to help people manage their psychological well-being.

Since the students face technical as well as non-technical challenges while seeking information, the causal exploratory research study done by Xanthidis et al. (2016) suggested a hybrid educational system as a solution to this problem. More specifically, the study attempted to find how socialising on the internet affected the information behaviour and e-learning developments of students from local institutions. For this purpose, students were given a questionnaire to complete. The data indicated that there has been a shift in seeking information from conventional sources to online sources. At present, users prefer a blend of both.

Social media has become a very popular source of health-related information seeking. In the paper titled “Health Information Seeking in the Web 2.0 Age: Trust in Social

Media, Uncertainty Reduction, and Self-disclosure", Lin et al. (2016) examined the relationship between self-disclosure and trust in social media. They conducted comparative surveys in Hong Kong, South Korea, and the U.S., respectively. This study explored the online disclosure of medical issues by younger people in the present age. The level of trust in social media and proactive measures to reduce uncertainty correlated positively with online self-disclosure.

Asghar (2015) created a 23-item Information Seeking in Facebook Scale (ISFS) that measures information seeking by reflecting the fundamental ISB. Since the scale delivered reliable results, it was suggested as an important tool to measure information seeking on the Facebook application.

Another study closely related to information seeking was conducted by Kim et al. (2014). The results showed that most of the platforms were being used to seek information by users. The results further revealed wikis, user reviews, media sharing sites, social Q&A websites and even social media being used to collect information by more than 50% of the respondents of the study.

When it comes to everyday life information seeking, individuals tend to use a hybrid information-seeking strategy, using search engines as well as seeking information from known people. The reason behind this, as found by Head and Eisenberg (2011), was the difficulty that users face in not being able to differentiate between correct and relevant information and non-relevant information. Beyond the academic domain, students were searching for information about news, purchases, and personal health and well-being as part of their everyday routines.

In a similar vein, the study conducted by Zhu et al. (2011) considered the internet to be a trustworthy place for students and scholars. However, such a belief is not backed up by any empirical data. The research examined the relationship between information-seeking tendencies of vocational high school students and their impact on their academics. The findings suggested that students who are more confident about their academic abilities benefit more from using the internet to seek information to improve their academic performance. Students with lower levels of academic self-efficacy also benefit significantly from the internet in terms of their academic achievements.

2.1.3. Information Sharing

Social media platforms influence personal, social, and global aspects of life. Social media provides access to a diverse array of content that everyone can view from

anywhere in the world. It offers a wealth of content sources and allows individuals to play an active role in disseminating and sharing information. Over the last decade, social media has undergone significant changes and has influenced the acquisition and sharing of information tremendously in all aspects of life. This has led to its increased popularity among people from all walks of life. However, this has also raised doubts about the type of information consumed and shared on these platforms.

Shabahang et al. (2024) investigated online oversharing behaviours and their psychological correlates among 352 Iranian adolescents. Using the newly developed Online Oversharing Inventory, the study found boys sharing more content than girls. The users overshared on the internet because of anxiety, seeking attention, and having social media addiction. The findings highlight the risks of oversharing, including online shaming and cyberbullying, and establish the Online Oversharing Inventory as a reliable tool for assessing this maladaptive behaviour in adolescents.

Another study done by Muliadi et al. (2024) highlighted how social capital, through cognitive and affective trust, significantly influences the way students share educational information and build interpersonal relationships online. Using data from 398 participants analysed through structural equation modelling (SEM), the findings underscore the dual role of social media in education, i.e., enhancing collaboration and information exchange while also sparking debates about its effectiveness. The study shed light on the critical role of interpersonal connections in shaping information-sharing behaviours on Facebook.

Another remarkable study conducted by Riaz and Sherani (2024) explored the factors influencing information sharing on Facebook and WeChat among foreign students at two Chinese institutions. Using both a large-scale online survey and in-depth interviews, the study found that factors such as perceived usefulness, ease of use, technological innovation, and information sharing attitude all positively impacted sharing behaviour. While the effects of perceived usefulness and information sharing attitude were similar on both platforms, the relationship between perceived ease of use and sharing attitude was stronger on Facebook, while innovation had a greater impact on WeChat. The study provides insightful data on how information-sharing patterns differ across social media platforms. It further recommended recognising variations in incentives for the benefit of businesses, institutions, and creators.

In recent times, users have witnessed the rapid dissemination of information online.

Humprecht et al. (2023) examined the willingness of people to share disinformation in various countries. The study concluded that politics and the surrounding environment played a major role in influencing people's decisions regarding the sharing of information. Supporting a political party, using alternative media, and heavy social media usage were a few cross-national resilience factors.

The bibliometric analysis of information sharing on social media was done by Abbas et al. (2022). Many research papers were reviewed between 2009 and 2020 and revealed the following characteristics: (1) the majority of the articles revolve around the dissemination of information via social media platforms, (2) authors focus on information sharing on social media, (3) recent trending subjects concerning information sharing on social media include demographic traits, cognitive aspects, feelings, healthcare, product/service suggestions, tourist guidance, and COVID-19.

Additionally, Chadwick et al. (2022) tried to identify factors that lead to the amplification of exaggerated and fake news. They did a survey of UK social media users. Key findings of the research suggested that a substantial minority of those users regularly engage in boosting disinformation.

Another worth-noting study done by Arica et al. (2021) examined the factors that influenced tourists to share their experience on social media. The results indicated two kinds of reasons responsible for facilitating people in sharing information: altruistic motivations and personal fulfilment and self-actualisation. In comparison with altruistic motivations, personal fulfilment, and self-actualisation, individuals are more strongly motivated to share content on social media.

Bashir et al. (2021) examined how university students utilise social media, including the most popular platforms, how frequently they use them, and the kind of information they share. The results showed that many of the pupils frequently visited these platforms or did so multiple times throughout the day. The most popular social media platforms were WhatsApp, Facebook, and YouTube. They were found sharing religious and academic knowledge on these platforms. At the same time, entertaining content was the most shared content.

Furthermore, to examine the impact of false information on Nigerian people during COVID-19, Apuke and Omar (2021) studied the fake news thoroughly by applying the Uses and Gratification framework. Their findings indicated that the motivations that influence users to seek information, share information, interact with others and spend

leisure time online were mainly responsible for the sharing of wrong information about COVID-19. The reason for this could be that people share misinformation unknowingly with the intention of being kind to others.

Pennycook et al. (2020) conducted two studies with more than 1700 adults online and presented evidence of people sharing wrong information during COVID-19, mainly because they are unable to think critically while sharing the content with others. It also suggested nudging people to think about accuracy to improve their choices about sharing information on social media.

In addition to the above study, Islam et al. (2020) investigated how motivational factors, along with individual characteristics, influence social media stress and the dissemination of fake news during the COVID-19 epidemic. They analysed data acquired from young adults in Bangladesh using structural equation modelling and neural network approaches. The findings show that people motivated by self-promotion and entertainment, as well as those with poor self-regulation, are more likely to spread unsupportable information.

Social media has been known as a major gateway for users to access news. Kocer and Bozdag (2020) conducted a survey, and their study intended to identify three types of social media news-sharing repertoires: abstaining from sharing and/or self-censorship, sharing openly political news, and sharing news with political implications in carefully designed safe zones. The environment of Turkey's developing networked conservatism was shown to impact all three kinds of users; they were continually monitoring the risks of posting political news and critical remarks on social media, and they adapted their news dissemination techniques accordingly.

The rapidly spreading misinformation on social networks poses a serious threat to people as well as society. Laato et al. (2020) in their work created and evaluated a model which suggested reasons behind the escalation in unsubstantiated COVID-19 information on social media. According to the findings, trust in online information and information overload increased the chances of spreading unverified information, and they are also known to influence cyberchondria. Furthermore, they impact an individual's view of COVID-19 intensity and risk. Similarly, men are more likely to share news without verifying it, whereas women are more likely to experience cyberchondria.

Added research by Karnowski et al. (2018) examined the influences of motivations,

attitudes, and intentions of German people regarding their news-sharing behaviour. Using the Theory of Reasoned Action (TRA), the results demonstrate that subjective norms and news-sharing attitude positively impact the news-sharing intention. Subsequently, this becomes favourable to actual news-sharing behaviour and thus indicates social media's dual functionality as a tool for peer interaction and knowledge retrieval.

To investigate how ideology influences patterns of sharing and commenting on fact-checks used to verify information judgments, Shin and Thorson (2017) in their study used big X data obtained during the 2012 U.S. presidential election. Findings show that partisans intentionally promote fact-checking messages that support their candidate while criticising the opposition party's nominee, resulting in an extremely confined limit of fact-checks to their supporters.

The research conducted by Kalogeropoulos et al. (2017) presented a cross-national comparative analysis of why people share and comment on news. The analysis suggested that the online environment both perpetuates certain existing disparities in participation and mitigates others. The results reveal a self-reinforcing cycle of increased involvement among individuals who are already motivated to interact with digital media, as well as a discouraging trend where less engaged individuals tend to participate less.

In the article by Talwar et al. (2017), a mixed-method approach was used to investigate the behaviour of people who share fake news. In order to do this, 58 open-ended essays were examined. The study indicated that the immediate dissemination of news to raise awareness has a positive impact on the growth of fake news, primarily due to time constraints and the religious beliefs of people. However, authenticating news before sharing does not affect the spread of fake news in these cases. Moreover, the study disclosed that users who actively correct misinformation are less likely to share fake news when pressed for time.

Similarly, the research conducted by Malik et al. (2016) applied the Uses and Gratification theory to examine why people find it satisfying to share photos on Facebook. Research discovered a craving affection and attention, revealing information and social influence as major factors responsible for photo sharing. However, it is noteworthy that as the number of photos increased, the gratification linked to the habit and information sharing decreased, suggesting that these motivations may be less

significant as photo sharing becomes more frequent.

One more research article by Kim and Lee (2015) identified multiple personal and environmental determinants responsible for information sharing on social media. Strong predictors of sharing activities were revealed in the study's analysis of personal and environmental characteristics, including information self-efficacy, positive social result expectations, and emotions of satisfaction from sharing, as well as weak relationships.

Social media has become an indispensable instrument for the spread and consumption of various kinds of information, especially news and current updates. Kumpel et al. (2015) presented a survey of scholarly, peer-reviewed works from 2004 to 2014 that examined the link between news sharing and social media. Three major study topics were extensively examined: sharing news among users, information seeking, and connectivity. The findings suggest that remaining up to date on these trends will help us to learn more about the factors driving news sharing, putting our skills to handling data, evaluating engagement with news, and creating flexible but suitable hypotheses to the test.

Platforms such as Facebook, X, YouTube and LinkedIn are used to share a wide range of information like posts, images, reels, etc. Oh and Syn (2015) investigated the motivations behind sharing personal experiences, general information, etc., anonymously. The findings of the study recommended understanding differences in motivations so that social media developers, organisations, or institutes would make use of social media to promote communication between people and encourage them to contribute through these applications. It would also help in choosing the right type of social media that would fit their purposes.

On the other hand, not everything people share online is true. Sometimes, individuals share inaccurate information. This can be intentional or unintentional. Chen and Sin (2013) surveyed 171 university students to study the reasons behind the sharing of misinformation. Respondents considered the truthfulness of information as an important factor that plays a major role in making decisions regarding the sharing of information. However, two-thirds of the participants still shared misinformation while being aware of the falsity of the information. The motivations that led to sharing were to obtain opinions of other people, express opinions, and interact with others.

2.1.4. Information seeking and information sharing on social media

Social media has undeniably revolutionised the way people seek and share information. It has become a go-to source for any kind of information, providing diverse as well as personalised content to its users. Consequently, it has impacted the way people access, create, seek, and share information. Furthermore, it amplifies the voices of common people by making content viral rapidly, with a reach of millions of users in no time.

The study by Pang and Liu (2023) sought to determine how perceived value and cognitive trust affected the seeking, sharing, as well as psychological well-being of health-related information. The results indicated that having trust in the information and finding it valuable had a positive effect on looking for and sharing health-related information, which in turn helped people's mental well-being during the public health crisis. Conversely, feeling threatened had a detrimental effect on seeking and sharing health-related information.

Furthermore, Akhther and Sopory (2022) conducted a cross-sectional study on the dissemination of mental health information. The findings suggested differences in seeking and sharing of information across multiple platforms. YouTube, Facebook, and Instagram were found popular for information seeking activities, while Facebook, Instagram and X were used for sharing by users.

Social media has increasingly intertwined information seeking and information sharing activities of people globally. Yang et al. (2022) in their study examined the socio-psychological variables that affected these activities of American people during COVID-19. The results indicated that the need to seek and share information among users likely arises from the social expectations attached to having knowledge and being updated about the pandemic. People who consider themselves capable of gathering information seek information, and when people consider information as credible, they are more likely to share it.

One more worth-noting study conducted by Khan & Idris (2019) revealed that the perceived competence to recognise misinformation on social media depended upon multiple factors such as the income of the user, their education, information literacy skills, and their attitudes towards information verification. In a similar fashion, internet experience, skills to seek information, sharing that as well as being able to verify, and belief in the reliability of information were predictors for information sharing.

Another study conducted by Savolainen (2019) examined the connections between

information seeking and information sharing by doing a conceptual analysis of 27 key studies. The study discussed the three approaches used by researchers to model the relationship between them. The indirect method considers them as discrete activities connected by information needs. Information seeking comes before information sharing, according to the sequential method, but the interactive approach offers a more nuanced viewpoint on their interaction.

One more research article by Son (2017) examined the dynamic effects of users' initial experience and user attachment on downloading information-seeking (e.g., news, map, education) and information-sharing (e.g., messenger, chatting, social networks) applications. For this purpose, an analysis was carried out over a span of 1.5 years using the download records of 225 applications. The study found that users download applications that align with the level of their emotional attachment. Information-sharing programs are more likely to be downloaded by users who are interested in sharing information than those who are seeking it.

A study done by Meishar-Tal and Pieterse (2017) employed the Uses and Gratifications theory to analyse the use of Academic Social Networking Sites (ASNS) and distributed questionnaires at three academic institutions. The findings indicated ASNS usage by researchers was predominantly for information consumption, slightly less for information sharing, and rarely for interaction with others. This suggests that ASNS are used mainly for information-seeking purposes and less for collaborations or communication between the researchers.

2.1.5. Misinformation

As social media continues to provide opportunities and aid in the search and exchange of information, we need to be mindful of its potential pitfalls. Since there is no gatekeeping on social media, this has led to the proliferation of misinformation on it. Moreover, the feature of information sharing makes it easier for misinformation to reach the masses in very little time. Misinformation has become a global issue, which is affecting various aspects of our lives.

Harjule et al. (2024) investigated the reasons for the spread of false information and the factors influencing these behaviours. Using a misinformation sharing index (MSI) and data from college students, the study found self-expression, socialising, and information characteristics as key motivators. Male undergraduates are frequent social media users and were found to most likely share misinformation. The results also

highlighted a surge in COVID-19-related misinformation, which influenced behaviours, mental health, and lifestyle changes, emphasising the need for better information verification practices.

Fake news on social networking sites became a global concern during the 2016 United States presidential election, sparking debates concerning its impact on science, true news, and societal values. Olan et al. (2024) explored this phenomenon through a conceptual framework based on societal acceptance theory, analysing survey responses from 356 participants. Their findings revealed a deep divide in how people distinguish true news from fake news, reflecting broader splits in societal values. The study highlights how fake news on social media is fragmenting communities, replacing truths with falsehoods, and altering the way societies engage with information.

In addition to the above research, Omar et al. (2024) investigated the factors influencing fake news sharing and the role played by fake news awareness as a preventive measure among Malaysian social media users. Using a sample of 451 participants and Partial Least Squares (PLS) analysis, the study treated user motivation (altruism, socialisation, and status-seeking) and online environment (trust, homophily, and reciprocity norms) as higher-order constructs. Results revealed that the online environment had a stronger influence than the motivation of users on sharing fake news, while higher fake news awareness significantly reduced sharing behaviours. These results demonstrate the need to raise awareness about fake news to counter false information.

Additionally, Aytac (2024) argued that social media companies exert a new form of domination by regulating political speech and influencing citizens' participation in the public sphere. He identified two mechanisms of domination: direct control over speech through content moderation, and algorithmic governance that limits citizens' options for engaging in deliberative discourse. This power, he suggests, represents a quasi-public form of domination that narrows citizens' democratic choices.

One more research article by Modgil et al. (2024) explored the complex relationship between confirmation bias, a phenomenon where individuals look for information that supports their beliefs, and echo chambers, where they only hear views similar to their own. Their study reveals a reciprocal, reinforcing cycle between these two elements, which accelerates social media-induced polarisation (SMIP), showing that the problem of misinformation goes beyond the platforms themselves. This research deepens our understanding of how confirmation bias shapes echo chambers, not just in pandemics

but also in global events that can have significant societal consequences.

University students frequently encounter fake news on social media platforms like TikTok, with trust in content influenced by various factors. Lan and Tung (2024) explored this issue through interviews with Vietnamese students, identifying creator credibility, user engagement, and familiarity with creators as key determinants of trust. Their findings emphasise the need for digital literacy education to encourage critical evaluation of online content, benefiting both students and the broader public.

In the article by Malik et al. (2023), a systematic review was conducted to study the causes and consequences of misinformation sharing behaviour among adults on social networking sites. Misinformation sharing was shown to be motivated by anxiety, enjoyment, information seeking, sociability, self-efficacy, altruism, social tie strength, self-promotion, and trust in science. The most popular sites for disseminating rumours and false information were Facebook and WhatsApp.

Another remarkable study conducted by Vaccari et al. (2023) explained how citizens fell for wrong political information during the UK general election campaign in 2019. The study revealed that people who get their campaign news from various sources have varying degrees of ability to discern between factual information and misleading information. This subsequently affects their propensity to spread news. Also, false information was found to be more "shareable" than true information.

A dramatic increase happened during the COVID-19 pandemic. Balakrishnan et al. (2022) did a scoping review on the infodemic and fake news during the pandemic. Poor awareness, understanding, health and media literacy, entertainment, pastime, socialisation, altruism, and poor faith in government/news media were determined to be the main reasons for spreading fake news. This phenomenon was more common among younger people, men, and those with less education.

Likewise, as digital communication becomes more divided, political information has become a focus of partisan attacks and a subject of fierce debates. Hameleers and Minihold (2022) discussed how politicians define and engage with reality, misinformation, and disinformation in distinct social media contexts. An Automated Content Analysis was applied in this paper to assess how politicians in Austria, Germany, and the Netherlands constructed and communicated ideas of reality, misinformation, and disinformation. The study revealed an alignment between populist narratives and disinformation, which could affect how individuals construct their sense

of reality.

Another study conducted by Gradon et al. (2021) provided a brief account of disinformation, misinformation, and malinformation. They highlighted the dangers associated with these issues and how they could have a negative impact on healthcare policies as well as national and international security. The study highlighted the need to design interventions that would prevent or minimise such issues. It also discussed the selected opportunities that are being used at present to study and combat disinformation. Furthermore, several approaches were listed in the study that can be used to thoroughly understand the misinformation phenomenon and create a model that would reveal how misinformation works online.

In addition to the above, Bastick (2021) experimented on the unconscious effects of disinformation. A lab-based randomised controlled experiment was conducted with 233 undergraduate students to investigate the behavioural effects of fake news. The findings revealed that even short (under 5-minute) exposure to fake news was able to significantly modify the unconscious behaviour of individuals. He maintained that the methods being used to combat misinformation are not enough to shield users of social media from this danger.

Added research by Jones-Jang et al. (2021) empirically investigated whether information-literate individuals are better at recognising fake news. The study suggested that information literacy significantly enhanced the ability to recognise fake news stories that circulate on various networks. The study also suggested literacy interventions in order to protect audiences from any negative consequences of false information.

In recent years, too much misinformation has destabilised societies. Even though some technical and behavioural efforts have been taken, they are not enough to address it at the grassroots level. Au et al. (2021) conducted a study on the influence of misinformation and fake news, particularly concerning ideological polarisation. Their research revealed that misinformation had indeed ideologically polarised society, and this has resulted in social unrest, posing serious threats to democracies as well as other serious outcomes. In addition, they introduced a three-stage framework to explain the process through which online misinformation and fake news contribute to ideological polarisation. Within this model, they identified the key driving forces and obstacles present at each stage of the progression.

Similarly, Igbinovia et al. (2021) explored the role of Information Literacy Competency (ILC) in limiting the dissemination of fake news among undergraduate students of Library and Information Science in Nigeria. The findings implied that Library and Information Science undergraduates possess the academic foundation necessary to develop ILC, a key skill in recognising and curbing the spread of fake news.

Another noteworthy study by Bangani (2021) used qualitative research methods to investigate how academic libraries contributed to combating misinformation during the pandemic. Key areas of focus in the study included awareness-raising initiatives, the provision of credible and accurate information, the development of relevant library collections, and the facilitation of research. Sharing successful practices through academic conferences and professional networks was also highlighted as a vital component. Encouragement and institutional backing from library associations can serve as a catalyst, compelling academic librarians to take stronger action against the ongoing infodemic. This can be done by raising awareness, providing credible information, collection development, providing research assistance, and sharing effective strategies in conferences and other forums.

All of this misleading information, like fake news, misinformation, and disinformation, is emerging as a cyber threat in today's world. Petratos (2021) considered misleading information as an emerging cyber risk for business. In order to handle these new and complex cyberthreats, the report suggested implementing cybersecurity policies and best practices.

Political beliefs, anxiety levels, and their interplay do influence individuals' tendencies to believe and willingly share false, corrective, and accurate claims on social media. In a poll of US participants, Freiling et al. (2021) discovered that anxiety was a major motivator for believing and sharing any kind of claim.

Libraries have a vital role in combating misinformation by promoting information literacy, providing access to reliable sources for users, and educating the masses on how to critically assess information. Paor and Heravi (2020) conducted a comprehensive literature review to explore the role of the library profession in addressing the challenges posed by fake news and misinformation. The findings primarily focused on defining the concept of fake news and analysing both contemporary and emerging frameworks of information literacy. Additionally, the study outlined the various efforts and programs that libraries put in place to counter the

spread of misinformation and to educate communities on navigating a digital landscape increasingly influenced by falsehoods and disinformation.

One more research article by Young et al. (2020) proposed a research agenda aimed at enhancing the role of libraries as key institutions in the fight against misinformation. The study proposed strengthening library responses by developing well-designed programs and tools that support librarians in staying current with relevant misinformation. It also highlighted the importance of addressing political and economic challenges that limit librarians' ability to engage with contentious or sensitive issues.

One more research article by Saurwein and Spencer-Smith (2020) contributed by analysing the strategies that could help us counter disinformation. Results of the study identified the socio-technical combination of human factors, platform design, algorithms, and economic and governmental motivations that led to the spread of incorrect information on the internet.

Nowadays, a lot of people rely on social media sites for news and current events rather than visiting official newspaper websites. Tandoc et al. (2020) used a mixed-methods approach to explore the dissemination of misinformation by analysing user reactions to fake news online. The findings of the study revealed that users mostly preferred to overlook the fake news they encountered. They make the corrections when the issues seemed to be significant to them or the individuals they care about.

Similarly, today's experts have described the current era as "an era of fake news" in which both misinformation and disinformation propagate rapidly. Wang et al. (2019) did a systematic literature review on the spread of health-related misinformation. The results of this investigation demonstrated how common and well-liked false information is on social media.

The expansion of social media has accelerated the dissemination of fake news. Zhang et al. (2019) in their paper revealed that fake news was a major contributor to misinformation. It was determined to distort perceptions of people by influencing their views and knowledge. Fake news was believed to proliferate in large part due to the growth of social networking sites and online discussion boards, which made it easier for it to merge with accurate information.

Moreover, the changing landscape is believed to be filled with misinformation. Wagner and Boczkowski (2019) studied the same by collecting data from seventy-one in-depth

interviews, which were conducted in Chicago, Miami, and Philadelphia. To overcome this challenge, the participants were suggested to use traditional fact-based media more and employ firsthand knowledge and experience, fact-checking, cross-ideological source consumption, repetition of information sources, and confidence in specific personal contacts on social media.

Rubin (2019) treated misinformation as a "sociocultural technology-enabled epidemic in digital news propagated via social media". A conceptual model, namely the "disinformation and misinformation triangle", was proposed for the "fake news" epidemic, causal factors, and interventions in this regard. The three key factors of this model were virulent pathogens (such as false information, clickbait, deceptive news, etc.), susceptible hosts (such as people who are surrounded by loads of information or who have less time), and conducive environments (such as social media).

Most studies have focused on the bright side of social media. However, Baccarella et al. (2018) discussed how social media is no longer just cheerful and positive. The negative side of social media includes issues such as cyberbullying, fake news, addictive use, trolling, online witch hunts, and privacy abuse. This is harmful for everyone. Social media has been held responsible for destroying the characteristics that made us human in the first place.

Another study focusing on misinformation was conducted by Bennett and Livingston (2018). They studied the effect of disinformation on democratic institutions. The study concluded that many democracies are victims of increased levels of disinformation. Growing legitimacy problems and declining citizen confidence in democratic institutions were considered the main reasons behind the spread of misinformation. Therefore, it becomes essential that political communication research increasingly prioritises the analysis of hackers, trolls, and bot behaviour due to their influence in spreading disinformation.

Soe (2017) investigated multiple concepts of information, misinformation, and disinformation within the context of information disorder. The study referred to information as intentionally non-misleading, and misinformation and disinformation as misleading. Subsequently, misinformation is unintentional misleading, whereas disinformation can be referred to as intentional misleading.

Furthermore, Mihailidis and Viotty (2017) explored the role of civic expression, fake news, and media literacy in "Post-Fact" society. It focused on the phenomenon of

spectacle in the lead-up and immediate aftermath of the 2016 U.S. presidential election. The study concluded that media literacy must be customised to address partisanship and distrust in the current period.

Similarly, Chen et al. (2015) studied the motivations of undergraduate and graduate students behind sharing misinformation on social media. Differences by academic level and gender were examined. According to the study, women were more likely than men to share and intend to disseminate false information, and college students have been seen to do so, frequently for non-informational purposes like interacting with friends or sending visually appealing messages. The study also suggested giving information literacy education to students so that they become effective information creators and communicators.

2.2. Conclusion

So far, the literature review has provided a thorough summary of the key themes and discussions surrounding social media and its multifaceted role in information seeking and information sharing in the present era of misinformation. A review of around 150 articles published between 2008 and 2024 highlights a growing trend in the use of social media to address both key areas. Extensive research has been done on these topics separately. However, there has not been any study that examines them together, especially among medical students. Fewer studies focus on the seeking and sharing of information and the motivations behind sharing the information on social media. Although research from developing countries on this topic is emerging, it is still at an embryonic stage. Currently, studies on students' information seeking and sharing on social media vis-à-vis the evaluation of information disorders evaluation. This gap in the literature highlights the importance of conducting the present study. Since social media is rife with misinformation, it is pertinent to understand the effects of misinformation on the information landscape and find ways to combat it. Additionally, students' information behaviour needs to be researched for a better understanding of this topic. More specifically, nothing really addresses how medical students in Jammu and Kashmir utilise social media to seek and share knowledge in an era of false information. Such research will help identify the challenges faced by students and, therefore, assist in developing targeted interventions, awareness programs, and digital literacy strategies to reduce the impact of misinformation.

This literature review is crucial for conducting a specific study on social media in this

region. It will guide individuals, organisations, and platforms to choose ethical, responsible, and critical information-seeking and sharing practices on social media and be digitally literate enough to navigate through misinformation effectively. Through responsible usage, the advantages of social media can be maximised while minimising its adverse effects, ensuring a more constructive and informed society.

CHAPTER-3

INFORMATION SEEKING ON SOCIAL MEDIA

3.1. Information

Information comes from the Latin *informare*, which refers to shaping or giving structure to something. The Merriam-Webster dictionary (2023) defines information as "knowledge gained from investigation, study, or instruction". It is a vital component of our everyday lives because it helps us make the right decisions, learn, grow, and communicate with one another. It contributes to the scientific and technological advancements happening across the globe. The purpose of information is to solve problems. A variety of platforms can be used to obtain information, such as online databases, hard copy documents, and conversations with family and peers (Curtis et al., 1997). It is regarded as a universally relevant concept, characterised by comprehensive scope and completeness of content when fully realised (Herold, 2001). The capacity to search for and retrieve relevant information efficiently plays a critical role in shaping various aspects of human activity. Individuals rely on a variety of information sources to satisfy their specific informational requirements, which in turn supports the achievement of their personal or professional goals. Taylor (1968) identified four distinct levels of information need expressed in user queries: the *visceral* level, representing an internal but unarticulated need; the *conscious* level, where the need is mentally recognized; the *formalised* level, involving the verbal or written articulation of the need; and the *compromised* level, which refers to how the need is ultimately conveyed to the information system. It can exist in various forms, physical or digital, as a process, or as knowledge derived from data. Users demonstrate the transformation of information into meaningful understanding through the materials or presentations they create to communicate their learning. So, it can be said that it is not just a static thing; it is also a process in how we handle and use it. Additionally, information is what we learn and understand from data, transforming raw facts into useful knowledge. Information also has the property of communicability, as it becomes the medium for an individual's connection to the natural world and society (Berestova, 2019). Some call it a building block of knowledge, without which people would struggle to make sense of things around them. Jamshed et al. (2021) highlighted the importance of information as a crucial factor in the functioning of the modern world.

The rise of digital technologies has drastically changed every stage of the information process, including how it is created, gathered, stored, structured, distributed, searched for, and ultimately used. In the present era, people have unparalleled access to vast and

diverse amounts of information. This abundance of information is primarily due to the digital revolution, the proliferation of the internet, and the advent of advanced technologies. Digital media has made the dissemination of information much easier across the globe without any geographical limitation (Banbury et al., 2018). In the 1980s, when the internet emerged, it was seen purely as a tool for knowledge rather than pleasure. Viewed as an intellectual initiative, the medium attracted universities around the world, which facilitated academic engagement through discussion groups, scholarly blogs, e-magazines, and mailing lists and forums (Derakhshan, 2017). It transformed the educational landscape on a global level. The impact has been such that everyone had to adopt it regardless of their preferences (Yamin, 2019). Nowadays, anything can be accessed at any time. The internet, more specifically, social media, has enabled users to become active participants in accessing, interacting with, and producing content (Vicario et al., 2016). This has made the dissemination of the information much easier and quicker. Information services are available to users on their desktops, laptops, and smartphones. Hence, it can be said that in the current information landscape, the internet is the preferred source of information. People trust it more than their interpersonal channels (Superio et al., 2021). Students also prefer the digital learning environment over conventional sources due to the convenience and easy access to learning materials available online, and they also feel comfortable operating the technology.

The plethora of information that is available online has ultimately led to information overload on the internet. This has been mainly due to user participation. Consequently, when we seek information in the present times, we must consider the possibility of accessing inaccurate information. As noted by Okocha and Owolabi (2020), the accessibility of online publishing has made the authenticity and reliability of information sources a persistent concern in the field of education. Loads of information that is accessible to everyone can not be trusted fully. Even though individuals can access information about the past, present, and future, there is a need to stay cautious while making decisions regarding which information they would like to receive and which they would rather avoid (Kelly & Sharot, 2021). For this reason, individuals seek information from diverse formats, including formal sources like teachers and librarians, informal ones such as relatives and friends, and mass media, such as newspapers, television, and social media platforms, based on their information

needs (Ahmad et al., 2023; Garg et al., 2025; Sin, 2015).

3.2. Information Seeking: Background

To comprehend the current dynamics of information seeking, we trace its historical development. This section provides a brief historical background, detailing the evolution of information seeking from the early stages of librarian conferences to the modern person-centred approach. It emphasises key models and concepts that have shaped our understanding of information seeking. In the late 1940s-1950s, conferences were held on scientific information, resulting in heightened enthusiasm within the field of librarianship, and simultaneously, research on information seeking began to emerge. In the 1960s and 1970s, the research was integrated and began to be taught in library and information science schools as a course programme. The attention shifted to the user studies in the 1980s, in particular, what was happening in their mind. This period is also known as the golden age of library and information science. Several significant models that provide a deeper understanding of information seeking are mentioned below:

a) Anomalous State of Knowledge (ASK) model:

The first notable model, namely "Anomalous State of Knowledge," was proposed by Nicholas Belkin (1980). It focused on understanding the information-seeking process based on the user's cognitive state. Here, an individual realises a gap or discrepancy in their understanding or knowledge. This realisation motivates the individual to actively seek information to bridge this knowledge gap and achieve a more satisfactory state of knowledge. It considers the user's knowledge central to the information retrieval system. By focusing on the cognitive processes of the users, this model has contributed to the formation of effective information retrieval systems and services that serve the user according to their goals.

The model emphasises the importance of developing information systems and platforms that can adapt and evolve to users' specific information needs, preferences, and online behaviours. However, in the present social media ecosystem, information is often influenced by algorithms, personalised feeds, and shock value, which, instead of effectively bridging users' knowledge gaps, may amplify them. While the model remains relevant in understanding users' cognitive information needs, its application in the social media and virtual landscape requires careful consideration of how digital platforms shape, filter, and sometimes distort the information users consume.

b) Wilson's General Model of Information Behaviour:

Wilson's (1981) model was instrumental in moving the field towards a person-centred approach. The model addressed the user's need for information and explored how they interact with information systems or sources to meet those needs. The terminology used for information seeking during this period was "user studies". The model also highlighted how both personal and external factors influence each stage of the user's information-seeking process.

The model signifies the need for systems and platforms that support users in effectively filtering, organising, and presenting information. This becomes especially important in the present digital environment, where users are exposed to a plethora of misinformation and content with algorithmic biases. Furthermore, multiple personal and external factors, such as less education, various biases, lack of information literacy, etc., influence their decisions while seeking information.

c) Sense-making model:

Dervin and Dewdney (1986) introduced a theoretical framework for the reference interview known as sense-making, which outlined a communications strategy for the it called "neutral questioning". Information seeking was considered a sense-making activity.

Through this process, individuals constructed their perspectives and interpretations. It challenges the traditional notion of information seeking as a passive process limited to locating and using information. The theoretical framework is considered one of the most sophisticated methodologies for information behaviour research, as it helped shift the focus of library and information science from resources and systems to human beings (which is what we call the cognitive turn). This has had an impact on how librarians approach a reference interview, as it helps in gathering information about the unique needs of every user.

In the contemporary world, the model highlights that users are no longer passive consumers of information but active participants who continuously navigate through loads of information. This model also helps in explaining how users respond differently to the same information system. The reason behind this is that multiple factors, such as surroundings, previous knowledge, personal beliefs, literacy level, etc., influence the decisions of users.

d) Behavioural Model for Information Retrieval System Design:

The work done by Ellis (1989) on the "Behavioural Model for Information Retrieval System Design" primarily focused on understanding user behaviour and preferences to design effective and efficient information retrieval systems. The goal was to create a system that aligns closely with how users naturally search for information, improving overall user satisfaction and system effectiveness. This helped make the information retrieval systems more user-centric.

This model highlights the importance of designing social media platforms and algorithms in a way that helps users access the right information promptly.

e) Information Search Process Model:

Carol Kuhlthau's (1989) model of the information search process (ISP) was a breakthrough that looked at the information-seeking process from a student's perspective. She introduced a model of information behaviour that outlines six stages of the information seeking process, encompassing users' emotions, thoughts, and actions. She talked about the unawareness of the students regarding the information-seeking process and its pattern. Kuhlthau (1989) is credited with moving library and information science toward humane and holistic directions that led to the more social and cultural approaches of today.

The information needs of a user are not merely seen as technical here. It treats information needs more humanely, keeping in view the emotions, thoughts, and experiences of users. This becomes even more important in current times where sensational, clickbait, dubious content is thriving online, and users often experience confusion, doubt and uncertainty while satisfying their information needs.

Table 1: Information search process (ISP)

Stages in ISP	Feelings Common to Each Stage	Thoughts Common to Each Stage	Actions Common to Each Stage	Appropriate Task (According to Kuhlthau Model)
Initiation	Uncertainty	General/ Vague	Seeking Background Information	Recognize
Selection	Optimism			Recognize
Exploration	Confusion/ Frustration/ Doubt		Seeking Relevant Information	Investigate
Formulation	Clarity	Narrowed/ Clearer		Formulate
Collection	Sense of Direction/ Confidence	Increased Interest	Seeking Relevant or Focused Information	Gather
Presentation	Relief/Satisfaction or Disappointment	Clearer or focused		Complete

f) Browsing and Berry Picking Model:

In the same year, Bates (1989) published a paper titled "The design of browsing and berry picking techniques for the online search interface". The model revolutionised the perception of information seeking, highlighting its natural, adaptive, and context-dependent nature. It considers information seeking a natural and unstructured process, very similar to how an individual explores a berry bush, picking the ripe berries as they see them. Basically, it talked about how there is no fixed path for seeking information; users adapt to different strategies while navigating through the information. It has significantly influenced research in information science, encouraging a more holistic understanding of how individuals interact with information.

In the present era, social media users do not necessarily search for all the information they consume. There is a lot of passive consumption that happens because of algorithms, recommendations, and changing information needs. Users adopt different strategies while scrolling through an information landscape which has increasingly been affected by challenges like unreliable content, privacy issues, clickbait videos, and information overload.

g) Information Foraging Theory:

The Information Foraging Theory was developed by Pirolli and Card (1995). It is a framework used to understand how individuals seek, gather, and consume information efficiently and effectively, drawing analogies from the behaviour of animals foraging for food. Just like animals look for food to nourish themselves, humans also seek information to satisfy their mental and knowledge requirements. It emphasises the cognitive and environmental factors that shape the information seeking behaviour of the users. Thus, it helped in making the information retrieval systems user-friendly.

This model treats information seeking as an essential part of life. In the era of social media, people seek information for all kinds of needs, whether academic, professional or even related to everyday life. Information seeking is a never-ending process, and users search for information across different platforms with the intention of accessing the right information while saving both time and effort.

h) Everyday Life Information Seeking:

This model has been influential in shaping research within the Information Science field by emphasising the need to study information seeking in its natural and contextualised settings, providing valuable insights into the nature of human-information interactions in daily life activities. Savolainen (1995) offered key insights into how people incorporate information seeking into daily routines. He considered information seeking an inseparable part of our lives. This model was later revised by Thomson and Savolainen and named the Expanded Everyday Information Practices Model (EEIP).

The model highlights the importance of equipping and training users with effective tools and digital literacy skills to navigate, evaluate, organise, and verify information encountered in the everyday online environment.

