

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

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 the 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 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 the preventive practices against fraudulent imitation of information on social media platforms.

Keywords: *Extent of preventive practices, Fraudulent imitation of information, Quantitative research, Philippine education curriculum, Senior high school students*

1.0 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 that has been 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 business and academics trying to comprehend its causes, impacts, and spread (Zhang & Ghorbani, 2019).

There have been numerous cases in India where misinformation spread on social media, particularly WhatsApp, resulted in serious consequences, including the loss of life (Farooq, 2018). 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 disseminated on social media platforms at the time (Samuels, 2020). Misinformation about child kidnappings and cow slaughter circulated on social media resulted in 24 deaths in 2018 (Mishra, 2019). 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 (Chaturvedi, 2019). 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 has 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 expand their use of social media platforms and other applications to pass the time, and social media platform usage has increased more than previously (Monti et al., 2019). 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 (Sadiku et al., 2020). 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 (Pulido et al., 2020).

According to a survey by the Program for International Student Assessment, Filipino teenagers are among the most sensitive to misinformation and disinformation (Baron, 2021). Propaganda exists on social media platforms, and people need to be able to identify them. According to Quilinguing (2019), not only does 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 (David et al., 2019). Some Facebook accounts were also used to promote certain politicians and political interest groups (Quilinguing, 2019).

Several studies were conducted relative to the fraudulent imitation of information. These studies were on fake news on social media (Hopp et al., 2020), video manipulation and fraudulent simulation (Jacobeen, 2021), detrimental effects of internet false news (Zhang & Ghorbani, 2019), and useful countermeasures for false news on online social media (Bodaghi & Oliveira, 2021), the indirect beneficial effect of fake news watching in developing the sentiments of inefficacy, alienation, and cynicism (Balmas, 2014), and the role of cognitive ability on the impact of false information on social impressions (De keersmaecker & Roets, 2017). 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. 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. 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.

2.0 METHODOLOGY

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.

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

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 includes 19 items that can identify the extent of the students' preventive practices. The questionnaire comprises two parts: 1st part is the demographic profile of the participants, and the 2nd part is the questions that will give data on the extent of preventive practices against fraudulent imitation of information on social media platforms. The questionnaire comprises 7 items for

misinformation, 5 items for disinformation, and 7 items for Propaganda. The instrument underwent validity testing with 7 experts in the field and reliability testing with 30 participants. This is to ensure the validity and reliability of the data gathered.

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 their 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 tabulation and analyses were done employing the statistical tools appropriate for the research questions.

Data analysis procedure. Descriptive and comparative analysis were the methods for the variables in this study 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.

3.0 RESULTS AND DISCUSSION

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 (2019) 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 (2014) 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.

Table 1. Extent of Preventive Practice against Fraudulent Imitation of Information on Social Media Platforms

Variable	Misinformation			Disinformation			Propaganda			As a whole		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Sex												
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

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 was 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. (2021), 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. (2021) corresponds with the study's results stating that males are more inclined than females to believe false statements.

The data might also correspond to Kolb's theory of experiential learning (2014) because females might use social media often and therefore have higher preventive practices because of their experiences. According to Brooker et al. (2018), numerous studies have found that girls are more likely to engage in social media than males, but males are more likely to play, whether 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, and they are in grade 12 (Mindajao, 2021).

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 $p \leq 0.05$

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. (2021), 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 (Herrero-Diz et al., 2021). 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.

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 $p \leq 0.05$, which means that shares a letter was not significantly different

4.0 CONCLUSION

The debate on the practices against the fraudulent imitations of information has been challenging due to its complex and dynamic nature. Fake news is nothing new, but since the advent of social media, it has grown exponentially. The proliferation of fraudulent information imitations on social media has short- and long-term implications for its users, including a reluctance to engage in genuine news sharing and posting due to fear of such information being misleading. This is because fake news is propagated through social media in three major ways: disinformation, misinformation, and propaganda.

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

5.0 RECOMMENDATIONS

Based on the findings of the study, the following were suggested: (a) The students should think critically about the information that is being consumed on social media platforms and question whether they are real or not, (b) 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, (c) the parents should pay attention to how their children act in today's information age and take precautions to help their children 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, and (d) the future researchers need to study more about the relation of the amount of time spent on social media and the ability in preventing or detecting 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.

