Preventive Practices against Fraudulent Imitation of Information on Social Media Platforms among Senior High School Students

Marisa B. Petalla [a*] and Joseph Karl C. Tatlonghari [a]

[a] University of Negros Occidental-Recoletos, Philippines.

Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

Original Research Article

ABSTRACT

In today's world of information technology, numerous fraudulent imitations of information are circulating on social media, from the COVID-19 pandemic to politics to any other information. So far, little attention has been paid to insights from the social and behavioral sciences to combat fraudulent information despite the availability of research to draw from. One emerging insight is that fact-checks spread slower on social media than fake news. This study determined the extent of preventive practices against fraudulent imitation of information on social media platforms in terms of propaganda, misinformation, and disinformation among Senior High School students in a private Catholic school in the Philippines. Using the descriptive-comparative research design, the study utilized 280 stratified randomly sampled students. The data were gathered using a validated and reliability-tested researcher-made questionnaire. The data analyses employed Mean, standard deviation, T-test independent samples, and ANOVA. The findings revealed that the extent of preventive practices against fraudulent imitation of information on social media platforms in terms of

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*Corresponding author: Email: marshe112582 @gmail.com;

propaganda, misinformation, and disinformation is high. The findings also revealed no significant difference in the extent of preventive practices against fraudulent imitation of information on social media platforms in terms of propaganda, misinformation, and disinformation when grouped according to sex and strand, except for preventive practices against disinformation when grouped according to sex. The findings of the study provided baseline data in the formulation of instructional materials to strengthen students' preventive practices against fraudulent imitation of information on social media platforms.

1. INTRODUCTION

The development of online social media in recent years has tremendously improved how individuals connect with one another. Online social media users communicate with others, share information, and keep up with current events. However, much recent material shared on social media is questionable and, in some cases, deliberately misleading. Fake news is a common label for such material. Large-scale dissemination of bogus news online can potentially have detrimental effects on society. Many claims that fake news played a role in the election campaign. Since this election, the phrase has become part of everyday speech. Additionally, it has caught the interest of businesses and academics trying to comprehend its causes, impacts, and spread [1].

There have been numerous cases in India where misinformation spread on social media, particularly WhatsApp, resulting in serious consequences, including the loss of life [2]. In July 2018, a crowd in the Indian state of Karnataka wounded two men. It killed one of them, believing the men were child kidnappers, based on reports on social media platforms [3]. Misinformation about child kidnappings and cow slaughter circulated on social media resulted in 24 deaths in 2018 [4]. In 2019, there was a significant increase in the spread of fake news on social media concerning general elections, the Pulwama attack on security personnel in India's Jammu and Kashmir state, the state's abrogation of Article 370, the Citizenship Amendment Bill (CAB) and Citizenship Amendment Act (CAA), and other topics [5]. According to a BBC report, fraudulent imitations of information on WhatsApp are also proving lethal to the country (PTI, 2018).

The Philippines is one of the countries that have greatly been affected by COVID-19, resulting in the country's lockdown. Since then, more and more people have started using social media because of the lockdown. During the Covid-19 shutdown, many people have turned to expanding their use of social media platforms and other applications to pass the time, and social media platform usage has increased more than previously [6]. As more and more are known about the COVID-19 virus, information gets easily spread around social media websites full of fraudulent imitations of information. Disinformation through false news has become profitable today, even though it is not a new phenomenon, and the rapid spread of online misinformation presents an increased danger to communities worldwide. It is a major problem that requires solutions [7]. The spread of misinformation or disinformation is dangerous to its readers as it gives off false notions about a sensitive subject. The development of uncertainty, fear, anxiety, and bigotry results from disinformation overabundance on a scale not witnessed in past outbreaks such as SARS, MERS, and Zika [8].

According to a survey by the Program for International Student Assessment, Filipino teenagers aging from 13-18 are among the most sensitive to misinformation and disinformation [9]. Propaganda exists on social media platforms, and people, especially teenagers, need to be able to identify them. According to Quilinguing [10], not only do social media play a crucial part in disseminating disinformation and misinformation, but it also plays a significant part in the battle against it. A survey of Filipinos found that those who rely less on social media for news have better perceived political expertise than those who rely more on it [11]. Some Facebook accounts were also used to promote certain politicians and political interest groups [10]. Thus, Filipino teenagers must be vigilant about these.

Several studies were conducted relative to the fraudulent imitation of information. These studies were on students' use and impact of social media [12,13], fake news on social media [14], video manipulation and fraudulent simulation [15], detrimental effects of false internet news [1], and

useful countermeasures for false news on online social media [16], the indirect beneficial effect of fake news watching in developing the sentiments of inefficacy, alienation, and cynicism [17], and the role of cognitive ability on the impact of false information on social impressions [18]. However, few studies were conducted on the extent of preventive practices against fraudulent imitation of information on social media platforms in terms of propaganda, misinformation, and disinformation among Senior High School students. Thus, this study was conducted to fill the gap in the literature.