3.3. Information seeking: Definition

Information seeking is an inherent and basic human activity aimed at resolving uncertainties and acquiring knowledge, whether personal or technical. As a subset of information behaviour, it involves all the ways individuals engage with information (Shah, 2017). Information seeking largely stems from the social sciences, with roots in library science (Schleubinger et al., 2023). It spans the full cycle, beginning with the awareness of needing information and ending with its utilisation. Information seeking involves interaction between the individual and the information source. Case and Given (2012) described information seeking as an intentional act to fill a gap in one's

knowledge. Individuals have been found spending a significant portion of their time seeking and consuming information (Lieshout et al., 2020). Information seeking involves the process of finding, accessing, evaluating, and using information to meet a specific need or goal. Yahaya (2019) described the process as cyclical, involving several interconnected stages. These include posing and refining questions, examining existing information, adjusting the inquiry as needed, and ultimately integrating the insights gathered. This recurring process of collecting, organising, assessing, and refining information may be repeated several times until the information need is fulfilled.

People seek information for various reasons, such as enhancing their understanding of the world around them, accomplishing personal or professional goals, etc. (Bronstein, 2014). While seeking information, they make a series of choices that are heavily influenced by factors like earlier experiences, background knowledge, personal interest, and the availability of relevant information. Similarly, the time allotted and the relevancy of the information that they find online play a significant role in impacting the information seeking processes (MacMullin & Taylor, 1984). However, information can also come through serendipity, unexpected meetings, or when others share information that they think may be helpful to people, or sometimes an individual engages in the act of information seeking upon realising the necessity for contextual understanding, and then they purposefully act to obtain the needed information. A variety of strategies, such as engaging with peers, searching academic databases, and browsing online resources, are used by individuals until the time their information needs are met (Gordon et al., 2020).

3.3.1. Motivations

One of the fundamental characteristics of humans is the desire to know more. A significant amount of time is spent actively seeking information by people, such as by reading, searching online, or asking enquiries (Kelly & Sharot, 2021). Individuals are motivated to seek information for multiple distinct reasons, such as to achieve their academic goals, solve problems, make informed choices, fill knowledge gaps, learn something new, etc. These motivations can be internal or external, and they differ from person to person. Knowledgeable people, for instance, usually seek out more information. Similarly, students are more motivated to seek knowledge when they feel more encouraged in their competence and autonomy. Increased effort and satisfaction

in information-seeking activities follow from this drive (Dubnjakovic, 2017). However, Yang and Huang (2018) found that the main factors influencing information seeking were perceived information-gathering abilities, negative affect, attitude towards searching, and information insufficiency. All of these interconnected motivations help people locate the information they need for day-to-day activities. Nevertheless, people evaluate what the information would reveal and how it will probably impact their conduct, emotions, and thought processes before deciding whether to seek it out. Individuals are more likely to seek information when there is a higher chance of obtaining positive news, when there is more ambiguity, and when the knowledge would be more helpful in their day-to-day lives, according to Sharot and Sunstein's (2020) theory of information-seeking reasons.

3.4. Information seeking on social media

3.4.1. Social media definition

In the present world, everyone is surrounded by technologies which shape their lives in numerous ways. Amongst the various technologies that we have right now, social media is the most widely used, as everyone engages with it daily. It has globally emerged as the most important information source in the present times (Golin, 2017). Social media is "internet-based channels that allow users to opportunistically interact and selectively self-present, either in real-time or asynchronously, with both broad and narrow audiences who derive value from user-generated content and the perception of interaction with others" (Carr & Hayes, 2015). It can also be defined as online and mobile-based technologies that support online interactions on multiple platforms, like Facebook, Snapchat, Instagram, X, and LinkedIn. Through these networks, users can share, collaborate on, and disseminate various digital materials such as photos, videos, information, and messages (Ahmed et al., 2019). Its features, like real-time interaction, collaboration, content creation, content sharing, and multimedia integration, help users enhance their personal, professional, and social endeavours, hence playing an essential role in modern communication, connectivity, and self-expression.

At present, 4.48 billion people are actively engaged on social media platforms. This accounts for approximately 56.8% of the total world population, regardless of age or internet availability. A huge number of college students also use social media frequently. As reported by the Global Web Index, millennials and Gen Z users have an average of 8.4 social media accounts per person worldwide, showing a notable increase

of 75% from the 2014 figure of 4.8 accounts (Dean, 2023). This widespread usage is facilitated by the readily accessible and cost-effective nature of the internet, allowing a vast number of individuals to register and engage on these platforms. Studies suggest that, on average, individuals engage with social media for nearly two hours daily as these sites provide an essential platform for interaction between users, helping them form relationships as well as maintain them (Dang, 2021; Liu & Ma, 2020). These platforms have become incredibly convenient and efficient channels for spreading information to a broad audience.

3.4.2. Role of social media in information seeking

The way people use technology is constantly evolving with these advancements and changing needs and preferences. There has been a change in the way people access and consume information. Earlier, libraries were considered the first port of call when it came to seeking information. But now individuals prefer online sources over them. The internet has provided people with access to a sea of information. The infusion of technology into education has benefited everyone tremendously.

The journey to knowledge acquisition has undergone a significant transformation over the years, particularly in the social media age. The rise of social media has caused changes in the information seeking process from how to learn, what to learn, and how to secure information to cognitively processing the information in an effective manner (Tang et al., 2022). It has made information seeking a daily activity for billions of people. Social media serves as a channel for accessing information that may not be readily obtainable through traditional sources. It has revolutionised how information is accessed, shared, and consumed. Furthermore, a variety of social media platforms accommodate the varied needs of individuals. For instance, X is used for general information, Facebook for multifunctional use, YouTube for videos, TikTok for short videos, and Twitch for livestreaming video games (Esteban, 2019; Kaye & Johnson, 2017; Garcia & Losada-Fernandez, 2023).

Information seeking has become more digital, with social media, online databases, search engines, and digital libraries playing significant roles. It has become a primary activity in our everyday lives, and actively seeking useful information has become one of the most important skills in the present time. Given its impact on numerous aspects of our lives, social media's importance in our everyday lives is evident. Social media keeps people always updated with what is happening in their

social circles (David et al., 2018; Roberts et al., 2014). Moreover, it diminishes communication expenses while accelerating the pace and widespread distribution of information. It serves various purposes, such as information seeking, social interaction, information retrieval, entertainment, relaxation, expression of opinions, sharing of information, and job-related information (McClure & Seock, 2020). Instagram, TikTok, WhatsApp, and other such platforms are everywhere, allowing users to communicate and connect with people across the globe (Velarde, 2023). Furthermore, social media promotes active participation, collaboration, and the collective construction of knowledge for public information (Zhang et al., 2019). Collaborations play a significant role when an individual is seeking information. It has gained prominence with the growing complexity of information needs. Individuals engage in collaborative efforts when faced with intricate information requirements. Collaborative information seeking is beneficial for scholars, professionals, and designers, as it enhances information seeking and benefits various stakeholders.

3.4.3. Role of social media in seeking information amongst students

Social media has revolutionised human interaction, particularly for millennials and Gen Z, becoming an essential component of their everyday existence to the extent that it becomes challenging to disconnect from digital devices. Today's college students have grown up searching for information online (Dahlen & Hanson, 2023). They are usually hooked on their smartphones and are often referred to as the "mute generation". This generation has been raised as digital natives, and they have witnessed an exponential growth of the internet, utilising both computers and mobile devices. Social media is central to their lives. This digital immersion has deeply integrated into their lifestyle (Livani & Venta-Olkkonen, 2020).

The social media ecosystem for information seeking is evolving rapidly. Students use them to aid their diverse academic and learning activities. Students actively seek information from social media to stay informed and updated. Moreover, they utilise social media for information exchange, finding solutions to homework problems, information regarding popular trends, or any other queries about everyday life (Kim et al., 2017). While seeking knowledge, individuals adopt various strategies, including management and utilisation of resources, asking for help from their peers or experts, improving their technical skills, proper time management and having control over their learning environment (Barrot et al., 2021). The interactive features of social media

enable them to engage with others and receive feedback, aligning with the significant role of peer influence and the feeling of being part of a community (Jarman et al., 2021). Social media has also been known to significantly influence the quality of students' education. A large proportion of students actively engage with social media, accessing these platforms either daily or several times throughout the day.

With its vast reach and diverse features, social media has emerged as a valuable educational tool, especially in higher education. It has a positive impact on interactions between teachers and students. It has been known to improve the academic performance of students and provide them with the convenience of learning at their own pace. Hence, it has ended up enhancing the quality of education. Since information is updated constantly, social networking platforms play an important role in information seeking as they provide timely access to the information (Al-Saggaf & Simmons, 2015). Additionally, students have the power to coax the algorithm to make their preferred version of an application. This enhances user satisfaction and engagement and, at the same time, shows them more of what they want (Ovide, 2023). When it comes to publishing research, studies indicate that sharing scientific articles on social media platforms boosts the article's downloads, queries, and citations (Eysenbach, 2011). Moreover, the editorial process has seen a substantial reduction in time, transitioning from several months to mere days or weeks from the point of submission (Teoh et al., 2020). Especially during the COVID-19 pandemic, these aspects have significantly amplified the spread of knowledge globally. Amidst the pandemic, social media emerged as an alternative learning tool, effectively sustaining students' academic progress. Therefore, it has become a go-to place for seeking information among a lot of people. As a matter of fact, increased social media use is linked with more information seeking (Yang, 2022). Despite the overload of information and proliferation of misinformation these days, social media is still considered an important source of information as it can be an efficient and expeditious channel for providing necessary information and keeping users updated (Kim et al., 2020).

3.5. Information Seeking Behaviour (ISB)

The term information seeking behaviour refers to the various strategies and actions employed by individuals in pursuit of information to solve problems or satisfy specific needs. It involves a range of behaviours, including the identification of information needs, the active search for information, critical evaluation, selection of appropriate

sources, and effective use of the information obtained. This can include searching online or in libraries, asking experts, consulting databases, reading books or articles, using social media, and more. The behaviour can vary based on the individual's preferences, skills, and available resources. Thus, it represents how an individual acquires information to support personal learning, awareness, and continuous growth (Sultana, 2016). ISB encompasses the strategies individuals adopt to obtain information relevant to their interests, including topics related to health, economy, and society (Graffigna et al., 2017). The information-seeking behaviours displayed by the users seeking information stem from their information needs when they feel a desire for specific information (Eftekhar & Hayati, 2016). It involves identifying needs, searching approaches, and using information (Marasinghe et al., 2023). Nowadays, people access the internet from their smartphones or laptops. This indicates that they rely on it across environments like home, school, and college to address their information needs. Information needs serve as the primary motivation behind information-seeking behaviour, prompting individuals to adopt different strategies to obtain information that meets their specific needs. This behaviour can involve searching online, consulting experts, accessing databases, reading books or articles, and more. Information need is characterised by the specific requirements, desires, or gaps in knowledge that drive an individual to seek information to fulfil a particular purpose or goal. The process is affected by various factors, including the user's situational context, previous encounters, individual inclinations, and the characteristics of the information sought. Rocha and Casarin (2023), however, reported no significant differences in information-seeking behaviour among students from different academic specialities.

Zhitomirsky and Blau (2017) categorised information-seeking behaviour into two distinct types: social information-seeking and functional or cognitive information-seeking. Social information-seeking behaviour involves the use of smartphones to engage with social content for communication or interaction, whether through active participation or passive consumption. In contrast, functional or cognitive information-seeking behaviour pertains to the use of smartphones to search for and absorb informative or educational content without engaging in social interaction, often through platforms like Google or other search engines. One can combine these two activities to meet their information demands.

Information-seeking behaviour is the interaction that takes place between an individual and a computer-based system during the information search process (Wilson, 1999). Wilson (1999) put forward a nested model to represent the interrelated domains of information behaviour, information seeking, and information searching. He created a way to understand how we use information. Picture it like nesting dolls: the largest doll is "information behaviour" (IB), which covers all our interactions with information. Inside that, there's a smaller doll called "information seeking," focusing on how we try to find information. Inside that smallest doll is "Information Search Behaviour," pinpointing the details of how we search for information. It's like starting with the big picture and then zooming in to see the smaller parts.

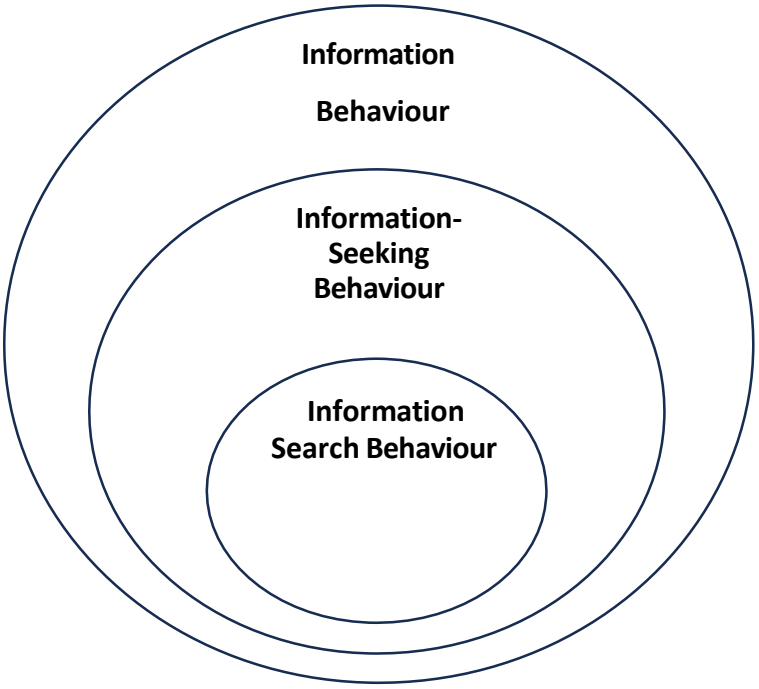

Figure 1: A nested model of information seeking and information searching research areas

3.6. Challenges

While social media presents immense opportunities to people around the world, it also poses considerable challenges. Even though social media is brimming with information, people do not rely on it much. While students benefit from the flexibility and opportunities of online education, it is accompanied by issues like misinformation,

diminished motivation, and deterioration in mental and physical health (Lamanauskas & Makarskaite-Petkeviciene, 2021). A lot of the information that we see online is mixed with false information. Therefore, individuals' ISB is influenced by the credibility and trustworthiness of online information sources (Jim et al., 2020). It also stops users from seeking information online and impacts the methods individuals employ to seek information.

The utilisation of social media remains constrained within academic circles, with scholars showing limited interest in it. Social media faces significant challenges in the realm of scholarly research due to issues such as abuse, political campaigns, trolling, addictive behaviours, propagation of fake news, and the widespread distribution of misinformation. Social media has been found to cause psychological distress, anxiety, and depression in people. Intensive social media usage has been connected to various adverse psychological consequences in adolescents, such as heightened stress, reduced self-esteem, strained relationships, sleep disturbances, and a rise in suicidal thoughts and behaviours (Tromholt, 2016; Twenge et al., 2018; Woods & Scott, 2016). Adolescents who exhibit vulnerabilities like low self-esteem, negative body image, or difficulties in social interactions appear to be particularly at risk (Miller, 2023). Rationality gets affected as a result of this. Continuing hurdles associated with social media data involve ethical considerations, privacy concerns, copyright issues, cultural resistance, challenges related to effective teaching methods, and institutional limitations. Furthermore, heavy social media usage has been linked to problematic outcomes such as information overload, irrelevant, conflicting, outdated, and non-credible information in the students' everyday life information-seeking (Sin, 2015). Moreover, prevalent social media usage has also given rise to technology dependency and excessive usage, resulting in adverse effects (Cao & Yu, 2019).

Individuals have become socially more isolated since everyone is hooked on their smartphones. This could be attributed to the impact of platforms like Instagram and Snapchat, which have been observed to exacerbate feelings of loneliness, especially among young individuals. Social media creates constant pressure to conform to societal standards, achieve a certain lifestyle, or maintain a particular image. This pressure can cause stress, anxiety, and ultimately feelings of loneliness when one feels unable to meet these expectations. Hence, users tend to avoid information that evokes a negative response. Research indicates that social media contributes to feelings of isolation,

reduced interpersonal engagement, and challenges in time management (Baczek et al., 2021; Colosimo & Badia, 2021). Studies suggest that female students exhibit a higher tendency toward excessive or inappropriate use of social media than males. According to Wang et al. (2021) and Krasnova et al. (2017), social media is mostly used by women for emotional support and maintenance of relationships. However, the main focus of men is to acquire more information.

Social media can easily influence individuals when they are actively searching for new information. Individuals with pre-existing views, especially in sensitive domains like politics and religion, usually prefer information that confirms their prior understanding (Texas University, 2019). This is what we call the "confirmation bias". Users tend to seek information that aligns with their pre-existing beliefs. Additionally, lack of information literacy skills, internet connectivity issues, user preferences, and other barriers encountered during information seeking further worsen the process. That is why people use multiple approaches to meet their information demands, from traditional sources to online platforms. Overall, research suggests that social media does not have purely positive or negative effects. Its effects depend on how individuals use it and the type of content they engage with.

3.6.1. Misinformation

From misinformation and abuse to its impact on mental health, there are many negative effects, often referred to as the darker side of social media. One of the most negative aspects is its ability to spread inaccurate, sensationalised, and overstated information, which can induce fear, stress, depression, and anxiety in individuals with and without pre-existing psychiatric conditions (Gonzalez-Pandilla & Tortolero-Blanco, 2020). Even though the younger generation is well-versed in technology, they still face the challenges in terms of technological literacy and competency and hence find it very challenging to navigate through enormous amounts of misinformation online to find the right information (Barrot, 2021; Roblek et al., 2019). Information overload makes it challenging to identify what is reliable and what is misleading (Soderholm et al., 2018). Consequently, social media is frequently regarded with scepticism, as people tend to associate it with the propagation of misleading or false information (Gallup, 2018).

The use of technology is considered essential for students to assess internet-based

content and access reliable information for their academic assignments. This becomes very challenging as the reliability and accuracy of information available on social media remains a subject of concern. As a result, individuals consume information on the web without really bothering to check the accuracy or credibility of the source. Given the harmful effects of misinformation on academic achievement, providing proper guidance regarding the responsible usage of social media becomes essential. By addressing these issues, social media could become a more efficient and innovative tool for learning.

3.7. Role of libraries

As smartphones and tablets become more and more popular in the present period, traditional libraries are becoming less important (Marasinghe et al., 2023). More people are opting for online resources, resulting in the decline of traditional libraries. Considering that students can easily access all kinds of information from their homes, there is a need to upgrade the libraries as well. The growing inclination towards online resources over conventional media makes it critical to address the obstacles people have while trying to successfully use digital sources to seek information. Presently, academic librarians aim to support students in their information-seeking efforts by delivering in-class instructions, generating instructional materials and guides, and optimising search tools to suit the preferences and requirements of students (Dahlen & Hanson, 2023). Librarians have to offer numerous sources to the students and keep participating in training programs in order to keep up with the changing technologies. This can be done by collaborating with teachers and properly understanding the requirements of the students. Libraries are no longer just the gatekeepers of information. Therefore, in the contemporary millennial age, there is a growing need for librarians and libraries to take an active and adaptable approach to cater to the evolving needs and preferences of students belonging to Generation Z, Generation Alpha, and the YouTube Generation (Sugihartati, 2019). Moreover, insights into students' self-perceptions of their information skills can assist libraries and academic staff in identifying areas of low confidence and offering enhanced inquiry-driven learning opportunities and support (Bronstein, 2014). Furthermore, library staff should work to address the problems faced by the students to meet their information needs. By encouraging evaluation skills, advancing digital literacy, and providing reliable content, librarians can improve the information-seeking experience of users as they

negotiate and resolve the difficulties presented by social media. Librarians might help people acquire correct information with confidence and effectiveness while lowering the amount of misinformation and anxiety that comes with navigating large digital platforms by comprehending and incorporating social media information-seeking behaviours into their services and education.

3.8. Conclusion

The evolving landscape of information seeking emphasises its intersection with the powerful realm of social media. In the present age, social media has completely transformed the ways people seek and access information. Students mainly seek information for academic purposes. Their learning environment and the intellectual challenges they face impact their information-seeking processes. Teachers, teaching methods and librarians play an important role in this regard by encouraging them to explore information more widely (Marasinghe et al., 2023). That said, the online space is filled with a large amount of unfiltered content. Therefore, students are consuming a plethora of unsupervised content. When they try to access information, they encounter various obstacles, such as misinformation, information overload, limited resources, unfamiliarity with utilising resources, and a lack of digital literacy skills. Concerns regarding the availability of dubious data, misinformation amplification and anxiety among users hinder their ability to seek information online (Gallardo & Ebardo, 2024). Yang and Khan (2023) considered such factors responsible for information-seeking anxiety among students. Akhther and Sopory (2022) called social media a double-edged sword because even though it facilitates information seeking, there is a lot of anxiety found in users due to the availability of excessive information, as well as conflicting viewpoints. Distinguishing pertinent information from irrelevant search results is challenging and affects the information-seeking process. People encounter various obstacles and setbacks, which are frequently associated with the person seeking information or the system or platforms they utilise. However, social media's role in information exchange cannot be overlooked, as demonstrated during the COVID-19 pandemic, when it served as a vital source of timely and essential information. Consequently, there has been a noticeable change from conventional to digital methods of information seeking, accompanied by growing interest in blended learning approaches that combine face-to-face and online education. At present, information literacy and digital literacy are also considered to play a major role in the

adoption and use of various online sources. Research suggests equipping users with critical literacies of modern times, as digitisation, information literacy, and information seeking behaviour are interconnected (Orrensalo & Nikou, 2024). Furthermore, there needs to be an investigation of multiple aspects of information seeking, such as quality of the information, reliability of the information source, trust in sources and level of information consumption. This would contribute to a better understanding of the information seeking process in the current scenario (Li & Zheng, 2020).

Information seeking plays a key role in shaping the behaviours and attitudes, especially when they search for information with a purpose or a goal (Chen, 2025). It is necessary to emphasise the need for appropriate usage, highlighting the multifaceted nature of social media platforms and their educational potential. Encouraging information seeking within the broader population is feasible, as social media and the internet are extensively utilised by people all over the globe.

As we navigate this evolving landscape, one must strike a balance between leveraging social media's benefits and being careful about its disadvantages. By understanding these dynamics, we can shape a future where information seeking is effective, informed, and beneficial to all. As Buckland (1991) rightly said, “The information explosion would not matter if we always had at hand the most suitable documents whenever we wanted or needed them, but that’s most unlikely.”

3.9. Overview of information seeking concepts

Aspect	Information Seeking
Definition	It is a basic human activity aimed at resolving uncertainties and acquiring knowledge to solve any problems, fill gaps in knowledge, or learn something new.
User role	The user seeks or consumes information from others.
Motivation	The motivation is to solve a problem, learn something new, or obtain answers to questions.
Content	Users search for the content they need or might find it while casually scrolling.
Engagement	The users are mostly passive. They consume content by scrolling, browsing, reading, or asking.
Target audience	The target audience is people who need information. Beyond that, users have no active role. They view or read the information, without creating, reacting to, or engaging with it.
Responsibility	They have no responsibility as they consume the content of other people.
Other names	They are also sometimes known as lurkers.
Examples:	Watching a lecture on YouTube, reading news on Facebook, etc.

Table 2: Information Seeking: Overview

CHAPTER-4

MISINFORMATION ON SOCIAL MEDIA

4.1. Background

Consumption, assimilation, and dissemination of information have undergone significant changes as society continues to advance into the digital era. A growing number of individuals are using social media platforms to seek information, read news, publish, and share various types of content online (Gupta et al., 2013; Oh et al., 2010; Sutton et al., 2008). However, the openness that these platforms offer encourages and permits users to speak freely online, and it also creates new issues like information overload and a plethora of misinformation. Social media has been used more and more in the past few years to communicate an excessive amount of information every day. The overwhelming volume and rapidity with which users are now exposed to all kinds of information have an impact on various aspects of their lives (Paor & Heravi, 2020). Social media platforms have become a breeding ground for misinformation. They have also given people the ability to massively plant and propagate false information. These days, anyone with an internet connection can make use of various platforms to propagate rumours and have some degree of control over the process (Mocanu et al., 2015; Simon et al., 2016). The quick dissemination of false and misleading information on various platforms like Facebook, X, WhatsApp, etc. has sparked widespread concern about its impact on every aspect of our lives, be it politics, public health, academics, and beyond. It has fuelled misconceptions regarding a range of subjects, including foreign policy, health, the economy, and climate change (Fernandez & Alani, 2018). Morales et al. (2022) called it a root cause of all the problems that we are facing. Therefore, global concerns about the prevalence of misinformation on the internet are growing (WEF, 2014).

The variety of misinformation people encounter in their daily lives demonstrates the need for a more comprehensive and nuanced understanding of information in general. Instead of defining misinformation more precisely, it is frequently viewed as merely bad and inaccurate information that needs to be addressed (Jarrahi et al., 2021; Ruokolainen & Widen, 2020). Although the topic of misinformation has been extensively studied, most studies have not addressed the specific definition of disinformation and its function in people's daily information context. A comprehensive and sophisticated qualitative comprehension of the phenomenon is lacking (Ruokolainen, 2022).

Misinformation is a broad term encompassing various forms of false information, such

as misinformation, disinformation, fake news, propaganda, etc. Several scholars have defined misinformation differently. For example, Garret et al. (2016) defined it as inaccurate information based on the best available knowledge at the time from appropriate sources. Karlova and Fisher (2013) and Karlova and Lee (2011) define misinformation from the perspective of the recipient, viewing it as information perceived to be inaccurate, vague, incomplete, or imprecise within a given context. In much of the existing literature, the term misinformation is broadly applied to refer to any information later identified as false (Chen et al., 2023). Similarly, the United Nations High Commissioner for Refugees (2022) defined misinformation as false or inaccurate information. Several scholars have defined misinformation as information that is false, inaccurate, or incorrect, often positioning it as the opposite of valid information (Meer & Jin, 2019; Qazvinian et al., 2011; Tan et al., 2015). Many scholars adopt the definition provided by the Oxford English Dictionary, which refers to disinformation as "wrong or misleading information," in their studies of misinformation (Oxford English Dictionary, 2023). Misinformation and disinformation can therefore be summarised as "false, inaccurate, or misleading information designed, presented, and promoted to intentionally cause public harm or for profit" (Buning et al., 2018).

Misinformation and disinformation, often used interchangeably, indeed have nuanced distinctions, primarily rooted in the intention. Misinformation is the dissemination of false information, often done unintentionally, where the individual is not aware of its falsity. On the other hand, disinformation is the attempt to spread false information while being fully aware of its falsity. Individuals spread disinformation to deceive, manipulate, or spread false or misleading information with the intent to deceive individuals, groups, organisations, etc. Hameleers et al. (2023) distinguished between two primary categories of misinformation: information that is entirely false or manufactured, and information that is partially false or decontextualised. Scheufele and Krause (2019) described misinformation as inaccurate information that may be shared unintentionally. In contrast, disinformation, according to Levi (2018), is false content knowingly spread with the intent to deceive. However, Karlova and Lee (2011), along with Lee and Renear (2008), have challenged the usual treatment of these concepts as incorrect knowledge that has to be rectified. They believe that the lack of exact definitions of these ideas stems from their widespread usage as general words in

domains other than library and information science. This might be because disinformation and misinformation are frequently used interchangeably, with disinformation being defined as "deliberately false information" (Oxford English Dictionary, 2023).

There is yet another kind of misinformation where the information is true but is deliberately shared to cause harm, embarrassment, or damage to individuals or organisations. Such type of misinformation is referred to as malinformation. Malinformation is shared with the intent to harm individuals or organisations, or a nation. It may be true or false (e.g., sharing private information publicly) or false (e.g., wrongfully accusing someone) (Wardle, 2020). It involves selectively sharing correct information in a way that harms or deceives others. Fake news is also closely related to the misinformation term (Anderau, 2021; Zhou & Zafarani, 2021). It entered the mainstream vernacular following the U.S. presidential election campaign (Zhang & Ghorbani, 2020). In addition, fake news appears to gain more traction and spread more broadly on social media than through traditional news outlets (Balmas, 2014). It has the power to seriously harm society.

4.2. History

Misinformation has a long history and spreading false or inaccurate information has existed for nearly as long as human societies. The term “misinformation” dates back to the late 1500s and refers to information that has been prefixed mis, which is usually considered as "wrong" or "mistaken." Misspellings, mistakes, and misunderstandings are a few examples of these words. One of the earliest documented instances of misinformation dates back to the armed conflicts between Mark Antony and Octavian for control of the Roman world, which occurred in 30 BCE (Kaminska, 2017).

The impact of misinformation has evolved in tandem with technological advancements. Misinformation has been disseminated since the early days of printing, at the very least. For example, during the Protestant Reformation, leaders of both the Catholic and Protestant churches disseminated their beliefs through printed publications that frequently misrepresented their opponents. Similarly, the printing press's development sparked the first widespread news hoax (Thornton, 2000). Books, periodicals, and pamphlets could spread misleading information to a larger audience during that time. The term "fake news," which has gained significant popularity in the modern period, was initially used in a 1925 Harper's Magazine article titled "Fake News and the

Public," which bemoaned the speed at which newswires were distributing false information (McKernon, 1925). Fake news is not the same as parody, propaganda, and satire. However, research dating back decades considers rumour to be the oldest member of the misinformation family. It is often linked to informal sources of information, including word of mouth, gossip, and hearsay (Allport & Postman, 1947). The influence of misinformation was heightened by the emergence of mass media, including television and radio. These venues were used by political parties, governments, and advertisers to sway public opinion and disseminate misinformation. The phrase "yellow journalism" first emerged in the United States (Kaplan, 2008). Its emergence can be traced to the late 19th and early 20th centuries, when it was used to refer to sensationalised and frequently false news reporting.

In the modern age, the internet and social media have revolutionised the spread of misinformation. Events such as the 2016 presidential election have intensified scrutiny of how social media organises and displays information, potentially making it more difficult for users to assess its credibility and distinguish between factual and false content (Scheufele & Krause, 2019). Social media had a huge influence on public opinion during these elections, which was greater than it had ever been, and this resulted in traditional media losing its "dominance" (Buccoliero et al., 2020).

The health communication field has encountered significant challenges in managing the spread of misinformation and reshaping public misconceptions across multiple health-related areas. These include misleading campaigns on tobacco safety, the popularisation of inaccurate vaccine research, and the stigmatisation of HIV based on false information (Krishna et al., 2021). Most recently, we have also witnessed an unprecedented infodemic during COVID-19, which did massive damage to the whole world and was described by researchers as a worldwide pandemic. This was characterised by the rapid distribution of false claims, conspiracies, and misinformation across social networking sites (Zarocostas, 2020; The Lancet Diseases, 2020).

4.3. Types of misinformation

The term misinformation broadly refers to different forms of inaccurate or deceptive information, ranging from unintended mistakes to intentionally spread falsehoods, such as fake news, rumours, and urban legends (Wu et al., 2019). It can take various forms and has been categorised. Misinformation manifests in multiple forms and has been classified into distinct categories by several scholars. Key classifications are outlined

below:

4.3.1. Wardle and Derakhshan (2017):

Wardle and Derakhshan (2017) introduced the term "information disorder" to characterise the complexity and diverse nature of today's information environment. They classified misinformation into 3 types, i.e., (1) misinformation (false information spread without the intent to mislead); (2) disinformation (false information deliberately produced to cause harm); and (3) malinformation (true information propagated to cause harm). In order to define information disorder, Wardle and colleagues (Wardle 2020; Wardle & Derakhshan 2018) outlined seven distinct types of misinformation: satire or parody, false connection, misleading content, fabricated content, imposter content, manipulated content, and entirely invented content.

4.3.2. United Nations High Commissioner for Refugees (2022):

They categorised misinformation and disinformation into the following types:

i. Fabricated Content: Wholly untrue Content;
ii. Manipulated Content: Real data or imagery that has been altered, such as a provocative headline or politically charged "clickbait";
iii. Imposter Content: Disguising oneself as authentic sources, such as by utilising a reputable agency's branding;
iv. Misleading Content: False information, such as a comment that is taken at face value;
v. False Context: Information that is factually correct but contains misleading context, such as when an article's headline misrepresents its content;
vi. Satire and Parody: Light-hearted but fraudulent stories presented as real. Although there is no malicious intent, readers could be duped;
vii. False Connections: When content is not supported by headlines, images, or captions;
viii. Sponsored Content: Public relations or advertising presented as journalistic content;
ix. Propaganda: Information meant to control beliefs, values, and information;
x. Error: A reporting mistake committed by a news agency.

4.3.3. Ruokolainen and Widen (2020):

According to Ruokolainen and Widen (2020), there are various kinds of false

information that asylum seekers come across. These include incomplete or out-of-date official information, information disseminated through gatekeepers and other intermediaries, information that instils false hope or irrational expectations, rumours, and twisted information.

4.3.4. Ruokolainen et al. (2023):

Ruokolainen et al. (2023) categorised official misinformation into four forms: outdated information, conflicting messages, incomplete data, and perceived intimidation. Outdated information typically refers to official content that has not been revised or updated, yet individuals continue to rely on these old versions. Conflicting information arises when individuals receive contradictory guidance, statements, or data from multiple sources. Incomplete information involves the omission of key details, which can result in a misleading or skewed understanding of the overall message. Perceived intimidation refers to situations where incomplete or inaccurate content is conveyed in a threatening tone, which affects the recipient's understanding and perception of the message.

4.4. Role of Social Media in the Spread of Misinformation

Misinformation has existed throughout human history. However, the rise of social media has resulted in widespread dissemination of misinformation at a faster speed by allowing users to spread it more anonymously and in a decentralised manner (Vicario et al., 2016). These platforms, which were credited with transforming the information landscape of the present times, are now being abused more and more to spread various types of misinformation, spam, and so-called fake news (Gradon et al., 2021). These platforms heavily influence the decisions and viewpoints of individuals (Jabbour et al., 2023). With a wide range of social media platforms available today, including video streaming, photo sharing, instant messaging, and innovative recommendation systems driven by AI, connecting with people and gaining more influence is quite simple. As a result, it increases the likelihood of spreading information more widely (Spohr, 2017; Nov et al., 2010). The open nature of social networking sites facilitates the rapid transmission of information disorders, and therefore, affects large numbers of people, leading to unprecedented challenges (Shu et al., 2020).

Today's information disorder differs in its ability to spread quickly throughout the world as well as in its size, complexity, and abundance of communication (Blumler, 2015; Niklewicz, 2017). Quattrociocchi (2013) named the rapid dissemination of false

information on social networks as one of the top ten societal trends and a potential danger. False information can be presented in a variety of ways, including humour, viewpoints, and the news format (Howard et al., 2017). Nowadays, users can create and quickly disseminate false information easily, thanks to social media (Benkler et al., 2018). This leads to the creation of humongous amounts of misinformation online. As information creation and sharing grow, so does the dissemination of unreliable or deceptive information, which ultimately affects the accuracy and usefulness of the information available online. The abundance of both right and false information available online leads to the formation of "factitious informational blends" in which facts coexist with lies or partial truths (Rojecki & Meraz, 2016). As a result, we see a lot of false, misrepresented and inflated information about various issues, which is created and disseminated on social media, and has the power to impact various aspects of our lives. It has been discovered that socialising, information quality, and self-expression are the primary drivers of amplifying the spread of misinformation (Harjule et al., 2023). The amplification of misinformation may be attributed to various other factors as well, including political and financial benefits, as a result of the ease and speed with which information can be provided and shared via social media networks. Another reason is that social media undermines accountability by allowing individuals to fabricate their identities. Some people can spread derogatory and inaccurate information online, even under their true names, while knowing that breaking social standards is unlikely to result in consequences in their offline life (McKay & Tenove, 2021). Furthermore, each user can act as a node for wrong information on various social media platforms. Therefore, it becomes difficult to stop the spread of false information legally and technologically (Lazer et al., 2018). Additionally, individuals tend to disregard accuracy when they share content on global issues such as a global pandemic. This raises questions about the structure of social media (Pennycook et al., 2020). Misinformation can mislead users when their attention is absorbed by social media, causing them to overlook cues related to credibility (Linden, 2022).

Social media networks are accused of amplifying the voice of elites while suppressing the concerns of common people (Hameleers & Minihold, 2022). These platforms are seen as a major threat to national security as the information available has led to the creation of a new global power order (Norri-Sederholm et al., 2020). Piazza (2022) blamed it for increased polarisation as well as terrorism across the globe.

Even though the platforms have done enormous damage to societies as well as threatened democratic institutions, the steps taken by them to counter the misinformation don't seem to be enough (Allcott et al., 2019). Therefore, in the present technological and political landscape, misinformation needs constant monitoring and accountability (Landon-Murray et al., 2019). However, current policies mainly focus on stopping the amplification of misinformation while overlooking the fact that it spreads as personal beliefs among users (Ruiz & Nilsson, 2022). In such circumstances, digital literacy skills become essential for users as they equip them with the ability to differentiate correct information and false information (Wasserman et al., 2019). Furthermore, there can be the implementation of fact-checking technologies and continuous monitoring of online activities. This will help in building trust and confidence among people, which is lacking right now (Olan et al., 2024).

4.5. Fake news as a form of misinformation

Misinformation in general has long been researched, particularly concerning the internet and news. For instance, one of the earliest attempts to investigate this subject was Hernon's (1995) study. However, in today's digital environment, fake news is increasingly widespread. Modern experts characterise the current moment as "an era of fake news" where false information, whether created purposefully or accidentally, spreads quickly (Wang et al., 2019). Specifically, the term "fake news," which describes made-up news reports that are presented as factual, gained prominence in 2016 and was widely used during both the Brexit referendum and the US presidential elections. As a result, "post-truth" was selected as the 2016 Word of the Year by the Oxford English Dictionary to emphasise how political beliefs or emotions have more power over public opinion than objective reality (Shin et al., 2018). Fake news can be defined as purposefully misleading information presented as news (Allcott & Gentzkow, 2017; Anderau, 2021). At present, it is spreading at such an alarming rate that even obviously absurd claims can cause a massive cascade across networks of like-minded people and political organisations once they are posted online (Shin et al., 2017). Even though the amount of information is increasing, the quality is still below par due to issues with content monetisation and the continuous decrease in funding for news creation and distribution (Osservatorio, 2018). Major news media covers disinformation of two primary sorts equally: misinformation that has been manufactured and misinformation that has been reconfigured. Scams and government

policy are the next most commonly reported topics, after misinformation about science and health (Lwin et al., 2023). On health, a lot of attention has been paid to the dissemination of misinformation on vaccinations, with social media serving as a potent driving force for the "anti-vaxxer movement" (Datta et al., 2017).

