Exploring the Social Media Engagement of Library and Information Science Students in Pakistan amidst the COVID-19 Infodemic

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Abstract

How Library and Information Science students in Pakistan responded to the COVID-19 infodemic on social media? is the main focus of this research article. The study in hand is delimited to three universities in Pakistan located in north-west region of the country, including two public sector institutions and one private university. Employing a quantitative approach, the study used a survey design with an adapted questionnaire for data collection. The Statistical Package of Social Science was used to analyze the data. The findings of the research indicated that a significant proportion of Library and Information Science students relied on critical thinking and common sense (mean score = 3.9) to verify information regarding the infodemic on social media. The study recommended that research of the same nature be undertaken in other provinces of Pakistan, encompassing diverse participants beyond Library and Information Science students.

Keywords: Infodemic-COVID 19, Infodemic-Social media, Library and Information Science Students-KP, Infodemic-COVID 19-Pakistan

Introduction

The Coronavirus 2019 illness is brought on by the SARS CoV 2 virus (COVID 19) created a pandemic that changed society, disrupted schooling, and resulted in various home confinement laws (News, 2020). There was a need for newer knowledge about the virus, clinical symptoms, transmission, and disease prevention in this unpredictable environment (Delgado et al., 2021). Due to the widespread panic and persistent worry that COVID 19

caused, this led to the emergence of medical and psychological diseases as well as lowered immunity in the general population. According to earlier studies, the pandemic's emergence and social isolation policies may have increased the number of patients and healthcare workers who experienced anxiety, insomnia, and depression. It was also believed that suicide rates were high. People are using social media platforms like Google Trends, Yahoo, Facebook, Bing, Twitter, Instagram and other more well-known sources like Wikipedia, forums, blogs, or among others, to discover more about how the illness is developing (Bendau et al., 2021).

The term fake news (FN), also referred to as fabricated news, information overload and fraudulent news, first looked in the 20th century to define fake news that was created and disseminated by mass communication channels like social media, which dominated conventional and social platforms and was increasingly important in many people's everyday lives. Growing false news uses stories to obfuscate or inflate facts (Delgado et al., 2021). The World Health Organization WHO has made a concerted effort to track down and dispel the most widespread myths and rumors that could be harmful to the general public's health. The study's objectives in this instance were to evaluate the media's impact on the new coronavirus-caused pandemic and ascertain how the spread of infodemic affects people's health (George, Gerhart, & Torres, 2021).

The word "infodemic" is the combination of two words "info" and "demic," which are formed from the word's "information" and "epidemic." This term was originally used in 2002, when the world was suffering an epidemic of the severe acute respiratory syndrome (SARS) (Fitria, 2021). The World Health Organization (WHO) announced on March 30, 2020, that the SARS-CoV-2 coronavirus pandemic, which is the cause of the sickness known as Coronavirus Disease 2019 (COVID 19), began in Wuhan, China (Gupta, Girish, Yadav, Shankar, & Yadav, 2020; Marinelli, 2020). This illness is extremely contagious and spreads swiftly from person to person due to its severe effects on the airways, elevated risk of vascular permeability, organ failure, and eventually death if unchecked (Ozili & Arun, 2023). Unchecked broadcast of unreliable and frequently wrong information generates misinformation, which can have grave consequences like xenophobia, racism, xenophobia-related deaths, denial, and conspiracy theories (Sagherian, Steege, Cobb, & Cho, 2023). There was a high prevalence of psychological health conditions during the COVIDa19 pandemic in China, particularly depression (48.3%), anxiety (22.6%), and both (19.4%), which may have been caused by

exposure to material mediated via online social networks (Dryhurst et al., 2022). According to a different study, social isolation and confinement enhanced people's exposure to material shared through online social networks, favoring serious psychological problems (Guerrieri, Lorenzoni, Straub, & Werning, 2022). It is vital to map pertinent papers, available data, and knowledge gaps because this is a novel problem (Sallam, Al-Sanafi, & Sallam, 2022). Cochrane Database of Systematic Reviews and MEDLINE were searched first, the International Potential Register of Systematic Reviews (PROSPERO), the Open Science Framework, and JBI Evidence Synthesis for the following issue turned up nothing in the way of a systematic review or review of existing scope (J. M. Chen, 2022).

Millions of lives have been put in risk by the global pandemic brought on by the viral illness COVID-19 (Al-Tawfiq, Kattan, & Memish, 2022). In 2023, the number is anticipated to rise to 3.43 billion. One striking figure relates to the demographics of new consumers, which are constantly changing, and the expansion of social media penetration (Msemburi et al., 2023). According to a key poll done in 2019 by the U.K. government's regulator for public communications services (Akhtar, Muhammad, Ullah, & Khan, 2020), half of British people now use social media to remain up to speed on the most recent news. Governments and significant disease prevention organizations like the the Centers for Disease Manage and Prevention (CDC) and World Health Organization (WHO) are also using social media to control the pandemic by frequently sharing information and updates as well as by offering emergency responses (Quaglia & Verdun, 2023).