This study determined the extent of preventive practices against fraudulent imitation of information on social media platforms in terms of propaganda, misinformation, and disinformation among Senior High School students in a private Catholic school in the Philippines. Further, the study also investigated the difference in the extent of preventive practices against fraudulent imitations of information on social media when they are grouped according to sex and strand. The findings of the study provided baseline data in the formulation of instructional materials to strengthen the preventive practices against fraudulent imitation of information on social media platforms.

2. METHODOLOGY

2.1 Research Design

This paper utilized the quantitative research design using the descriptive and comparative research approaches to determine and compare the preventive practices against fraudulent imitation of information on social media platforms in terms of propaganda, misinformation, and disinformation among Senior High School students.

2.2 Sample and Sampling Technique

The study utilized 280 sampled Senior High School students in a Catholic School for the School year 2021-2022 using stratified random sampling after classifying the participants into STEM and NON-STEM.

2.3 Research Instrument

This study utilized a researcher-made questionnaire to gather the needed data based on the study's goals and research questions in its relevant variables. The test included 19 items

identifying the extent of the students' preventive practices. The questionnaire comprised two parts: 1st part is for the demographic profile of the participants, and the 2nd part is for the extent of preventive practices against fraudulent imitation of information on social media platforms. The questionnaire comprised seven items for misinformation, five for disinformation, and seven for Propaganda. The instrument underwent validity testing with seven experts in the field and reliability testing with 30 participants. This ensured the validity and reliability of the data gathered.

2.4 Data Collection Procedure

Upon the approval of the gatekeepers, the Basic Education Director, and the principal, the researchers then identified the participants of the study. Orientation was conducted to inform the participants about the study before securing informed consent and parents' ascent for voluntary participation. The data were collected online with the virtual presence of the researchers. The participants were given enough time to answer through an online survey platform. After the data were gathered, a series of tabulations and analyses were done employing the statistical tools appropriate for the research questions.

2.5 Data Analysis Procedure

In this study, descriptive and comparative statistics were used to analyze the data gathered. The researchers used Mean for descriptive analysis, T-test independent samples for comparative analysis when grouped according to sex, and ANOVA (Analysis of Variance) when grouped according to strand.

3. RESULTS AND DISCUSSION

3.1 Extent of Preventive Practices against Fraudulent Imitation of Information on Social Media Platforms

Table 1 shows that senior high school students have a high extent of preventive practices against fraudulent imitations of information. Preventive practice against disinformation has the highest mean (M=4.03), followed by misinformation (M=3.92), and the lowest is propaganda (M=3.88). This reveals that senior high school students can identify disinformation on social media. Their exposure to social media gave them the ability to fact-check information.

This is in opposition to Nygren and Guath's [19] study, which stated that many teenagers could not tell the difference between fake, slanted, and validated news. However, this supports the theory of experiential learning of Kolb [20] as the inclusion criteria of this study state that only students that are active on social media are included in the survey, which can explain the high extent of preventive practices of the senior high school students because they are to gain more experience as they browse social media frequently.

3.2 Difference in the Extent of Preventive Practices against Fraudulent Imitations of Information on Social Media When They are Grouped according to Sex and Strand

T-test independent samples were used to determine the significant difference in the extent of preventive practices against fraudulent imitations of information on social media when grouped according to sex. Table 2 reveals no significant difference in the extent of preventive practices against fraudulent imitations of information on social media in terms of misinformation and propaganda when grouped according to sex, for p-values obtained were greater than 0.05. It shows that both sexes have the same extent of practices against fraudulent imitations of information on social media in

preventive practices against misinformation and propaganda. On the other hand, the difference was significant in preventive practices against disinformation (p = 0.022*). It revealed that sex matters in the extent of preventive practices against disinformation. It showed that the female respondents have a higher extent of practices against fraudulent imitations of information on social media in preventive practices against disinformation than male respondents.

The data opposes a study by Uddin et al. [21], which shows that male students were more precise than female students in detecting misinformation and deception, according to an analysis of the survey data. However, a study by Baum et al. [22] corresponds with the results stating that males are more inclined than females to believe false statements.

The data might also correspond to Kolb's experiential learning theory [20] because females might use social media often and therefore have higher preventive practices because of their experiences. According to Booker et al. [23], numerous studies have found that girls are more likely to engage in social media than males, but males are more likely to play on a desktop or a console. Among senior school learners in the Philippines, most social media addicts are females between the ages of 18 and 12 who are in grade 12 [24].