The main problem with fake news is that it spreads quickly on social media (Collins et al., 2020). This is likely because news is time-sensitive, and also, online information verification procedures take a long time. Additional sources are required to validate the material because it is nearly impossible to assess a news article's reliability based solely on the news article itself (Vicario et al., 2016). Therefore, it becomes nearly impossible for newsrooms and service providers to keep up with the rapid pace of social media (Wu et al., 2016). Moreover, media channels often rely on sensationalism, exaggeration, and shock tactics to create attention-grabbing news that increases views and engagement on their channels. This has an effect on how widely misinformation is shared on social networking sites (Chen et al., 2015; Huang et al., 2015). Due to this, well-meaning people have been found accidentally disseminating false information and fake news and neglecting proofreading and fact-checking.

Due to the prevalence of fake news on social media, many people are reluctant to share good news for fear that it is inaccurate. Some researchers argue that the impact of fake news is negligible when compared to television campaign ads; however, others have shown it can significantly affect political choices and erode trust in government (Allcott & Gentzkow, 2017; Einstein & Glick, 2015; Weeks & Garrett, 2014). These studies have often shown that people are more prone to believe partisanship-aligned, questionable claims than they are to believe assertions that contradict their beliefs. Fake news has been blamed for escalating political polarisation and partisan strife during the election campaign. Voters can be influenced by misleading or inaccurate political statements, making them vulnerable to manipulation (Riedel et al., 2017). Such content is often disseminated with the intent to deceive and confuse social media users, particularly younger students and older individuals who may lack awareness or critical self-protection skills. For instance, during the 2010 Chilean earthquake, several rumours quickly spread on X, increasing fear and confusion among local people (Castillo et al., 2011).

4.6. Understanding the mechanism behind misinformation spread on social media

The internet has been praised for its ability to share information, encourage debate and

freedom, and, most importantly, for facilitating the birth of what is known as collective intelligence (Levy & Bononno, 1997). Anyone with an internet connection may produce, consume, and share content, actively contributing to the development, propagation, and reinforcement of various narratives. Individuals do it for several reasons, such as disparities in life, instant gratification, altruism, education, and economic circumstances, among others (Lewandowsky et al., 2017). However, these same reasons have led to the spread of misinformation, as individuals may intentionally or unintentionally spread misinformation due to their personal biases, lack of education, lack of digital literacy, etc. Commentators generally agree that the internet, more specifically social media, is the main culprit of this phenomenon's widespread occurrence in modern culture (Alemanno, 2018). Individual media users and content recommendation algorithms have assumed a "gatekeeping function" in the social media setting (Napoli, 2015). This significantly impacts misinformation dissemination, as it may lead to increased visibility and reach of certain content, shaping the narratives and conversations that unfold on social media. There are multiple reasons behind engaging with misinformation, such as expressing sarcasm, informing others, etc. (Duffy et al., 2019; Metzger et al., 2021). Similarly, there are several ways to create false information, from merely changing facts to outright lying (Lewandowsky, 2021; Meer & Jin, 2020). Therefore, assuming that consumption of misinformation equates to belief or acceptance may overstate its actual impact (Wagner & Boczkowski, 2019).

There are various social, cultural, socio-psychological and historical factors, along with situational and contextual aspects of cognitive process that determine whether people interpret information as accurate information, misinformation, or disinformation (Kapantai et al., 2021; Ruokolainen & Widen, 2020). Individuals pay more attention to sensational content than to reliable sources in a simulated social media environment, and the inclusion of videos and images lengthens readers' stays on online news items (Epstein et al., 2022; Yi et al, 2014). Disinformation is therefore realistically embedded with misleading storylines in digital media ecologies by using audio-visual cues (Dan et al., 2021). Due to their curiosity and desire to inform others, people disseminate inaccurate information without giving it due thought (Herrero-Diz, 2020). Emotions also play an important role in deceiving the reader with incorrect information. According to Ghanem et al. (2020), authenticity and emotional resonance influence the dissemination of information, the degree to which recipients are misled, and the

emotions that are evoked. Many cognitive and socio-affective factors, such as a lack of analytical thinking, memory failures, illusory truth through repeated exposure, unreliable source cues, emotional and worldview-related influences, further aggravate the dissemination of misinformation (Baum & Rahman, 2021; Brinol & Petty, 2009; Ecker et al., 2022; Pennycook & Rand, 2019; Pennycook & Rand, 2021; Swire-Thompson et al., 2023; Unkelbach et al., 2019). In the same way, the ease of content creation and sharing, algorithms focusing on engagement rather than accuracy, anonymity afforded by these platforms, and the formation of echo chambers, which reinforce one's pre-existing beliefs rather than correct and rational opinions, further amplify misinformation. Steinebach et al. (2020) have identified high speed, reciprocity, low cost, anonymity, mass distribution, fitfulness, and invisibility as characteristics that facilitate the propagation of false information on the internet, especially in social networks. When disseminating information, people may place less importance on accuracy in favour of objectives like advancing ideological agendas, signalling group membership, or appeasing followers (Bavel et al., 2021; Epstein et al., 2021; Pennycook et al., 2021; Pennycook et al., 2020).

Just because people like and share information, it does not mean they believe it. People fabricate and/or disseminate misinformation for a variety of objectives, such as gaining power, igniting controversy, deceiving, becoming more well-liked, or simply being naive and ignorant. Confirmation bias is one of the main phenomena explaining why people spread false information, according to earlier research (Kim & Dennis, 2019). In psychology literature, confirmation bias is arguably the most well-known example of faulty human thinking (Nickerson, 1998). Here, individuals more readily accept information that confirms and mirrors their pre-existing ideas (Dutton et al., 2017; Flynn et al., 2017). It occurs when people look for or interpret data in a way that supports their preexisting ideas. Compared to those with incongruent past attitudes, those with congruent prior attitudes are more likely to find misinformation believable and agree with its positions. High levels of information heterogeneity further support this tendency by encouraging the development of groups based on common interests, worldviews, and narratives, which creates conditions that are conducive to the spread of false information (Bessi et al., 2015). With the absence of intermediaries in content creation and sharing, social media can foster the growth of like-minded groups, known as echo chambers, which are oriented around particular belief systems.

Research has demonstrated that situations like this foster the spread of incorrect information as individuals within these groups share similar views that validate their pre-existing beliefs (Zollo et al., 2015). This makes misinformation more effective (Thorson, 2016). Notably, the beliefs we consider to be most common are frequently those that are most repeated, which also happen to be the ones that we are most familiar with, and we tend to believe that information that we are familiar with is more trustworthy (Lewandowsky et al., 2012). Various studies have generally shown that individuals are more inclined to accept dubious assertions that support their political beliefs than claims that contradict them (e.g., Weeks, 2015). Hence, it can be inferred that confirmation bias, algorithms and echo chambers, popularity metrics, fake account recommendation systems, ineffective content labelling, autoplay, disappearing content, trending lists, and seamless sharing are mainly responsible for the massive misinformation spread.

Pennycook and Rand (2019) suggest that individuals fall for false information due to a lack of critical thinking. Disinformation is primarily perceived as a threat to the rational mechanisms of sense-making and decision-making (Bastick, 2021). People spread false information because of the lack of critical thinking abilities, being lazy to check the reliability of the information source, or lacking expertise in online environments, and trusting online sources (Khan & Idris, 2019; Talwar et al., 2019). Poor attention to correctness is linked to the dissemination of misinformation. Furthermore, the anonymity afforded to social media users also facilitates the spread of misinformation, as users create fake accounts to disseminate false information without the fear of any accountability. The ability of social media users to hide their identities can also make it easier for deceptive and unaccountable communication to occur. This makes it difficult to trace the source of misinformation and hold such people accountable for their actions. Disinformation agents frequently utilise "political bots," which are algorithms that function over social media and are designed to mimic and learn from actual people, or "sock puppets," which are fake accounts run by humans, to falsify their identity (Woolley & Howard, 2016). Beliefs that could harm society are often promoted with malicious intent. Hence, repetition and emotions are two additional factors that can be used to trick an information consumer (Pennycook et al., 2018).

With the advancements in technology, deepfakes present a problem to us now. The difficulty of assessing information online may increase if artificial intelligence is used

to produce fake but believable content on a large scale. Hence, there is still debate regarding the true utility of artificial intelligence (Simon et al., 2023). Therefore, the automated methods of computational propaganda, which are described as “algorithms, automation, and human curation to purposefully distribute misleading information over social media networks”, are the focus of various researchers who explore disinformation tactics (Barbera et al., 2018; Woolley & Howard, 2016, 2018). Similarly, the employment of bot armies to manipulate platform algorithms to increase the exposure of fake news is one of the methods that have been found in previous studies to influence the misinformation amplification (Lazer et al., 2018; Weedon et al., 2017).

4.7. Infodemic

Social media platforms began to experiment with their content moderation policies by early 2019 in response to health misinformation about vaccines during the measles outbreaks in the United States (DiResta & Wardle, 2019). But the COVID-19 pandemic brought about a condition never seen before, necessitating more forceful measures. Multiple platforms consequently implemented several additional policy adjustments intended to lessen the impact of false material relating to COVID-19 (Wardle & Abdallah, 2023). The epidemic began in Wuhan, China, in late 2019 and rapidly spread throughout the world (Chinazzi et al., 2020). People across the world resorted to social media websites and applications in the midst of the COVID-19 lockdown and social distancing regulations as a way to pass the time, interact with friends, and stay updated. Research indicates that false information regarding COVID-19 proliferated on social media in the spring of 2020, although communication and information sharing had the potential to improve well-being in such trying circumstances (Cinelli et al., 2020; Rovetta & Bhagavathula, 2020). There was so much misinformation circulating about COVID-19 that researchers started calling it an “infodemic” (Pulido et al., 2020; World Health Organisation, 2020).

The World Health Organisation (WHO) announced a global "infodemic" at the beginning of 2020. In his video address at the 16th Internet Governance Forum's Opening Session, "Internet United," the UN Secretary-General talked about the digital divide brought on by the COVID-19 pandemic. He further highlighted the negative side of technology that has amplified misinformation spread and has negatively influenced public behaviour during that time (United Nations, 2021). In a similar way, during the

Munich Security Conference in February 2020, the World Health Organisation's (WHO) Director-General cautioned that it was mainly a fight against an infodemic rather than just the pandemic (World Health Organisation, 2020).

David Rothkopf, a journalist for the Washington Post, introduced the term "infodemic" in 2003 to describe the rapid spread of information and its impact on public perception (Rothkopf, 2003). The term "information epidemic," or "infodemic," refers to the enormous amount of accurate and inaccurate information that is amplified and spreads quickly (Okan et al., 2020). An infodemic refers to the overabundance of health information, both factual and false, that spreads confusion and includes misinformation, disinformation, and rumours, ultimately weakening public health responses during emergencies (World Health Organisation, 2020). The United Nations defined it as “too much information, including false or misleading information in digital and physical environments during a disease outbreak.” Hence, an excess of information, especially erroneous and misleading information, is what defines an infodemic (Zarocostas, 2020). During COVID-19, people were found making excessive health-related online searches. This is referred to as cyberchondria (Jungmann & Witthoft, 2020). The word hypochondriasis, which refers to an excessive and ongoing concern that one may be gravely ill, is the source of the term cyberchondria (Starcevic & Berle, 2015). To represent the source of this mental state originating from the cyberworld, primarily the internet, hypochondriasis was combined with the word “cyber” (Starcevic and Berle, 2013). Cyberchondria is thus characterised as an increase in anxiety or distress accompanied by internet health searches (Starcevic & Berle, 2013). It leads to chaos among the individuals, who are then very prone to taking risks that can affect their health (World Health Organisation, 2022).

The tendency to engage in intuitive or emotionally driven thinking, which is linked to superstitious and conspiratorial ideas, has been considered an important factor in poor judgment regarding the accuracy of health information (Elk, 2013; Lindeman & Svedholm, 2012; Risen, 2016; Swami et al., 2014; Vitriol & Marsh, 2018). The study by Han et al. (2020) revealed that anger, as a negative emotional response, significantly influenced both the distribution and belief in misinformation about COVID-19. Consequently, inaccurate information exacerbated health anxiety, leading to poor health-related decisions (Allcott & Gentzkow, 2017; Lewis, 2006). As a result, it became more difficult for people and health officials to accurately assess the

seriousness of the ongoing situation and take appropriate action (Kata, 2010; Sommerlad, 2020). The amount of data produced during the COVID-19 pandemic threatened governments' ability to respond as well as caused difficulties with disease management (Gjorv, 2020; Pepper & Burton, 2020).

Traditional vertical health communication techniques have been undermined by the internet, social media, and other communication platforms, which have made it possible for misinformation to spread horizontally more quickly than ever before (Cuan-Baltazar et al., 2020; Wang et al., 2019). Due to the political framing of many public health issues, people may adopt and share misinformation to reinforce their existing beliefs and sense of belonging within a particular social or political group (Linden, 2022). Therefore, developing treatments to combat misinformation becomes even more important in situations when access to high-quality information could truly mean the difference between life and death, as in the instance of COVID-19. Even subtle prompts stressing the importance of accuracy may influence individuals' judgment when sharing health information, leading to greater reliability of online platforms (Pennycook et al., 2020).

4.8. Impact

The growth of social networks was known to facilitate quick and inexpensive human-to-human contact. However, they have now become major sources of misinformation. Misinformation has emerged as a serious threat, affecting multiple aspects of everyday life in harmful ways. As a matter of fact, the present era is considered an era of post-truth, where emotionally charged content is given preference over correct information. The current design of social media totally supports that as it provides emotionally engaging content, and users receive instant feedback, thus discouraging them from reflecting on accuracy (Pennycook et al., 2021). While misinformation is spread without the intention of harm, disinformation is malicious content that is intentionally spread, including hoaxes, spear phishing, and propaganda. It instils mistrust and fear in the general population. Healthcare, governmental affairs, climate change, and economies are being affected by misinformation. Too much exposure to misinformation can influence political perceptions, foster misperceptions, set off violent reactions or erode confidence in the news media and news environment (Barfar, 2019; Dobber et al., 2020; Hameleers & Meer, 2020; Vaccari & Chadwick, 2020). Fernandez and Alani (2018) conducted a thorough review of recent studies and

concluded that misinformation has fuelled misconceptions over a range of topics, including foreign policy, health, economy, and climate change. The biggest example is COVID-19, where not only healthcare was severely disrupted, but the psychological issues faced by the public were tremendous as well. They resorted to inappropriate measures to cope with the pandemic (Dong et al., 2024; Pian et al., 2021).

Information was once more strictly regulated by journalists, librarians, and members of the media, but since digital technology is so open and pervasive, it is now harder for these conventional gatekeepers to check and govern information. Since social media is managed by private organisations not directly accountable to human rights law, these platforms can become public arenas that jeopardise individuals' right to free expression (Jorgensen & Zuleta, 2020). The development of such a vast, diverse, and disintermediated mass of information sources could have an impact on the quality of the contents and the processes that shape public opinion (Lazarsfeld et al., 1968; Katz & Lazarsfeld, 1970; Watts & Dodds, 1970). Public opinion formation mechanisms may be impacted by the ubiquitous availability of a heterogeneous mass of information sources. The intentional nature of misinformation and its challenge to be corrected, particularly in the context of reliable networks, has been highlighted in various reports (Arnaboldi et al., 2017; World Economic Forum, 2018).

While coming across misinformation, it becomes challenging to apply our capacity for analysis, reflection, and conclusion-making in such a setting. Our cognitive biases show up instead. Such biases are necessary for us as humans to understand reality. These are heuristics, or shortcuts, that humans employ to make sense of the world and take quick action. Unfortunately, there could be unintended consequences to such simplification (Zollo, 2019). Furthermore, a person's belief may dominate their attitude even after they have accepted the updated knowledge (Nyhan & Reifer, 2015). As a matter of fact, even after their misinformation-based beliefs are shown to be untrue, people struggle to change their misinformation-based views (Flynn et al., 2017). Believing false information can not only impair judgment and decision-making, but it can also have a lasting impact on people's thinking long after the correction of such information. This is known as the continued influence effect (Ecker et al., 2022). The literature suggests that the reason disinformation spreads so successfully is that it takes advantage of people's own beliefs to elicit emotional and psychological reactions that lead them to reject contradicting evidence (Young et al., 2021). The primary findings

of the study done by Hameleers et al. (2023) demonstrate that information that is just partially inaccurate is harder to correct and more convincing than entirely false information. This might be because users frequently congregate in interest-based communities, which reinforces confirmation bias, polarisation, segregation, and other negative traits. Users are considerably more likely to believe and share items that support their preexisting opinions due to confirmation bias, which has a great impact (Kim & Tennis, 2019). Corrections usually have the opposite impact of what is intended and fail to eliminate misperceptions (Nyhan & Reifler, 2010). Furthermore, correction strategies that involve restating misinformation may unintentionally reinforce false beliefs, as repeated exposure increases familiarity while the brief correction is often overlooked or forgotten (Schwarz et al., 2007). Consequently, this degrades the accuracy of the information and promotes the spread of skewed narratives fuelled by unfounded rumours, mistrust, and paranoia (Vicario et al., 2016).

4.9. Combating Misinformation

Misinformation is not primarily a product of technology. However, social media has led to its amplification to such an extent that it is now considered a global challenge. Because of how much easier it is to spread misinformation in the digital age, numerous governments have begun enacting national regulations to combat misinformation (Posetti & Matthews, 2018). The United Nations Interregional Crime and Justice Research Institute (UNICRI) reports that data scientists, big data visualisers, and machine learning (ML) professionals are creating novel approaches to detect the propagation of widespread misinformation (UNICRI, 2020). These tools make it easier for researchers to see how misinformation spreads and even locate the source of misleading narratives. To assist in addressing misinformation, organisations such as PolitiFact and Factcheck.org have emerged, alongside ongoing research aimed at building dependable automated tools for detecting deception in textual and visual content (Conroy et al., 2015). However, these initiatives coincide with the difficulties technology companies encounter in adjusting their algorithms and user interfaces. Research shows that text and multimedia, such as images, videos, etc., are widely used formats for news representation. Common techniques for fake news detection in such content include machine learning, deep learning, natural language processing, fact-checking, crowdsourcing, blockchain technologies, and content-driven systems (Aimeur et al., 2023).

Scholars have identified four main types of responses to misinformation: algorithmic methods, legislative measures, psychological interventions, and corrective strategies (Ahmed et al., 2021; Bode & Vraga., 2018; Lewandowsky & Linden, 2021; Linden & Roozebeek, 2020; Ozbay & Alatas, 2020; Rusu & Herman, 2019; Vraga & Bode, 2020). Previous research has shown the impact of human efforts, particularly fact-checking and crowdsourcing, in identifying and managing fake news (Chung & Kim, 2021; Micallef et al., 2020; Nyhan et al., 2019; Pennycook & Rand, 2019; Vlachos & Riedel, 2014). For instance, the European Commission and Facebook, Microsoft, X, YouTube, Instagram, Snapchat, Dailymotion, Jeuxvideo.com, and TikTok agreed on a "Code of conduct on countering illegal hate speech online" (European Commission, 2021). This was done to stop the spread of hate speech online. Computer scientists are working on ways to automatically identify and counteract the effects of "bots" (robots), which have been demonstrated to be effective in disseminating false information that has real-world repercussions in the stock market and politics (Ferrara, 2016).

Previous studies revealed that the impact of AI is restricted when individuals express dissatisfaction over the artificial intelligence-generated information's lack of authenticity or emotions (Ahmed, 2021; Jakesch et al., 2019). According to Sundar (2020), there is a possibility that customers may lose faith in AI if they believe it does not offer enough interactive capabilities. In order to track patterns in online behaviour and develop a multi-dimensional model for comprehending the cognitive payoff that drives people to share misinformation, Lazer et al. (2018) highlighted how crucial it is to take social context into account and the online footprints of users who share misinformation on social media. Understanding these models can greatly improve our strategies for quickly halting the dissemination of fake news online. There is a four-stage framework on how people engage with misinformation online. Selection, information selection, evaluation, and reaction are its four stages (Geers et al., 2023). Furthermore, because they depend on human verification, fact-checking organisations are unable to keep up with the dynamics of propagation, which could hinder rapid and economical responses (Kim et al., 2018; Ruchansky et al., 2017; Shu et al., 2018). As fake news spreads at a rapid pace, Aimeur et al. (2023) and Tanvir et al. (2020) pointed out that verifying its accuracy and identifying its source becomes highly challenging and inefficient. Readers are more likely to consider the veracity and authenticity of the material when they are directed to the article's source. According to a recent study,

encouraging readers to focus on the news source reduces the spread of false information (Kim & Dennis, 2019). Without a doubt, a contributing factor to the issue is the general lack of media literacy among the populace (Lazer et al., 2018).

In order to ensure the survival of democratic institutions, information literacy is an important skill required in identifying misinformation/disinformation for political and financial purposes (ALA, 1989). It is also necessary to do more multidisciplinary research to find efficient and customised solutions to stop the internet spread of misinformation about health (Wang et al., 2019). Currently, the most extensively explored strategies to combat misinformation include policy reform, the development of fact-checking technologies, and educational initiatives (Allcott et al., 2019; Asr & Taboada, 2018; Braten et al., 2019; Crocco et al., 2016; Farrell et al., 2019; Henderson et al., 2017; Kim et al., 2018; Linden et al., 2017; Simpson et al., 2019; Young et al., 2020).

4.10. Role of Libraries

As the misinformation problem has become more widespread, librarians as well as organisations ought to be active in teaching the public about it, and create awareness by organising workshops, webinars, and short-term courses that would help in developing critical thinking skills among the users (Banks, 2016; Becker, 2016; Dempsey, 2017; Jacobson, 2017; Kenney, 2017; Lewandowsky et al., 2017). Libraries have been using a variety of tactics to combat the scourge, such as depending on their information and media literacy programs to empower users, providing them with reliable and high-quality information, supporting research and collection development, and raising awareness (Bangani, 2021). In the present era, when the world is dealing with a misinformation crisis, librarians have a golden opportunity to highlight their role in society (Skarpa & Garoufallou, 2022). They can play a major role by keeping the public informed, disseminating reliable information and improving media literacy at all levels (Banks, 2016). Borji et al. (2024) identified four major roles of librarians that are essential in mitigating misinformation, namely: educational role, evaluation role, information counselling role, and research role. Babalola et al. (2020) believe that libraries could increase awareness through collection development by purchasing materials that contain reliable information. This study provided evidence that academic libraries in South Africa are gathering materials that may be helpful in the battle against fake news. Despite the potential, however, there hasn't been much empirical evidence

to support public libraries' actual effectiveness in combating misinformation in local communities (Sullivan, 2019). In addition to this, the lack of internet authority or control further diminishes librarians' contribution to lowering the threat of various kinds of misinformation (Sullivan, 2019). Librarians witness the difficulties users face when navigating information environments filled with inaccurate content (Adewojo et al., 2025). However, they are often unable to do much about it. This can be attributed to the fact that libraries in developing countries are affected by the digital divide, lack of proper policies, digitisation problems, lack of funds, and shortage of well-trained staff (Ashiq et al., 2022). Hence, there is a need to hold training sessions for librarians and incorporate digital literacy and critical thinking in the curriculum while making librarians part of the whole process (Ayoung et al., 2023). Overall, the study emphasises the need to strengthen information literacy to reduce misinformation. Additionally, it suggests providing proper training, authority, and responsibilities to librarians so that they can play an important role in addressing misinformation in the era of information disorder.

4.11. Conclusion

As society grapples with the challenges posed by misinformation, a nuanced understanding of its origins, types, and impact is essential. Misinformation can negatively impact individuals and communities (Barua et al., 2020; Karlova & Fisher, 2013; Ruokolainen et al., 2023; Ruokolainen & Widen, 2020; Stahl, 2006). The proliferation of misinformation, mostly via social media virality, calls for a drastic increase in the size of fact-checking initiatives, which are currently reliant on human curators. Disinformation is created and spread mostly through the use of technological affordances. As a result, the volume of information requiring verification daily far exceeds the capacity of existing fact-checking organisations worldwide (Pathak et al., 2021). An automated solution for misinformation identification is needed because of the amount of information and the limitations of resources (Shahi & Nadini, 2020). In order to effectively combat online misinformation, systemic improvements such as stronger social media regulation must be implemented in line with individual-level interventions (Chater & Loewenstein, 2023).

The fight against misinformation requires a multifaceted approach that includes media literacy, regulation, technology, and cooperation between platforms, governments, civil society, and the general public. Fact-checking efforts, content regulation,

algorithmic changes, educational programs, and alliances with reliable information sources are some of the strategies used to counteract false information. In order to accurately evaluate a piece of information for accuracy or a particular source for credibility, individuals must initially decide to participate in this process. Studies indicate that people frequently fail to achieve this; for instance, a lot of people share social media articles without reading anything past the headline (Gabielkov et al., 2016). Ecker (2015), however, contends that the real problem lies not in identifying what information is misinformation/disinformation but rather in understanding how to alter the psychological effects it has on people's minds. Therefore, by addressing misinformation's root causes and enhancing information literacy, we can mitigate its harmful effects and foster a more informed society.

CHAPTER-5

DATA ANALYSIS AND INTERPRETATION

The data were collected from the students at the medical colleges of Jammu and Kashmir. This chapter includes the analysis of the data. In the beginning, however, a brief account of the 13 medical colleges visited by the research scholar is presented. This is accompanied by geotagged photographs taken during data collection, following the order of visits.

5.1. List of medical colleges

5.1.1. Government Medical College, Baramulla (GMC, Baramulla)

The Government Medical College situated in the Kanthbagh area of Baramulla was established in 2018. It offers programmes such as the Bachelor of Medicine and Bachelor of Surgery (MBBS), Nursing, and a variety of paramedical courses. The college has been recognised by the National Medical Commission and is associated with the University of Kashmir. Each year, it admits 100 students into the MBBS programme.

5.1.2. Government Medical College, Anantnag (GMC, Anantnag)

It is a government medical college located in Dialgam, which is 7 kms from the Anantnag district in the South Kashmir region of Jammu and Kashmir. It was founded in 2018 and offers various programmes like MBBS, postgraduate training courses such as Diplomate of National Board (DNB) and PG-Diploma, as well as nursing and various other para-medical courses. The college is affiliated with the University of Kashmir and has been recognised by the National Medical Commission. A total of 100 MBBS students are accepted annually.

5.1.3. Government Medical College, Srinagar (GMC, Srinagar)

GMC, Srinagar, was established in 1959. It is considered one of the oldest medical institutions in northern India, as well as the first in Jammu and Kashmir. The college is situated in Karan Nagar, Srinagar. It offers a wide range of programmes, including MBBS, postgraduate medical training, nursing, and other paramedical courses. The faculty operates across 22 departments and oversees the functioning of seven hospitals. The institution admits 180 MBBS students annually.

5.1.4. Government Dental College and Hospital, Srinagar

Government Dental College, Srinagar, established in 1986, is a prominent dental institution in the Kashmir region. The campus lies in the Shireen Bagh area of Karan Nagar, Srinagar. The institution is affiliated with the University of Kashmir and is approved by the Dental Council of India. The courses offered at this institute include undergraduate and postgraduate programs in dental sciences, including the Bachelor of Dental Surgery (BDS) and Master of Dental Surgery (MDS). Known for its academic excellence, it is regarded as one of the leading dental colleges in Jammu and Kashmir. The annual intake for the BDS program is limited to 63 students.

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5.1.5. Sher-I-Kashmir Institute of Medical Sciences (SKIMS, Soura)

SKIMS is a premier medical institution located in Soura, Srinagar. Established in 1982, this institution is now a deemed university and has several affiliated institutions, such as SKIMS Medical College, a Nursing College, and a Paramedical College. The institute is primarily focused on postgraduate medical education, but it also offers undergraduate programs, nursing courses, and various speciality training programs. The MBBS course has an annual capacity of 125 students.

5.1.6. Government Medical College, Jammu

GMC, Jammu, came into existence in 1973. It is amongst the leading medical institutions in Jammu and Kashmir. It is situated in the Bakshi Nagar area of Jammu, and it is affiliated with the University of Jammu. In addition to the MBBS program, the college offers postgraduate training as well as courses in paramedical and nursing fields. It also functions as a major referral hospital for the Jammu region, actively engaged in teaching, patient care, and community health services. The annual intake for the MBBS program is 180 students.

5.1.7. Institute of Dental Sciences, Sehora

The Institute of Dental Sciences was established in 2006 and is the first private dental college in Jammu and Kashmir to receive approval from the Dental Council of India (DCI). It is situated in the Sehora area of the Jammu region and has an affiliation with the University of Jammu. Currently, 226 students can enrol in its five-year BDS program each year.

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5.1.8. Indira Gandhi Government Dental College and Hospital, Jammu

Indira Gandhi Government Dental College and Hospital was founded in 2004.

It is a renowned government establishment situated in Jammu's Amphalla locality. It is affiliated with the University of Jammu and recognised by the Dental Council of India. The college offers undergraduate and postgraduate programs in dental sciences, including the Bachelor of Dental Surgery (BDS) and Master of Dental Surgery (MDS) across various specialities. The BDS program accepts 63 students each year.

5.1.9. All India Institute of Medical Sciences, Jammu (AIIMS)

This is the first AIIMS that has been established in Jammu and Kashmir. It is located in the Vijaypur area of the Samba district. Prime Minister Shri Narendra Modi laid the foundation stone in 2019. Numerous undergraduate and graduate medical programs, including MBBS and MD/MS, are offered at this college. The institution admits 62 students per year.

5.1.10. Government Medical College, Kathua

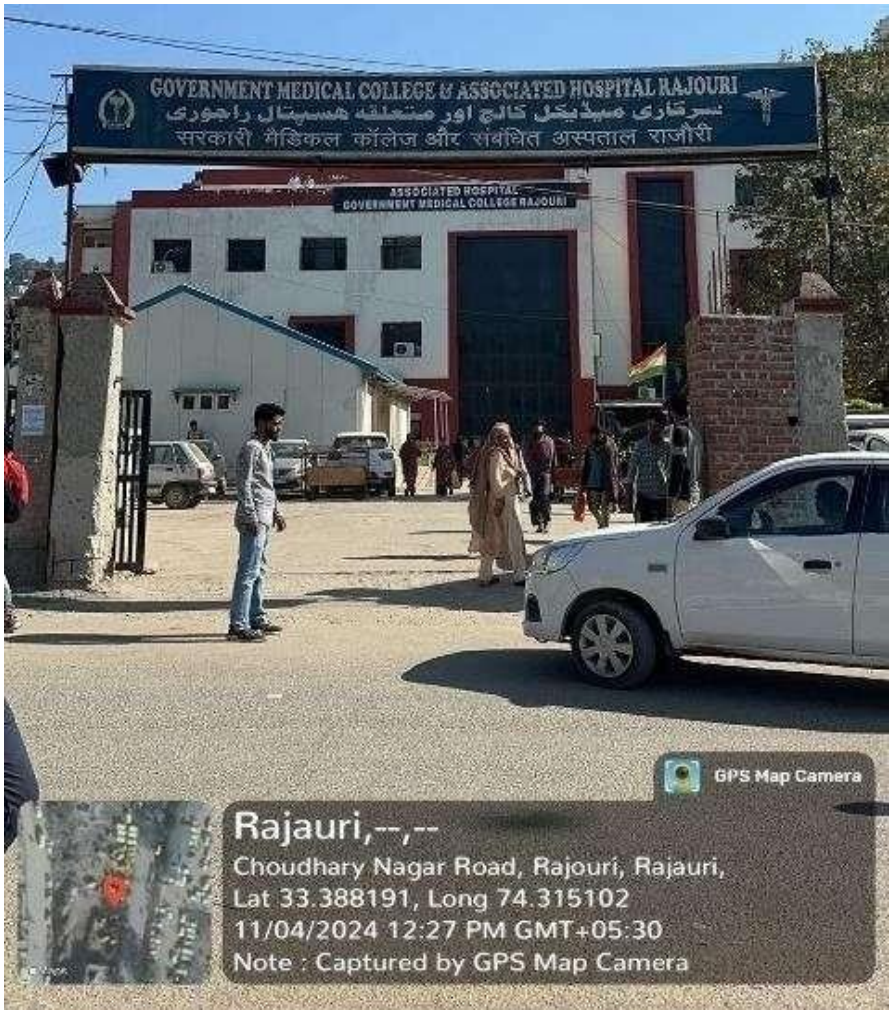
GMC Kathua was established in 2019. It is a government medical institution located in the Kathua district of the Jammu region. It provides a range of nursing and diploma programs in addition to undergraduate medical courses. The institute enrols 100 MBBS students per year.

5.1.11. Acharya Shri Chander College of Medical Sciences (ASCOMS)

ASCOMS is a well-known private medical school in Sidhra, Jammu. It was established in 1995 and has an affiliation with the University of Jammu. It offers various programs such as MBBS, MD and MS. Each academic session, 100 students are admitted to the MBBS program.

5.1.12. Government Medical College, Rajouri

Government Medical College is a relatively new institution that was established in 2017. It is located in the Rajouri District of the Jammu region. The college is affiliated with the University of Jammu. It offers an undergraduate program of the MBBS degree, and the annual intake for this course is 100 students each year.



5.1.13. Government Medical College, Doda

GMC, Doda was established in 2020 and is located in the Doda district, Jammu. It offers only an MBBS course, and the number of students admitted into this course annually is 100.

5.2. Analysis and Interpretation

This chapter presents a detailed analysis and interpretation of the data collected from respondents in relation to the research problem. The total population considered in this study comprises 6865 individuals pursuing MBBS/BDS degrees across selected medical colleges in Jammu and Kashmir.

The sample size was determined using the Finite Population Correction (FPC) method, resulting in a sample of 675 respondents. The questionnaire served as the main data collection instrument that was personally shared among the respondents and collected on the spot to ensure a 100% response rate.

The data have been examined using the proper statistical methods and techniques. More specifically, R programming, SPSS software and Excel have been used to obtain important insights. Subsequently, a variety of tests, such as the Chi-Square (χ^2) test, the Kruskal-Wallis test and the Mann-Whitney were employed to examine the relationships as well as the differences between variables. Additionally, the study utilised descriptive statistics, namely mean and standard deviation, to interpret and support the research outcomes.

For a population size of 6865, with a margin of error of ±3.60% and 95% confidence level, the required sample size was calculated to be approximately 675 using the Raosoft website (http://www.raosoft.com/). However, based on practical considerations and methodological rigour, the final sample size selected was 668 respondents to enhance the robustness of the analysis.

Since this is a quantitative study, the data were collected via the survey method. The structured questionnaire was designed to align with the stated objectives and scope, comprising both open-ended and closed-ended questions. The design of the questionnaire is explained in the following sections:

5.3. Designing the Questionnaire

Different kinds of questions, including binary response questions, multiple-choice questions, Likert scale questions, and opinion-based questions, have been incorporated in the questionnaire.

Every question has been designed in a manner that makes it easy for respondents to understand and quick to answer. The questionnaire has been carefully designed to obtain all necessary information from the respondents. The following factors were mainly included in the questionnaire:

1. Demographics
2. Social media
3. Information seeking
4. Information sharing
5. Information seeking and Information sharing
6. Information reliability
7. Misinformation
8. Combating misinformation
9. Role of libraries

5.3.1. Selection of Sample

The sample was chosen based on how students from 13 medical and dental schools in Jammu and Kashmir used social media. As stated in Section 1.6, students were chosen during the survey period using a non-probability convenience sampling approach.

5.3.2. Sample size

A structured questionnaire, with a sample of 675 respondents, was used to collect the data. In each institution, a sample was selected based on the population of students.

5.3.3. Administering the Questionnaire

In the first phase, a pilot study was conducted on the students at Lovely Professional University, Punjab. This was done to improve the quality and efficiency of the designed questionnaire. In the second phase, the finalised questionnaire was administered to the students at the medical colleges mentioned in the study. The questionnaire was distributed and collected both personally and electronically from the students by the scholar.

5.3.4. Steps in Questionnaire Designing

A questionnaire is a widely used tool for data collection in academic research. It helps in gathering information on behaviours, attitudes, facts, knowledge and other aspects. Hence, developing a valid and reliable questionnaire involves several steps which take considerable time. The steps taken to design the questionnaire for this study are mentioned in the figure:

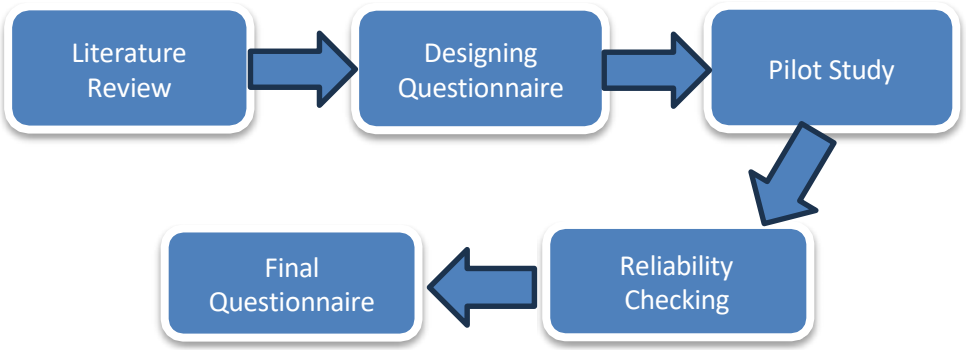


Figure 5.3.4.: Steps in Questionnaire Designing

5.3.5. Final Questionnaire

Based on the modifications from the pilot study, a final questionnaire was designed comprising 34 questions. The questionnaire was entitled "Questionnaire for Medical Colleges." A total of 10 sections were created, namely: (1) Questionnaire for Medical Colleges (2) Demographics, (3) Social media (4) Information seeking (5) Information Sharing (6) Information seeking and sharing (7) Information reliability (8) Misinformation (9) Combatting misinformation (10) Role of Libraries. The final questionnaire is appended at "Appendix - 1: Questionnaire for Users".

Section 1 consisted of the title and a brief introduction to the study. It reassured the respondents that their answers would remain confidential. Moreover, it provided guidelines on answering certain questions, which utilised the Likert Scale.

Section 2 was titled "Demographics", and it aimed to gather information regarding age, gender, course of the study, and year of the study from the respondents.

"Social Media" was the title of the 3rd section. Here, the respondents were asked questions about the devices they used to access social media, the most commonly used social media platforms, the average time spent on social media, and the reasons behind their engagement with social media platforms.

