

University Students' Knowledge at Determining Fake News: A Comparative Analysis

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Abstract — The purpose of this study was to determine the knowledge of the respondents about fake news. Also, to determine how they distinguish the facts from fake news and the relationship of their socio-demographic profile to their knowledge about fake news. A descriptive research design and purposive sampling were used. A questionnaire was utilized to collect data which was composed of the profile, questions regarding their knowledge about fake news, their perception on how they distinguish fact from fake news and their source of knowledge. Permission to conduct and informed consent was obtained. Data were analyzed using various statistical tools. The majority of the respondents had good knowledge about fake news. They agree in all the statements regarding on how they distinguish fact from fake and their main source of knowledge of fake news is the social media. The relationship between their general average to their knowledge and how they distinguish fact from fake were significant. Therefore, an information dissemination campaign against fake news should be done to inform those vulnerable groups especially the young people on how to easily identify the fact from the fake.

Keywords — Fake news, facts, social media

I. INTRODUCTION

There are universally accepted facts that apply to all of us but there is known and proven to be true that no one can deny: there are personal and professional differences that make every individual unique and special. Truly, there is almost no end in finding golden truths in the midst of the filthy river.

Dezenzio (2018) said that news is readily available through newspapers, magazines, television, radio, and the internet. Every single one of the sources has emerged as a powerful medium in their own individual voice." On one hand, fact is the confirmation of the authenticity of lie. The veracity of information is vital to look at things in its 360-degree angle. Meanwhile, Allen et. al., (2020) stated that fake news is broadly defined as false or misleading information masquerading as legitimate news is frequently asserted to be pervasive online with serious consequences. Moreover, Lewandowsky et. al

(2012) as cited by FactCheckNi 2018 provides some reasons for acquisition and persistence of misinformation: first, everyday conversational conduct requires you to accept rather than reject information in a conversation; second, your brain is lazy: you tend to believe something true when it is less demanding for your brain; you assess information based on what is coherent with what you already know; third, the mere repetition of a claim can make you think that it's true; and last, you can be emotionally biased if it fits the worldview you have. Unfortunately, according to one study by Stanford University, elementary, middle, and high school students are shockingly bad at determining fact from fiction (Turner, 2016). The ASEAN Post Team claimed that it is a mistake to assume fake news is not a serious problem (Quilting, 2019).

People are spreading false news information through different social media sites yet attended church every Sunday. These scandals are in it for the money and not for honesty and righteousness. It has discredited journalism based biased opinions on important issues that all of us value to the highest extent (Dezenzio, 2018). In fact, Quilting (2019) wrote in his paper titled: The Problem with fake news: UP experts speak on the impact of disinformation on politics, society and democracy, "In recent months, the social media platform Facebook announced the deactivation of several accounts which were found to have dubious identities and activities on the platform. They said that some of the accounts were even involved in the promotion of select politicians and political interest groups. In addition, in a current report from We Are Social and Hootsuite, studies showed that about 76 million Filipinos out of 107.3 million have access to the Internet. About 97 percent of these netizens access Facebook, while only 54 percent use Twitter. (Quilting, 2019). Dealing with fake news is a serious matter that should be addressed. The ASEAN Post Team mentioned that many ASEAN countries have even gone to the extent of using legislation to stop the spread of fake news (Quilting, 2019).

Misinformation and disinformation have caused so much trouble like what Roozenbeek and Linden said, "The rapid spread of online misinformation poses an

increasing risk to societies worldwide.” that is why, people around the globe must stand firm in order to balance freedom of speech as part of human rights and stopping fake news that became pandemic. With these facts, the researchers want to determine the knowledge of the University students in determining fake news. Specifically, the researchers focus on the following key points: 1) determine the level of knowledge of the University students about fake news; 2) determine how the respondents distinguish the facts from fake news; 3) find the relationship between the profile of the respondents and their knowledge about fake news and how they distinguish the fake from fact.

II. METHODOLOGY

Study Design and Sample Size

A descriptive research design was used to assess the knowledge of the University students about fake news and was conducted at Nueva Ecija University of Science and Technology San Isidro Campus located at the province of Nueva Ecija. It was initiated in January 2020 before and during the implementation of the Enhanced Community Quarantine in Luzon and completed in June 2020 after the Philippine government eases the restriction or put the country under the General Community Quarantine. Purposive sampling was used to choose the respondents. The target population was all the students who have an active Messenger account and internet access. Only 207 participate and gave consent to take part in the study.