6.0 REFERENCES

- Balmas, M. (2014). When Fake News Becomes Real: Combined Exposure to Multiple News Sources and Political Attitudes of Inefficacy, Alienation, and Cynicism. *Communication Research*, 41(3), 430–454. <https://doi.org/10.1177/0093650212453600>
- Baron, G., (May 2021). Filipino youth vulnerable to fake news, misinformation – study. *Manila Bulletin*. Retrieved from: https://mb.com.ph/2021/05/06/filipino-youth-vulnerable-to-fake-news-misinformation-study/?fbclid=IwAR3uPo-a40nyHdzKYnGly852o-nY3XhUZhhtukSztwkEcD_F0nEfYbt4NuE
- Baum, M., Ognyanova, K., Chwe, H., Quintana, A., Perlis, R. H., Lazer, D., ... & Green, J. (2021). The COVID States Project# 14: Misinformation and Vaccine Acceptance. doi: 10.31219/osf.io/w974j
- Bodaghi, A., & Oliveira, J. (2021, October 22). The theater of fake news spreading, who plays which role? A study on real graphs of spreading on Twitter. *The Theater of Fake News Spreading, Who Plays Which Role? A Study on Real Graphs of Spreading on Twitter - ScienceDirect*; www.sciencedirect.com.
<https://www.sciencedirect.com/science/article/abs/pii/S095741742101441X>
- Chaturvedi, A. (2019, December). The year of fake news. *The Economic Times*. Retrieved from: <https://economictimes.indiatimes.com/news/politics-and-nation/fake-news-still-a-menace-despite-government-crackdown-fact-checkers/articleshow/72895472.cms>
- David C., San Pascual R., Torres E. (2019). Reliance on Facebook for news and its influence on political engagement. *PLOS ONE*. 14(3): e0212263.
<https://doi.org/10.1371/journal.pone.0212263>
- De keersmaecker, J., & Roets, A. (2017, November 7). ‘Fake news’: Incorrect, but hard to correct. The role of cognitive ability on the impact of false information on social impressions - *ScienceDirect*. ‘Fake News’: Incorrect, but Hard to Correct. The Role of Cognitive Ability on the Impact of False Information on Social Impressions - *ScienceDirect*; www.sciencedirect.com.
<https://www.sciencedirect.com/science/article/abs/pii/S0160289617301617>
- Farooq, G. (2018). Politics of fake news: How WhatsApp became a potent propaganda tool in India. *Media Watch*, 9(1), 106–117. <https://doi.org/10.15655/mw/2018/v9i1/49279>
- Herrero-Diz, P., Conde-Jiménez, J., & Reyes-de-Cózar, S. (2021). Spanish adolescents and fake news: level of awareness and credibility of information (Los adolescentes españoles frente a las fake news: nivel de conciencia y credibilidad de la información). *Culture and Education*, 33(1), 1-27. DOI:10.1080/11356405.2020.1859739
- Hopp, T., Ferrucci, P., Vargo, C.J. (2020). Why Do People Share Ideologically Extreme, False, and Misleading Content on Social Media? A Self-Report and Trace Data–Based Analysis of Countermedia Content Dissemination on Facebook and Twitter, *Human Communication Research*, Volume 46, Issue 4, October 2020, Pages 357–384, <https://doi.org/10.1093/hcr/hqz022>
- Jacobeen, S. (2021). The Potential Impact of Video Manipulation and Fraudulent Simulation Technology on Political Stability. In: Kosal, M.E. (eds) *Proliferation of Weapons- and Dual-Use Technologies. Advanced Sciences and Technologies for Security Applications*. Springer, Cham. https://doi.org/10.1007/978-3-030-73655-2_2
- Kolb, D. A. (2014). *Experiential learning: Experience as the source of learning and development*. FT press.
- Mishra, V. (2019, October). India’s fake news problem is killing real people. *Asia Times*. <https://asiatimes.com/2019/10/indias-fake-news-problem-is-killing-real-people/>

- Mindajao, B. (2021). Social Media Addiction Among Senior High School Learners. *International Journal of Sciences: Basic and Applied Research (IJSBAR)*, 57, 23-32. Retrieved from: https://www.researchgate.net/publication/350452648_Social_Media_Addiction_Among_Senior_High_School_Learners
- Monti, F., Frasca, F., Eynard, D., Mannion, D., & Bronstein, M. M. (2019). Fake news detection on social media using geometric deep learning. Cornell University. Retrieved from: <https://arxiv.org/abs/1902.06673>
- Nygren, T., & Guath, M. (2019). Swedish teenagers' difficulties and abilities to determine digital news credibility. *Nordicom Review*, 40(1), 23-42. Retrieved from: <https://www.diva-portal.org/smash/get/diva2:1284623/FULLTEXT01.pdf>
- Pulido, C. M., Ruiz-Eugenio, L., Redondo-Sama, G., & Villarejo-Carballido, B. (2020). A new application of social impact in social media for overcoming fake news in health. *International journal of environmental research and public health*, 17(7), 2430. <https://doi.org/10.3390/ijerph17072430>
- Quilanguing, K., G., (September 2019). The problem with fake news: UP experts speaks on the impact of disinformation on politics, society, and democracy. The University of the Philippines. Retrieved from: <https://up.edu.ph/the-problem-with-fake-news-up-experts-speak-on-the-impact-of-disinformation-on-politics-society-and-democracy/?fbclid=IwAR0752ppKGTvllg40q8c3NWXs3vJI0Qt4u2tXCTAMVSvHVqKJ44VjqtcaMM>
- Sadiku, M., Eze, T., & Musa, S. (2018). Fake news and misinformation. *International Journal of Advances in Scientific Research and Engineering*, 4(5), 187-190. DOI: [dx.doi.org/10.7324/IJASRE.2018.32728](https://doi.org/10.7324/IJASRE.2018.32728)
- Samuels, E. (2020, February). How misinformation on WhatsApp led to a mob killing in India. *The Washington Post*. <https://www.washingtonpost.com/politics/2020/02/21/how-misinformation-whatsapp-led-deathly-mob-lynching-india/>
- Uddin, B., Reza, N., Islam, M. S., Ahsan, H., & Amin, M. R. (2021). Fighting Against Fake News During Pandemic Era: Does Providing Related News Help Student Internet Users to Detect COVID-19 Misinformation. In *13th ACM Web Science Conference 2021*, (pp. 178-186). <https://doi.org/10.1145/3447535.3462508>
- Zhang, X., & Ghorbani, A. A. (2019, March 20). An overview of online fake news: Characterization, detection, and discussion - ScienceDirect. An Overview of Online Fake News: Characterization, Detection, and Discussion - ScienceDirect; [www.sciencedirect.com. https://www.sciencedirect.com/science/article/abs/pii/S0306457318306794](https://www.sciencedirect.com/science/article/abs/pii/S0306457318306794)