Given the importance of information in this study, the section 4, named "Information Seeking", featured questions regarding this key concept. This section comprises four questions regarding the extent to which users prefer social media as their primary source for seeking information, the social media platforms used for information seeking, the motivations for seeking information on social media, and the factors that discourage respondents from seeking information on social media.

Following this, the study explored another key concept of the study, namely "Information Sharing". This formed section 5 and included three questions. The respondents were asked how often they share information on social media, the reasons behind sharing and the reasons that stopped them from sharing information on social media.

Section 6 combined the key concepts to examine their interconnected nature within the study. This section, titled "Information Seeking and Sharing," included three questions. The first and second questions focused on the type of content that users predominantly sought and shared on social media, respectively. The third question was asked about the factors that discouraged them from seeking and sharing information on social media.

Section 7 was titled "Information Reliability" and included questions about how respondents evaluate the credibility of information sources, the likelihood of fact-checking or verifying information on social media. The third question in the section concerned the ability to differentiate between accurate and inaccurate health information on social media.

Due to the importance of misinformation in this study, it has been addressed in two sections. Section 8 was titled "Misinformation" and consisted of three questions. In this section, questions were asked regarding the likelihood of encountering doubtful health-related information, the accuracy of health-related information found online, and the potential consequences of spreading misinformation, as reported by the respondents.

"Combating misinformation" was the heading of section 9 of the questionnaire. This section consisted of four questions—the first question aimed to obtain information about how medical students spot misinformation. The second question focused on their perception of the major source of misinformation, and the third question explored the

likelihood of fact-checking health information before sharing it on social media. The final question in this section enquired about users' approaches to handling the misinformation.

"Role of Libraries" was the 10th section of the questionnaire and marked the end of it. There were five questions asked of the respondents in this section. They were asked about the frequency of their library visits, whether they believe librarians play a role in combating misinformation, and their views on the role libraries play. The last two questions aimed to understand how often users sought assistance in verifying the accuracy of information and whether they considered libraries as relevant in the age of ubiquitous information access.

5.3.6. Distribution of Questionnaires

The researcher personally visited all the medical colleges of Jammu and Kashmir. A structured questionnaire was personally circulated among 675 medical students during the data collection process, which was conducted during October-November 2024. The response rate was 100% as the questionnaires were distributed via QR code, and all the questions were made mandatory to answer.

S.No.	Name of the Medical College	Population	Sample	proportion	Percentage
01	Government Medical College, Baramulla	500	49	9.8	7.28%
02	Government Medical College, Anantnag	500	49	9.8	7.28%
03	Government Medical College, Srinagar	900	89	9.8	13.1%
04	Sher-I-Kashmir Institute of Medical Sciences, Srinagar	625	61	9.7	9.1%
05	Government Medical College, Jammu	900	89	9.8	13.1%

06	Government Medical College, Kathua	500	49	9.8	7.28%
07	Government Medical College, Rajouri	500	49	9.8	7.28%
08	Government Medical College, Doda	500	49	9.8	7.28%
09	All India Institute of Medical Sciences, Jammu	310	31	9.6	4.51%
10	Acharya Shri Chander College of Medical Sciences, Jammu	500	49	9.8	7.28%
11	Government Dental College, Srinagar	315	31	9.8	4.58%
12	Institute of Dental College, Sehora	500	49	9.8	7.28%
13	Indira Gandhi Dental College, Amphalla	315	31	9.8	4.58%
	Total	6865	675		99.93%

Table: 5.3.7.: Distribution of Questionnaire (N=675)

5.3.7. Reliability of Questionnaire

The term reliability generally refers to the consistency of a measuring instrument (Schuurman & Hamaker, 2019). The consistency in results is maintained when administered by different people, i.e., interrater reliability, or when done at various time points, known as test-retest reliability (Sainani, 2017). However, the construct which is being measured is expected to change over time (e.g., social media usage patterns). Therefore, this research makes use of Cronbach's Coefficient Alpha. It estimates reliability by using data from a single test administration. Currently, it is considered the most reliable coefficient available (Cho & Kim, 2015).

The reliability analysis of the questionnaire reveals excellent internal consistency**,** as indicated by a Cronbach's Alpha of 0.89**,** which falls within the "excellent" range.

Overall, the scale demonstrates a high level of reliability and consistency in measuring the intended construct.

Interpretation of Cronbach's Alpha Results		
Metric	**Value**	**Meaning**
raw_alpha / std.alpha	0.89	This is **excellent reliability**. Typically: • > 0.9 → Excellent (but possibly redundant) • 0.8–0.9 → Good • 0.7–0.8 → Acceptable

Table 5.3.8.: Reliability Test for Users' Questionnaire

5.4. Analysis of medical students' responses

A survey was conducted using a structured questionnaire circulated personally among 668 medical students.

5.4.1. Gender-wise Distribution

Gender	Number	Percentage
Female	330	49.40%
Male	338	50.60%
Grand Total	668	100%

Table 5.4.1.: Gender-wise Distribution of Respondents (N=668)

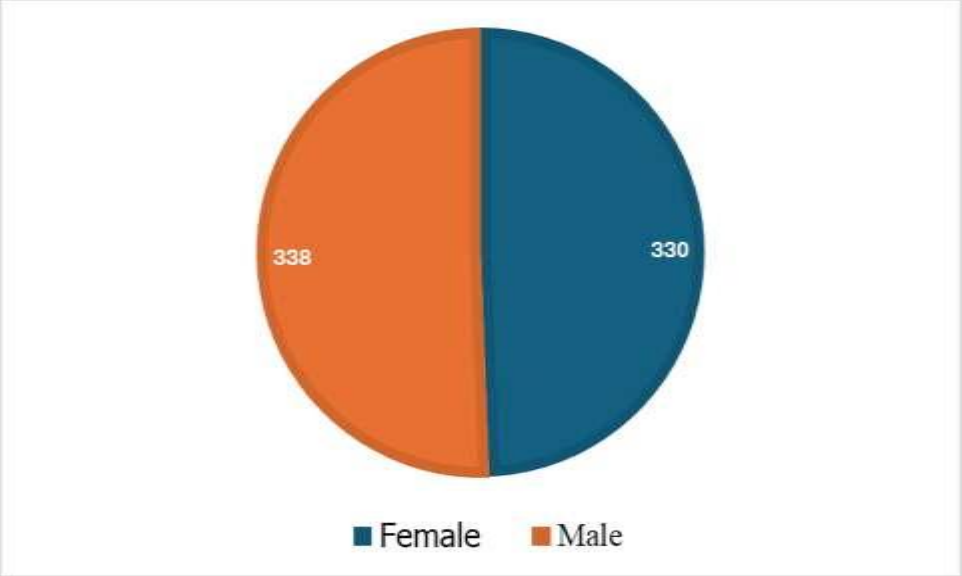


Figure 5.4.1.: Gender-wise Distribution of Respondents (N=668)

The gender-wise distribution of the sample reveals that there are 330 females (49.40%) and 338 males (50.60%), totaling 668 individuals. The difference in the number of

males and females is minimal, with males being slightly more represented than females. Since the distribution is nearly equal, this suggests that the sample is fairly balanced in terms of gender representation.

5.4.2. Age-wise Distribution

Age	Number	Percentage
17-20 years	202	30.24%
20-23 years	295	44.16%
23-26 years	151	22.60%
26-29 years	20	2.99%
Total	668	100%

Table 5.4.2.: Age-wise Distribution of Respondents (N=668)

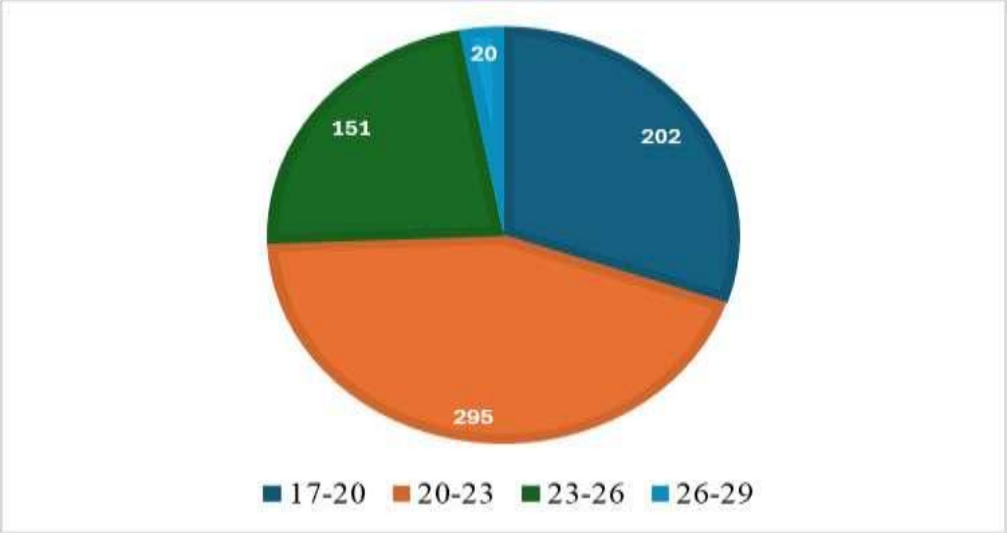


Figure 5.4.2.: Age-wise Distribution of Respondents (N=668)

The age-wise distribution of the sample indicates that the majority of individuals fall within the 20-23 age group, comprising 295 individuals (44.16%). This is followed by the 17-20 age group, which includes 202 individuals (30.24%). The 23-26 age group comprises 151 individuals (22.60%), making it the third-largest category. The 26-29 age group is the least represented, with only 20 individuals (2.99%), indicating that older participants are relatively rare in the sample.

5.4.3. Year-wise Distribution

Course Year	Number	Percentage
1	237	35.48%
2	174	26.05%
3	148	22.16%
4	59	8.83%
5	23	3.44%
6	11	1.65%
Completed	16	2.40%
Total	668	100%

Table 5.4.3.: Year-wise Distribution of Respondents (N=668)

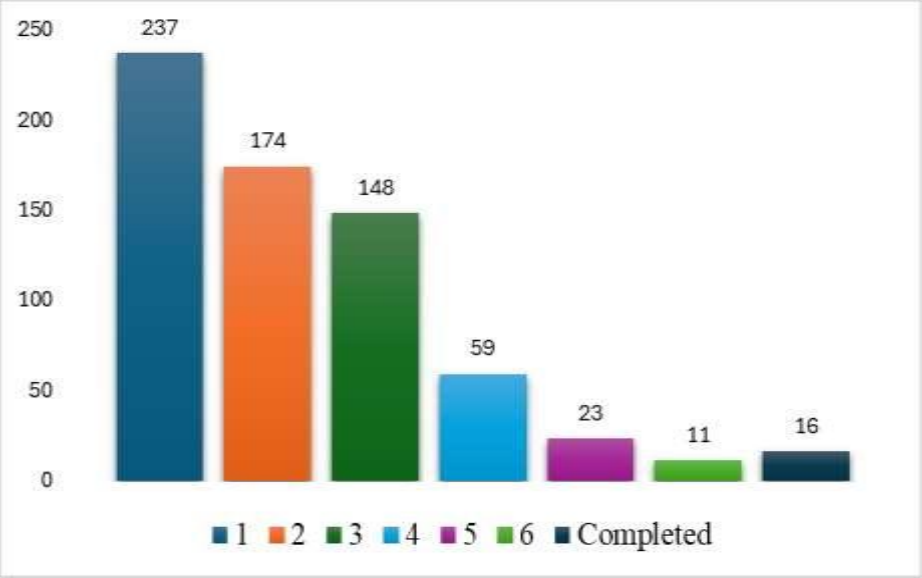


Figure 5.4.3.: Year-wise Distribution of Respondents (N=668)

The distribution of individuals based on their course year reveals that the majority of participants are in their first year (237 individuals, 35.48%), followed by those in the second year (174 individuals, 26.05%) and the third year (148 individuals, 22.16%). The fourth-year group consists of 59 individuals (8.83%), while the fifth-year and sixth-year groups have 23 (3.44%) and 11 (1.65%) individuals, respectively. Additionally, 16 individuals (2.40%) have completed their course, indicating that they are graduates who may still be engaged in academic or professional activities related to their field of study.

5.5. Use of social networking sites

5.5.1. Preferred Devices for Accessing Social Media

Nowadays, staying connected and updated has become a necessity. Students increasingly rely on various digital devices to access social media for communication, information, entertainment, etc. In light of this, a question was framed regarding the preferred devices to access social media, and the responses are mentioned in Table 5.5.1.

Device Type	Number of Selections	Percentage
Laptop	263	20.91%
Smartphone	641	50.95%
Smartwatch	114	9.06%
Tablet	240	19.08%
Total Selections	1258	100.00%

Table 5.5.1.: Preferred device for accessing social media

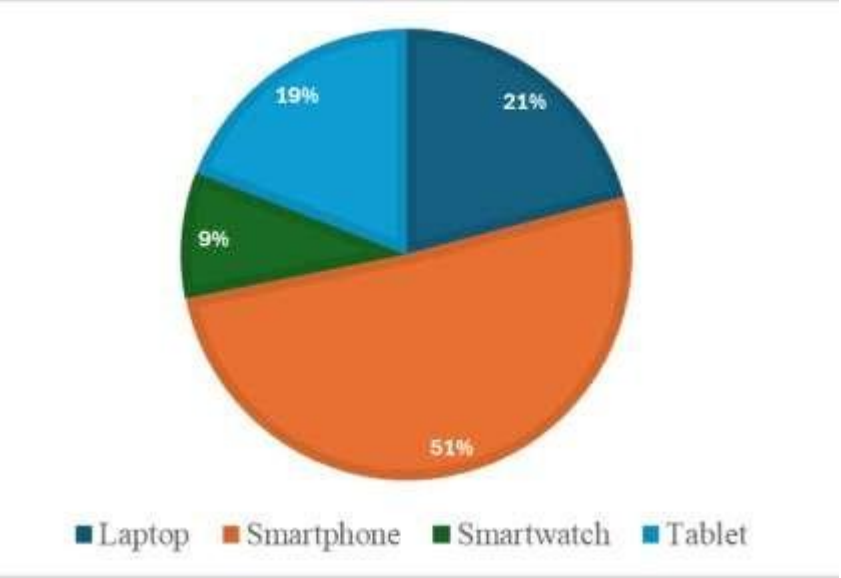


Figure 5.5.1.: Preferred device for accessing social media

The respondents could select multiple devices. The data reveals that smartphones are the most commonly used device for accessing social media, with 641 selections accounting for 50.95% of the total responses. This indicates that smartphones are the primary choice for social media engagement, likely due to their portability, convenience, and accessibility. Laptops and tablets follow as the next most used devices, with 263 (20.91%) and 240 (19.08%) selections, respectively. Smartwatches,

on the other hand, account for the least number of selections (114, or 9.06%), indicating that while they are used for social media access, their role is relatively limited. Overall, the data highlights a multi-device usage trend, where respondents are likely to use more than one device to access social media. The dominance of smartphones reinforces their importance in digital communication, while laptops and tablets serve as complementary devices for more specific or extended social media interactions.

5.5.2. Preferred Social Media Platforms

Social Media Platform	Number of Selections	Percentage
Facebook	202	8%
Instagram	478	18%
LinkedIn	147	5%
Snapchat	329	12%
Telegram	257	10%
WhatsApp	495	18%
X(Twitter)	214	8%
YouTube	557	21%
Grand Total	2679	100%

Table 5.5.2.: Preferred social media platforms

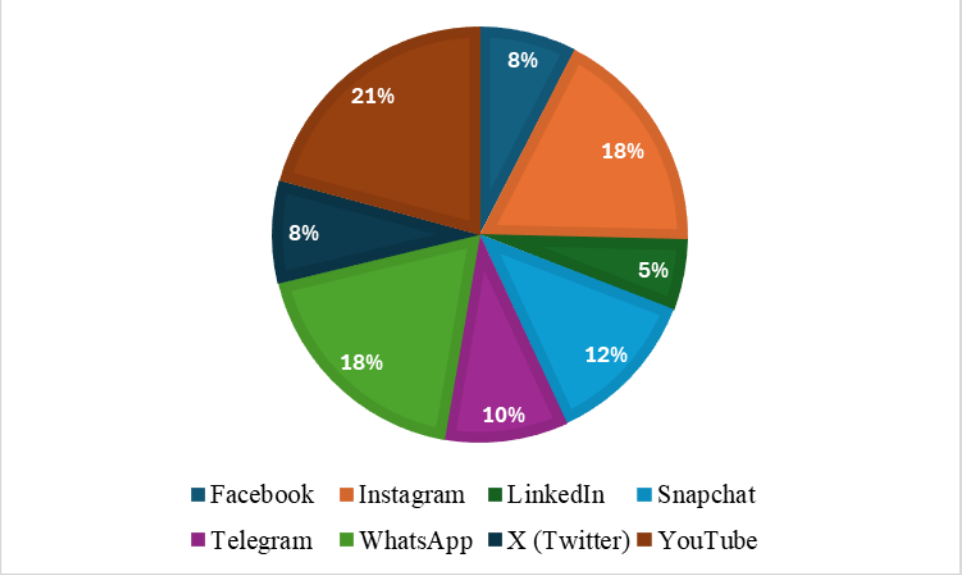


Figure 5.5.2.: Preferred social media platforms

The data reveal that Instagram (18%), YouTube (21%), and WhatsApp (18%) are the most frequently used social media platforms among respondents. This suggests that

visual and interactive content, such as images, videos, and short-form media, are the primary forms of engagement. Snapchat (12%) also has significant usage. Similarly, the popularity of YouTube (21%) indicates a strong preference for short-form video content, especially among younger users.

Meanwhile, X (8%), Facebook (8%), and LinkedIn (5%) have comparatively lower selection rates, suggesting that while these platforms are used, they may serve more niche purposes. X is often favoured for real-time news and discussions, Snapchat for casual social interactions, and LinkedIn for professional networking. Overall, the data highlights a multi-platform usage trend, where respondents are actively engaging with multiple social media sites based on different needs, whether for entertainment, communication, professional networking, or news consumption.

5.5.3. Time Spent on Social Media

Nowadays, social media has become a massive part of our lives. Students spend a significant amount of time on various platforms to interact with friends, consume information, share content, scroll through feeds, post pictures, etc.

Time Spent	Number	Percentage
Less than 30 minutes	23	3.44%
1-2 hours	220	32.93%
2-3 hours	147	22.01%
3-4 hours	86	12.87%
More than 4 hours	192	28.74%
Total	**668**	**100%**

Table 5.5.3.: Time Spent on Social Media

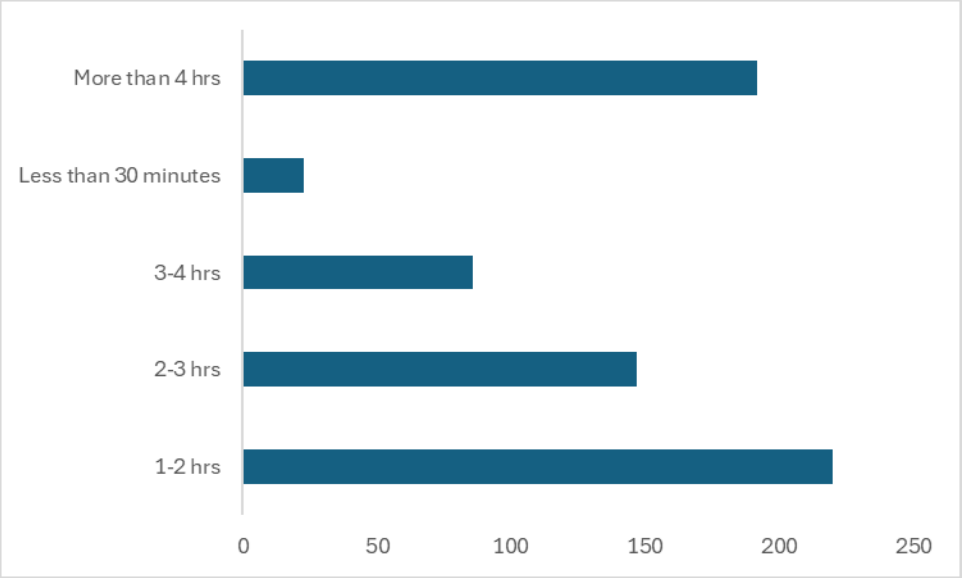


Figure 5.5.3.: Time spent on Social Media

The data indicate that social media usage varies significantly among respondents, with the largest group (32.93%) spending 1-2 hours per day on social media. This suggests that for many individuals, social media is a regular part of their daily routine but is not excessively time-consuming. A notable 28.74% of respondents spend more than 4 hours daily on social media, highlighting a segment of heavy users who likely engage in extended browsing, content consumption, or online interactions. Similarly, 22.01% of respondents spend 2-3 hours on social media, reinforcing the idea that it is a significant part of their daily lives. At the lower end, 12.87% of respondents spend 3-4 hours daily on social media, while a small group (3.44%) spends less than 30 minutes, indicating minimal engagement.

H1: There is a significant difference in using social media for seeking and sharing information, both gender-wise and age-wise.

5.6. Analysis of Seeking and Sharing Information on Social Media, both gender-wise and age-wise

5.6.1. Seeking Information on Social Media

5.6.1.1. Normality

Before conducting any statistical comparisons on how different age groups seek information on social media, it is essential to check whether the data follows a normal distribution. Normality is a key assumption for many parametric tests, such as t-tests and ANOVA. The Anderson-Darling (AD) test is a widely used method to assess whether a dataset follows a normal distribution. The null hypothesis for the AD test

assumes that the data are normally distributed, while the alternative hypothesis suggests that it is not.

The Anderson-Darling normality test was conducted to assess whether the data on seeking information on social media follows a normal distribution. The result is given as follows:

Test Statistic (A): 6.0309

p-value: 7.701e-15

The results indicated a significant deviation from normality, **A** = 6.03, **p** < .001.

The QQ plot and Histogram of Seeking Information are given below:

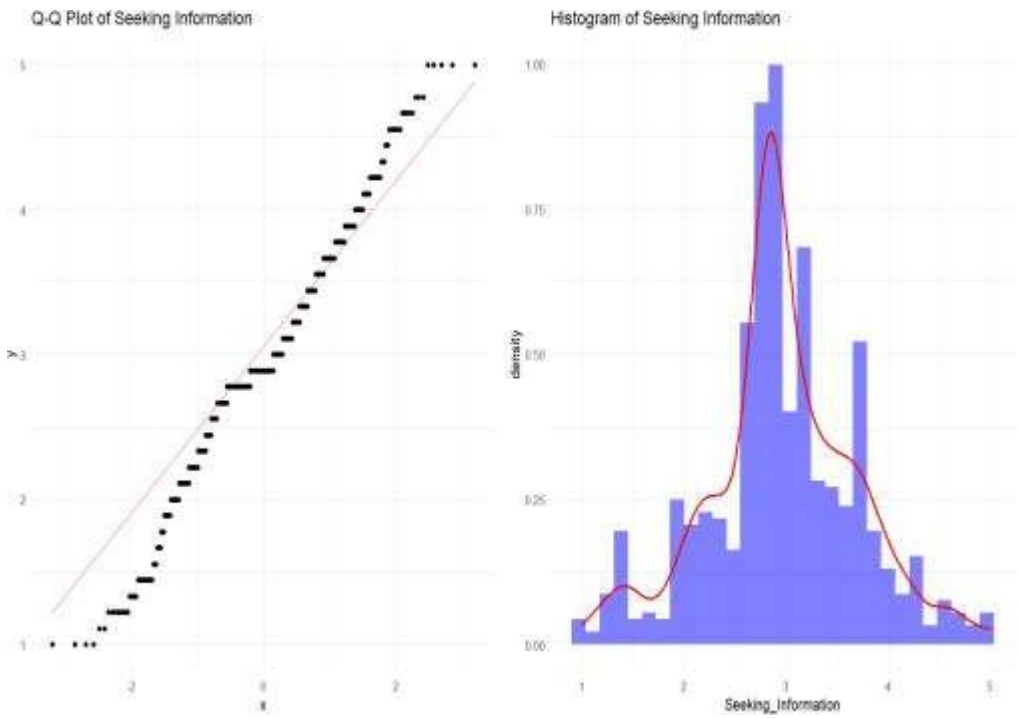


Figure 5.6.1.1.: Q-Q plot and Histogram

From Figure 5.6.1.1, the Q-Q plot shows noticeable deviations from the straight diagonal line, further confirming non-normality. The histogram exhibits skewness, suggesting that the data is not symmetrically distributed. The Anderson-Darling test, Q-Q plot, and histogram collectively indicate that the seeking of information on social media data does not follow a normal distribution. Therefore, non-parametric statistical methods should be used for further analysis.

5.6.1.2. Seeking Information on Social Media Age-wise

Social media platforms serve as key sources for seeking information across various age groups. The null and alternative hypotheses test whether there are significant

differences in the way individuals of different age groups seek information on social media.

Null Hypothesis (H_0): There is no significant difference in the way individuals of different age groups seek information on social media.

Alternative Hypothesis (H_1): There is a significant difference in the way individuals of different age groups seek information on social media.

To analyse whether there is a significant difference in how different age groups seek information on social media, a Kruskal-Wallis rank sum test is conducted. Since the Anderson-Darling test, Q-Q plot, and histogram indicated that the data do not follow a normal distribution, the Kruskal-Wallis test is an appropriate non-parametric alternative to ANOVA. This test determines whether there are statistically significant differences in the median values of seeking information across different age groups.

The result of the Kruskal-Wallis test is given as follows:

Test statistic	**Degree of Freedom**	**p-value**
0.39214	3	0.9419

Table 5.6.1.2.: Kruskal-Wallis test

From Table 5.6.1.2, the p-value (0.9419) is much greater than 0.05; we fail to reject the null hypothesis. This implies that there is no significant difference in how different age groups seek information on social media. Therefore, it can be said that age does not seem to appear as a determining factor in information-seeking behaviour on social media based on this dataset.

A box plot is a powerful visualisation tool that helps summarise the distribution of a dataset by displaying key statistical measures such as the median, quartiles, and outliers. In this analysis, the box plot is used to compare seeking information on social media across different age groups. It provides insights into the central tendency, variability, and presence of outliers within each age category. By examining the box plot, we can visually assess whether significant differences exist among age groups before confirming the findings with statistical tests.

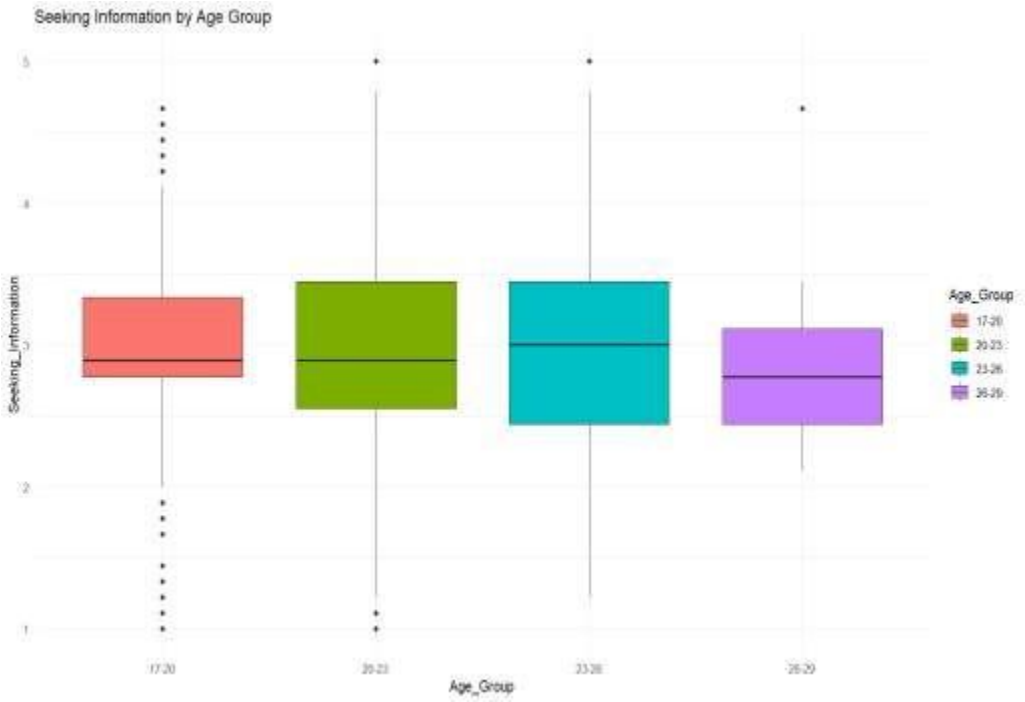


Figure 5.6.1.2.: Box plot

Figure 5.6.1.2. shows that the median values for all age groups appear relatively similar, suggesting that individuals across different age categories have comparable tendencies in seeking information on social media. The IQR for each age group is quite similar, indicating that the variation in responses is consistent across groups. Each age group contains several outliers, which indicate that some individuals exhibit significantly different information-seeking behaviour compared to the majority. There is a separate category labelled "NA," which may represent missing or unclassified age data. This should be investigated to determine if it affects the analysis.

Since the Kruskal-Wallis test produced a high p-value (0.9419), there is no statistically significant difference in seeking information across different age groups. This result aligns with the box plot, as there is no clear separation in the medians and spreads among age groups, further supporting the conclusion that age does not play a significant role in information-seeking behaviour on social media. The box plot and Kruskal-Wallis test results consistently indicate that there is no significant difference in seeking information among different age groups. The similar median values and overlapping IQR reinforce the idea that age is not a major determinant of information-seeking behaviour on social media.

5.6.1.3. Seeking Information on Social Media, Gender-wise

After analysing differences in seeking information on social media across age groups using the Kruskal-Wallis test, we now examine gender-wise differences using the Mann-Whitney U test (Wilcoxon rank-sum test). The Mann-Whitney U test is a non-parametric test designed to compare two independent groups. While the Kruskal-Wallis test can be used for two or more groups, the Mann-Whitney U test is more commonly applied when comparing exactly two groups (in this case, male and female users).

The null and alternative hypotheses to test whether significant differences in the way individuals of different gender groups seek information on social media are given as follows,

Null Hypothesis (H_0): There is no significant difference in the way individuals of different gender groups seek information on social media.

Alternative Hypothesis (H_1): There is a significant difference in the way individuals of different gender groups seek information on social media.

The result of the Mann-Whitney U test is given as follows:

Test statistic	Degree of Freedom	p-value
54159	1	0.5172

Table 5.6.1.3. Mann-Whitney U test

With a p-value of 0.5172, which is well above the 0.05 significance level, the analysis fails to reject the null hypothesis, demonstrating no notable gender-based difference in social media information-seeking behaviour. Gender does not appear to be a key factor influencing information-seeking behaviour on social media in this dataset.

A box plot is a useful visualisation tool that helps summarise the distribution of a dataset by displaying key statistical measures, such as the median, quartiles, and outliers. In this case, the box plot is used to compare seeking information on social media between male and female respondents. This visual representation helps to assess differences in central tendency, variability, and potential outliers before conducting statistical hypothesis tests.

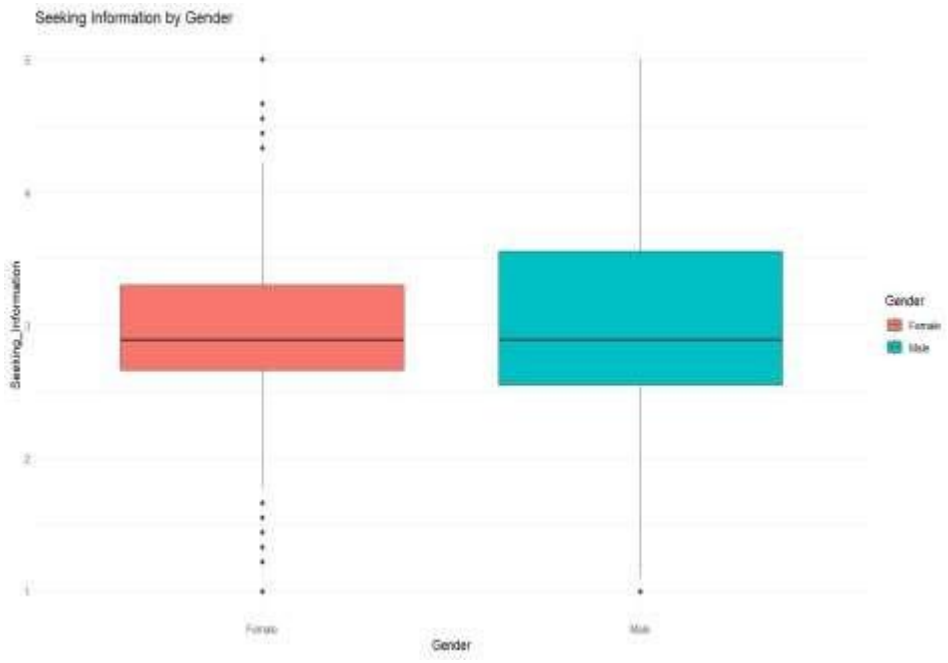


Figure 5.6.1.3.: Box plot

Figure 5.6.1.3. shows that the median values for both males and females appear to be similar, suggesting that their overall tendencies in seeking information on social media do not differ significantly. The male group has a slightly wider IQR, indicating more variation in responses compared to females. The female group has a more compact IQR, showing slightly less variability in responses. Both groups contain outliers, indicating that some individuals exhibit significantly different information-seeking behaviour compared to the majority.

Since the Mann-Whitney U test produced a high p-value (0.5172), we failed to reject the null hypothesis, indicating that there is no statistically significant difference between males and females in seeking information on social media. This aligns with the box plot, as the medians are close, and there is considerable overlap in the distributions. The box plot and Mann-Whitney U test results consistently suggest that gender does not significantly influence how individuals seek information on social media. The similarities in median values and overlapping IQR support the conclusion that both males and females engage in information-seeking behaviour on social media in a comparable manner.

5.6.2. Sharing Information on Social Media

5.6.2.1. Normality

Before conducting any statistical comparisons on how different age groups share information on social media, it is essential to check whether the data follows a normal

distribution. Normality is a key assumption for many parametric tests, such as t-tests and ANOVA. The Anderson-Darling (AD) test is a widely used method to assess whether a dataset follows a normal distribution. The null hypothesis for the AD test assumes that the data are normally distributed, while the alternative hypothesis suggests that it is not.

The Anderson-Darling normality test was conducted to assess whether the data on sharing information on social media follows a normal distribution. The result is given as follows:

Test Statistic (A): 6.7898

p-value: 2.2e-16

The results indicated a significant deviation from normality, $\mathbf{A} = 6.7898$, $\mathbf{p} < .001$.

The QQ plot and Histogram of Sharing Information are given below:

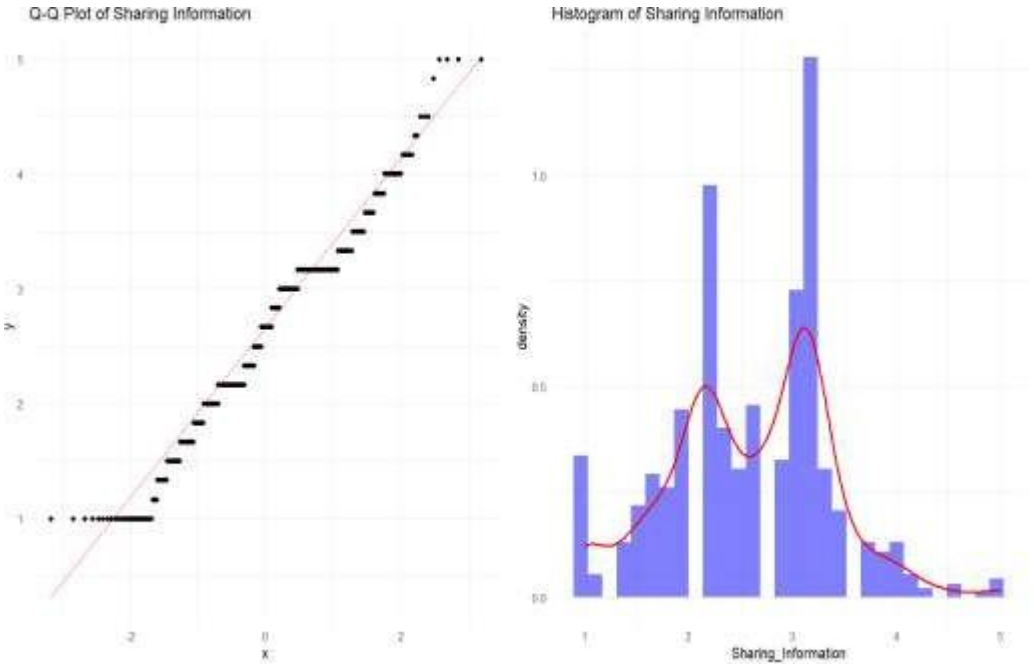


Figure 5.6.2.1. QQ plot and Histogram

From Figure 5.6.2.1, the Q-Q plot shows noticeable deviations from the straight diagonal line, further confirming non-normality. The histogram likely exhibits skewness, suggesting that the data is not symmetrically distributed. The Anderson-Darling test, Q-Q plot, and histogram collectively indicate that sharing information on social media data does not follow a normal distribution. Therefore, non-parametric statistical methods should be used for further analysis.

5.6.2.2. Sharing Information on Social Media Age-wise

The null and alternative hypotheses test whether there are significant differences in the way individuals of different age groups share information on social media.

Null Hypothesis (H_0): There is no significant difference in the way individuals of different age groups share information on social media.

Alternative Hypothesis (H_1): There is a significant difference in the way individuals of different age groups share information on social media.

To analyse whether there is a significant difference in how different age groups share information on social media, a Kruskal-Wallis rank sum test is conducted. Since the Anderson-Darling test, Q-Q plot, and histogram indicated that the data do not follow a normal distribution, the Kruskal-Wallis test is an appropriate non-parametric alternative to ANOVA. This test determines whether there are statistically significant differences in the median values of sharing information across different age groups.

The result of the Kruskal-Wallis test is given as follows:

Test statistic	Degree of Freedom	p-value
10.752	3	0.01314

Table 5.6.2.2.1.: Kruskal-Wallis test

Since the p-value is less than the conventional significance level of 0.05, the null hypothesis is rejected. This indicates a statistically significant difference in sharing information across different age groups. This suggests that age plays a role in how individuals share information on social media. To further investigate which specific age groups differ, a post-hoc pairwise comparison (such as Dunn's test with Bonferroni correction) should be conducted.

Post Hoc test (Dunn's test)

Since the Kruskal-Wallis test indicated a significant difference in sharing information across age groups, we conducted Dunn's post-hoc test with Bonferroni correction to determine which specific age groups differ.