On February 15, 2020, Tedros Adhanom Ghebreyesus, the director-general of WHO, declared at the Munich Security Conference that this caused the UN to issue a warning against the spread of misleading information about the virus and the establishment of the COVID19 infodemic (Kauhanen et al., 2023). A number of scholars and news organizations also tackled the issue as the infodemic was developing and released real-life case studies that detailed specific instances that prevented individuals from responding responsibly during the infodemic (Chow, Uyeki, & Chu, 2023). For instance, dishonest people have deliberately shared a lot of false information and rumours through social media platforms like WhatsApp, Twitter, Facebook Youtube, and Instagram, to generate fear and confusion (Sujarwoto, Saputri, & Yumarni, 2023). According to some cyber security organizations, three to eight percent of the

recently registered COVID-19-related websites are dubious, while other phishing emails that purport to offer fixes may really install malware (Maftei, Merlici, & Dănilă, 2023).

Although social media platforms first asserted that they could identify and remove dangerous content, it soon became clear that they lacked adequate preparation and need backup plans to deal with the COVID-19 infodemic (Liu, 2023). Lack of human verification and review during the epidemic led to various unfair disbandment of user accounts and content as a result of the artificial intelligence and machine learning moderation techniques used to identify genuine content on social media (Lelisho, Pandey, Alemu, Pandey, & Tareke, 2023). It wasn't until the WHO resurrected the term infodemic on February 15, 2020, at the Munich Security Conference. It had begun to be used more frequently, summarizing the threats to our society faced by COVID-19 falsehoods (Zarocostas,2020). The COVID-19 infodemic has proven to be extremely detrimental to both individual and public health. For example, misinformation has led to people attacking and abusing health care staff (McKay, Heisler et al. 2020). In Mexico, there have been incidents of eggs being thrown at nurses (Cha, Cha et al. 2021). Indian doctors were removed from their homes on the grounds that they were disease vectors (Withnall 2020). An even worse incident occurred in Iran, when over a hundred people died and hundreds became critically ill as a result of methanol poisoning (Cha, Cha et al. 2021). The COVID-19 epidemic has caused half a million deaths, and as a result, healthcare systems all over the world are in shambles. Online false news presents a new issue for public health communication as more people rely on the internet for health-related information (Mayhew 2020). There are currently twelve LIS schools in Pakistan that provide education in the discipline of Library and Information Science ranging from certificate level courses to PhD level programs(Tandoc Jr, Lim, & Ling, 2018). Over 16,600 people had died as a result of the virus as of March 24, 2020, and over 380,000 people had been infected, more than 10,000 of whom had developed serious illnesses. Out of 195 countries, 184 may be affected (Ozili & Arun, 2023). The major goal is to end the humanitarian disaster by taking appropriate preventative steps to stop its spread and curative actions to discover a vaccine. Countries and communities have been impacted by this public health crisis in economic, sociopsychological, and international relations ways (Adedoyin & Soykan, 2023).

Social media can rapidly reach millions of people with information about diseases. Online platforms' amplifying capabilities have the ability to put public health at risk by

sparking an infodemic (Arbane, Benlamri, Brik, & Alahmar, 2023). As a result of inactivity and a lack of understanding of its control, it spreads swiftly. When the epidemic first began, there was no reliable evidence, thus false information about COVID-19 spread like wildfire. The COVID-19 infodemic and lack of knowledge about it led to extensive destruction throughout the world. It also affects decision-makers who, as a result of inaccurate and unclear information, are unable to make the proper decisions at the right time (Sujarwoto et al., 2023). The Pakistani Ministry of Health confirmed the nation's first two cases of the coronavirus illness of 2019 (COVID-19) on February 26, 2020: one each in Islamabad and Karachi. The virus "officially" infected 20 persons over the course of the following 15 days, with an additional 470 suspected cases. Sindh Province has the highest infections, followed by Gilgit-Baltistan (Mustafa, Khan, Harun, Salman, & Godman, 2023). All confirmed cases were born in either London, Syria, or Iran (Naeem et al., 2023). By the end of August 2020, the virus had infected over 30,000 people and killed over 6,000 as a result of rapid infection spread. The government responded to this spread by going into "lockout," which was followed by a "smart" shutdown, which is the same as "targeted" lockdowns implemented in the US, but by the end of April 2021, the virus had killed 18,000 people and infected about 826,000 more in 20 cities throughout Pakistan, the government imposed a smart lockdown, including the capital city of Islamabad, due to the rapid spread of the epidemic. Despite the government's apparent attempts to maintain control, the "third wave" of the pandemic had, as anticipated, caused a crisis situation in Pakistan by April 2021 (Abbass et al., 2023).

During the pandemic, social media platforms like Facebook, Twitter, YouTube, etc., became important means for information sharing and information searching. As a result, social media platforms were used more frequently globally by 20–87% (Al-Zaman, 2021). For the general people to participate in healthcare and preventive decisions during a health crisis, access to trustworthy information sources and services becomes essential (Chen,et al., 2024). However, the abundance of unchecked health information on social media makes it difficult for the general people to differentiate accurate information, impeding the effectiveness of public health measures (Rafiq, Nizami, Baleanu, & Ahmad, 2023).