Table 1. Extent of preventive practice against fraudulent imitation of information on social media platforms

Variable	Misinformation			Disinformation			Propaganda			As a whole		
Sex	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Male	3.85	0.59	High	3.92	0.62	High	3.79	0.66	High	3.85	0.54	High
Female	3.97	0.55	High	4.09	0.62	High	3.94	0.63	High	4.00	0.54	High
Strand												
Non-STEM	3.96	0.65	High	4.05	0.66	High	3.92	0.65	High	3.97	0.59	High
STEM	3.91	0.52	High	4.02	0.62	High	3.87	0.65	High	3.93	0.52	High
Whole	3.92	0.56	High	4.03	0.63	High	3.88	0.65	High	3.94	0.54	High

Table 2. Difference in the extent of preventive practices against fraudulent imitations of information on social media when they are grouped according to sex

Variables	Sex	n	Mean	SD	t	df	p
Preventive practices against misinformation	Male	104	3.85	0.59	-1.665	278	0.097
	Female	176	3.97	0.55			
Preventive practices against disinformation	Male	104	3.92	0.62	-2.308	278	0.022*
	Female	176	4.09	0.62			
Preventive practices against propaganda	Male	104	3.79	0.66	-1.905	278	0.058
	Female	176	3.94	0.63			

Note: the difference is significant when p<0.05

Table 3. Difference in the extent of preventive practices against fraudulent imitations of information on social media when they are grouped according to strand

Variables	Strand	n	Mean	SD	F	df	p
Preventive practices against misinformation	ABM	40	3.98a	0.67	0.966	3	0.409
	HUMSS	35	4.00a	0.65		276	
	STEM	197	3.91a	0.52			
	TVL	8	3.66a	0.46			
Preventive practices against disinformation	ABM	40	4.16a	0.57	2.315	3	0.076
	HUMSS	35	4.05a	0.72		276	
	STEM	197	4.02a	0.62			
	TVL	8	3.53a	0.54			
Preventive practices against propaganda	ABM	40	4.04a	0.60	4.044	3	0.008*
	HUMSS	35	3.95a	0.60		276	
	STEM	197	3.87a	0.65			
	TVL	8	3.20b	0.69			

Note: the difference is significant when p≤0.05, which means that sharing a letter was not significantly different

Analysis of Variance (ANOVA) was used to determine the significant difference in the extent of preventive practices against fraudulent imitations of information on social media when they are grouped according to strand. There was no significant difference in the extent of preventive practices against fraudulent imitations of information on social media in terms of preventive practices against misinformation and disinformation when grouped according to the strand for p-values obtained was greater than 0.05. It shows that all strands have the same extent of practices against fraudulent imitations of information on social media in preventive practices against misinformation and disinformation. On the other hand, the difference was significant in preventive practices against propaganda [F (3, 276) = 4.044, p = 0.008*. The post Hoc test revealed that ABM respondents have a higher extent of practices against fraudulent imitations of information on social media in preventive practices against propaganda than TVL respondents.

This differs from a study by Herrero-Diz et al. [25], with their findings stating that teenagers trust their ability to discern the truthfulness of the information. However, when evaluating the veracity of information, they place little emphasis on essential criteria such as having a recognized author or being accurate [25]. ABM has the highest extent of preventive practices. The ABM strand was composed predominantly of females, which could explain the high extent of their preventive practices against fraudulent imitations of information on social media platforms.

4. CONCLUSION

The debate on the practices against fraudulent imitations of information has been complicated but interesting because of its complexity and dynamicity. Fake news is nothing new, but it has grown exponentially since the advent of social media. The increase of fraudulent information imitations on social media affects its users, including their engagement in sharing and posting news, due to the fear of misleading information. This is because fake news is propagated through social media in three major ways, e.g., disinformation, misinformation, and propaganda.

Revelations in this study indicate that both sexes from all strands have the same high extent of preventive practices against fake information imitations on social media when preventing misinformation and propaganda. However, with the rise of fraudulent imitations of information, senior high school students must still be vigilant with their preventive practices. Social media users, especially senior high school students, must help evaluate information and media literacy practices that will help mitigate the spread of fake news.

5. RECOMMENDATIONS

Based on the findings of the study, it was suggested that students should think critically about the information being consumed on social media platforms and question whether they are real or not.

Moreover, the teachers should properly teach the students media literacy and spread awareness on how they can avoid and prevent fraudulent imitations of information. Teachers should be able to give pupils factual knowledge and encourage them to combat the spread of false information.

Also, parents should pay attention to how their children act in today's information age and take precautions to help them become media literate and aware of the hazards of social media. Parents should be able to teach their children the difference between true and false information they receive on social media and assist them in recognizing fraudulent imitations of information.

Lastly, future researchers need to study more about the relationship between the amount of time spent on social media and the ability to prevent or detect fake news and the relation of sexes in terms of the extent of preventive practices against fraudulent imitations of information. The researchers also can conduct studies on identifying the effects of media literacy on the capacity of senior high school students to prevent or detect fake news.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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