The result of Dunn's post hoc test with Bonferroni correction is given as follows,

	y	Group1	Group 2	n1	n2	statistic	p	p.adj	p.adj. significant
1	Sharing Information	17-20	20-23	281	272	-3.25	0.00115	0.00689	**
2	Sharing Information	17-20	23-26	281	97	-0.83	0.406	1	ns
3	Sharing Information	17-20	26-29	281	9	-0.628	0.53	1	ns
4	Sharing Information	20-23	23-26	272	97	1.51	0.131	0.784	ns
5	Sharing Information	20-23	26-29	272	9	0.188	0.85	1	ns
6	Sharing Information	23-26	26-29	97	9	-0.33	0.742	1	ns

Table 5.6.2.2.2. Post Hoc test (Dunn's test)

The only significant difference was observed between the 17-20 and 20-23 age groups (p.adj = 0.00689, marked as **). This suggests that individuals aged 17-20 share information differently compared to those aged 20-23. All other pairwise comparisons did not show statistically significant differences (p.adj > 0.05, marked as "ns"). This indicates that the other age groups do not significantly differ in how they share information on social media.

The significant difference between the 17-20 and 20-23 age groups suggests that sharing behaviour changes between these two age groups, possibly due to differences in digital habits, social media engagement, or information-sharing preferences. However, no significant differences were found among the other age groups, indicating a relatively stable pattern of information sharing for individuals aged 20 and above.

box plot

A box plot is a powerful visualisation tool that helps summarise the distribution of a dataset by displaying key statistical measures such as the median, quartiles, and outliers. In this analysis, the box plot is used to compare the sharing of information on social media across different age groups.

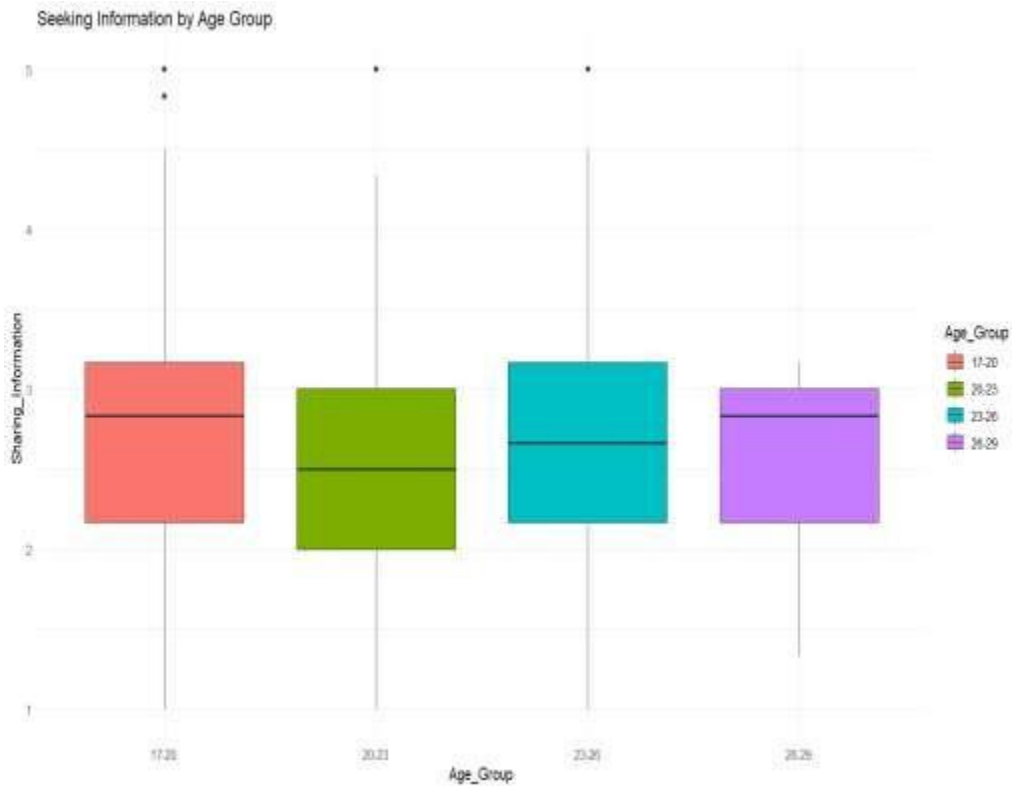


Figure 5.6.2.2.: Box plot

The box plot above displays the distribution of sharing information scores across different age groups (17-20, 20-23, 23-26, and 26-29):

The medians are relatively close across groups, suggesting that central tendencies are not drastically different. The 26-29 age group appears to have a slightly higher median compared to others. The interquartile ranges (IQRs), which represent the middle 50% of the data, appear similar across age groups. The 23-26 and 26-29 age groups have slightly higher upper quartiles, indicating that they may share more information compared to younger groups. A few outliers are visible, particularly in the 17-20 and 26-29 groups, suggesting some individuals share information significantly more or less than their peers.

The combination of the box plot visualisation and the Kruskal-Wallis test suggests that sharing information varies significantly across age groups. However, only the 17-20 and 20-23 groups showed a statistically significant difference. This may indicate that individuals in their late teens have different online sharing behaviours compared to those in their early 20s, possibly due to differences in digital habits, privacy concerns, or engagement on social media platforms. While the other age groups showed no significant differences, further research could explore why this shift occurs between

17-20 and 20-23 and whether external factors such as education level or social influences contribute to these variations.

5.6.2.3. Sharing Information on Social Media, Gender-wise

After analysing differences in sharing information on social media across age groups using the Kruskal-Wallis test, we now examine gender-wise differences using the Mann-Whitney U test (Wilcoxon rank-sum test). The Mann-Whitney U test is a non-parametric test designed to compare two independent groups. While the Kruskal-Wallis test can be used for two or more groups, the Mann-Whitney U test is more commonly applied when comparing exactly two groups (in this case, male and female users).

The null and alternative hypotheses to test whether significant differences in the way individuals of different gender groups share information on social media are given as follows:

Null Hypothesis (H_0): There is no significant difference in the way individuals of different gender groups share information on social media.

Alternative Hypothesis (H_1): There is a significant difference in the way individuals of different gender groups share information on social media.

The result of the Mann-Whitney U test is given as follows:

Test statistic	Degree of Freedom	p-value
57583	1	0.4013

Table 5.6.2.3.: Mann-Whitney U test

Since the p-value (0.4013) is much greater than 0.05, we fail to reject the null hypothesis. This indicates that there is no significant difference in how males and females share information on social media. Gender does not appear to be a key factor influencing information-sharing behaviour on social media in this dataset.

box plot

The box plot is used to compare the sharing of information on social media between male and female respondents. This visual representation helps to assess differences in central tendency, variability, and potential outliers before conducting statistical hypothesis tests.

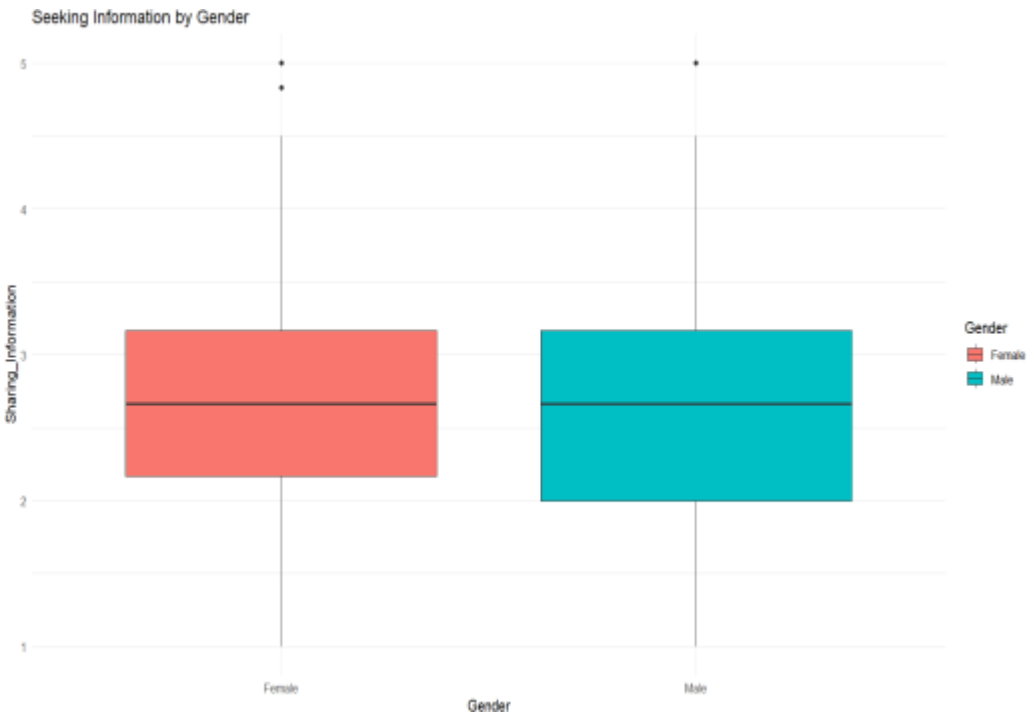


Figure 5.6.2.3. box plot

The box plot visualises sharing information behaviour for males and females:

The median sharing information score is nearly identical for both genders. There is no clear indication of a big difference between males and females. The interquartile ranges (IQRs) for both genders are similar. Outliers are present in both groups, indicating that a few individuals share information significantly more or less than their peers.

The combination of the box plot visualisation and the Mann-Whitney U test suggests that there is no significant difference in sharing information behaviour between males and females. The box plot shows similar medians and interquartile ranges for both genders, indicating comparable distributions. This suggests that gender does not play a crucial role in determining how individuals share information. The similarity in sharing behaviours between males and females could be attributed to common digital habits, access to similar online platforms, or equal exposure to social and informational networks. Further research could explore other factors, such as personality traits, cultural influences, or specific digital media usage patterns that might better explain variations in sharing behaviour.

5.7. Extent of Social Media Usage for Seeking Information

In today's digital age, social media platforms play a crucial role in information dissemination. To understand the extent to which individuals rely on social media for seeking information, a study was conducted among 668 participants, where each

respondent selected multiple platforms that they use for this purpose. The collected data provides insights into the popularity of various platforms in information-seeking behaviour.

5.7.1. Extent of Social Media Usage for Seeking Information, Gender-wise

This section explores the extent to which social media platforms are used for seeking information based on gender. Understanding these gender-based differences can provide insights into preferences and behaviours regarding online information-seeking.

Social Media Platform	Male		Female	
	Number of Selections	Percentage	Number of Selections	Percentage
Facebook	51	4.96%	17	1.50%
Instagram	156	15.16%	188	16.62%
LinkedIn	67	6.51%	78	6.90%
Snapchat	91	8.84%	152	13.44%
Telegram	103	10.01%	72	6.37%
WhatsApp	179	17.40%	225	19.89%
X	104	10.11%	89	7.87%
YouTube	278	27.02%	310	27.41%
Total	1029	100.00%	1131	100.00%

Table 5.7.1.1. Social Media Platforms Used for Seeking Information, Gender-wise

The table presents the gender-wise distribution of social media usage for seeking information. The total number of selections made by males is 1,029, while females made 1,131 selections. The data shows that YouTube is the most commonly used platform among both males (27.02%) and females (27.41%). WhatsApp follows, with 17.40% of males and 19.89% of females using it for information-seeking. Instagram is more frequently used by females (16.62%) than by males (15.16%). Snapchat shows a significant gender difference, with 8.84% of males using it compared to 13.44% of females. Telegram is more popular among males (10.01%) compared to females (6.37%). Facebook is the least used platform overall, with 4.96% of males and 1.50% of females. LinkedIn and X show similar usage patterns between genders.

Chi-Square test

To determine whether the observed distribution of social media platform selections differs significantly from an expected distribution, a chi-square test was conducted. The

null and alternative hypotheses are given as follows:

Null Hypothesis (H_0): There is no association between gender and the choice of social media platform for seeking information (i.e., social media platform usage is independent of gender).

Alternative Hypothesis (H_1): There is a significant association between gender and the choice of social media platform for seeking information (i.e., social media platform usage depends on gender).

The result of the chi-square test is given as follows:

Test statistic	Degree of Freedom	p-value
45.044	7	1.341e-07

Table 5.7.1.2. Chi-Square test

Since the p-value is much smaller than the significance level (0.05), we reject the null hypothesis. This indicates that there is a statistically significant association between gender and the choice of social media platform for seeking information.

Standardised Residuals Analysis

The standardised residuals provide insights into which categories contributed the most to the significant chi-square result. The standardised residuals for each platform are as follows,

Social Media Platform	Residual (Male)	Residual (Female)	Interpretation
Facebook	4.59	-4.59	Males use Facebook significantly more than expected, while females use it significantly less.
Snapchat	-3.38	3.38	Females use Snapchat significantly more than expected, while males use it significantly less.
Telegram	3.1	-3.1	Males use Telegram significantly more than expected, while females use it significantly less.
WhatsApp	-1.49	1.49	No significant difference, but females tend to use WhatsApp slightly more than expected.

Instagram	-0.93	0.93	No significant difference in Instagram usage between genders.
LinkedIn	-0.36	0.36	No significant difference in LinkedIn usage between genders.
X	1.82	-1.82	Males use X slightly more than expected.
YouTube	-0.2	0.2	No significant difference in YouTube usage between genders.

Table 5.7.1.3. Standardised Residuals Analysis

Males are more likely to use Facebook and Telegram for seeking information than expected. Females are significantly more likely to use Snapchat for information-seeking than expected. No major gender differences are seen for YouTube, Instagram, LinkedIn, and WhatsApp. The chi-square test results confirm that gender influences social media platform preferences for seeking information. The most significant gender-based differences were found for Facebook (higher in males), Telegram (higher in males), and Snapchat (higher in females). The findings highlight potential variations in information-seeking behaviour across genders, which could be useful for tailoring platform-specific strategies for information dissemination.

5.7.2. Reasons and Motivations for Information Seeking on Social Media

Social media platforms provide an interactive space where users actively seek, share, and exchange information. Understanding the key motivations for seeking information can help organisations, educators, and content creators optimise their engagement strategies. This study aims to identify the primary reasons why individuals seek information on social media, based on responses from participants who selected multiple motivations.

Motivation/ Reason	Number of Selections	Percentage
Ease of use	339	14.09%
Study materials	457	18.99%
Latest medical news	308	12.80%
Networking with experts	227	9.43%
Job and Fellowship opportunities	192	7.98%
Online discussions	254	10.56%
Multiple channels of information	237	9.85%
Peer collaborations	153	6.36%
Entertainment	2	0.08%
Total	2406	100.00%

Table 5.7.2.: Reasons and Motivations for Information Seeking on Social Media

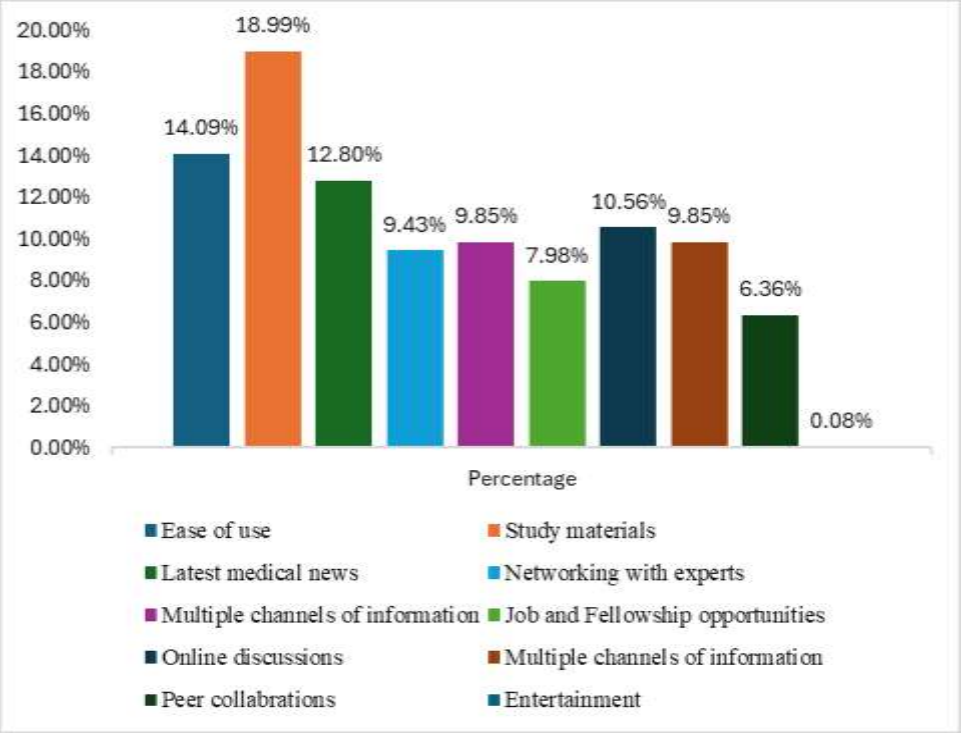


Figure 5.7.2.: Reasons and Motivations for Information Seeking on Social Media

The analysis indicates that the primary motivation for seeking information on social media is Study Materials (18.99%), reflecting the platform's role in academic and professional knowledge exchange. Ease of Use (14.09%) suggests that accessibility and user-friendly interfaces encourage individuals to seek information effortlessly. Latest

Medical News (12.80%) and Online Discussions (10.56%) highlight that users seek information to keep others informed about important updates and to engage in meaningful discussions. Networking with Experts (9.43%) and Job and Fellowship Opportunities (7.98%) suggest that professional growth and career-related interactions are significant drivers of information-seeking behaviour. Interestingly, Entertainment (0.08%) is the least cited reason, reinforcing the idea that information-seeking on social media is primarily driven by educational, professional, and knowledge-seeking purposes rather than leisure.

5.7.3. Types of Information Students Seek and Share on Social Media

Social media platforms serve as a major source for students to both seek and share information. Understanding the types of content students engage with can help educators, content creators, and organisations tailor digital strategies to meet their needs effectively. This study categorises the information that students actively seek and share on social media, highlighting key trends in their digital behaviour.

Content Type	Number of Selections	Percentage
News and current events	443	16.33%
Educational content	424	15.63%
Entertainment content	552	20.35%
Career Advice and Fellowships	157	5.79%
Peer Networking and Mentorship	85	3.13%
Creative content (artwork, photography, writing)	364	13.42%
Inspirational or motivational content	300	11.06%
Personal updates from family and friends	388	14.30%
Total	2713	100.00%

Table 5.7.3.1: Types of Information Students Seek on Social Media

Entertainment Content (20.35%) is the most sought-after type of information, followed by News and Current Events (16.33%) and Educational Content (15.63%). Personal updates from family and friends (14.30%) and Creative Content (13.42%) are also popular, indicating a mix of academic, social, and leisure interests. Career Advice and Fellowship Opportunities (5.79%) and Peer Networking & Mentorship (3.13%) are the

least sought-after, suggesting that students use other sources for professional guidance.

Content	Number of Selections	Percentage
Medical news and trends	386	20.06%
Educational content	437	22.71%
Networking and professional development	231	12.01%
Entertainment content	361	18.76%
Inspirational or motivational content	352	18.30%
Technology and innovation	157	8.16%
Total	1924	100.00%

Table 5.7.3.2: Types of Information Students Share on Social Media

Educational Content (22.71%) is the most shared type of information, suggesting that students actively contribute to knowledge dissemination. Medical News & Trends (20.06%) and Entertainment Content (18.76%) are also widely shared, reflecting interests in health awareness and social engagement. Inspirational or Motivational Content (18.30%) is frequently shared, likely to encourage peers. Technology & Innovation (8.16%) is the least shared, indicating that this content is more passively consumed than actively distributed.

The analysis highlights that while students seek entertainment and news, they share more educational and medical content. This suggests that students primarily consume content for leisure but are more active in contributing to academic and informational discussions.

H2: There is no significant variation in the seeking and sharing of misinformation among students.

5.8. Analysis of Misinformation on Social Media, both gender-wise and age-wise

5.8.1. Analysis of Misinformation on Social Media

5.8.1.1. Normality

The null hypothesis for the AD test assumes that the data are normally distributed, while the alternative hypothesis suggests that it is not.

The Anderson-Darling normality test was conducted to assess whether the data on misinformation on social media follows a normal distribution. The result is given as follows,

Test Statistic (A): 13.762

p-value: 2.2e-16

The results indicated a significant deviation from normality, **A** = 13.762, **p** < .001.

The QQ plot and Histogram of misinformation are given below:

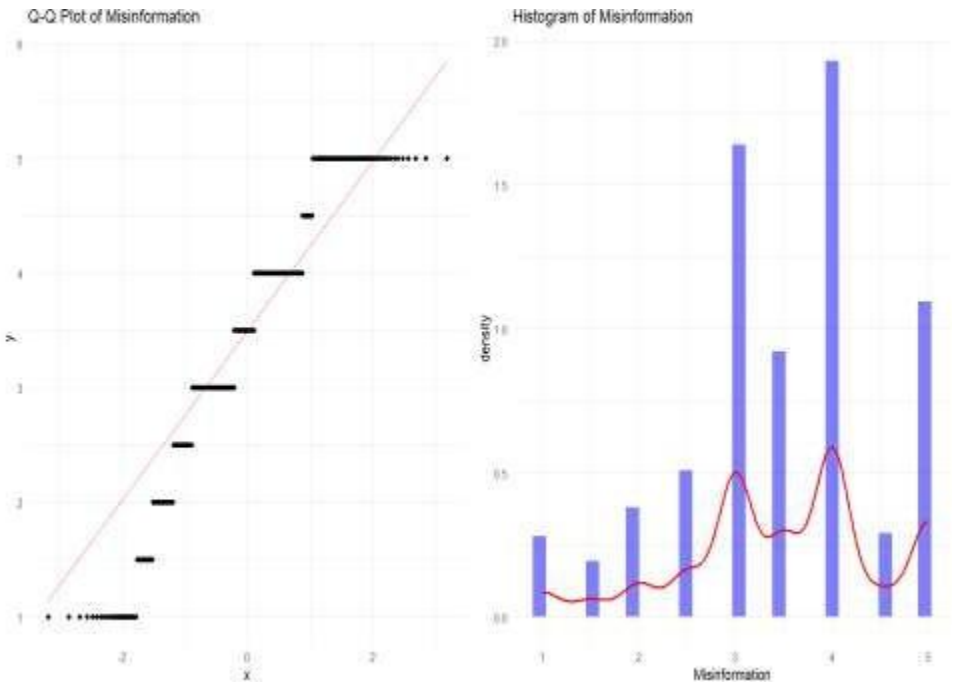


Figure 5.8.1.1: QQ plot and Histogram

From Figure 5.8.1.1, the Q-Q plot shows noticeable deviations from the straight diagonal line, further confirming non-normality. The histogram likely exhibits skewness, suggesting the data is not symmetrically distributed. The Anderson-Darling test, Q-Q plot, and histogram collectively indicate that misinformation on social media data does not follow a normal distribution. Therefore, non-parametric statistical methods should be used for further analysis.

5.8.1.2. Analysis of Misinformation on Social Media, Age-wise

The null and alternative hypotheses test whether there are significant differences in misinformation behaviour among students of different age groups on social media.

Null Hypothesis (H_0): There is no significant difference in misinformation behaviour across different age groups of students.

Alternative Hypothesis (H_1): There is a significant difference in misinformation behaviour across different age groups of students.

To analyse whether there is a significant difference in misinformation behaviour across different age groups on social media, a Kruskal-Wallis rank sum test was conducted.

Since the Anderson-Darling test, Q-Q plot, and histogram indicated that the data do not follow a normal distribution, the Kruskal-Wallis test was chosen as an appropriate non-parametric alternative to ANOVA. This test determines whether there are statistically significant differences in the median values of misinformation behaviour among different age groups.

The result of the Kruskal-Wallis test is given as follows,

Test statistic	**Degree of Freedom**	**p-value**
1.2642	3	0.7376

Table 5.8.1.2.: Kruskal-Wallis test

Based on Table 5.8.1.2, the p-value (0.7376) is much greater than the significance level of 0.05; therefore, the null hypothesis could not be rejected. This suggests that there is no significant difference in misinformation behaviour across different age groups on social media. In other words, age does not appear to be a determining factor in how individuals engage with misinformation on social media, according to this dataset.

In this analysis, the box plot is used to compare misinformation on social media across different age groups. It provides insights into the central tendency, variability, and presence of outliers within each age category. By examining the box plot, we can visually assess whether significant differences exist among age groups before confirming the findings with statistical tests.

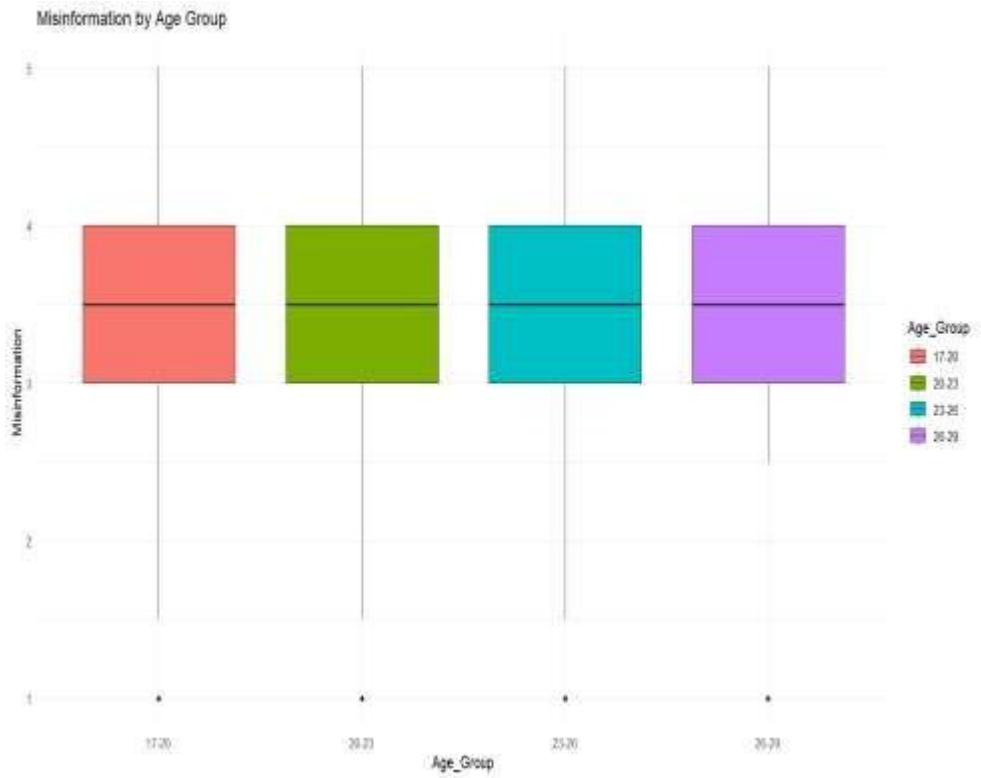


Figure 5.8.1.2.: Box plot

The combination of the box plot visualisation and the Kruskal-Wallis test suggests that there is no significant difference in misinformation perception across different age groups. The p-value of 0.7376 indicates that any observed variations in misinformation scores among the age groups are likely due to random chance rather than meaningful differences. The box plot supports this finding, as the medians and interquartile ranges appear similar across the four age groups, showing no clear trend or substantial variation. This suggests that misinformation perception is relatively uniform across age groups, possibly due to shared access to digital platforms and similar patterns of online behaviour.

5.8.1.3. Analysis of Misinformation on Social Media, Gender-wise

After analysing differences in misinformation behaviour across age groups using the Kruskal-Wallis test, we now examine gender-wise differences using the Mann-Whitney U test (also known as the Wilcoxon rank-sum test). The Mann-Whitney U test is a non-parametric test designed to compare two independent groups. While the Kruskal-Wallis test can handle two or more groups, the Mann-Whitney U test is more commonly applied when comparing exactly two groups (in this case, male and female users).

The null and alternative hypotheses for testing gender-based differences in

misinformation behaviour on social media are as follows:

Null Hypothesis (H_0): There is no significant difference in misinformation behaviour between male and female users on social media.

Alternative Hypothesis (H_1): There is a significant difference in misinformation behaviour between male and female users on social media.

The result of the Mann-Whitney U test is given as follows,

Test statistic	Degree of Freedom	p-value
60595	1	0.04873

Table 5.8.1.3.: Mann-Whitney U test

Since the p-value (0.04873) is slightly below the conventional significance level of 0.05, we reject the null hypothesis. This indicates that there is a statistically significant difference in misinformation behaviour between male and female users on social media. Although the difference is modest, it suggests that gender may play a small but meaningful role in how individuals engage with or respond to misinformation on these platforms.

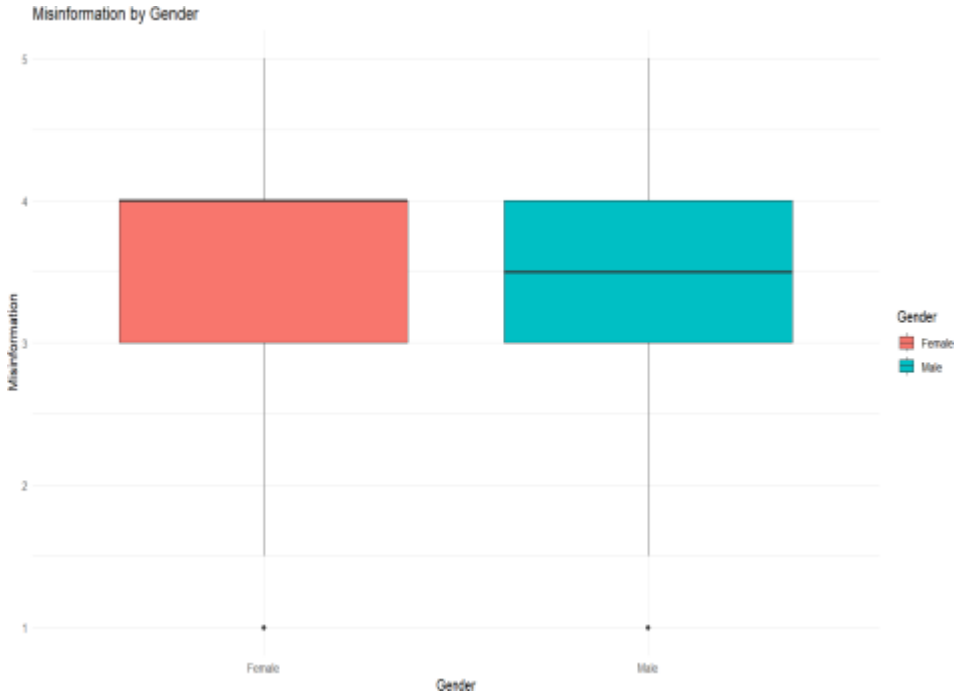


Figure 5.8.1.3.: Box plot

The box plot visualisation suggests that the distribution of misinformation scores is slightly different between genders, with males showing a slightly higher median score than females. However, there is some overlap in the interquartile ranges, indicating

variability in responses. This suggests that gender may play a role in misinformation perception or engagement, though the effect size should be assessed to determine the practical significance of this difference.

H3: A significant number of users frequently consume and share misinformation on social media.

5.9. Analysis of consuming and sharing misinformation on Social Media, both gender-wise and age-wise

5.9.1. Analysis of Consumption of Misinformation on Social Media

5.9.1.1. Normality

The Anderson-Darling (AD) test is a widely used method to assess whether a dataset follows a normal distribution. The null hypothesis for the AD test assumes that the data are normally distributed, while the alternative hypothesis suggests that it is not.

The Anderson-Darling normality test was conducted to assess whether the data on consuming misinformation on social media follows a normal distribution. The result is given as follows:

Test Statistic (A): 25.794

p-value: 2.2e-16

The results indicated a significant deviation from normality, **A** = 25.794, **p** < .001.

The QQ plot and Histogram of consuming misinformation are given below:

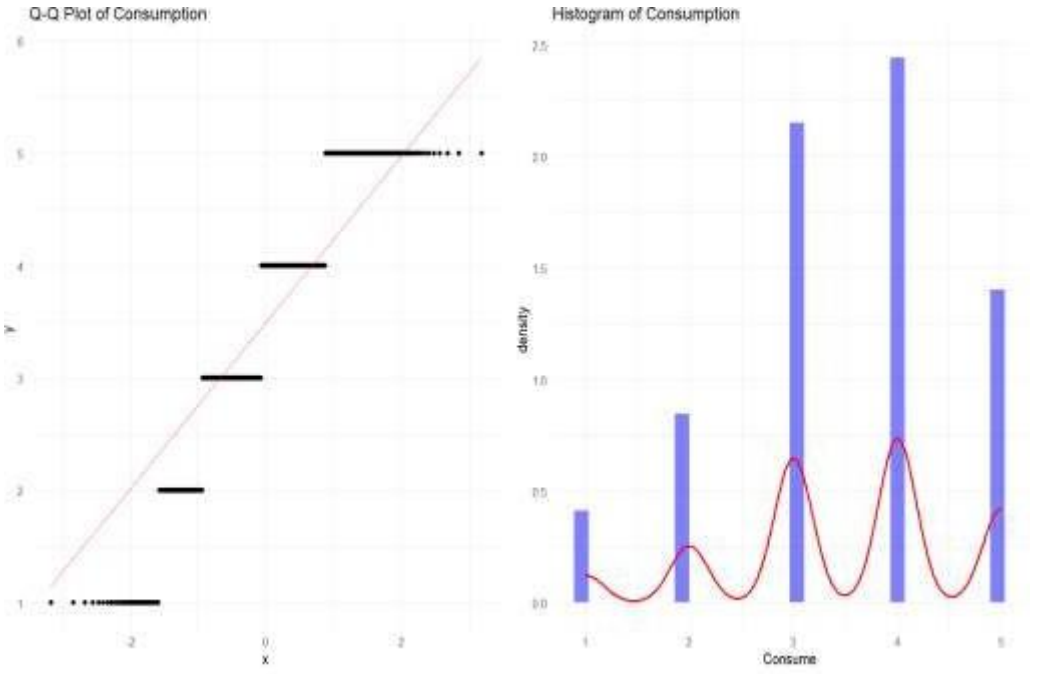


Figure 5.9.1.1.: QQ plot and Histogram

From Figure 5.9.1.1., the Q-Q plot shows noticeable deviations from the straight diagonal line, further confirming non-normality. The histogram likely exhibits skewness, suggesting that the data are not symmetrically distributed. The Anderson-Darling test, Q-Q plot, and histogram collectively indicate that the consumption of misinformation on social media data does not follow a normal distribution. Therefore, non-parametric statistical methods should be used for further analysis.

5.9.1.2. Analysis: Consuming misinformation on Social Media Age-wise

The null and alternative hypotheses test whether there are significant differences in the way individuals of different age groups consume misinformation on social media.

Null Hypothesis (H_0): There is no significant difference in the way individuals of different age groups consume misinformation on social media.

Alternative Hypothesis (H_1): There is a significant difference in the way individuals of different age groups consume misinformation on social media.

To analyse whether there is a significant difference in how different age groups consume misinformation on social media, a Kruskal-Wallis rank sum test is conducted. Since the Anderson-Darling test, Q-Q plot, and histogram indicated that the data do not follow a normal distribution, the Kruskal-Wallis test is an appropriate non-parametric alternative to ANOVA. This test determines whether there are statistically significant differences in the median values of consuming misinformation across different age groups.

The result of the Kruskal-Wallis test is given as follows:

Test statistic	**Degree of Freedom**	**p-value**
0.88835	3	0.8282

Table 5.9.1.2.: Kruskal-Wallis test

From Table 5.9.1.2., the p-value (0.8282) is much greater than 0.05; the null hypothesis cannot be rejected. This implies that the difference is not statistically significant in how different age groups consume misinformation on social media. In other words, age does not appear to be a determining factor in misinformation-consumption behaviour on social media based on this dataset.

A box plot is a powerful visualisation tool that helps summarise the distribution of a dataset by displaying key statistical measures such as the median, quartiles, and outliers. In this analysis, the box plot is used to compare consuming misinformation on

social media across different age groups. It provides insights into the central tendency, variability, and presence of outliers within each age category. By examining the box plot, we can visually assess whether significant differences exist among age groups before confirming the findings with statistical tests.

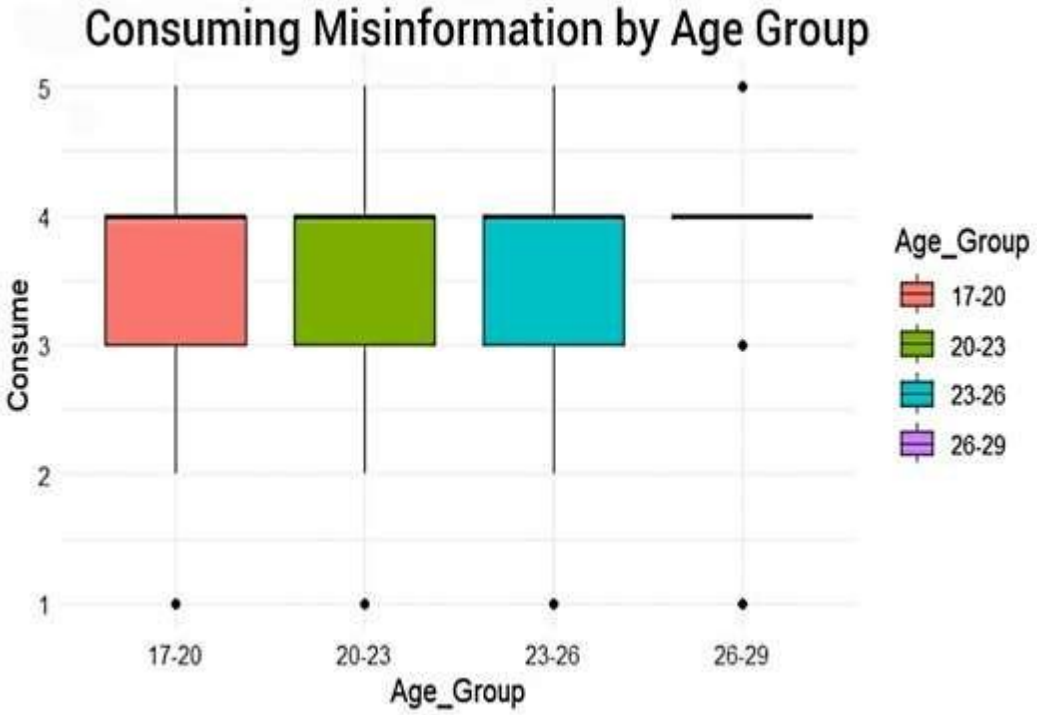


Figure 5.9.1.2.: Box plot

Figure 5.9.1.2 shows that the median values for all age groups appear relatively similar, suggesting that individuals across different age categories have comparable tendencies in consuming misinformation on social media. The IQR for each age group is quite similar, indicating that the variation in responses is consistent across groups. Each age group contains several outliers, which indicate that some individuals exhibit significantly different misinformation consumption behaviour compared to the majority.