The students of library and Information are the future librarians. They represent the upcoming generation of information providers (Ahmad, et al, 2019). They should have the skills to differentiate between fake and actual information and must have the ability to combat

infodemic in the days of pandemic. This study has tried to know the perception of LIS students about COVID 19 infodemic on social media platforms, the frequency of encountering Infodemic on social media, methods used by the library and information Science students to identify Infodemic on social media and the news sharing behaviors of Library and Information Science students on social media about COVID- 19 Infodemic.

Literature Review

Numerous research studies on the COVID 19 Infodemic have been conducted since the COVID 19 Outbreak. Researchers looked at how different social groups in different countries responded to and behaved in reaction to COVID 19 material on social media. Despite being a long-standing phenomenon, false news gained popularity during the US election in 2016. Although fake news is sometimes used by politicians to discredit investigative journalistic reports, it is universally recognized as false information (Tandoc Jr et al., 2018). Fake news is difficult for academics to define, and they frequently define it in a variety of ways (Higdon, 2020). For instance, false information that could mislead people is referred to as fake news when it is "intentionally and verifiably inaccurate.", made the case that fake news may not always be untrue and that it can deceive audiences even when it contains accurate information. As opposed to that, fake news was described by (Muigai, 2017) as untrue or contrived information that causes individuals to be misled. Rumor, incorrect information, and disinformation are all intimately related to fake news. Unverified information that could be accurate or untrue yet misleads people is referred to as a rumor (Allport & Postman, 1946). It's interesting to note that during the COVID-19 pandemic, the dissemination of misleading information has greatly risen(Arbane et al., 2023; Ciotti et al., 2020). Examples include home remedies that involved drinking salty water, chlorine, or garlic, unreliable information about lockdowns that led to panic buying, and incorrect information about immunizations that instilled fear in the public and sabotaged efforts to discover a cure for the illness(Abbass et al., 2023) . Government organizations from all over the world developed and implemented a variety of strategies to halt the spread, including urging the public to authenticate dubious news via fact-checking websites and emphasizing the detrimental repercussions of the behaviour through online media (Lone & Ahmad, 2020).

The term "fake news" has been around for a while; it initially became popular during the 2016 US Presidential Election(Pennycook & Rand, 2021). According to a systematic

review study on health-related false news that looked at 57 papers, the most often explored topics include vaccination, Ebola, and the Zika Virus (2012-2018)(Hospedales & Tarantino, 2018). Most of these investigations used psychological and network science theoretical frameworks (Guerrieri et al., 2022). The authors suggested that future studies examine how prone particular sociodemographic groups are to fake news in order to better understand the phenomenon. Fake news about the COVID-19 pandemic is becoming more prevalent on social media. For example, it obstructs public health communications and causes widespread anxiety. For instance, During January and March 2020, Google Trends was utilized by (Rovetta & Bhagavathula, 2020) to examine consumer attitudes regarding and use of deceptive online material.

A study model was developed and assessed by (Laato, Islam, Farooq, & Dhir, 2020) to look into the driving forces behind COVID-19 false news sharing on social media. "An individual's perceived information overload and level of online information trust are major predictors of spreading of inaccurate information," the researchers' findings state (Laato et al., 2020). In two research with a combined total of more than 1,600 participants, (Pennycook, McPhetres, Zhang, Lu, & Rand, 2020) examined the reasons why individuals distribute and take seriously COVID-19 false news. The emergence of fake news, phoney medications, and fraudulent prescriptions were examined by (Erku, Gartner, Morphett, & Steadman, 2020) as three developments that mirror the pandemic. The findings of numerous studies suggest that the current plague of false news may eventually end.

For instance, (Cinelli et al., 2020) examined the COVID-19 information dispersion patterns using data from Reddit, YouTube, Instagram, Twitter, and Gab (Rodrguez-Jorge & Bila, 2020). They contend that conflicted and poor decision-making are results of false information being spread widely on social media. Similar to (Cinelli et al., 2020)., the cross-platform data were also looked at in this study. According to (X. Chen et al., 2020), Peru's tough law against fake news—which includes a jail sentence—was a success. (Gradoń, 2020) looked at the issue of false news from the standpoint of criminal science in a distinct research. Despite the fact that social media is a well-known source of false information, (Orso, Federici, Copetti, Vetrugno, & Bove, 2020) emphasized the importance of social media in delivering important medical information. Conspiracy theories, myths, hoaxes, and other deceptive or

erroneous published or circulated content are all considered to be false information(Huang et al., 2020).

During the 2016 US presidential election, the phrase became more popular. Fake news is described as information that is created to look like authentic news by (Lazer et al., 2018). The preponderance of COVID-19 news on social media is causing anxiety and alarm in society because of the speedy and unrestricted usage of social media (Chakravarti, Upadhyay, Bharara, & Broor, 2020). COVID 19 has an effect on numerous facets of human existence in addition to being a potentially fatal sickness. It is an unparalleled worldwide health crisis, according to (Lee, Jobe, Mathis, & Gibbons, 2020), with huge societal and economic ramifications.