Instrumentation and Data Collection

The questionnaire made by was adapted from the following sources: Lewandowsky et al., 2017, Tarran, 2017, Belova and Georgieva, 2018, Paul, 2018, Funke and Flamini, 2019, Haskins, 2019, Carter-Ruck, 2018, Kiely and Robertson, 2016, reveal's guide to spotting fake news (2017), How to spot real and fake news (n.d.), Research guides; Fake news: Why do people fall for fake news and Social media and filter bubbles, 2020.

The questionnaire was revised for content and wording following an extensive review of the literature published and expert opinions. The questionnaire was made up of three main parts: the first part consists of questions regarding socio-demographic status (sex, general average, type of residence, highest educational attainment and occupation of parents, number of hours spent in social media and family monthly income; the second part is about their knowledge about fake news. The last part includes their perception that involves in distinguishing the facts from fake news. The last part

was about impacts of the fake news to them. Before the questionnaire was used in the main study, it was pre-tested among the students of the said University which were not included in the final analysis. Due to the lockdown in entire the Luzon Island which resulted in the suspension of classes in all levels, the gathering of data was done online using Google form as the questionnaire.

Data and Statistical Analysis.

All completed questionnaires were double-checked and verified for completeness and consistency. The data was then entered in Microsoft Excel and Statistical Packages for Social Sciences (SPSS). The responses to the knowledge questions were coded with one (1) for correct answers and zero (0) for incorrect and “do not know” answers, 20 overall. The response was defined as correct if it was valid. “Do not know (DNN)” responses are equivalent to wrong answers.

Further, their knowledge was calculated in percent, and the level of knowledge was classified as Very Poor (<20%), Poor (21–40%), Average (41–60%), Good (61–80%), and Very Good (81–100%) based on 20% cut-off point. For instance, with a total of 20 questions, a respondent obtaining scores between 20 and 17 was categorized as having very good knowledge, scores between 16 and 13 have good knowledge, scores between 12 and 9 have average knowledge, scores between 8 and 5 have poor knowledge and scores between 4 and 0 have very poor knowledge (Santiago and Cajucom, 2020).

For their perception in distinguishing fact from fake news was composed of 10 statements answerable by their level of agreement such as strongly agree, agree, neutral/undecided, disagree and strongly disagree. For the socio-demographic profile, frequency and percentage were computed. Pearson Correlation was used to determine whether significant association or relationship existed in their profile concerning their level of knowledge and how they distinguish fake news from fact.

Ethical Consideration

Permission was sought from the Director of the Campus. Informed consent was given first before the respondent answer the questionnaire.

Sufficient time was given to ask questions, the anonymity of the subjects and confidentiality of information was maintained.

III. RESULT

Table 1. Profile of the Respondents.

Socio-Demographic Profile	Frequency (f)	Percentage (%)
Sex		
Male	85	41.1
Female	122	58.9
Residence		
Rural	153	73.9
Urban	54	26.10
General Average		
Outstanding	69	33.3
Very Satisfactory	121	58.5
Satisfactory	17	8.2
Educational Attainment of Father		
College	94	45.4
High School	94	45.4
Elementary	19	9.2
Educational Attainment of Mother		
College	108	52.2
High School	88	42.5
Elementary	10	4.8
Masters	1	0.5
Occupation of Father		
Professional	33	15.9
Skilled	106	51.2
Unskilled	51	24.6
Deceased	4	1.9
Unemployed	3	1.4
Business/Self-employed	6	2.9
OFW	4	1.9
Occupation of Mother		
Professional	44	21.3
Skilled	16	7.7
Unskilled	53	25.6
Housewife	71	34.3
Business/Self-employed	11	5.3
OFW	12	5.8
Hours Spent in Social Media		
below 1 hour	76	36.7
1 hour to 2 hours	70	33.8
3 hours to 4 hours	28	13.5
5 hours to 6 hours	17	8.2
More than 6 hours	16	7.7
Monthly Gross Family Income		
P 9,649 and below	68	32.9
P9,649 – P 19,928s	79	38.2
P19,928 – P 38,597	36	17.4
P 38,597 – and above	24	11.5

In the present study, a total of 207 respondents participate in the study consisting of 122 (58.90%) females and 85 (41.10%) males. Majority of them or 153 (73.90%) resides in rural area and more than half of

them or 121 (58.50%) had a very satisfactory grade average. Many of their father or 94 (26.10%) were college and high school graduate while most of their mother or 108 (52.17%) were college graduate. More

than half of the respondents' father or 106 (51.20%) were skilled worker while 71 (34.30%) of the respondents' mother were housewife. In terms of the number of hours spent in social media, majority or 76

(36.70% spent less than 1 hour. Last, many of them or 79 (38.20%) had family income between P9, 649 – P 19, 928 [Table 1].