Since the Kruskal-Wallis test produced a high p-value (0.8282), there is no statistically significant difference in consuming misinformation across different age groups. This result aligns with the box plot, as there is no clear separation in the medians and spreads among age groups, further supporting the conclusion that age does not play a significant role in misinformation consumption behaviour on social media. The box plot and Kruskal-Wallis test results consistently indicate that there is no significant difference in consuming misinformation among different age groups. The similar median values and overlapping IQR reinforce the idea that age is not a major determinant of

misinformation consumption behaviour on social media.

5.9.1.3. Analysis Consuming Misinformation on Social Media, Gender-wise

After analysing differences in consuming misinformation on social media across age groups using the Kruskal-Wallis test, we now examine gender-wise differences using the Mann-Whitney U test (Wilcoxon rank-sum test). The Mann-Whitney U test is a non-parametric test designed to compare two independent groups. While the Kruskal-Wallis test can be used for two or more groups, the Mann-Whitney U test is more commonly applied when comparing exactly two groups (in this case, male and female users).

The null and alternative hypotheses to test whether significant differences in the way individuals of different gender groups consume misinformation on social media are given as follows,

Null Hypothesis (H_0): There is no significant difference in the way individuals of different gender groups consume misinformation on social media.

Alternative Hypothesis (H_1): There is a significant difference in the way individuals of different gender groups consume misinformation on social media.

The result of the Mann-Whitney U test is given as follows:

Test statistic	**Degree of Freedom**	**p-value**
60153	1	0.06792

Table 5.9.1.3.: Mann-Whitney U test

Since the p-value (0.06792) is greater than 0.05, we fail to reject the null hypothesis. This indicates that there is no significant difference in how males and females consume misinformation on social media. Gender does not appear to be a key factor influencing misinformation consumption behaviour on social media in this dataset.

A box plot is a useful visualisation tool that helps summarise the distribution of a dataset by displaying key statistical measures, such as the median, quartiles, and outliers. In this case, the box plot is used to compare misinformation consumption on social media between male and female respondents. This visual representation helps to assess differences in central tendency, variability, and potential outliers before conducting statistical hypothesis tests.

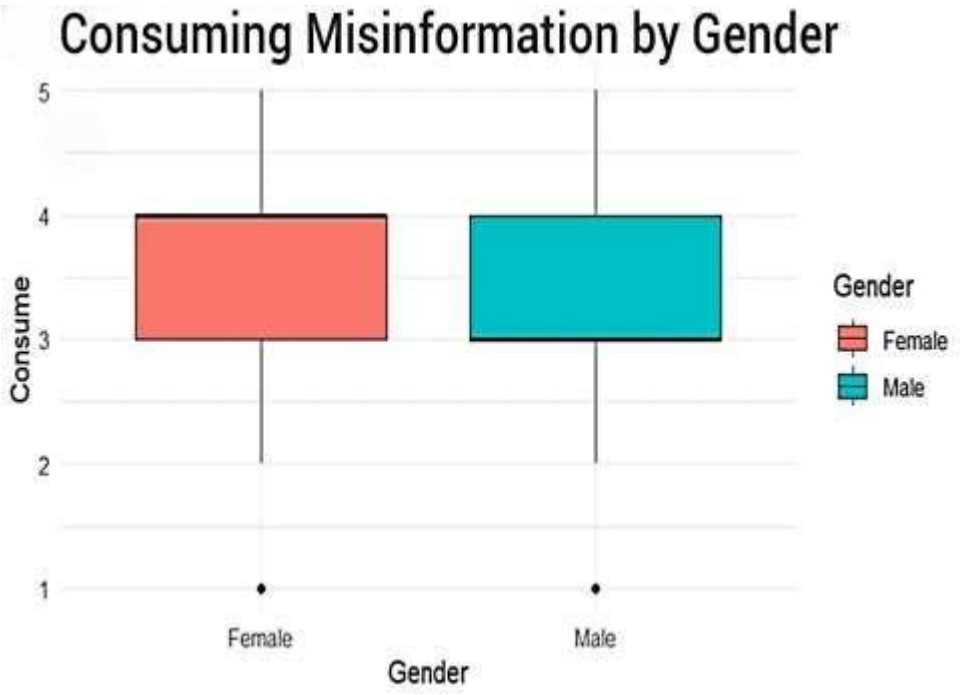


Figure 5.9.1.3.: Box plot

Figure 5.9.1.3 shows that the median values for both males and females appear to be similar, suggesting that their overall tendencies in consuming misinformation on social media do not differ significantly. The male group has a slightly wider IQR, indicating more variation in responses compared to females. The female group has a more compact IQR, showing slightly less variability in responses. Both groups contain outliers, indicating that some individuals exhibit significantly different misinformation consumption behaviour compared to the majority.

Since the Mann-Whitney U test produced a high p-value (0.06792), we failed to reject the null hypothesis, indicating that there is no statistically significant difference between males and females in consuming misinformation on social media. This aligns with the box plot, as the medians are close, and there is considerable overlap in the distributions. The box plot and Mann-Whitney U test results consistently suggest that gender does not significantly influence how individuals consume misinformation on social media. The similarities in median values and overlapping IQR support the conclusion that both males and females engage in misinformation-consuming behaviour on social media in a comparable manner.

5.9.2. Analysis: Sharing Misinformation on Social Media

5.9.2.1. Normality

Before conducting any statistical comparisons on how different age groups share

misinformation on social media, it is essential to check whether the data follows a normal distribution. Normality is a key assumption for many parametric tests, such as t-tests and ANOVA. The Anderson-Darling (AD) test is a widely used method to assess whether a dataset follows a normal distribution. The null hypothesis for the AD test assumes that the data are normally distributed, while the alternative hypothesis suggests that it is not.

The Anderson-Darling normality test was conducted to assess whether the data on sharing misinformation on social media follows a normal distribution. The result is given as follows,

Test Statistic (A): 6.7898

p-value: 2.2e-16

The results indicated a significant deviation from normality, **A** = 6.7898, **p** < .001.

The QQ plot and Histogram of sharing misinformation are given below,

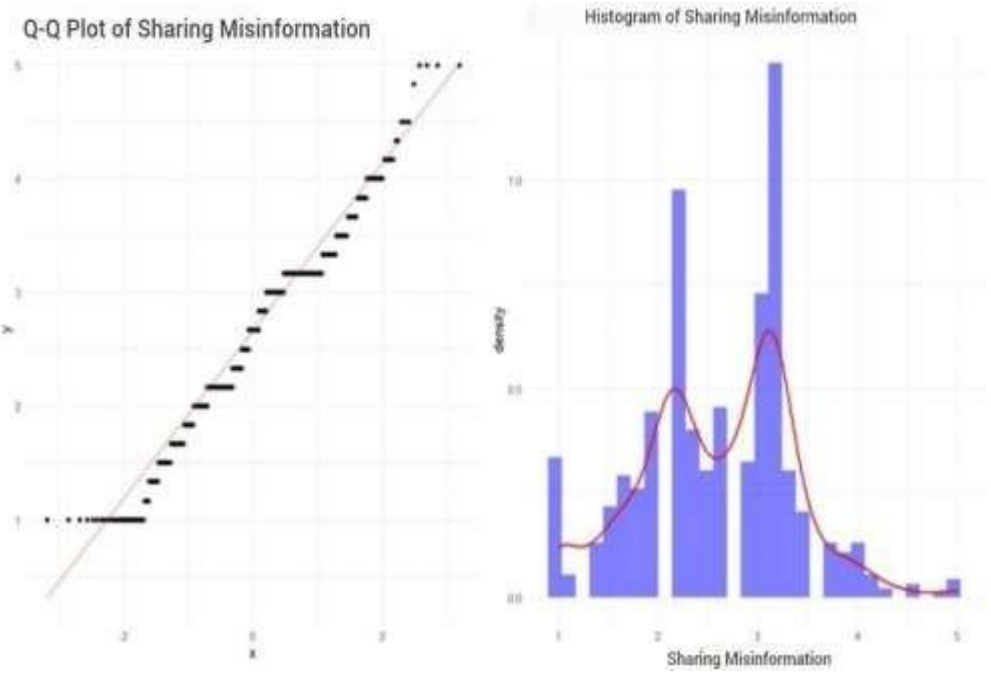


Figure 5.9.2.1: QQ plot and Histogram

From Figure 5.9.2.1, the Q-Q plot shows noticeable deviations from the straight diagonal line, further confirming non-normality. The histogram likely exhibits skewness, suggesting that the data is not symmetrically distributed. The Anderson-Darling test, Q-Q plot, and histogram collectively indicate that the sharing of misinformation on social media data does not follow a normal distribution. Therefore, non-parametric statistical methods should be used for further analysis.

5.9.2.2. Analysis of Sharing Misinformation on Social Media Age-wise

The null and alternative hypotheses test whether there are significant differences in the way individuals of different age groups share misinformation on social media.

Null Hypothesis (H_0): There is no significant difference in the way individuals of different age groups share misinformation on social media.

Alternative Hypothesis (H_1): There is a significant difference in the way individuals of different age groups share misinformation on social media.

To analyse whether there is a significant difference in how different age groups share misinformation on social media, a Kruskal-Wallis rank sum test is conducted. Since the Anderson-Darling test, Q-Q plot, and histogram indicated that the data do not follow a normal distribution, the Kruskal-Wallis test is an appropriate non-parametric alternative to ANOVA. This test determines whether there are statistically significant differences in the median values of sharing misinformation across different age groups. The result of the Kruskal-Wallis test is given as follows,

Test statistic	Degree of Freedom	p-value
10.752	3	0.01314

Table 5.9.2.2.1.: Kruskal-Wallis test

Since the p-value is less than the conventional significance level of 0.05, we reject the null hypothesis, indicating that there is a statistically significant difference in sharing misinformation across different age groups. This suggests that age plays a role in how individuals share misinformation on social media. To further investigate which specific age groups differ, a post-hoc pairwise comparison (such as Dunn's test with Bonferroni correction) should be conducted.

Post Hoc test (Dunn's test)

Since the Kruskal-Wallis test indicated a significant difference in sharing misinformation across age groups, we conducted Dunn's post-hoc test with Bonferroni correction to determine which specific age groups differ.

The result of Dunn's post hoc test with Bonferroni correction is given as follows,

	y	group1	group 2	n1	n2	statistic	p	p.adj	p.adj.significant
1	Sharing misinformation	17-20	20-23	281	272	-3.25	0.001 15	0.006 89	**
2	Sharing misinformation	17-20	23-26	281	97	-0.83	0.406	1	ns
3	Sharing misinformation	17-20	26-29	281	9	- 0.628	0.53	1	ns
4	Sharing misinformation	20-23	23-26	272	97	1.51	0.131	0.784	ns
5	Sharing misinformation	20-23	26-29	272	9	0.188	0.85	1	ns
6	Sharing misinformation	23-26	26-29	97	9	-0.33	0.742	1	ns

Table 5.9.2.2.2.: Post Hoc test (Dunn's test)

The only significant difference was observed between the 17-20 and 20-23 age groups (p.adj = 0.00689, marked as **). This suggests that individuals aged 17-20 share misinformation differently compared to those aged 20-23. All other pairwise comparisons did not show statistically significant differences (p.adj > 0.05, marked as "ns"). This indicates that the other age groups do not significantly differ in how they share misinformation on social media.

The significant difference between the 17-20 and 20-23 age groups suggests that sharing behaviour changes between these two age groups, possibly due to differences in digital habits, social media engagement, or misinformation-sharing preferences. However, no significant differences were found among the other age groups, indicating a relatively stable pattern of misinformation sharing for individuals aged 20 and above.

Box plot

A box plot is a powerful visualisation tool that helps summarise the distribution of a dataset by displaying key statistical measures such as the median, quartiles, and outliers. In this analysis, the box plot is used to compare the sharing of misinformation on social media across different age groups.

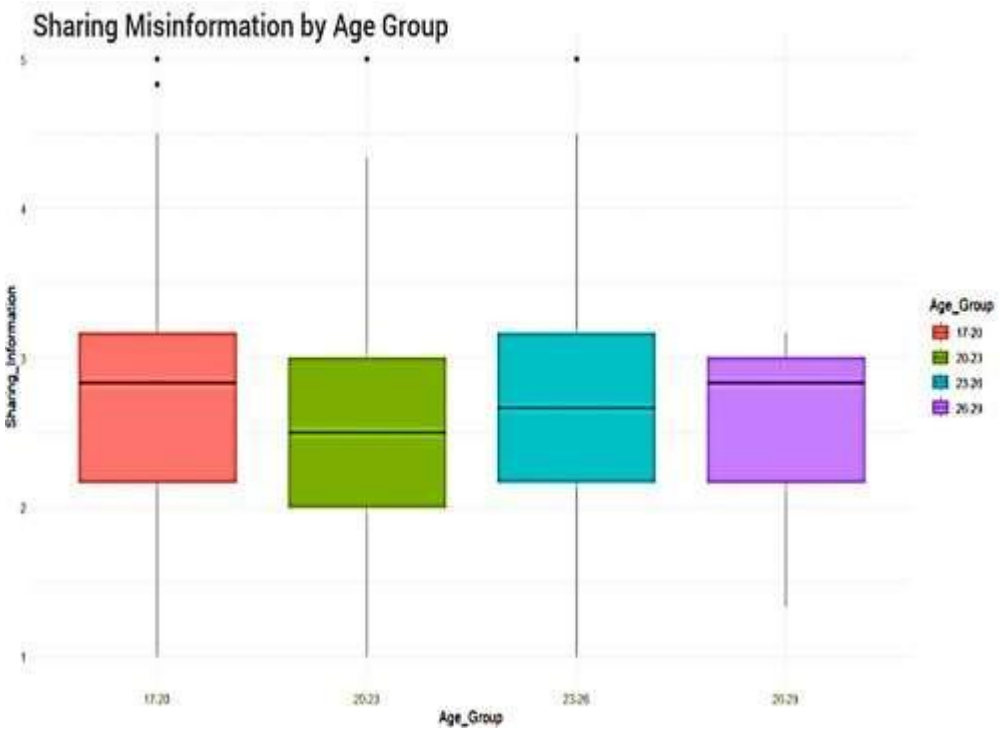


Figure 5.9.2.2.: Box plot

The box plot above displays the distribution of sharing misinformation scores across different age groups (17-20, 20-23, 23-26, and 26-29):

The medians are relatively close across groups, suggesting that central tendencies are not drastically different. The 26-29 age group appears to have a slightly higher median compared to others. The interquartile ranges (IQRs), which represent the middle 50% of the data, appear similar across age groups. The 23-26 and 26-29 age groups have slightly higher upper quartiles, indicating that they may share more misinformation compared to younger groups. A few outliers are visible, particularly in the 17-20 and 26-29 groups, suggesting some individuals share misinformation significantly more or less than their peers.

The combination of the box plot visualisation and the Kruskal-Wallis test suggest that sharing misinformation varies significantly across age groups. However, only the 17-20 and 20-23 groups showed a statistically significant difference. This may indicate that individuals in their late teens have different online sharing behaviours compared to those in their early 20s, possibly due to differences in digital habits, privacy concerns, or engagement on social media platforms. While the other age groups showed no significant differences, further research could explore why this shift occurs between 17-20 and 20-23 and whether external factors such as education level or social

influences contribute to these variations.

5.9.2.3. Analysis Sharing Misinformation on Social Media, Gender-wise

After analysing differences in sharing misinformation on social media across age groups using the Kruskal-Wallis test, we now examine gender-wise differences using the Mann-Whitney U test (Wilcoxon rank sum test). The Mann-Whitney U test is a non-parametric test designed to compare two independent groups. While the Kruskal-Wallis test can be used for two or more groups, the Mann-Whitney U test is more commonly applied when comparing exactly two groups (in this case, male and female users).

The null and alternative hypotheses to test whether significant differences in the way individuals of different gender groups share misinformation on social media are given as follows:

Null Hypothesis (H_0): There is no significant difference in the way individuals of different gender groups share misinformation on social media.

Alternative Hypothesis (H_1): There is a significant difference in the way individuals of different gender groups share misinformation on social media.

The result of the Mann-Whitney U test is given as follows:

Test statistic	Degree of Freedom	p-value
57583	1	0.4013

Table 5.9.2.3.: Mann-Whitney U test

Since the p-value (0.4013) is much greater than 0.05, we fail to reject the null hypothesis. This indicates that there is no significant difference in how males and females share misinformation on social media. Gender does not appear to be a key factor influencing misinformation-sharing behaviour on social media in this dataset.

Box plot

The box plot is used to compare the sharing of misinformation on social media between male and female respondents. This visual representation helps to assess differences in central tendency, variability, and potential outliers before conducting statistical hypothesis tests.

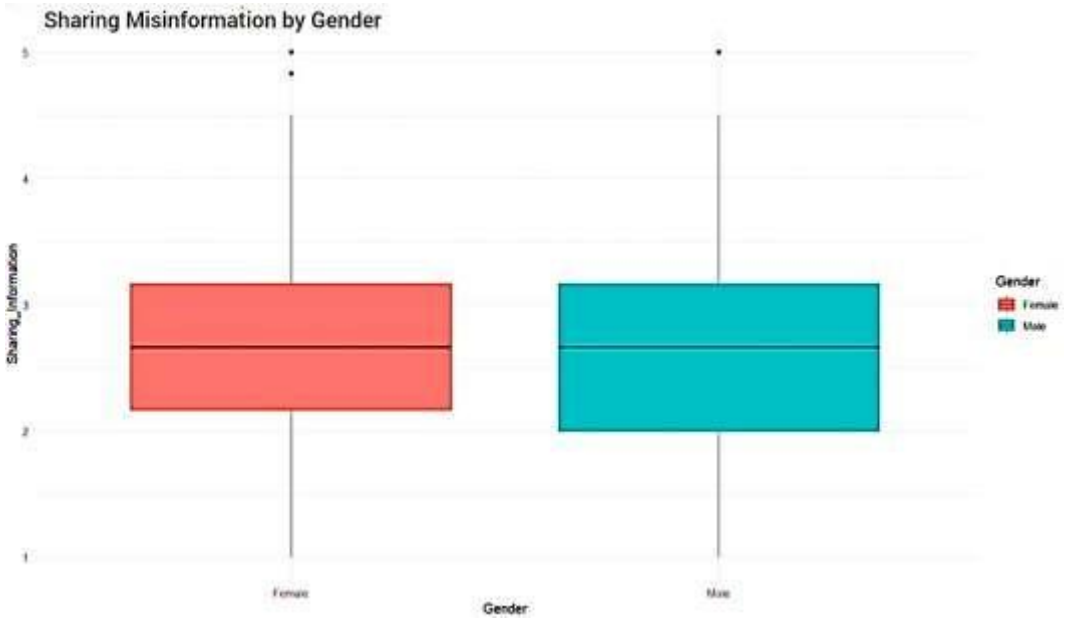


Figure 5.9.2.3.: Box plot

The box plot visualises sharing misinformation behaviour for males and females. The median sharing information score is nearly identical for both genders. There is no clear indication of a big difference between males and females. The interquartile ranges (IQRs) for both genders are similar. Outliers are present in both groups, indicating that a few individuals share misinformation significantly more or less than their peers.

The combination of the box plot visualisation and the Mann-Whitney U test suggests that there is no significant difference in sharing misinformation behaviour between males and females. The box plot shows similar medians and interquartile ranges for both genders, indicating comparable distributions. This suggests that gender does not play a crucial role in determining how individuals share misinformation. The similarity in sharing behaviours between males and females could be attributed to common digital habits, access to similar online platforms, or equal exposure to social and informational networks. Further research could explore other factors, such as personality traits, cultural influences, or specific digital media usage patterns, that might better explain variations in sharing behaviour.

H4: A significant number of users are not capable of differentiating between credible sources of information and misinformation.

5.10. Users' capability to differentiate between credible information and misinformation on social media

5.10.1. Methods used to evaluate the credibility of social media information

To understand how users assess the credibility of information on social media, respondents were asked to select the methods they use when verifying content. The responses provide insights into the most and least commonly used credibility assessment techniques.

Method	Number of Selections	Percentage
Consider the source	482	21.81%
Read beyond the headline	333	15.07%
Check author credentials	254	11.49%
Fact-check	310	14.03%
Personal judgment and critical thinking	385	17.42%
Reverse image search	149	6.74%
Check date and time	166	7.51%
Ask the experts	131	5.93%
Total	2210	100.00%

Table 5.10.1.1.: Methods Used to Evaluate Credibility

Figure 5.10.1.: Methods Used to Evaluate Credibility

The most frequently used method for evaluating credibility is "Consider the source" (21.81%), followed by "Personal judgment and critical thinking" (17.42%) and "Read beyond the headline" (15.07%). These results suggest that users prioritise assessing the source and using their critical thinking skills when determining credibility. However,

fact-checking (14.03%) is less frequently used than expected, and methods like checking author credentials (11.49%) and verifying the date and time (7.51%) are even less common. The least utilised strategies are reverse image searches (6.74%) and asking experts (5.93%), indicating that deeper verification techniques are not widely practised.

The findings indicate that while users employ various strategies to evaluate credibility, many rely on general assessment techniques like considering the source or using personal judgment rather than rigorous verification methods such as fact-checking or expert consultation. This suggests potential gaps in users' ability to critically assess online information, which could contribute to the spread of misinformation.

Chi-Square test

This study examines whether users equally prefer different methods for evaluating the credibility of information on social media. A chi-Square goodness-of-fit test was conducted to assess deviations from an expected uniform preference distribution.

Null Hypothesis (H_0): The methods used to evaluate the credibility of social media information are equally preferred among users.

Alternative Hypothesis (H_1): The methods used to evaluate the credibility of social media information are not equally preferred among users**.**

The result of the chi-square test is given as follows:

Test statistic	**Degree of Freedom**	**p-value**
392.61	7	<2.2e-16

Table 5.10.1.2.: Chi Square test

Since the p-value is extremely small (< 0.001), we reject the null hypothesis (H_0) and conclude that methods for evaluating credibility are not equally preferred among users.

Standardised Residuals Analysis

The standardised residuals help identify which methods are used more or less frequently than expected.

The standardised residuals for each platform are as follows:

Method	**Observed**	**Expected**	**Standardized Residual**	**Significance**
Consider the source	482	276.25	12.38	p < 0.001

Read beyond the headline	333	276.25	3.41	$p < 0.05$
Check author credentials	254	276.25	-1.34	Not Significant
Fact-check	310	276.25	2.03	Not Significant
Personal judgment and critical thinking	385	276.25	6.54	$p < 0.001$
Reverse image search	149	276.25	-7.66	$p < 0.001$
Check date and time	166	276.25	-6.63	$p < 0.001$
Ask the experts	131	276.25	-8.74	$p < 0.001$

Table 5.10.1.3.: Standardized Residuals Analysis

"Consider the source" (Residual = 12.38) is the most preferred method. "Personal judgment and critical thinking" (Residual = 6.54) is also significantly preferred. "Ask the experts" (-8.74), "reverse image search" (-7.66), and "check date and time" (-6.63) are significantly underutilised. This suggests users rely more on their own judgment and source evaluation rather than expert consultation or digital tools. "Read beyond the headline" (Residual = 3.41, $p < 0.05$) is slightly preferred, while fact-checking shows no strong preference. Users strongly favour "considering the source" and "personal judgment" for verifying social media information, while "asking experts" and "reverse image searches" are significantly underused. These findings suggest a need for promoting fact-checking tools and expert verification to enhance information credibility.

5.10.2. Self-Assessed Capability to Differentiate Between Credible Information and Misinformation on Social Media

The increasing prevalence of misinformation on social media has raised concerns about users' ability to critically evaluate information sources. This analysis aims to assess whether a significant portion of users struggle to differentiate between credible and misleading information. To determine whether a significant number of users struggle, we conduct two statistical tests:

One-Sample Proportion Test – to check if the proportion of users who rate themselves 1 or 2 (low ability) is significantly greater than 50%.

One-Sample t-Test – to determine whether the mean Likert score is significantly lower

than 3, indicating an overall lack of confidence in distinguishing misinformation.

The null and alternative hypotheses are given as follows:

One-Sample Proportion Test

Null Hypothesis (H_0): The proportion of users who struggle (rate themselves 1 or 2) is less than or equal to 50%.

Alternative Hypothesis (H_1): The proportion of users who struggle is greater than 50%.

One-Sample t-Test

Null Hypothesis (H_0): The mean Likert score of self-assessed ability to differentiate misinformation is greater than or equal to 3.

Alternative Hypothesis (H_1): The mean Likert score is less than 3, indicating a significant number of users struggle.

The result is given as follows:

Test	**Test Statistic**	**Sample estimates**	**p-value**	**Interpretation**
One-Sample Proportion Test	^{2} = 292.46	p=0.169	1	No evidence that the proportion of struggling users is >50%.
One-Sample t-Test	t = 12.132	$\bar{x}$=3.53	1	No evidence that the mean score is significantly below 3.

Table 5.10.2.: Hypothesis Testing

The proportion of users rating themselves 1 or 2 is only 16.9%, far below the 50% threshold. The p-value = 1 suggests no statistical evidence that more than half of the users struggle to differentiate credible from misleading information. The mean score of 3.53 is above the neutral score of 3, indicating that most users believe they have at least moderate ability to assess information credibility. The p-value = 1 shows no significant evidence that users rate their ability as low.

The results do not support the hypothesis that a significant number of users struggle to differentiate between credible and misleading information. Instead, most users rate themselves as having at least moderate ability to evaluate information credibility.

H5: There is a significant difference in the perception of users to identify, stop and debunk academic misinformation.

5.11. Evaluating Information Literacy and Critical Thinking in Combating Misinformation on Social Media

5.11.1. Identifying Misinformation

The increasing prevalence of misinformation on social media presents a significant challenge in the digital age. Developing information literacy and critical thinking skills is essential for users to assess the credibility of content and avoid the spread of false information. This study examines the key strategies individuals use to identify misinformation on social media.

Strategy	Number of Selections	Percentage
Read beyond	380	15.04%
Check the source/look for citations	335	13.26%
Cross-verify with reputable sources	449	17.77%
Identify sensationalism	300	11.87%
Check biases and objectivity	338	13.38%
Critical thinking	272	10.76%
Seek expert opinions	249	9.85%
Using fact-check tools	204	8.07%
Total	2527	100.00%

Table 5.11.1.: Strategies for Identifying Misinformation on Social Media

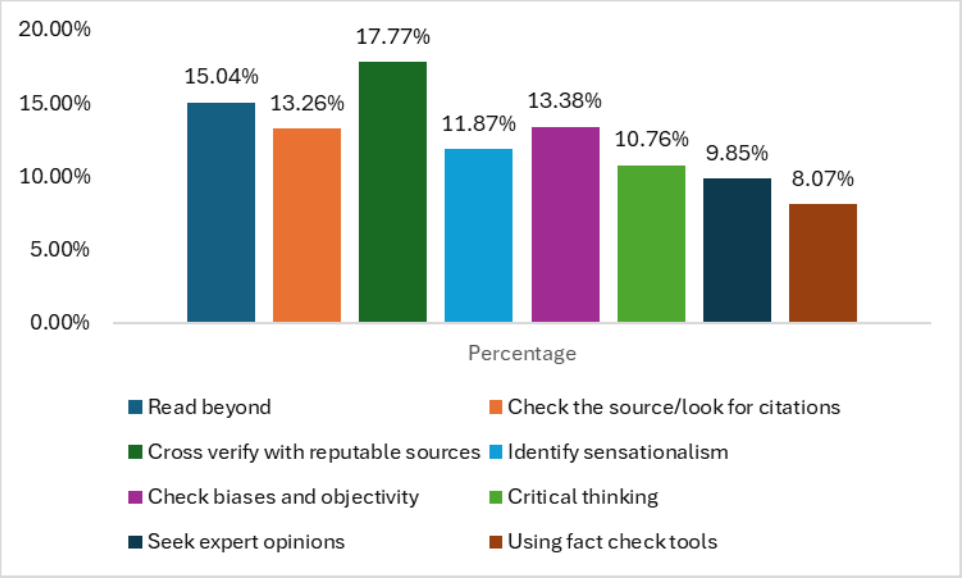


Figure 5.11.1.: Strategies for Identifying Misinformation on Social Media

The most common strategy for identifying misinformation is cross-verifying with reputable sources (17.77%), emphasising the importance of relying on established and trustworthy information providers. Reading beyond headlines (15.04%) is also a widely used approach, suggesting that users recognise the potential for misleading content in clickbait titles. Other key strategies include checking the source and looking for citations (13.26%) and checking biases and objectivity (13.38%), indicating that users understand the role of credibility and neutrality in assessing information. Identifying sensationalism (11.87%) and applying critical thinking (10.76%) further highlight the awareness of emotional and manipulative language in misleading content. While seeking expert opinions (9.85%) and using fact-check tools (8.07%) are less frequently used, they remain essential techniques in verifying claims. These findings suggest that while users rely on their judgment and cross-referencing, there is room to increase awareness and usage of fact-checking tools and expert consultations.

The study highlights that individuals primarily combat misinformation by cross-verifying with reputable sources, reading beyond headlines, and checking for credibility and biases. However, the lower reliance on fact-checking tools and expert opinions suggests an opportunity to promote these strategies further. Strengthening information literacy and critical thinking skills is crucial in ensuring that users can identify, question, and reject misinformation effectively.

5.11.2. Sources and Spread of Misinformation

Misinformation on social media is fuelled by various factors, including the rapid spread of false narratives, limited media literacy, and the influence of digital manipulation techniques. Understanding the sources and mechanisms that contribute to the spread of misinformation is crucial in developing strategies to mitigate its impact.

Source of Misinformation	Number of Selections	Percentage (%)
Memes/Deepfakes	444	16.21%
Lack of Media Literacy	425	15.52%
Political Polarization	413	15.08%
Information Overload	356	13.00%
Lack of Regulation	309	11.28%
Conspiracy Theories	297	10.84%
Pseudoscientific Claims	296	10.81%
Social Bots	199	7.27%
Total	2739	100.00%

Table 5.11.2.: Sources and Factors Contributing to the Spread of Misinformation on Social Media

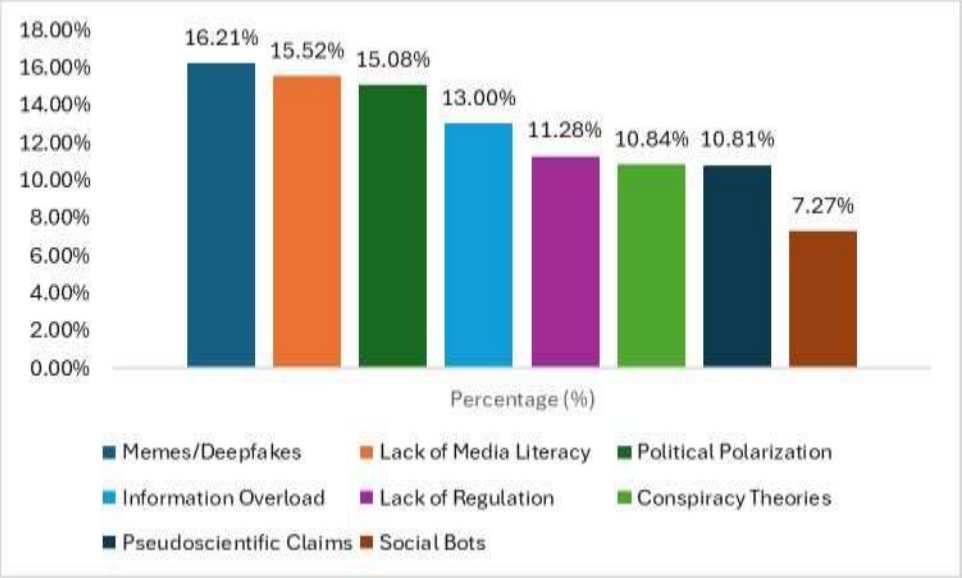


Figure 5.11.2.: Sources and Factors Contributing to the Spread of Misinformation on Social Media

The most frequently cited contributors to misinformation are Memes/Deepfakes (16.21%), indicating the role of digitally altered content and viral imagery in spreading false narratives. Lack of media literacy (15.52%) follows closely, emphasising the need for improved education on critical evaluation of online content. Political polarisation (15.08%) is another key driver, reflecting how biased or extreme ideological divides

contribute to the spread of misinformation. Information overload (13.00%) suggests that the sheer volume of content makes it difficult for users to discern credible information from falsehoods. Lack of regulation (11.28%), Conspiracy theories (10.84%), and pseudoscientific claims (10.81%) highlight the role of unverified narratives and misleading claims in shaping public perceptions. Social bots (7.27%), while the least cited, remain a significant factor, as automated accounts can amplify misinformation at scale.

The findings suggest that misinformation is driven by a combination of technological manipulation, cognitive biases, and systemic issues such as a lack of regulation and political polarisation. Addressing these challenges requires a multi-faceted approach, including media literacy programs, policy interventions, and fact-checking initiatives to curb the rapid spread of misleading content.

5.11.3. Handling Misinformation on Social Media

Misinformation is widespread on social media, and users adopt different strategies to handle it. Understanding how individuals respond to misinformation can help develop better educational campaigns and platform policies to encourage responsible online behaviour.

Response Strategy	Number of Selections	Percentage (%)
Report the content	232	20.09%
Investigate or fact-check the information	291	25.19%
Comment and correct	208	18.01%
Ignore it and move on	321	27.79%
Share with others to raise awareness	103	8.92%
Total	1155	100.00%

Table 5.11.3.: How Users Handle Misinformation on Social Media

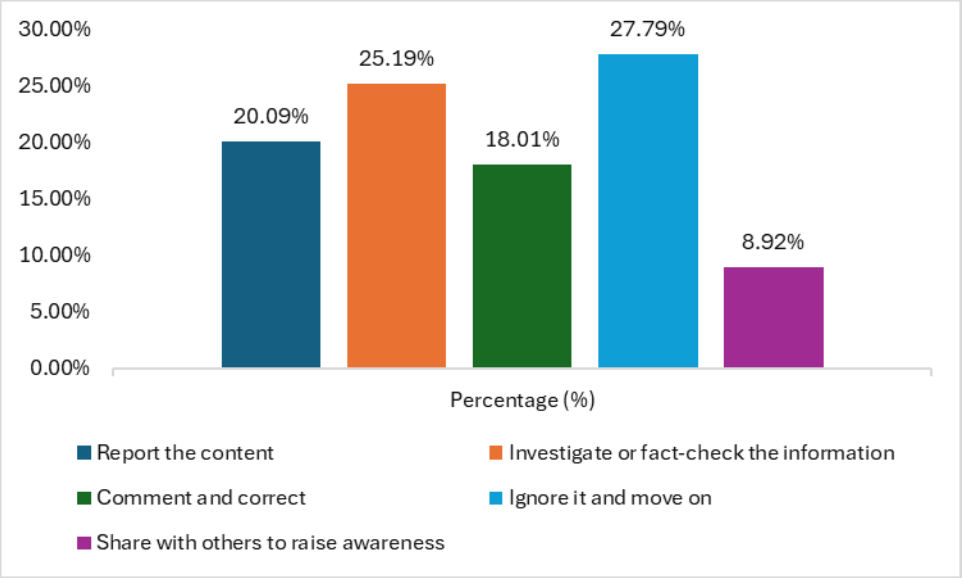


Figure 5.11.3.: How Users Handle Misinformation on Social Media

The most common response to misinformation is to ignore it and move on (27.79%), indicating that many users choose not to engage with false content. However, investigating or fact-checking (25.19%) is also widely practised, showing that a significant portion of users take steps to verify information. Reporting the content (20.09%) suggests that many users rely on platform moderation systems to handle misinformation, while commenting and correcting (18.01%) indicates a proactive approach in countering false claims. Sharing with others to raise awareness (8.92%) is the least common response, suggesting that fewer users actively spread corrective information.

The results show that while some users actively investigate, report, or correct misinformation, many still ignore it, allowing false narratives to persist. Encouraging users to engage in fact-checking, reporting, and responsible sharing can help reduce the impact and foster a more informed digital environment.

H6: There is a significant difference in attitudes towards the verification of information before sharing on social media among different categories of users.

5.12. Analysis of Attitudes Toward Verification of Information on Social Media

5.12.1. Normality

The Anderson-Darling (AD) test is a widely used method to assess whether a dataset follows a normal distribution. The null hypothesis for the AD test assumes that the data normally distributed, while the alternative hypothesis suggests that it is not.

The Anderson-Darling normality test was conducted to assess whether the data on

attitudes toward verification of information on social media follow a normal distribution. The result is given as follows:

Test Statistic (A): 18.738

p-value: < 2.2e-16

The results indicated a significant deviation from normality, A = 6.03, p < .001.

The QQ plot and Histogram of attitudes toward verification of information are given below:

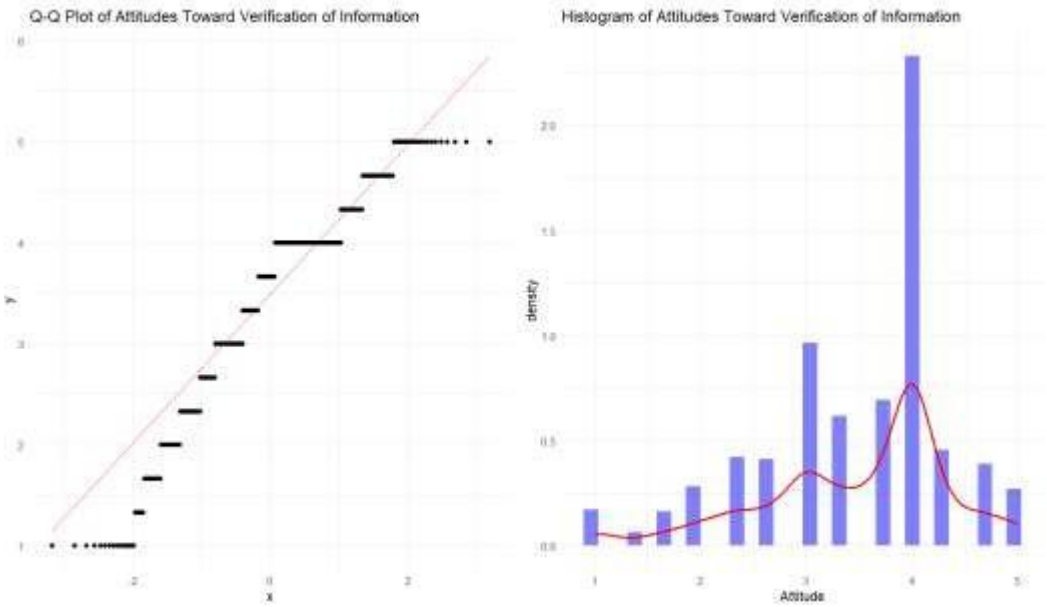


Figure 5.12.1.: QQ plot and Histogram

From Figure 5.12.1, the Q-Q plot shows noticeable deviations from the straight diagonal line, further confirming non-normality. The histogram likely exhibits skewness, suggesting that the data are not symmetrically distributed. The Anderson-Darling test, Q-Q plot, and histogram collectively indicate that the attitudes toward verification information on social media data do not follow a normal distribution. Therefore, non-parametric statistical methods should be used for further analysis.