The COVID 19 infodemic, along with the myriad other difficulties associated to COVID 19, is getting worse by the day. False information increases worry, which leads to ambiguity in the end (Saeik et al., 2021). It is alarming how quickly and intensely the coronavirus (COVID 19) is spreading (Hull, Kam, & Gribble, 2020). The COVID 19 Infodemic combined with a lack of knowledge about it led to extensive destruction throughout the world (Koç, 2020). The COVID 19 Infodemic is already being regulated by social media platforms like Facebook and Twitter, but it cannot be controlled without the participation of civil society and all other parties (Jamshed, 2021). Correcting health misconceptions through SM is necessary.

The public must rely on trustworthy sources when learning about emergencies and diseases, like the social media teams that the WHO developed to oversee the pandemic (Coliaie et al., 2022). Any disease's knowledge, attitudes, and practises all affect how willingly society is to change its behaviour. The SARS outbreak showed us that attitudes and knowledge are correlated with levels of fear and emotion, which makes it more difficult to control the spread of the disease (Ali, 2021). Pakistan is the sixth most populous nation in the world with only 36% of the population having access to the internet, it is also one of the internet markets with the fastest growth rates in the world (News, 2020).

From the above discussion, it is evident that an appropriate bulk of literature is available on this important topic. Literature related to Library and Information Sciences students' response to COVID-19 infodemic is deficient. The researchers have decided to address this important issue by contributing to the existing literature with the achievement of the following objectives.

Objectives of the Study and Research Questions

The purpose of this study is to evaluate the abilities of students studying library and information science with reference to finding COVID 19 infodemic in social media. The study also looks at how library and information science students use social media and how they share news. The following precise research objectives were the focus of this study's attempt to provide a solution.

Objectives of the study

1. To investigate the perception of Library and Information Science (LIS) students about the COVID-19 infodemic.
2. To determine how frequently Infodemic posts on COVID 19 appear on social media.
3. To learn the strategies employed by LIS students to locate COVID-19 Infodemic on social media.
4. To ascertain how LIS students share news about the Covid 19 Infodemic on social media.

Research Questions

1. What is the perception of Library and Information science students about COVID-19 infodemic?
2. What is the frequency of encountering Infodemic on social media about COVID 19 infodemic?
3. Which methods used by the library and information Science students to identify Infodemic on Social Media about COVID 19?
4. What are the news sharing behaviors of Library and Information Science students on social media about COVID- 19 Infodemic?

Research Method and Procedure

The main objective of the study is to look into and pinpoint the skills of the students of library and information science for handling false information regarding COVID 19 on social media. A survey method was used by the researchers to gather significant data, and all linked individuals had their personal information, including gender and educational background, obtained. The survey method, according to(Covey, Brody, Maluccio, Getrajdman, & Brown, 2002), is a suitable and efficient tool for learning about people's knowledge and perception of the COVID 19 infodemic, behaviors, attitudes, and beliefs. The fact that the survey method's

findings can be applied to a wider range of topics is another benefit of employing it. The steps of the study were as follows:

A literature review was conducted early on in the study, giving the researcher the opportunity to learn critical perspectives regarding the problem at hand and to identify any gaps. Next, the research goals were established and framed. Following a thorough analysis of the pertinent literature, a list of research questions were incorporated. A workable research approach was chosen in order to achieve the goals of this study. A modified version of Jibran Jamshed's questionnaire, a Ph.D. student in 2021, was utilized as the instrument for gathering data as this instrument was more related to this study.The questionnaire's validity was established. The respondents were given questionnaires to complete. After the surveys were gathered, the data were evaluated to draw conclusions. By using coded responses, information was evaluated and summarised into several formats.The data and findings of this investigation were checked and interpreted using a suitable statistical package of computation.

Tool for Data Collection

The questionnaire is the best data collection tool for this type of study. For a big and dispersed population, a questionnaire is preferable than an interview. It aided the investigators in gathering essential information from the entire sample population, which included LIS students at Khushal Khan Khattak University Karak (KKKUK), Karak, University of Peshawar (UoP), Peshawar, and Sarhad University of Science and Technology (SUIT), Peshawar.

It is critical to test the instrument's reliability and validity after it has been developed. For this aim, the instrument was first discussed with various relevant subject specialists, who provided some suggestions regarding the questionnaire's validity for actual information gathering. The suggested changes of the experts were incorporated accordingly. A pilot study was carried out, which consisted of 08 master level regular and off-campus LIS students, 2 each of KKKUK, UoP, and SUIT. The study's participants are LIS students enrolled in the three universities studying library and information science.

Table 3.1 : Number of respondents

Program	*University of Peshawar*	*Khushal Khan Khattak University*	*Sarhad University of Science and Technology, Peshawar*	*Total*
	Male/Female	Male/Female	Male/Female	
MS/M.Phil.	42/17	22/8	Nil	89
MLIS	71/42	11/0	29/7	160
BSLIS	43/32	135/42	21/10	283
Total	247	218	67	532

Census based approach was adopted to complete the study. Researchers selected all the enrolled regular LIS students (BS/MS and M. Phil). Data was collected from regular LIS students by using distinctive procedures and channels. Information from the respondents was collected from February 15th, 2023, to March 15th, 2023. The data collection tool was distributed among regular students of University of Peshawar (UoP), Khushal Khan Khattak University, Karak (KKKUK) and Sarhad University of Information Technology (SUIT) during their classes. The researchers visited UoP, SUIT and KKKUK with the permission of their respective Head of Departments and teachers. The questionnaires were distributed in hard form amongst the present students of the mentioned universities on different days and requested them to read and fill the questionnaire and if they feel any inconvenience, they may stand up at their position. The researchers explained each problem asked by the respondents. At the end, a total of 170 questionnaires in hard form were collected on the spot and some copies were handed over to the administration for filling up of the same by the absent students on those days, which later on collected from the respective universities. Hence a total of 224 questionnaires in hard form were collected.