Table 2. Knowledge Scores of the Respondents about Fake News.

Socio-Demographic Profile	Criteria	Frequency (f)	Percentage (%)
Very Good	17 – 20	49	23.7
Good	13 – 16	82	39.6
Average	9 – 12	59	28.5
Poor	5 – 8	13	6.4
Very Poor	0 – 4	4	1.9

The finding of the study shows that among the respondents, good knowledge was found in 82 (39.60%) respondents, average in 59 (28.50%), very good in 49

(23.70%), poor in 13 (6.40%) and 4 (1.90%) respondent had very poor knowledge about fake news. [Table 2].

Table 3. Mean Scores of the Respondents regarding their Knowledge about Fake news

Item Statements	Mean Score/ S.D.	Correct answer		Wrong answer	
		F	%	F	%
1. Fake news is a type of hoax or deliberate spread of misinformation.	0.93±0.25	193	93.20	14	6.80
2. Fake news is easy to create.	0.92±0.27	191	92.30	16	7.70
3. Fake news is a new phenomenon.	0.24±0.43	49	23.70	158	76.30
4. A news story is not fake simply because it is impolite or inconvenient.	0.55±0.50	113	54.60	94	45.40
5. Fake news are stories that have some truth but aren't 100 percent accurate.	0.73±0.45	151	72.90	56	27.10
6. Fake news is already a national security issue.	0.82±0.3	169	81.60	38	18.40
7. All fake news stories are found online.	0.44±0.50	92	44.40	115	55.60
8. Fake news can spread rapidly and is easily consumed in our 24/7 news cycle.	0.90±0.30	186	89.90	21	10.10
9. Clickbait stories and headlines earn advertising revenue in creating fake news.	0.66±0.48	71	34.30	136	65.70
10. Fake news comes from fake sites.	0.73±0.44	152	73.40	55	26.60
11. False news story are more likely to be tweeted than true stories.	0.72±0.45	150	72.50	57	27.50
12. Fake news employs rumor, exaggeration, or parody.	0.81±0.39	168	81.20	39	18.80
13. False information was created to make money or entertain.	0.70±0.46	144	69.60	63	30.40
14. Fake news headlines have too many adjectives, too many details, makes a social comment and vague.	0.67±0.47	138	66.70	69	33.30

15. Not all of the misinformation being passed along online are complete fiction.	0.72±0.45	150	72.50	57	27.50
16. The bill seek to impose penalties of up to 2 million pesos or even imprisonment on those found guilty of spreading false information online and on social media.	0.50±0.50	104	50.20	103	49.80
17. The bill has been incorporated in to the Philippines' penal code, where any person found sharing false news they "engage(s) the public order or cause(s) damage to the interest or credit of the state" can be subject to a fine between 40,000 and 200,00 pesos.	0.46±0.50	96	46.40	111	53.60
18. The main legal recourse against fake news is a defamation lawsuit.	0.64±0.49	132	63.80	75	36.20
19. Artificial intelligence is often proposed as a solution to fake news.	0.61±0.49	127	61.40	80	38.60
20. There are still many laws that can be applied to protect individuals from hate speech, harassment, defamation, and other forms of harmful content.	0.82±0.38	170	82.10	37	17.90

In terms of the mean score of the respondents regarding their knowledge about fake news, the result showed that the majority of the respondents got the correct answer on almost all items. Only item statement number 3 “Fake

news is a new phenomenon” and item statement number 9 “Clickbait stories and headlines earn advertising revenue in creating fake news” got the least of the correct answers [Table 3].

Table 4. Perception of the Respondents in Determining Facts and Fake news

Item Statements	Weighted Mean/S.D.	Verbal Interpretation
1. It can be distinguished by considering the source.	4.05±0.76	Agree
2. Consider the author of the article.	4.04±0.77	Agree
3. Check whether the story has been picked up by other well-known news publishers.	4.23±0.72	Strongly Agree
4. Check the date when it is published.	4.11±0.75	Agree
5. Develop a critical mindset.	3.93±0.83	Agree
6. Look for fake images.	3.73±0.96	Agree
7. Read beyond headlines.	4.09±0.78	Agree
8. Consult the experts.	4.22±0.74	Strongly Agree
9. Look at the quotations in the article.	4.00±0.71	Agree
10. Look at who said the quotations.	4.11±0.74	Agree
Grand Weighted Mean	4.05±0.51	Agree

In terms of their perception in determining facts from fake news, the result showed that the majority of the respondents agree on all the statements which are needed to identify the fake news from the fact.