5.12.2. Analysis of Attitudes Toward Verification of Information on Social Media, Age-wise

Social media users vary in how critically they evaluate information before sharing it. Understanding whether different age groups show significantly different attitudes toward verifying the accuracy of content before sharing is crucial for designing effective media literacy campaigns.

Null Hypothesis (H_0): There is no significant difference in attitudes toward the verification of information before sharing on social media among different age groups.
Alternative Hypothesis (H_1): There is a significant difference in attitudes toward the verification of information before sharing on social media among different age groups.
To analyse whether there is a significant difference in attitudes toward the verification of information on social media across different age groups, a Kruskal-Wallis rank sum test was conducted. Since the Anderson-Darling test, Q-Q plot, and histogram indicated that the data do not follow a normal distribution, the Kruskal-Wallis test is an appropriate non-parametric alternative to ANOVA. This test determines whether there are statistically significant differences in the median values of attitudes toward the verification information across different age groups.
The result of the Kruskal-Wallis test is given as follows:

Test statistic	Degree of Freedom	p-value
1.707	3	0.6354

Table 5.12.2.: Kruskal-Wallis test

From Table 5.12.2, the p-value (0.6354) is much greater than 0.05; therefore, the null hypothesis could not be rejected. This implies no significant difference in attitudes toward the verification of information before sharing on social media among different age groups. In other words, age does not appear to be a determining factor in verification behaviour based on this dataset.
A box plot is a powerful visualisation tool that helps summarise the distribution of a dataset by displaying key statistical measures such as the median, quartiles, and outliers. In this analysis, the box plot is used to compare attitudes toward the verification information on social media across different age groups. It provides insights into the central tendency, variability, and presence of outliers within each age category. By examining the box plot, we can visually assess whether significant differences exist among age groups before confirming the findings with statistical tests.

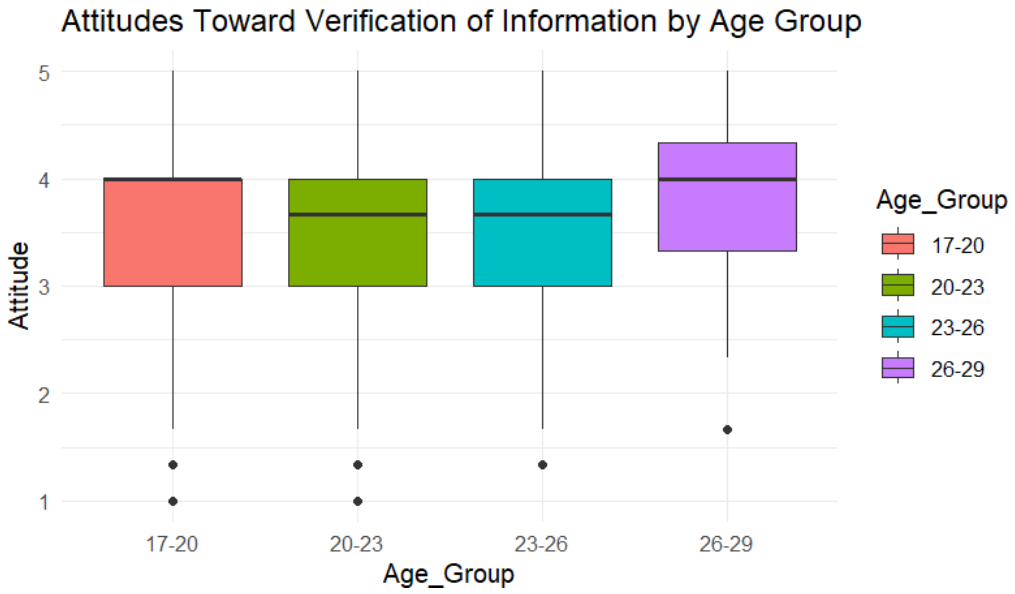


Figure 5.12.2.: Box plot

Figure 5.12.2 shows that the median values for all age groups appear relatively similar, suggesting that individuals across different age categories have comparable attitudes toward verifying information before sharing on social media. The interquartile range (IQR) for each age group is also quite similar, indicating consistent variation in responses across groups. Each age group contains several outliers, indicating that some individuals exhibit notably different verification attitudes compared to the majority.

Since the Kruskal-Wallis test yielded a high p-value (0.6354), there is no statistically significant difference in attitudes toward verification across different age groups. This finding aligns with the box plot, which shows no clear separation in medians or IQRs among age groups. Both the visual and statistical results consistently suggest that age is not a major determinant of verification behaviour on social media. The similar median values and overlapping IQRs reinforce the conclusion that attitudes toward verifying information before sharing are broadly similar across age groups.

5.12.3. Analysis of Attitudes Toward Verification of Information on Social Media, Gender-wise

After analysing differences in attitudes toward verification of information on social media across age groups using the Kruskal-Wallis test, we now examine gender-wise differences using the Mann-Whitney U test. The Mann-Whitney U test is a non-parametric test designed to compare two independent groups. While the Kruskal-Wallis test can be used for two or more groups, the Mann-Whitney U test is more commonly applied when comparing exactly two groups (in this case, male and female users).

Null Hypothesis (H_0): There is no significant difference in attitudes toward the verification of information before sharing on social media among different gender groups.

Alternative Hypothesis (H_1): There is a significant difference in attitudes toward the verification of information before sharing on social media among different gender groups.

The result of the Mann-Whitney U test is given as follows:

Test statistic	Degree of Freedom	p-value
58028	1	0.356

Table 5.12.3.: Mann-Whitney U test

Since the p-value (0.356) is much greater than 0.05, the null hypothesis could not be rejected. This implies no significant difference in attitudes toward the verification of information before sharing on social media. Gender does not appear to be a key factor influencing verification of information before sharing on social media in this dataset.

The box plot is used to compare attitudes toward the verification of information before sharing on social media between male and female respondents. This visual representation helps to assess differences in central tendency, variability, and potential outliers before conducting statistical hypothesis tests.

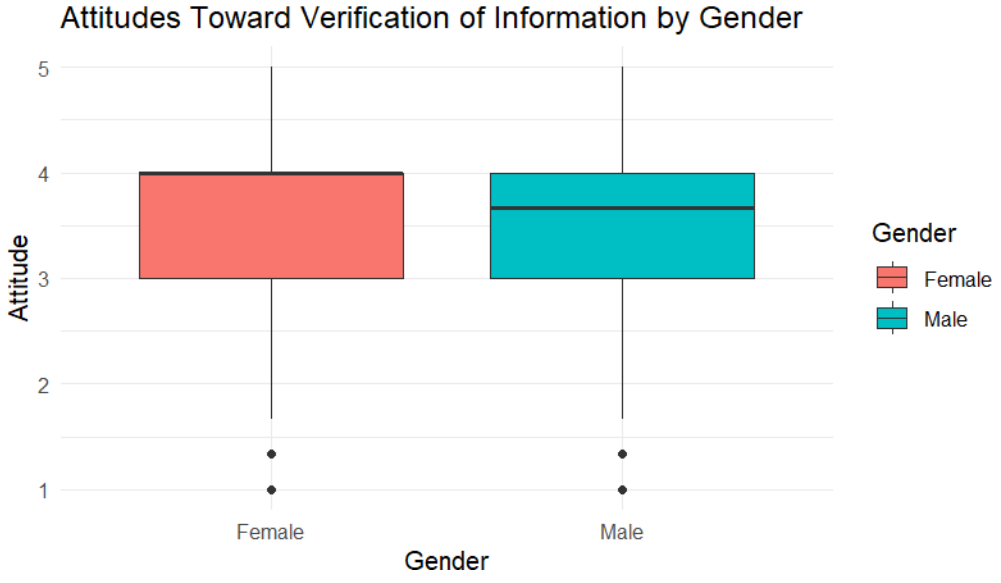


Figure 5.12.3.: Box plot

The median verification attitude scores are nearly identical for both genders, indicating no big difference in how males and females approach verifying information before

sharing on social media. The interquartile ranges (IQRs) are also similar, suggesting consistent variation in responses across genders. Outliers are present in both groups, reflecting that a few individuals demonstrate significantly higher or lower tendencies to verify information compared to their peers.

The combination of the box plot visualisation and the Mann-Whitney U test results reveal no statistically significant difference in verification attitudes between males and females. The box plot shows similar medians and IQRs for both genders, indicating comparable distributions. This implies that gender is not a major determinant of whether users verify information before sharing.

The similarity in verification attitudes between males and females could be due to shared digital habits, similar access to information sources, or common exposure to online media environments. Future research might explore additional factors such as media literacy, personality traits, cultural norms, or trust in online content that could more meaningfully explain differences in verification behaviour.

5.12.4. Analysis of Attitudes Toward Verification of Information on Social Media, Course Year-wise

Null Hypothesis (H_0): There is no significant difference in attitudes toward the verification of information before sharing on social media among different course year groups.

Alternative Hypothesis (H_1): There is a significant difference in attitudes toward the verification of information before sharing on social media among different course year groups.

To analyse whether there is a significant difference in attitudes toward the verification of information on social media across different course year groups, a Kruskal-Wallis rank sum test was conducted. Since the Anderson-Darling test, Q-Q plot, and histogram indicated that the data do not follow a normal distribution, the Kruskal-Wallis test is an appropriate non-parametric alternative to ANOVA. This test determines whether there are statistically significant differences in the median values of attitudes toward the verification of information across different course year groups.

The result of the Kruskal-Wallis test is given as follows:

Test statistic	Degree of Freedom	p-value
6.1488	4	0.1883

Table 5.12.4.: Kruskal-Wallis test

From Table 5.12.4, the p-value (0.1883) is much greater than 0.05; therefore, we fail to reject the null hypothesis. This suggests that there is no significant difference in attitudes toward the verification of information before sharing on social media among different course year groups. In other words, course year does not appear to be a determining factor in verification behaviour based on this dataset.

A box plot is a powerful visualisation tool that helps summarise the distribution of a dataset by displaying key statistical measures such as the median, quartiles, and outliers. In this analysis, the box plot is used to compare attitudes toward the verification information on social media across different course-year groups. It provides insights into the central tendency, variability, and presence of outliers within each course-year category. By examining the box plot, we can visually assess whether significant differences exist among course-year groups before confirming the findings with statistical tests.

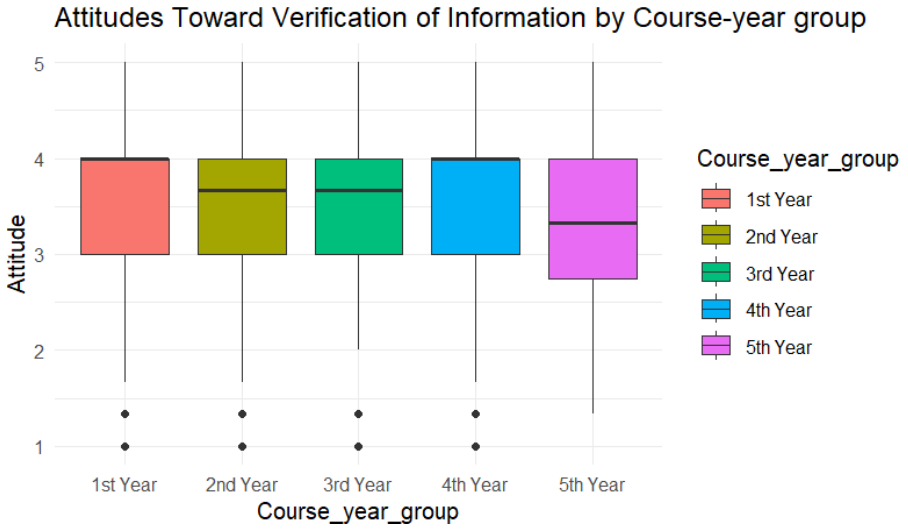


Figure 5.12.4.: Box plot

Figure 5.12.4. shows that the median values for all course year groups appear relatively similar, suggesting that individuals across different course-year categories have comparable attitudes toward verifying information before sharing on social media. The

interquartile range (IQR) for each age group is also quite similar, indicating consistent variation in responses across groups. Each course year group contains several outliers, indicating that some individuals exhibit notably different verification attitudes compared to the majority.

Since the Kruskal-Wallis test yielded a high p-value (0.1883), there is no statistically significant difference in attitudes toward verification across different course-year groups. This finding aligns with the box plot, which shows no clear separation in medians or IQRs among course year groups. Both the visual and statistical results consistently suggest that course year is not a major determinant of verification behaviour on social media. The similar median values and overlapping IQRs reinforce the conclusion that attitudes toward verifying information before sharing are broadly similar across course year groups.

5.12.5. Examining the Role of Information Literacy and Critical Thinking in Combating Misinformation

In the digital age, misinformation spreads rapidly on social media, influencing public opinion, shaping narratives, and sometimes causing harm. Combating misinformation requires individuals to possess strong information literacy and critical thinking skills, which help them evaluate sources, identify biases, and verify facts before accepting or sharing information. This study examines whether information literacy and critical thinking serve as practical solutions to counter misinformation by analysing their association with how individuals respond to false information.

A chi-square test is conducted to determine whether there is a statistically significant relationship between an individual's response to misinformation and their level of information literacy and critical thinking. The null and alternative hypotheses are given as follows,

Null Hypothesis (H_0): There is no association between information literacy/critical thinking and how individuals respond to misinformation on social media.

Alternative Hypothesis (H_1): There is a significant association between information literacy/critical thinking and how individuals respond to misinformation on social media.

The result of the chi-square test is given as follows:

Chi-square test statistic	Degree of freedom	p-value
12.905	4	0.01175

Table 5.12.5.1.: Chi-square test

Since the p-value (0.01175) is less than 0.05, the null hypothesis can be rejected. This implies a statistically significant association between information literacy/critical thinking and how individuals handle misinformation.

The standardised residuals help identify which specific categories contributed most to the significant chi-square result. The table below shows the residuals for each response category across gender groups:

Gender	Response 1: Report the content	Response 2: Investigate or fact-check the information	Response 3: Comment and correct	Response 4: Ignore it and move on	Response 5: Share with others to raise awareness
Female	0.94	2.67	-1.51	0.49	-2.32
Male	-0.94	-2.67	1.51	-0.49	2.32

Table 5.12.5.2.: Standardised residuals

Positive residuals indicate that the observed frequency is higher than expected under the null hypothesis. Negative residuals indicate that the observed frequency is lower than expected under the null hypothesis. Residuals above ±2 suggest a notable deviation from expected values and indicate categories that significantly contribute to the chi-square test result.

Response 2 has a high positive residual (2.67) for females and a high negative residual (-2.67) for males, suggesting that females are significantly more likely to choose response 2 compared to males. Response 5 has a high negative residual (-2.32) for females and a high positive residual (2.32) for males, indicating that males are significantly more likely to select Response 5 compared to females. Other residuals are within the range of ±2, indicating no significant deviation from expected values.

The chi-square test confirmed a significant association between information literacy/critical thinking and responses to misinformation. The standardised residuals

further reveal that females are significantly more likely to engage in Response 2, while males are more likely to engage in Response 5. These insights highlight potential gender differences in how individuals interact with misinformation, which can inform targeted educational and intervention strategies.

5.13. Library Visit Frequency and User Engagement

Libraries play an important role in providing access to information, academic resources, and a quiet environment for study. Understanding how frequently individuals visit the library can help institutions assess user engagement and improve services. The following analysis presents the frequency of library visits among respondents.

Library Visit Frequency	Number of Selections	Percentage (%)
Monthly	36	5.39%
Never	112	16.77%
Rarely	91	13.62%
Daily	106	15.87%
Occasionally	243	36.38%
Weekly	80	11.98%
Total	668	100.00%

Table 5.13.: Frequency of Library Visits

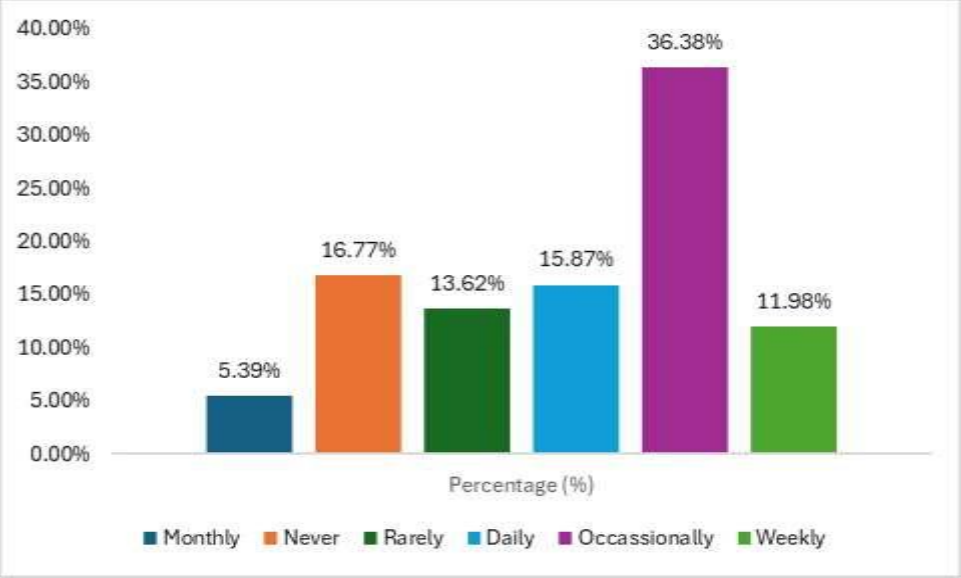


Figure 5.13.: Frequency of Library Visits

Occasionally visiting the library is the most common response, accounting for 36.38% of participants. This suggests that while many individuals utilise library resources, they do so irregularly. 16.77% of respondents never visit the library, indicating a segment of the population that does not engage with library services at all. Daily library users make up 15.87%, highlighting a group of frequent visitors who likely rely on the library for study, research, or work. Rarely (13.62%) and weekly (11.98%) visitors represent moderate engagement levels, suggesting that libraries may need to introduce initiatives to increase visit frequency. Only 5.39% of respondents visit the library every month, indicating that occasional usage is more prevalent than structured monthly visits.

The results show a diverse range of library engagement levels, with occasional visits being the most frequent. The presence of a significant proportion of non-users (16.77%) suggests that libraries could benefit from strategies to encourage greater participation, such as awareness campaigns, digital services, or tailored programs to meet user needs.

5.13.1. Librarians' Role in Combating Misinformation

In an era of widespread misinformation, librarians play a crucial role in promoting information literacy and ensuring access to credible sources. This analysis examines whether individuals believe that librarians have a responsibility to combat misinformation.

Response	Number of Selections	Percentage (%)
Yes	474	70.96%
No	194	29.04%
Total	668	100.00%

Table 5.13.1.: Public Perception of Librarians' Role in Combating Misinformation

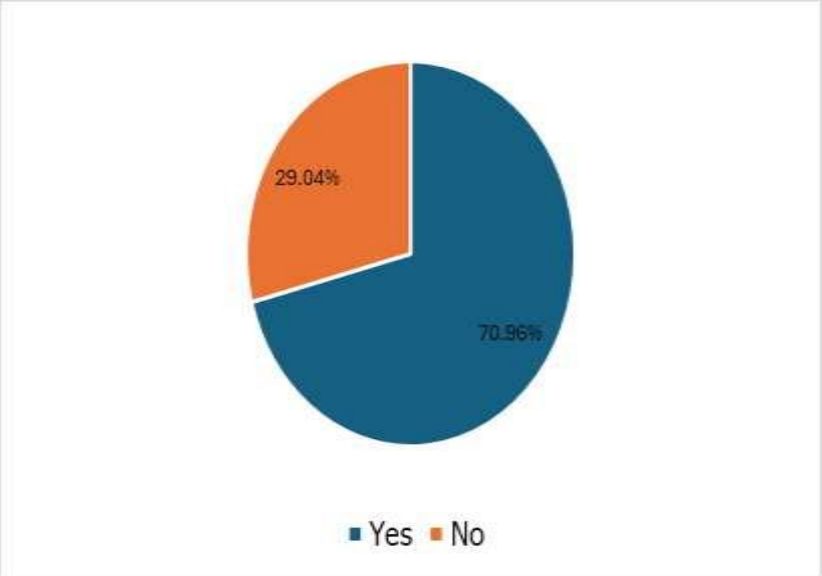


Figure 5.13.1.: Public Perception of Librarians' Role in Combating Misinformation

A majority (70.96%) of respondents believe that librarians have a responsibility to combat misinformation, highlighting public trust in librarians as gatekeepers of reliable information. However, 29.04% do not see this as a responsibility of librarians, possibly indicating differing views on the role of libraries in addressing misinformation.

The results suggest a strong expectation for librarians to actively counter misinformation by promoting information literacy, fact-checking resources, and guiding users toward credible sources. This reinforces the need for libraries to integrate digital literacy initiatives and misinformation awareness programs into their services.

CHAPTER-6

FINDINGS, CONCLUSIONS AND SUGGESTIONS

The chapter provides an overview of the research findings with reference to the objectives and hypotheses of the study. The research proceeds by interpreting and drawing conclusions from the survey outcomes. This chapter includes suggestions for the effective use of social media platforms by students in the present era of misinformation.

6.1. Findings of the study

The study achieved its objectives by yielding significant findings. In light of the data analysis and insights provided in previous chapters, the following conclusions have been drawn. The study's conclusions are shown in the sections that follow. The purpose of the study was to determine how medical students, in this age of misinformation, seek and share knowledge on social media platforms.

6.1.1. Findings based on analysis of medical students' responses

1. Male respondents slightly outnumber their female counterparts, though the difference is minimal (Table 5.4.1.).
2. The highest percentage of respondents (44.16%) belonged to the 20–23 age group, followed by 30.24% from the 17–20 age group (Table 5.4.2.).
3. 35.48% of the respondents were in the first year of their degrees, followed by those in the second year with a percentage of 26.05% (Table 5.4.3.).
4. Smartphones were the most preferred devices for accessing social media (Table 5.5.1.).
5. YouTube (21%), WhatsApp (18%), and Instagram (18%) emerged as the most frequently used social media platforms among medical students (Table 5.5.2.).
6. The findings show that 32.93% of students engage with social media for 1–2 hours daily, whereas 28.74% dedicate more than 4 hours per day, pointing toward heavy social media consumption (Table 5.5.3.).
7. Age does not play a significant role when it comes to information seeking of students (Table 5.6.1.2.).
8. Similarly, gender appears to have no substantial effect on how students use social media to seek information (Table 5.6.1.3.).
9. When it comes to sharing information via social media, students display differing digital habits to some extent. The difference was seen between the age groups 17-20 and 20-23 years (Table 5.6.2.2.).

10. Gender does not appear to affect the information sharing of students. Males and females share a similar pattern when it comes to information sharing (Table 5.6.2.3.).
11. When it comes to the extent of social media usage for information seeking, both males and females prefer YouTube, followed by WhatsApp. On the contrary, Facebook is the least used platform amongst both genders (Table 5.7.1.).
12. There is a slight difference in the usage of Instagram, Snapchat and Telegram amongst male and female students. The reason behind this could be the differences in platform strategies that align with varied preferences and interests (Table 5.7.1.).
13. The access to study materials, ease of use and timely medical news were considered some of the major reasons and motivations for information sharing. At the same time, entertainment was the least cited reason, suggesting that the information sharing process is primarily driven by educational motives (Table 5.7.2.).
14. Entertainment (20.35%) is the most sought-after content on social media. This is followed by news and current events (16.33%) and educational content (15.63%) (5.7.3.1.).
15. Students mostly share educational content (22.71%) and medical news and trends (20.06%) (See Table 5.7.3.2.).
16. Misinformation was seen affecting everyone across different age groups (Table 5.8.1.2.).
17. On the other hand, gender may play a role in misinformation perception or engagement, though the effect size should be assessed to determine the practical significance of this difference (Table 5.8.1.3.).
18. Age is not a major determinant of misinformation consumption behaviour on social media (Table 5.9.1.2.).
19. Similarly, misinformation consumption is not much influenced by gender, as both males and females engage in a similar kind of consumption (Table 5.9.1.3.).
20. A difference in sharing of misinformation was found in 17-20 and 20-23 age groups, which may be due to different digital habits, privacy concerns, or

engagement on social media behaviours (Table 5.9.2.2.).

21. However, gender does not play a major role when it comes to misinformation sharing on social media platforms (Table 5.9.2.3.).
22. Students employ various strategies when it comes to evaluating the information online. They mostly consider the source (21.81%), use personal judgement and critical thinking (17.42%), and read beyond the headlines (15.07%) (Table 5.10.1.).
23. Students find themselves capable of differentiating between credible and misleading information (Table 5.10.2.).
24. When it comes to the strategies that students employ to identify misinformation, they mostly prefer cross-verifying reputable sources (17.77%), reading beyond headlines (15.04%) and checking for credibility and biases (13.38%) (Table 5.11.1.).
25. There are plenty of factors that contribute to the amplification of misinformation on social media platforms. The most frequently cited contributors are memes/deepfakes (16.21%), lack of media literacy (15.52%) and political polarisation (15.08%) (Table 5.11.2.).
26. While encountering misinformation, around 27.79% of the students chose to ignore it and move on. On the contrary, 25.19% of the students chose to fact-check information, and 20.09% reported the content that was incorrect (Table 5.11.3.).
27. The attitudes towards verifying information before sharing on social media are broadly similar across age groups (Table 5.12.2.).
28. In the same way, gender does not have any influence on the attitudes of users towards verifying information before sharing it online (Table 5.12.3.).
29. Course year also does not affect the attitudes of students towards information sharing on social media platforms (Table 5.12.4.).
30. Gender influences how the students engage with misinformation. Female students would mostly engage in investigating or fact-checking the information, while their male counterparts prefer sharing the information with others to raise awareness (Table 5.12.5.).
31. Libraries play a crucial role in providing timely access to reliable information. 36.38% of the students mentioned visiting the library occasionally. This

suggests that students still utilise the library resources. However, 16.77% of the students never visit the library. At the same time, 15.87% of students visited the library rarely. This is quite worrisome and needs further exploration of the evolving role of libraries in the modern era (Table 5.13.).

32. The majority of the students (70.96%) believed that librarians have a responsibility to combat the menace of misinformation. However, 29.04% students do not consider tackling misinformation as the role of librarians. This indicated the differing views on the roles of libraries in addressing misinformation (Table 5.13.1.).
33. The findings also suggest combating misinformation through the promotion of information literacy, fact-checking resources, and guiding towards credible sources. Libraries have to be at the forefront and integrate digital literacy initiatives and misinformation awareness programs into their services (Table 5.13.1.).

6.1.2. Findings based on the objectives of the study

The following sections present the findings based on the objectives of the study.

Objective 1: To find the extent to which social media is used for seeking information.

Social media has had a profound impact on the modern information ecosystem, altering the ways in which knowledge is shared and consumed. It is a widely preferred medium for seeking all kinds of information. From everyday life information to academic information, social media has it all. Students are highly active on social media, spending a notable amount of time online. Therefore, it naturally becomes a key platform for seeking information. Keeping in view how widely it is being used by students and the information that is available on it, an objective was drawn to explore how much students use these platforms to seek information.

The objective was to find the extent of information sought by medical students from social media platforms. In this regard, one Likert scale question was posed to them regarding the extent to which they preferred using social media platforms as their first choice for seeking information regarding a topic of their interest. In addition, one question was asked regarding their preferred social media platform for information seeking. The choice included a popular list of social media platforms extracted through a literature review. The students were also asked about the motivations for seeking

information on social media.

To fulfil this objective, one question using a Likert scale was posed to the students regarding the extent to which they used social media for information seeking (Chapter 5, Section 5.7.1.). To get an overview of their usage, a few questions were also posed to them regarding the most used social media platforms (Section 5.2.2.) and time spent online per day (Section 5.5.3.).

A considerable proportion of the users had a neutral approach towards choosing social media as a first choice for seeking information. However, the platforms most frequently used for seeking information were YouTube (20.79%), WhatsApp (18.48%), and Instagram (17.84%). Gender-wise analysis (Section 5.7.1.) revealed that males used Facebook and Telegram significantly more, while females preferred Snapchat. As per Section 5.5.3., 32.93% of students spent 1–2 hours on social media daily, and 28.74% spent more than 4 hours, indicating high engagement. These findings confirm social media's dominant role in students' information-seeking habits.

Objective 2: To identify the reasons and motivations for information sharing on social media.

Social media has evolved into a key medium through which students navigate academic, social, and personal aspects of daily life. They not only consume a lot of information, but they also actively share it. Information sharing helps the students gain insights, stay updated, expand their knowledge, and enhance their networking with other users. Given how frequently students engage in sharing information online, it is important to examine the reasons and motivations that drive students to share information on social media.

To explore this, students were asked to identify their motivations for sharing information on social media from a list of multiple-choice options (Chapter 5, Section 5.6). These included academic, professional, and social motivations.

The top motivation for sharing was Study Materials (18.99%), followed by Ease of Use (14.09%) and Latest Medical News (12.80%). Online Discussions (10.56%), Networking with Experts (9.43%), and Job/Fellowship Opportunities (7.98%) were also significant. Entertainment was the least cited reason (0.08%). The findings indicate that students primarily utilise social media for sharing academic and informational content, rather than for entertainment purposes.

Objective 3: To determine what type of information students seek and share on social media platforms.

Enormous amounts of information are available on social media platforms. At the same time, students come from diverse backgrounds, and therefore, they have diverse information needs that need to be fulfilled. Medical students are "digital natives"; thus, they find it easier to seek and share information on these platforms over traditional methods. Depending on their information needs and the specific features of different platforms, they seek and share different kinds of information. From entertainment content to news and medical updates, they seek and share all kinds of information.

Students were asked two separate questions: one regarding the types of information they seek (Chapter 5, Section 5.7.3.1) and another regarding the types of information they share (Section 5.7.3.2). The questions were multiple-choice based, covering categories like educational, medical, entertainment, personal, and inspirational content. Entertainment content (20.35%), news and current events (16.33%), and educational content (15.63%) were the most sought-after information types. Students most commonly shared educational content (22.71%), medical news and trends (20.06%), and inspirational content (18.30%). This suggests a trend where students consume diverse content but prefer to share academically relevant and motivational material.

Objective 4: To examine the role of information literacy and critical thinking as a practical solution to combat misinformation.

Social media is filled with misinformation. Misinformation is known to hamper the critical thinking abilities of users and their judgment-making abilities. However, information literacy and critical thinking are known to significantly improve the ability to recognise misinformation and take informed decisions. Such solutions make students resistant to the harmful effects of misinformation and help them navigate through it effectively.

A Chi-square analysis was carried out to explore the potential relationship between students' responses to misinformation and their level of information literacy and critical thinking (Chapter 5, Section 5.12.5). The Chi-square value revealed a statistically significant relationship. Gender-wise residual analysis revealed that females were more likely to critically respond to misinformation, whereas males tended to ignore it or believe it. These findings emphasise the significance of equipping students with skills to evaluate and challenge online content.

Objective 5: To analyse the gullibility and lack of knowledge in recognising misinformation on social media platforms.

There is so much misinformation that it becomes challenging for users to navigate through that information. Medical students often struggle to differentiate credible information from misinformation. Due to the lack of information literacy amongst users, they become more susceptible to misinformation and its spread.

To address the research objective, medical students were surveyed on the techniques they utilise to determine the reliability of potentially misleading information on social media. They were also asked about whether they struggled to differentiate between credible information and misinformation on various social media platforms.

The findings revealed that users most commonly relied on "considering the source" (21.81%) and "personal judgment" (17.42%) to assess credibility, while methods like "reverse image search" (6.74%) and "asking experts" (5.93%) were least used. Statistical tests showed no evidence that a majority of users struggled to identify misinformation, as most rated their ability as moderate or above (mean = 3.53).

Objective 6: To assess ways to spot, stop, fact-check, debunk, and combat misinformation on social media.

The technological advancements are amplifying the spread of misinformation. COVID-19 was a clear example of the damage misinformation can cause to the public by creating fear, mistrust and paranoia among users and leading to poor health decisions. In fact, at present, there is so much misinformation that one step or one solution would not be enough to address this issue. Combating misinformation requires a combination of strategies, including digital literacy programs, technological interventions, timely interventions, collection development, fact-checking tools, and user awareness. This objective aimed to find ways to identify, prevent, and counter misinformation amongst the medical students and ensure a more informed and technologically resistant environment.

Students were presented with multiple options outlining different fact-checking and verification practices (Chapter 5, Section 5.11.1.). These included verifying with credible sources, identifying sensationalism, using fact-checking sites, and checking author credibility.

The findings revealed that users most commonly identify misinformation by cross-verifying with reputable sources (17.77%) and reading beyond headlines (15.04%),

while fact-checking tools (8.07%) and expert consultation (9.85%) were less frequently used. The main sources of misinformation were cited as memes/deepfakes (16.21%), lack of media literacy (15.52%), and political polarisation (15.08%). In terms of response, the most common action was ignoring the content (27.79%), followed by fact-checking (25.19%) and reporting (20.09%). These findings suggest that while users demonstrate awareness of misinformation, proactive countermeasures like verification and correction are comparatively less frequent.

Objective 7: To facilitate the role of the library professionals and the library's trust to combat misinformation.

Libraries are no longer the gatekeepers of books; they are gatekeepers of the truth in the modern era. Libraries are considered the most reliable organisations by the medical students. They play a vital role in disseminating accurate information and fostering digital literacy among users. They are at the forefront of educating communities, making fact-checking tools accessible to every user and fostering critical thinking. This objective was drawn to explore the role of library professionals in the present times, where misinformation has become a global issue and is affecting various aspects of medical students' lives.

Students were asked about their views on whether library professionals should play an active role in addressing misinformation (Chapter 5, Section 5.13.1.). Additional questions assessed trust in library resources and the visibility of libraries in the digital landscape.

A significant majority (70.96%) of students believed that library professionals have a role in combating misinformation. However, 29.04% of the students do not see any role of librarians in the present era, which is quite worrisome. Additionally, fewer students reported regularly using library resources to verify information. This points to a gap in the perceived versus actual role of libraries and suggests a need for stronger digital outreach and awareness campaigns from library institutions.

6.2. Testing of Hypotheses

Hypothesis 1: There is a significant difference in using social media for seeking and sharing information, both gender-wise and age-wise.

The analysis showed that age influences how people share information on social media. The Kruskal-Wallis test revealed significant differences between age groups, and Dunn's post hoc test confirmed that individuals aged 17–20 share information

differently compared to those aged 20–23. This suggests that sharing behaviour may shift as individuals move from late adolescence into early adulthood. Factors such as increased maturity, changing social circles, and greater awareness of online responsibility may contribute to this change.

Other age group comparisons did not show significant differences, indicating that from age 20 onwards, people tend to share information in similar ways. The box plot visualisation supported this pattern by showing similar distributions among most age groups, with a few outliers in the youngest and oldest groups. These outliers may represent individuals with particularly high or low engagement in social media sharing.

When comparing gender, the Mann-Whitney U test found no significant difference in information-sharing behaviour between males and females. The box plot also showed that both genders had nearly identical medians and spreads, suggesting similar usage habits. This implies that gender does not play a major role in shaping how people share information online, possibly due to similar exposure to digital tools and platforms.

This analysis leads to a clear conclusion: age does influence how people share information on social media, particularly between the 17–20 and 20–23 age groups, while gender does not show a meaningful impact. The findings suggest that the transition from teenage years to early adulthood is a critical period where sharing habits evolve. Beyond that stage, patterns remain relatively stable.

Overall, the hypothesis is supported. Age shows a significant effect on sharing behaviour, while gender does not. These insights can help inform how digital education, communication strategies, or online campaigns are tailored for different age groups, focusing more on life stages rather than gender differences. Further research could look into other factors such as personality, education level, or platform preferences to understand what drives these behavioural changes in greater depth.

Hypothesis 2: There is no significant variation in the seeking and sharing of misinformation among students.

The analysis reveals that age does not significantly affect how students seek and share misinformation on social media. The Kruskal-Wallis test showed no meaningful differences in misinformation behaviour across different age groups, supported by box plot visuals displaying similar medians and distributions. This suggests that misinformation engagement is fairly uniform regardless of age among the student population studied. This could be due to shared exposure to the same digital platforms

and comparable online habits across age groups.

On the other hand, gender does appear to influence misinformation behaviour, albeit modestly. The Mann-Whitney U test indicated that males and females showed a statistical difference, with males tending to have slightly higher misinformation scores. The box plot confirms this subtle variation, though the overlap in variability points to a nuanced difference rather than a stark contrast. This finding implies that gender might affect how students perceive or interact with misinformation, possibly related to differing levels of scepticism or engagement styles.

Overall, the data suggest that while misinformation behaviour is broadly consistent across age groups, gender-related differences exist and merit further exploration, especially to understand underlying causes and to tailor interventions effectively.

This study partially supports the hypothesis that there is no significant variation in misinformation seeking and sharing among students. Specifically, no significant age-related differences were found, meaning misinformation behaviour is similar across different student age groups. However, the hypothesis is rejected for gender, as a small but statistically significant difference exists between males and females.

These results highlight the importance of considering gender when designing educational or awareness programs about misinformation on social media. Meanwhile, age alone may not be a useful predictor for misinformation engagement in student populations. Future research could focus on other demographic or psychological factors influencing misinformation behaviour and explore why gender differences arise.

Hypothesis 3: A significant number of users frequently consume and share misinformation on social media.

The analysis aimed to explore whether age and gender differences significantly influence users' behaviour in consuming and sharing misinformation on social media, as stated in Hypothesis 3.