Analysis of the Data

Information was collected through a semi structured questionnaire which consisted of 8 sections and forty-eight questions. The assembled data have been analyzed with the help of

Statistical Package for the Social Science (SPSS) version 21. In the mentioned software, the researcher first entered the information into the software and assigned numeric codes/score. The entered information was then analyzed by applying various statistical techniques in connection with the objectives of the instant research. Statistical tests used were percentage, mean, t-test, chi square etc. With the help of tables and charts, the analyzed information was presented and further clarified. The analyzed information was presented in the form of tables and charts which was further interpreted. On the basis of collected and processed information, the investigators presented findings and recommendations for further investigation.

Result and Data Analysis

Gender wise Response of the respondents

The gender group was divided into two categories "1-Male and 2-Female". 224 Questionnaires were distributed, and 100% responses were received as shown in the *Table 4.1* and the Pie Chart showing the percentage of gender respondents

Table 0.1: No. of Males and Females Respondents

Gender	Frequency	%
Male	138	61.6
Female	86	38.4
Total	224	100

University Affiliation of the Respondents

The respondents were asked about the university in which they are enrolled as shown in percentage in Figure 4.2.

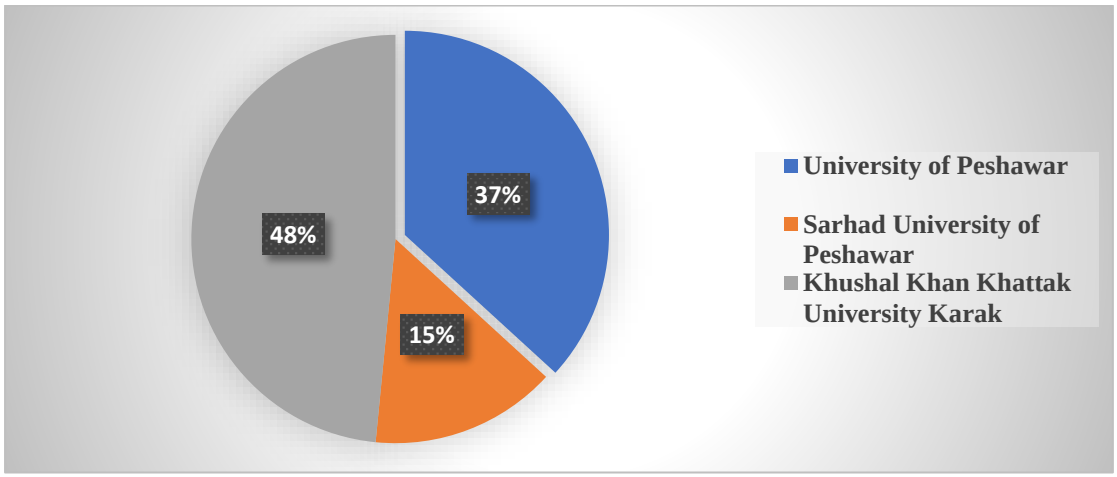

Figure 0.1: Pie Chart showing the percentage affiliation of student in the Universities

Academic Qualifications

The Qualification of respondents plays an important role in library according to promotion of their information services and resources. *Table 4.2* shows that majority 205 (91.5 %) of the respondents were MA/BS degree holders while 19 (8.5 %) of the respondents were MS/M. Phil LIS degree holders.

Table 0.2: Academic Qualifications of the respondents

University	Frequency	%
MA/BS	205	91.5
MS/M.Phil.	19	8.5
PhD	Nil	
Total	224	100

Statistical Data Analysis

Information about the perception of LIS students in Khyber-Pakhtunkhwa about the Covid 19 infodemic on social media is provided in this part. To address the research topic of the study using the data gathered, this component was broken into seven smaller pieces.

Perception of LIS students toward the COVID 19 infodemic

The correct statement received the greater mean value which means that the respondents were aware of COVID 19 infodemic and the false statement received the less mean value which means that they clearly have idea about COVID 19 infodemic as shown in the *Table 4.3.*

Table 0.3: Perception of LIS students toward the COVID 19 infodemic

S.No	Statement	Mean	S.D
1.	COVID is spread through respiratory droplets from coughing, sneezing, or talking	3.99	1.112
2.	The fatality rate of COVID 19 is many times higher than the flue	3.96	1.148
3.	Immunization is the best way to combat the COVID 19 pandemic	3.88	1.156
4.	Social media has a crucial role in spreading correct information	3.77	1.178
5.	Intake of vitamin C protects from COVID 19	2.34	1.068
6.	The COVID 19 can be cured with antibiotics	2.19	1.033
7.	Hot or Cold climates effects the spread of COVID 19	2.10	1.046
8.	Flies and mosquitoes spread COVID 19	2.10	1.002
9.	Diarrhea and vomiting are not signs of COVID 19	2.08	.970
10.	Thermal scanners or thermometer detect COVID 19 in your body	2.03	.949

As can be seen from *Table 4.3*, the respondents highly agreed with the statements that COVID is spread by respiratory droplets from coughing, sneezing, or talking as well as that the mortality rate of COVID 19 is significantly greater than the flu mean score (3.96). On the

basis of the mean score (3.88), the respondents believed that immunization was the greatest defiance against the COVID 19 pandemic.

The use of social media by Library and Information Science through Frequency

Only (2.7%) of respondents use social media "twice a day," (11.6%) use it "more than twice a day," and (0.9%) use it just once a day. The vast majority of respondents (84.8%) use social media uncountable often.

Table 0.4: Frequency of using social media Library and Information Science Students

S.No.	Statement	Frequency	Percent
1.	Uncountable	190	84.8
2.	More than Twice a day	26	11.6
3.	Twice a day	6	2.7
4.	Once a day	2	0.9
5.	Total	224	100.0

The frequency of COVID 19 infodemic about the fake news on social media

Respondents were asked to rate the likelihood of seeing COVID19 misleading news on social media using seven statements. According to a mean value of 4 or higher for all claims, most respondents "often" encounter false information about Corona Virus- 2019 on WhatsApp (M=4.06, SD=1.160), whereas Facebook and Instagram (M=3.98, SD=1.186) and (M=3.94, SD=1.086), respectively. The majority of respondents "rarely" come across inaccurate material about coronavirus 2019 on LinkedIn, according to the average response to one statement, which was (M=2.27, SD=0.975)

Table 0.2: Frequency of COVID 19 infodemic about the fake news

S.No	Statement	Mean	S.D
1.	I read misleading information on WhatsApp concerning the COVID 19 infodemic.	4.06	1.160

2.	I read misleading information on Facebook concerning the COVID 19 infodemic.	3.98	1.186
3.	I read misleading information on Instagram concerning the COVID 19 infodemic.	3.94	1.086
4.	I read misleading information on Twitter concerning the COVID 19 infodemic.	3.83	1.114
5.	I read misleading information on Pinterest concerning the COVID 19 infodemic.	3.78	1.142
6.	I read misleading information on other social media concerning the COVID 19 infodemic.	3.71	1.149
7.	I read misleading information on LinkedIn concerning the COVID 19 infodemic.	3.63	1.149

Most reliable sources of information on COVID 19 on social media

Five questions on the Likert Scale were offered to the respondents in order to evaluate which media source is the most trustworthy. The two questions with mean values around 4 suggest that most respondents "agree" that print media (M=4.06, SD=1.166) and television (M=4.14, SD=1.107) are the most trustworthy sources of information on COVID 19. One response received a mean score of nearly 3.6, suggesting that the majority of respondents "disagree" with the assertion that social media is a reliable sources of information on COVID 19 (M=3.6, SD=1.295).

Table 0.6: Trust worthy source of Information on COVID 19

S.No	Statement	Mean	S.D
1.	TV is a trustworthy source of information on the COVID 19 infodemic in electronic media.	4.14	1.107
2.	The most reliable source of information on the COVID 19 infodemic is print media, specifically newspapers.	4.06	1.166
3.	Websites provide accurate information on the COVID-19 pandemic.	3.89	1.250
4.	Family and friends are a good source of information on the COVID 19 infodemic.	3.72	1.283
5.	The most dependable source of information about the COVID 19 infodemic is social media.	3.60	1.295

Popular Source of social media

Respondents had the choice of responding to seven questions in order to identify the most often used social networking platform for LIS students. According to the mean value of 4.30 (M=4.30, SD=1.000) for one statement, most respondents 'always' use WhatsApp. The three statements with mean values around 4 indicate that most respondents 'often' use Facebook (M=4.25, SD=1.034), Instagram (M=4.15, SD=1.065), and Twitter (M=4.00, SD=1.134). One comment had a mean value of roughly 3.3 (M=3.39, SD=1.283), indicating that the majority of respondents "rarely" use Pinterest.

Table 0.7: Showing the popular social media platforms

S.No	Statement	Mean	S.D
1.	I utilize WhatsApp.	4.30	1.000
2.	I'm on Facebook.	4.25	1.034
3.	I employ Instagram.	4.15	1.065
4.	I'm on Twitter.	4.00	1.134
5.	I utilize many social media networks.	3.80	1.219
6.	I employ LinkedIn.	3.61	1.262
7.	Utilizing Pinterest	3.39	1.283

Student Techniques for evaluating news on social media

Nine items on the Likert Scale were offered to the respondents in order to gauge their opinions of social media news. The most of the respondents (M=4.30,aSD=0.959) "frequently" utilize their critical thinking and common ense to check any COVID 19 news on social media; nevertheless, the majority (M=4.21, SD=1.026) just skim the headlines before forming an opinion, and contact friends and family for confirmation (M=4.10, SD=1.077), while when I compare this to print and electronic media, the (M=4.02, SD=1.077). A mean value of about

3.4 was obtained for two of the assertions, suggesting that you should read the whole article and any comments before passing judgement (M=3.64, SD=1.219), and that you should compare social media news to internet fact-checkers (M=3.39, SD=1.223).