The Anderson-Darling tests, along with QQ plots and histograms, confirmed that the data for both consuming and sharing misinformation deviates significantly from normality. Therefore, non-parametric tests (Kruskal-Wallis and Mann-Whitney U tests) were appropriately applied.

For consuming misinformation, both age-wise and gender-wise analyses revealed no statistically significant differences. The Kruskal-Wallis test across age groups yielded a high p-value, suggesting that individuals of different ages consume misinformation

at similar rates. Similarly, the Mann–Whitney U test revealed no statistically significant difference between male and female respondents in terms of misinformation consumption. These results indicate that misinformation consumption behaviour appears to be widespread and consistent across demographic groups in this sample. The box plots corroborate this finding, showing overlapping medians and interquartile ranges among different age groups and between genders.

In contrast, sharing misinformation exhibited significant differences across age groups. The post-hoc Dunn's test revealed that the only significant difference was between the youngest group (ages 17-20) and the slightly older group (ages 20-23), indicating that younger users share misinformation differently than those in their early 20s. This might reflect varying social media habits, privacy concerns, or engagement levels typical of late teens compared to young adults. However, beyond this age gap, sharing behaviour remained statistically similar among other age groups. Gender-wise analysis showed no significant difference in misinformation sharing, suggesting that both males and females share misinformation at comparable rates.

The overall patterns suggest that misinformation consumption is pervasive across demographics without notable variation, whereas sharing behaviour shows subtle age-related shifts predominantly between late teens and early twenties. Gender does not appear to be a major factor in either consuming or sharing misinformation in this dataset.

The findings partially support Hypothesis 3. While a significant number of users across all age groups and genders frequently consume misinformation on social media, no demographic differences were observed in consumption patterns. However, significant age-related differences exist in sharing misinformation, specifically between users aged 17-20 and 20-23, indicating that younger users are more likely to differ in their sharing behaviour. Gender does not significantly affect either consumption or sharing of misinformation.

These results highlight that misinformation consumption is a widespread issue across demographic boundaries, requiring broad-based interventions. The age-specific difference in sharing behaviour suggests that targeted awareness campaigns and digital literacy education could be especially beneficial for late-teen social media users to mitigate the spread of misinformation.

Future research should investigate underlying factors driving the differences in sharing

behaviour, such as social media platform usage, peer influence, or cognitive factors, to develop tailored strategies for combating misinformation dissemination.

Hypothesis 4: A significant number of users are not capable of differentiating between credible information and misinformation.

The analysis of users' ability to distinguish between credible information and misinformation on social media uncovers several significant insights. First, examining the methods users employ to evaluate credibility highlights a reliance on general assessment strategies rather than rigorous verification techniques. The most frequently used methods are "considering the source" and "personal judgment and critical thinking," indicating that users primarily depend on their interpretation and the reputation of the source when assessing content. In contrast, more systematic methods such as fact-checking, reverse image searches, and consulting experts are significantly underutilised, suggesting gaps in deeper verification practices.

The chi-square test confirms that preferences for these methods are not equally distributed, with strong preferences for source evaluation and critical thinking, but significant underuse of expert consultation and technological tools. This pattern reflects a tendency toward surface-level evaluation rather than thorough fact verification, potentially leaving users vulnerable to misinformation.

Despite these gaps in verification methods, the self-assessment data tells a different story regarding users' confidence in their ability to distinguish credible from misleading information. Statistical tests show no evidence that a significant number of users struggle with this task. Only 16.9% of respondents rated their ability as low (scores 1 or 2), which is well below the 50% threshold proposed in the hypothesis. Moreover, the mean self-assessed ability score is 3.53, significantly above the neutral midpoint of 3, indicating moderate to high confidence among most users.

This disparity between verification method rigour and self-assessed ability suggests a possible overestimation of one’s competence in evaluating social media information. While users feel confident in their judgment, their reliance on less stringent methods may increase susceptibility to misinformation. This cognitive bias toward overconfidence in one’s critical evaluation skills is a well-documented phenomenon and highlights a potential challenge in combating misinformation online.

Self-assessment responses do not support the hypothesis that a large proportion of users lack the ability to differentiate between accurate and misleading information on social

media. Most users report at least moderate confidence in their ability to evaluate information credibility. However, the methods they employ to assess credibility tend to favour superficial checks, such as source consideration and personal judgment, over more rigorous verification tools like fact-checking and expert consultation.

These findings underscore a critical gap between users' confidence and their actual evaluative practices, suggesting a need for greater awareness and education about effective fact verification techniques. The promotion of fact-checking tools, reverse image search techniques, and expert consultation may enhance users' critical thinking abilities and contribute to minimising the spread of misinformation on social media.

Hypothesis 5: There is a significant difference in the perception of users to identify, stop and debunk academic misinformation.

The analysis of users' perception and strategies for identifying, stopping, and debunking academic misinformation on social media highlights both strengths and gaps in current information literacy and critical thinking skills. The data indicates that users primarily rely on cross-verifying information with reputable sources (17.77%) as the most common strategy, which reflects an awareness of the importance of trustworthy information. Reading beyond headlines (15.04%) and checking the source and citations (13.26%) are also widely practised, showing users' understanding of surface-level verification techniques.

Other critical strategies, such as checking biases and objectivity (13.38%), identifying sensationalism (11.87%), and applying critical thinking (10.76%), suggest that users recognise emotional manipulation and bias as red flags for misinformation. However, the comparatively lower use of fact-checking tools (8.07%) and seeking expert opinions (9.85%) signals a need for greater promotion and education around these more robust verification methods.

Regarding the sources and spread of misinformation, users attribute misinformation primarily to memes/deepfakes (16.21%) and lack of media literacy (15.52%), followed closely by political polarisation (15.08%) and information overload (13.00%). These findings highlight that misinformation is influenced not only by individual behaviour but also by broader systemic factors such as digital manipulation, social polarisation, and cognitive overload. Addressing these causes requires comprehensive efforts that combine education, technology, and policy.

When handling misinformation, the most frequent user response is to ignore it

(27.79%), which may allow false information to persist and spread. However, a significant portion of users actively investigate or fact-check misinformation (25.19%), report false content to platforms (20.09%), or comment and correct misinformation (18.01%), reflecting engagement and responsibility among many users. The relatively low rate of sharing corrective information (8.92%) suggests that more encouragement is needed to motivate users to proactively disseminate accurate information.

Collectively, these findings suggest a nuanced perception among users: while many demonstrate awareness and use several effective strategies to identify misinformation, there remains a large segment that either do not engage actively with misinformation or underutilise advanced verification tools and expert resources. This underscores the importance of strengthening digital literacy programs that emphasise critical thinking, fact-checking, and the responsible handling of misinformation to better equip users in combating academic and other types of misinformation on social media.

The hypothesis that there is a significant difference in users' perception regarding their ability to identify, stop, and debunk academic misinformation is supported by the evidence showing varied strategies and engagement levels among users. While many users are proactive in cross-verifying information, reading beyond headlines, and checking sources, fewer rely on fact-checking tools and expert consultation. Furthermore, user responses to misinformation range widely from active correction and reporting to passive ignoring, indicating diverse perceptions and behaviours toward misinformation.

These findings highlight the critical need to promote comprehensive information literacy and critical thinking education. By encouraging greater use of fact-checking tools, expert consultation, and responsible sharing of corrective information, social media users can be better prepared to identify, challenge, and reduce the spread of academic misinformation. This multi-pronged approach is essential to foster a more informed and discerning digital community capable of effectively combating misinformation in all its forms.

Hypothesis 6: There is a significant difference in attitudes towards the verification of information before sharing on social media among different categories of users.

The analysis examined differences in the way individuals verify information before sharing on social media across various age groups and between genders. The Anderson-Darling normality test indicated that the assumption of normality was not met,

justifying the use of non-parametric methods. The Kruskal–Wallis test indicated a statistically significant variation in verification of information across different age groups on social media ($p < 0.05$). This suggests that age has a meaningful effect on how people verify information before disseminating it online.

To identify the specific age groups that exhibited significant differences, Dunn's post hoc test with Bonferroni correction was employed. The results showed that the 17–20 age group significantly differs from the 20-23 age groups in their verification behaviour. This indicates that younger individuals (especially those aged 17–20) are more actively involved in verifying before sharing, possibly due to greater familiarity and engagement with digital platforms. In contrast, older individuals may not verify everything before sharing information others, possibly due to lower digital literacy, different privacy attitudes, or less habitual usage of social media.

In terms of gender, the Mann–Whitney U test was used to determine if there were significant differences in verification behaviours between males and females. The test found no statistically significant difference ($p > 0.05$), suggesting that gender does not play a substantial role in how individuals verify information on social platforms. This result implies that both men and women are equally likely to engage in verifying information, countering some earlier assumptions of gendered digital behaviour.

The findings of this study reveal that age is a significant factor in shaping how individuals verify information on social media, with younger users, particularly those aged 17–20, demonstrating more active verification of information compared to older users. This could be attributed to greater digital fluency, social connectivity, and cultural immersion in online communication among younger generations.

In contrast, gender does not appear to significantly influence verification practices on social media. This suggests that contemporary digital engagement may be less influenced by gender roles, reflecting a more equal footing in how men and women participate in information verification.

These insights have practical implications for educators, digital literacy campaigns, and public health communicators who aim to disseminate accurate and trustworthy content. Targeted strategies may be needed to better engage older age groups, while both genders can be approached similarly in content distribution efforts.

6.3. Conclusion

Social media has become an essential part of the medical students' lives. They use it to seek information, express their thoughts, share content and consume entertainment. As digital natives, they have become a major force behind the growing use of social media. Different platforms cater to varied academic, professional and personal needs of the users. Therefore, it becomes important for the medical colleges to adapt to social media, keep students updated regarding the latest happenings and build a more connected and responsive environment for the students. Adapting to social media is a necessity for both medical students and medical colleges as it can empower them to harness its potential for career development, health information, and stay connected to the world. The findings of the study indicate that students mainly accessed social media via smartphones. YouTube, WhatsApp and Instagram are amongst the most used social media platforms by the students, and they spend around 2 hours daily on them. Students use these platforms for entertainment and consuming information.

Concerning information seeking, students had a balanced view regarding social media as a first choice. The reasons may be a lack of educational value, risk of addiction, lack of credibility, etc. Those who sought information mainly used YouTube, WhatsApp, and Instagram for it. The motivation behind using social media for seeking information was the availability of study materials, ease of use, latest medical news, networking with experts, etc.

Even though students spend enough time on social media, they do not prefer sharing much of the information on it. The reasons that prevent them from sharing information are privacy concerns, personal and professional reasons, fear of negative reactions, accuracy issues, etc.

When it comes to both information seeking and information sharing, the majority of the students seek entertainment content, news and current events, as well as educational content. In contrast, they primarily share educational content, medical news and trends and entertainment content.

Social media is filled with vast amounts of misinformation. Students use different criteria to evaluate the credibility of information sources on social media. They may consider the source of information, use their own personal judgement and critical thinking, read beyond headlines, etc. Many students fact-check and verify information before believing or sharing it with others. They consider themselves able to

differentiate between accurate and inaccurate health information available on social media.

Misinformation is a global challenge that is affecting various aspects of our lives. The COVID-19 pandemic significantly highlighted how the medical field can be affected by such challenges. The findings of the study show that medical students encounter doubtful health-related information quite often. They are aware of the misinformation; therefore, they frequently question the accuracy of the information that they encounter on these platforms. The findings also explored the awareness of potential consequences of misinformation amongst the students and found erosion of trust in media and information sources, promotion of pseudoscience, and damage to personal reputation to be the major ones.

Combatting misinformation requires students to adapt multiple strategies to critically assess the information that they see online and make informed decisions. Many students prefer cross verification with reputed sources, read beyond, check the source, etc. They consider memes or deepfakes, lack of media literacy, and political polarisation as the main sources of misinformation. This may be the reason that they frequently fact-check health-related information before sharing it with others. The medical field is a zero-error field, and hence, fact-checking the information found online is a must. In case of encountering misinformation, students usually ignore it and move on. However, some do investigation or fact-checking, report the content as well and comment and correct the information. Students believe that combating misinformation will require a combination of strict government regulations, formation of regulatory bodies, promotion of media literacy, mandatory fact-checking mechanisms, user awareness and taking legal action against offenders.

The majority of the students consider that librarians have a role to play in combating misinformation. Many students visit libraries frequently. However, there is a small portion of the students who visit libraries rarely or not at all. This needs further exploration of public perceptions on the evolving role of librarians in the digital age. Medical students who consider that librarians have a role in combating misinformation see them as supporting fact-checking and research, curating and sharing reliable sources of information, and promoting media and information literacy. There is a sense of uncertainty when it comes to verifying the accuracy of information from the library, even though the majority of users believe that libraries have a huge role to play in the

present age.

6.4. Suggestions

The questionnaire, which was distributed amongst the medical students, and its subsequent analysis and findings of the study have allowed the researcher to provide some suggestions to medical students, medical colleges and medical college libraries regarding the effective use of social media platforms for information seeking and information sharing. The suggestions are mentioned below:

6.4.1. Suggestions for medical students

1. Medical students should develop critical thinking skills to navigate through the current information landscape, which is filled with misinformation. This will help them in making informed academic as well as healthcare-related decisions.
2. Medical students should rely on authentic health information sources like the World Health Organisation (WHO), Indian Council of Medical Research (ICMR), National Library of Medicine (NLM), etc., rather than unverified posts that they come across on social media. Referring to authoritative sources is needed to improve the quality and reliability of information that they consume as well as share online.
3. Medical students may visit libraries more often for guidance in finding authentic sources and up-to-date medical information.
4. They may utilise multiple social media networks, such as YouTube for subject-related tutorials and WhatsApp and Facebook for academic communication and collaboration. However, all the information obtained from these platforms should be verified before accepting or disseminating that information.
5. The study recommends attending digital literacy workshops and awareness programs to become more resistant to false information.
6. Medical students are encouraged to maintain ethical standards while seeking and sharing information online by avoiding the dissemination of unverified, misleading, and sensational content.
7. They may use institutional databases, e-resources and other sources provided by the college library instead of seeking information on random social media pages.

8. Medical students should keep personal biases, emotions, and preconceived notions aside while navigating through online information. They are advised to adopt an objective and evidence-based approach to assess the credibility and authenticity of information that they come across on social media networks.

6.4.2. Suggestions for medical libraries

1. The study suggests holding digital literacy workshops and conducting awareness programs.
2. Medical libraries may collaborate with fact-checking organisations.
3. They may collaborate with the faculty to ensure that students are provided with reliable sources of information.
4. They may keep the students updated with the recent collections on various social media platforms.
5. They are recommended to provide a list of authentic pages on social media that provide reliable medical information.
6. They should maintain an active social media presence and engage with users through social media, offering timely updates and answering their queries.

6.4.3. Suggestions for medical colleges

1. The study recommends allocating funds to the libraries to strengthen their services and make the resources available to the medical students.
2. The study also suggests incorporating digital literacy and media awareness into the curriculum.
3. Collaboration with the college library is recommended to strengthen the academic support.
4. Training should be provided to the college faculty regarding misinformation and the use of authentic sources.
5. Ethical standards in information use should also be promoted in the college.
6. Experts should be invited to deliver lectures on various aspects of social media and its challenges as well as advancements.
7. Funds should be allocated for modern library infrastructure.
8. Policies as well as guidelines should be formulated that will improve the digital conduct of the students and prevent them from indulging in any misconduct.

6.5. Areas for further research

One of the key issues for future research would be to explore the user behaviour while seeking and sharing information, and how it is affected by the misinformation issue. Furthermore, in-depth research should be carried out with users' desires and suggestions regarding the type of content that they predominantly want on social media platforms. At present, there are immense challenges in freeing social media platforms from the issue of misinformation and making them a reliable source of information for medical students. However, the present study serves as a starting point for investigating information seeking, information sharing and misinformation, more so because this is the first of its kind to analyse the use of social media platforms in information seeking and information sharing on social media platforms in the present era of misinformation amongst the medical students of Jammu and Kashmir.

The study identified certain issues for further research as follows:

1. Information seeking and information sharing practices on social media platforms in the present age by students and research scholars across various disciplines.
2. Information seeking and information sharing practices of users on specific types of social media.
3. Information seeking and information sharing in the era of misinformation generated by AI tools.
4. Various challenges, like information overload, that affect information seeking and information sharing of users on social media.
5. Misinformation practices of users on specific types of social media networks.
6. Impact of misinformation on Library and Information Science Services and products in Indian libraries.
7. Impact of misinformation on the reliability of libraries among students.
8. Legal and ethical aspects of misinformation on social media platforms in India.

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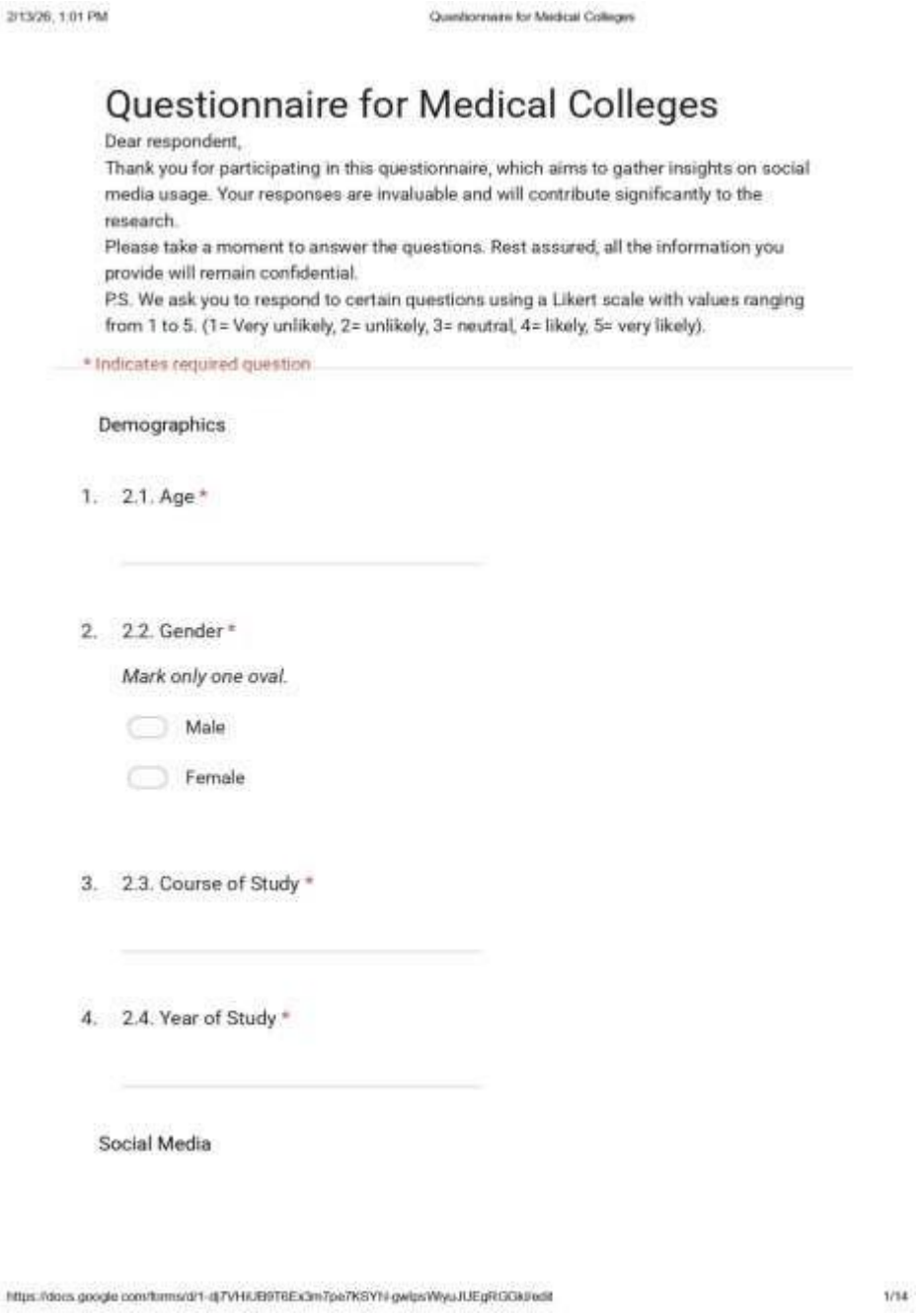
List of Appendices

S. No.	Title
1.	Questionnaire
2.	Subject Expert Validation Certificate Of The Questionnaire
3.	Language Expert Validation Certificate Of The Questionnaire
4.	List of Publications
5.	List of Conferences
6.	List of Workshops/Courses

1. Questionnaire

- **Google Form link of the Questionnaire**

https://docs.google.com/forms/d/e/1FAIpQLSfCscYUolVAx0EtiXzFmVKEWZjyh9HXiFIK9nM0Wk-EVntLLQ/viewform?usp=header



2/13/26, 1:01 PM Questionnaire for Medical Colleges

Questionnaire for Medical Colleges

Dear respondent,
Thank you for participating in this questionnaire, which aims to gather insights on social media usage. Your responses are invaluable and will contribute significantly to the research.
Please take a moment to answer the questions. Rest assured, all the information you provide will remain confidential.
P.S. We ask you to respond to certain questions using a Likert scale with values ranging from 1 to 5. (1= Very unlikely, 2= unlikely, 3= neutral, 4= likely, 5= very likely).

* Indicates required question

Demographics

1. 2.1. Age *

2. 2.2. Gender *

Mark only one oval.

- Male
- Female

3. 2.3. Course of Study *

4. 2.4. Year of Study *

Social Media

https://docs.google.com/forms/d/1-dj7VHiUB9T6Ex3m7pe7KSYH-gwlpsWyuJUEgRGGk/edit 1/14

5. 3.1. What type of devices do you use to access social media? *

Tick all that apply.

- [ ] Smartphone
- [ ] Laptop
- [ ] Tablet
- [ ] Smartwatch
- [ ] Other: _____

6. 3.2. Which social media platforms do you mostly use? (Select all that apply) *

Tick all that apply.

- [ ] WhatsApp
- [ ] Instagram
- [ ] YouTube
- [ ] Snapchat
- [ ] Facebook
- [ ] LinkedIn
- [ ] X (Twitter)
- [ ] Telegram

7. 3.3. On an average day, how much time do you spend on social media? *

Mark only one oval.

- ◯ Less than 30 minutes
- ◯ 1-2 hrs
- ◯ 2-3 hrs
- ◯ 3-4 hrs
- ◯ More than 4 hrs

8. 3.4. How likely do you engage with social media platforms for the below-mentioned reasons? *
(1= Very unlikely, 2= unlikely, 3= neutral, 4= likely, 5= very likely)

Mark only one oval per row.

	1	2	3	4	5
Socialization	◯	◯	◯	◯	◯
General information seeking	◯	◯	◯	◯	◯
Academic information seeking	◯	◯	◯	◯	◯
Career advice and development	◯	◯	◯	◯	◯
Create content	◯	◯	◯	◯	◯
Staying up-to-date with news	◯	◯	◯	◯	◯
Information sharing	◯	◯	◯	◯	◯
Entertainment	◯	◯	◯	◯	◯

Information Seeking

9. 4.1.To what extent do you prefer social media as your first choice for seeking information regarding a topic of your interest? (1= Very unlikely, 2= unlikely, 3= neutral, 4= likely, 5= very likely) *

Mark only one oval.

	1	2	3	4	5	
Very	◯	◯	◯	◯	◯	Very likely

10. 4.2. Which social media platforms do you use to seek information? (Select all that apply) *

Tick all that apply.

- [ ] WhatsApp
- [ ] Instagram
- [ ] YouTube
- [ ] Snapchat
- [ ] Facebook
- [ ] LinkedIn
- [ ] Twitter
- [ ] X(Twitter)
- [ ] Telegram

11. 4.3. What are the motivations for seeking information on social media? *

Tick all that apply.

- [ ] Latest medical news
- [ ] Networking with experts
- [ ] Ease of use
- [ ] Study materials
- [ ] Peer collaboration
- [ ] Job and Fellowship opportunities
- [ ] Online discussions
- [ ] Multiple channels of information
- [ ] Other: _____

12. 4.4. Which factors discourage you from seeking information on social media? *
(1= Very unlikely, 2= unlikely, 3= neutral, 4= likely, 5= very likely)

Mark only one oval per row.

	1	2	3	4	5
Information overload	◯	◯	◯	◯	◯
Misinformation	◯	◯	◯	◯	◯
Lack of educational value	◯	◯	◯	◯	◯
Risk of addiction	◯	◯	◯	◯	◯
Lack of credibility	◯	◯	◯	◯	◯
Privacy concerns	◯	◯	◯	◯	◯
Time constraints	◯	◯	◯	◯	◯
Regulatory and institutional guidelines	◯	◯	◯	◯	◯

Information Sharing

13. 5.1. How often do you share information on social media platforms? *

Mark only one oval.

- Multiple times a day
- Once a day
- Few times a week
- A few times a month
- Rarely
- Never

14. 5.2. How likely do you share information on social media for the below-mentioned reasons/motivations? *
(1= Very unlikely, 2= unlikely, 3= neutral, 4= likely, 5= very likely)

Mark only one oval per row.

	1	2	3	4	5
Inform others					
Socialization					
Entertainment					
Self-promotion					
Promote health literacy					
Debunk medical misinformation					

15. 5.3. What stops you from sharing information on social media? (Select all that apply) *

Tick all that apply.

- [ ] Privacy concerns
- [ ] Fear of negative reactions
- [ ] Lack of interest or relevance
- [ ] Accuracy issues
- [ ] Personal/professional reasons
- [ ] Time constraints
- [ ] Other: _____

Information Seeking and Sharing

16. 6.1. What type of content do you predominantly seek or consume on social media? (Select all that apply) *

Tick all that apply.

- [ ] News and current events
- [ ] Educational content
- [ ] Entertainment content
- [ ] Personal updates from family and friends
- [ ] Creative content (artwork, photography, writing)
- [ ] Inspirational or motivational content
- [ ] Career advice and fellowships
- [ ] Peer networking and mentorship

17. 6.2. What type of content do you predominantly share on social media? (Select all that apply) *

Tick all that apply.

- [ ] Medical news and trends
- [ ] Educational content
- [ ] Networking and professional development
- [ ] Entertainment content
- [ ] Inspirational or motivational content
- [ ] Technology and innovation
- [ ] Other: _____

18. 6.3. Which factors discourage you from seeking and sharing information on social media? *
(1= Very unlikely, 2= unlikely, 3= neutral, 4= likely, 5= very likely)

Mark only one oval per row.

	1	2	3	4	5
Information overload	◯	◯	◯	◯	◯
Misinformation	◯	◯	◯	◯	◯
Lack of educational value	◯	◯	◯	◯	◯
Risk of addiction	◯	◯	◯	◯	◯
Time constraints	◯	◯	◯	◯	◯
Inadequate skills and training	◯	◯	◯	◯	◯

Information Reliability

19. 7.1. How do you evaluate the credibility of information sources on social media? *

Tick all that apply.

- [ ] Consider the source
- [ ] Read beyond the headline
- [ ] Check author credentials
- [ ] Fact-check
- [ ] Personal judgment and critical thinking
- [ ] Reverse image search
- [ ] Check date and time
- [ ] Ask the experts

20. 7.2. How often do you fact-check or verify information you come across on social media before believing or sharing it? *

Mark only one oval.

	1	2	3	4	5	
Very	◯	◯	◯	◯	◯	Very likely

21. 7.3. How likely are you to be able to distinguish between accurate and inaccurate health information on social media? *

Mark only one oval.

	1	2	3	4	5	
Very	◯	◯	◯	◯	◯	Very likely

Misinformation

22. 8.1. How often do you encounter doubtful health-related information (news, articles, posts) on social media? *

Mark only one oval.

	1	2	3	4	5	
Very	◯	◯	◯	◯	◯	Very likely

23. 8.2. How likely are you to question the accuracy of the health-related information you encounter on social media? *

Mark only one oval.

	1	2	3	4	5	
Very	◯	◯	◯	◯	◯	Very likely

24. 8.3. In your opinion, what are the potential consequences of spreading misinformation on social media platforms? *

Tick all that apply.

- ☐ Damage to personal reputation
- ☐ Community division and conflict
- ☐ Erosion of trust in media and information sources
- ☐ Manipulation of public opinion
- ☐ Promotion of pseudoscience
- ☐ Economic impact

Combatting misinformation

25. 9.1. How do you spot misinformation online? *

Tick all that apply.

- [ ] Read beyond
- [ ] Check the source/look for citations
- [ ] Seek expert opinions
- [ ] Cross verify with reputable sources
- [ ] Identify sensationalism
- [ ] Check biases and objectivity
- [ ] Critical thinking
- [ ] Using fact check tools

26. 9.2. What do you believe is a major source of misinformation on social media? *

Tick all that apply.

- [ ] Lack of regulation
- [ ] Lack of media literacy
- [ ] Memes/Deep fakes
- [ ] Conspiracy theories
- [ ] Political polarization
- [ ] Information overload
- [ ] Pseudoscientific claims
- [ ] Social bots
- [ ] Other: _____

27. 9.3. How likely are you to fact-check health-related information before sharing it on social media? *
(1= Very unlikely, 2= unlikely, 3= neutral, 4= likely, 5= very likely)

Mark only one oval.

	1	2	3	4	5	
Very	◯	◯	◯	◯	◯	Very likely

28. 9.4. How do you handle misinformation on social media? (Select all that apply) *

Tick all that apply.

- [ ] Report the content
- [ ] Investigate or fact-check the information
- [ ] Comment and correct
- [ ] Ignore it and move on
- [ ] Share with others to raise awareness

29. 9.5. What steps do you believe should be taken to combat misinformation on social media?

Role of Libraries

30. 10.1. How often do you visit the library? *

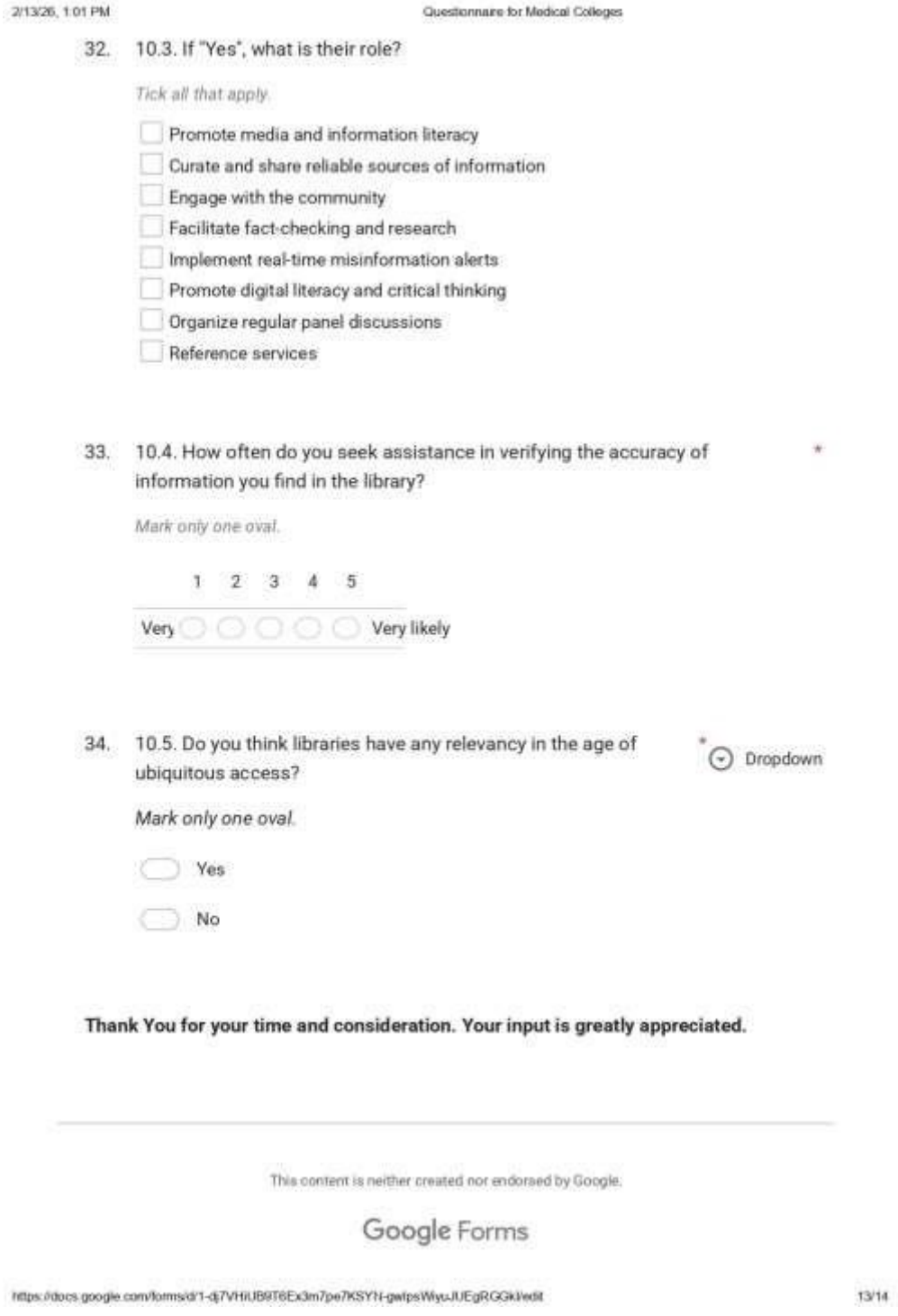
Mark only one oval.

- ◯ Daily
- ◯ Weekly
- ◯ Monthly
- ◯ Occassionally
- ◯ Rarely
- ◯ Never

31. 10.2. Do you believe librarians have a responsibility to combat misinformation? * Dropdown

Mark only one oval.

- ◯ Yes
- ◯ No



2/13/26, 1:01 PM Questionnaire for Medical Colleges

32. 10.3. If "Yes", what is their role?

Tick all that apply.

- [ ] Promote media and information literacy
- [ ] Curate and share reliable sources of information
- [ ] Engage with the community
- [ ] Facilitate fact-checking and research
- [ ] Implement real-time misinformation alerts
- [ ] Promote digital literacy and critical thinking
- [ ] Organize regular panel discussions
- [ ] Reference services

33. 10.4. How often do you seek assistance in verifying the accuracy of information you find in the library? *

Mark only one oval.

	1	2	3	4	5	
Very	◯	◯	◯	◯	◯	Very likely

34. 10.5. Do you think libraries have any relevancy in the age of ubiquitous access? * Dropdown

Mark only one oval.

- ◯ Yes
- ◯ No

Thank You for your time and consideration. Your input is greatly appreciated.

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2. Subject Expert Validation Certificate Of The Questionnaire

To whom it may concern

As an expert in the field of Library and Information Science (LIS), I have reviewed and evaluated the questionnaire designed by Ms. Misbah Ul Huda, a Ph.D. student at Lovely Professional University, Punjab. The questionnaire reflects sound principles of research design, with a well-considered approach to methodology and clarity in question formulation.

I fully endorse the efforts invested in designing the questionnaire and believe that the findings will provide valuable results for her research.

Best regards,

Dr. Saleeq Ahmad Dar 29318

Assistant Professor

Lovely Professional University

10/11/24

3. Language Validation Certificate Of The Questionnaire

Language Validation Certificate

To Whom It May Concern

This is to certify that I, Arif Hussain Reshi, have reviewed the language and clarity of the questionnaire titled "Questionnaire for Medical Students" (https://docs.google.com/forms/d/e/1FAIpQLSfCscYUolVAx0EtiXzFmVKEWZjyh9HXiFIK9nM0Wk-EVntLLQ/viewform) prepared by Ms. Misbah Ul Huda, a research scholar in Library Science.

I have carefully examined the language used in the questionnaire and confirm that it is:

1. Clear and Simple: The questions are structured in straightforward language that is easy to understand.

2. Appropriate for the Target Audience: The language level is appropriate for the respondents intended, ensuring accessibility and comprehension.

3. Free from Ambiguity: Each question is phrased in a way that minimizes potential misunderstandings.

The questionnaire is therefore validated as suitable for its intended purpose.

Arif Hussain Reshi
Assistant Professor (English)
Govt Degree College Anantnag
Phone No. 7780995074

List Of Publications

S.No.	Title of the Paper	Journal Name	Indexing	Hyperlink
1.	Digital Challenges in the Social Media Era: Addressing Misinformation and its Associated Risks	Journal of Statistics Applications & Probability	Scopus-indexed (Q2)	https://www.naturalspublishing.com/files/published/c13f9t3t76v5o6.pdf
2.	A Statistical Examination of Information Seeking and Misinformation Exposure on Social Media	Journal of Statistics Applications & Probability	Scopus-indexed (Q2)	https://www.naturalspublishing.com/files/published/v9w6k51l7zg37y.pdf

List Of Conferences

S.No.	Title of the Paper	Name of the Conference	Organizers
1.	Importance of Digital Literacy in Preventing Misinformation on Social media in Present Era	30th National Seminar-2024 On Information Literacy for Developing Enlightened Library/Information User Community In New Age [November 21-23, 2024]	Department of Library and Information Science, Aligarh Muslim University, Aligarh in association with Indian Association of Special Libraries and Information Centres (IASLIC), Kolkata
2.	Beyond Books: The transformative role of Libraries and Librarians in fight against misinformation	International Conference of Asian Academic Libraries (ICAAL 2025) on "New Technologies in the Knowledge System & Libraries: Towards Viksit Bharat @ 2047" [March 22-24, 2025]	SOS in Library and Information Science Jiwaji University, Gwalior, in association with Special Libraries Association (SLA-USA)
3.	The Social Media Misinformation Loop: An Analysis of Consumption and Sharing Behaviours among Medical Students	13th International Conference on Emerging Technologies for Smart Libraries (I-LIPS 2025) [December 12-14, 2025]	Jaipur Engineering College & Research Centre (JECRC) and JECRC University, Jaipur

4.	Digital literacy and exposure to misleading health information among medical students on social media: Repositioning academic libraries as institutional safeguards	Two-day national seminar on "Libraries: Pillars of Unity, Harmony and National Integrity" (March 24-25, 2026)	University of Kashmir (Sponsored by Indian Council of Social Science Research).

List Of Workshops/Courses

S.No.	Date	Name of the Workshop/Course	Organizer
1	January 15, 2026 to January 20, 2026	Review Article Writing Bibliometric Analysis and Qualitative Research Methods	Lovely Professional University
2	July 26, 2025	The Key to Media Literacy: Creating safer and more democratic schools in the digital age	Council of Europe
3	2025	Fighting Fake News through Public Libraries	American Library Association
4.	2025	Web Archiving for Public Libraries	WebJunction-OCLC