Table 0.8: Students techniques for evaluating the COVID 19 infodemic

S.No	Statement	Mean	S.D
1.	I do verifications using critical thinking and common sense.	4.30	.959
2.	I merely skim the headlines before forming an opinion about the content.	4.21	1.026
3.	I seek confirmation from friends or family members.	4.10	1.077
4.	I make comparisons between this story and content from print and electronic media.	4.02	1.116
5.	I contrast social media news with the official websites of institutions like the WHO and other organisations.	3.93	1.154
6.	I finish reading the story before passing judgement.	3.80	1.190
7.	In order to verify the information, I examine the news with other social media sites.	3.77	1.198
8.	Before passing judgement, I read the entire story and the comments.	3.64	1.219
9.	I contrast online fact-checkers with social media news sources.	3.39	1.223

News sharing behavior of LIS student's on social media about COVID 19 infodemic

Participants in the study were questioned about their news-sharing habits using six statements. When their teachers revealed breaking news (M=4.31, SD=0.989), they found it from a reliable source (M=4.22, SD=1.051), their friends (M=4.12, SD=1.102), and their family (M=4.01, SD=1.148), the majority of respondents "frequently" posted it on social media. The average score for the four statements was almost 4. The majority of respondents "sometimes" share news without first checking its accuracy on social media (M=3.80, SD=1.216) and post news after doing so (M=3.92, SD=1.195), but the other claims had a mean value of about 3 or less than 4.0.

Table 0.3: News sharing of LIS Student's on Social Media about COVID 19 Infodemic

S.No	Statement	Mean	S.D
1.	When my teacher posted news on social media, I shared it.	4.31	.989
2.	When I find news from a reputable source, I post it to social media.	4.22	1.051
3.	When my friends or family members publish news on social media, I also share that news on my profile.	4.12	1.102
4.	I post updates to social media following to confirming its accuracy myself, but I also share news there without doing so.	4.01	1.148
5.	When my teacher posted news on social media, I shared it.	3.92	1.195
6.	When I find news from a reputable source, I post it to social media.	3.80	1.216

Gender wise comparison of Male and Female students perception about COVID 19 infodemic

The Independent Sample t-test was used to look into gender disparities in perceptions of male and female students. Many researchers have successfully employed the t-test for gender comparisons. By using the independent sample t-test on the data, it was possible to contrast how individuals perceive male and female students about the Covid-19 infodemic on the basis of gender. *Table 4.10* shows comparisons of the perceptual mean scores for the two sexes. The findings show that four comments about the Covid 19 infodemic were considerable with a P-value of 0.05 or less. The mean values of the following variables showed significant differences: the fatality rate of COVID 19, the fact that vaccination is the best defence against the COVID 19 pandemic, and the importance of social media. Additionally, because the remaining statements relating perception of the COVID-19 infodemic had a P-value > 0.05, no significant variations were discovered. This indicates that there are no variations in the way that male and female pupils interpret Covid-19 Infodamic.

Table 0.11: Gender wise comparison of Male and Female students' perception about COVID 19 infodemic

		Male		Female		
S.No.	**Statement**	**μ**	**SD**	**μ**	**SD**	**p-value**
1.	COVID is spread through respiratory droplets from coughing sneezing or talking IT.	3.77	1.22	4.52	0.504	0.000
2.	The fatality rate of COVID 19 is many times than the flue.	3.73	1.25	4.52	0.504	0.000
3.	Immunization is the best way to combat the COVID 19 pandemic.	3.62	1.24	4.50	0.53	0.00
4.	Social Media has a crucial role in spreading correct information.	3.53	1.24	4.35	0.533	0.00
5.	Intak of vitamin C protects from COVID 19	2.15	1.02	3.82	1.02	0.66
6.	The COVID 19 can be cured with antibiotics.	1.96	1.00	2.74	0.88	0.950
7.	Hot or Cold climates effects the spread of COVID 19.	1.87	0.97	2.64	1.01	0.786
8.	Flies and mosquitoes spread COVID 19.	1.82	0.92	2.74	0.88	0.853
9.	Diarrhea and vomiting are not sign of COVID 19	1.80	0.86	2.74	0.88	0.855
10.	Thermal scanners or thermometer detect COVID 19 in your body	1.75	0.80	2.71	0.92	0.56

Discussion and Recommendations

The LIS students perceived that the COVID-19 spread through respiratory droplets from coughing, sneezing or talking. World health Organization(WHO) agreed with the given responses (Hull et al., 2020; Msemburi et al., 2023). The study also revealed that WhatsApp is the social media platform where LIS student encounter fake news about COVID- 19 most of the time. Another study (Daniel Ong'ong'a & Demuyakor, 2020) also supported the given finding with a view that social media is the major source of miss information of about COVID-

19. The majority of the respondents often use their critical thinking and common sense to verify any COVID-19 news on social media. The same finding were also reported by (Apuke & Omar, 2021; Sujarwoto et al., 2023) that one of the best ways of recognizing the fake news is to apply critical thinking. The result revealed that majority of the respondents often share news on social media when it was shared by their teachers. The same finding was also reported by (Er-raid & Chouari, 2023; Jamshed, 2021; Naeem et al., 2023; Puig, Blanco-Anaya, & Pérez-Maceira, 2021; Shutaleva, 2021). The majority of the respondents always uses WhatsApp and frequently uses Facebook. This finding also supported by (Jamshed, 2021; Reem, 2022).

Scientists, professionals in the field of health information, and media reporter must take major action to assist the general public in spotting fake news items given the severity of the crisis and the volume of false information. In order to combat fake news, people must be educated about social networking platforms nature and how to utilize it properly, especially the next generation. Monitoring is something we should consider, according to (X. Chen et al., 2020). Like with the coronavirus itself, we should inquire as to who released the evidence, what is its origin, and how can I tell if I can trust it. In order to prevent people from being misled by information during COVID-19, (Mantas, 2020) collated advice from numerous fact-checking organizations and media reporter around the globe and created a very helpful six-step checklist. These include the following:

- Hold your breath before speaking.
- Verify the source.
- The scientific community above politics
- Be aware of your sensations.
- Employ scientific instrument to assist you in confirming photos and videos.
- Recognize your ignorance.

The hashtags "Think Before You Click," "Think Before You Share," and "Share Knowledge" are promoted by the UNESCO campaign(News, 2020). The public must be made aware of the resources, techniques, and techniques they could employ to spot disinformation in the event of a pandemic, thus here is why. Additionally, the general people needs to be made aware that disseminating misleading information can be halted by just refraining from doing so or by simply delaying action.

Pseudoscience medical practices have had a large negative impact on public health, which is far from negligible. In the current crisis, pseudoscience medical treatments and advice are becoming more and more common, jeopardizing the health of the general public. According to (Raisi-Estabragh et al., 2020), we need to cease accepting and approving of health pseudoscience, especially in the midst of this pandemic. As a replacement for, everyone must stick to science and have faith in it. According to social media trainer and consultant (Llewellyn, 2020), "in crisis situations, we turn to knowledge. However, news sources and social media must be careful about the information they supply, particularly informally. Governments must educate the public about the risks associated with pseudoscientific medical practices and the threat they pose to international efforts to limit the pandemic. The greatest method to battle false information is to saturate the internet with factual content that is easy to grasp, engaging, and mobile device shareable, according to (Wardell et al., 2020), a Harvard University expert on disinformation. It should also dispel doubts and, eventually, questions.The scientific community advice on how to use social media, encourage learners to get implicated in science communication, and share factual information that we think the public needs to know(Raisi-Estabragh et al., 2020). Social media platforms have made an effort to examine and debunk false content. A few conspiracy-theory channels, such as David Icke's channel, have been disabled by YouTube, which has introduced COVID-19 notifications. The "Interested in science" advertising was also taken off by Facebook. We all need to fight back against the propagation of false information. The dissemination of truthful knowledge will shield people from the negative effects of incorrect information and enable them to make better judgements.

More stringent legal procedures can be used to combat misleading data regarding COVID-19 on digital networking. Governments can take a number of actions to stop fake news from spreading on social media. It is argued that rules can significantly aid in the fight contrary to the COVID-19 Infodemic, share this opinion. On social media, the government should promote the official website (Zubair & Wopa-Owolabi, 2021). In order to dispel myths about COVID 19, the WHO has created a dedicated working group. The WHO regularly working on maintaining the fake news on social media. Similarly, The National Command and Operation Center (NCOC) meeting under government has successfully taken measures to contain the infodemic regarding COVID 19 and its is suggested to share the WHO myth buster on daily

basis on national media. Joint venture group of different segments of society containing Higher Education heads, Business community with political parties under government administration that take right steps at the right time to educate the masses regarding COVID 19 and how to counter the infodemic related to COVID- 19.

Conclusion

The study's main goal was to identify the most often used information sources, social media platforms, and techniques used to verify the material posted about Novel Corona Virus 19 on social networking sites by LIS students. This research found that although students utilize the social networking sites, they unwittingly distribute false information about COVID 19 for a variety of reasons. It also emphasized and outlined the many strategies employed by students to sort through the noise on social media. Students frequently employ common sense, critical thinking, consult teachers/ peers and self-reliance to validate the information they find on social media. Many people can use the study's numerous implications to comprehend the problems and make things better. Networking sites like social media might be utilize it to determine how popular they are with Pakistani LIS students. To understand the COVID 19 infodemic on social sites issue, anyone could use it in a manner similar to that. It offers guidance on how to spot false material about the Corona-Virus 19 on media platforms and how to prevent its unintentional dissemination. To educate other students about the problem and halt the spread of incorrect information about the Novel Corona Virus COVID 19, it might be used in academic contexts. These transdisciplinary studies generally span the fields of media studies, social media, and education.

Numerous ideas have been created by this research, and more study on the subject is possible. This research used a quantitative strategy; however, to obtain a more in-depth and comprehensive viewpoint from respondents, a researcher may adopt a qualitative approach to conduct a study on the same topic. LIS students from various public universities in Pakistan participated in this study; future research on the same topic may include participants from other regions of Pakistan or non-graduate students. A variety of study approaches can also be used to investigate and assess a number of social media characteristics.

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