They believe that the following statements can help them to determine if the news is fake or not.

Table 5. Relationship of the Respondents' Profile and their Knowledge about Facts and Fake news

Socio-Demographic Profile	Pearson Correlation	p-value
Sex	0.048	0.493
Residence	-0.110	0.116
General Average	0.190	0.006*

Educational Attainment of Father	0.088	0.208
Educational Attainment of Mother	0.008	0.907
Occupation of Father	-0.028	0.684
Occupation of Mother	0.051	0.466
Hours Spent in Social Media	0.063	0.370
Monthly Gross Family Income	0.051	0.4665

Legend: *significant at $p \leq 0.05$

In terms of the relationship between the profile of the respondents' and perception in determining facts and fake news, table revealed that the relationship existed between their general average and their perception in determining facts and fake news was significant since the p-value obtained was below 0.05. The relationship between their perception to the other variables such as their sex, residence, educational attainment and occupation of their parents, hours spent in social media and their monthly gross family income was not significant since the p-value obtained was greater than 0.05 [Table 5].

Table 6. Relationship of the Respondents' Profile and their Perception in Determining Fake news

Socio-Demographic Profile	Pearson Correlation	p-value
Sex	-0.082	0.242
Residence	-0.073	0.295
General Average	0.215	0.002*
Educational Attainment of Father	0.009	0.897
Educational Attainment of Mother	0.018	0.800
Occupation of Father	0.125	0.074
Occupation of Mother	0.109	0.117
Hours Spent in Social Media	0.064	0.360
Monthly Gross Family Income	0.099	0.154

Legend: *significant at $p \leq 0.05$

In terms of the relationship between the profile of the respondents' and their knowledge about fake news, table showed that the relationship existed between their general average and their knowledge about fake news was significant since the p-value obtained was below 0.05. The relationship between their knowledge to the other variables such as their sex, residence, educational attainment and occupation of their parents, hours spent in social media and their monthly gross family income

was not significant since the p-value obtained was greater than 0.05 [Table 6].

Table 7. Source of Information about Fake News

Source of Knowledge	Rank
1. from television	2 nd
2. from radio	5 th
3. from social media	1 st
4. from your friends	3 rd
5. from newspaper and magazine	4 th

In terms of their source of knowledge about fake news, the data showed that many of the respondents' source was from social media which ranked 1st, followed by from television, from their friends, newspaper and magazine and radio, respectively.

IV. DISCUSSION

The study aimed to determine the knowledge of the respondents about fake news. The result showed that many of them had good knowledge about fake news. The result was supported by the report of National Literacy Group (2017). According to them, most of their respondents were familiar with the term fake news. However, according to Anderson (2017), youngsters are knowledgeable when it comes to the use of modern technology when compared to their parents, but when it comes to the ability to tell if a news piece is fake or not, they seem as confused as they cannot recognize the fake from the fact. With this, it can be implied that the respondents know the term can correctly define what fake news is but the meaning behind it as well as their ability to identify it was questionable.

Meanwhile, the mean score of the respondents regarding their knowledge about fake news showed that many of them got the correct answer except on item statement number 3 "Fake news is a new phenomenon" and item statement number 9 "Clickbait stories and headlines earn advertising revenue in creating fake news". The reason could be that the respondents were deceived that fake news is a new phenomenon when in fact, is not. According to Soll (2016), fake news or misleading news is not a new phenomenon. It has been around since news became a concept 500 years ago with the invention of print, in fact, then verified, objective news, which emerged in force a little more than a century ago. On the other hand, Clickbait is a term used to deride and dismiss content that exists more as a way to lure audiences to click on it (Hamblin 2014, Klinger and McBride 2016). Also, Spicer (2018) state that Clickbaits are phrases that

are designed to attract the attention of a user who, upon clicking on the link, is directed to a web page whose content is considerably below their expectations. It does not necessarily intend for the creation of fake news alone since it is mainly used for advertisement.

On the other hand, in determining facts from fake news, they agree on all the statements which are needed to determine the fake news from the fact. They believe that the following statements can help them to determine if the news is fake or not. The result was supported by study of Barthel et al., (2016). According to them, most users believe they can detect fake news on social media. One of their baselines in fact checking is thru the publisher of the said article. Real news is published by trustworthy media outlets with a strong fact checking record (McClure, 2017) and a website listed in a search engine can be trusted (Ofcom, 2017). However, according to Nielsen and Graves (2017) as well as Janetzko (2017), people are unable to identify fake news correctly. They are likely to associate fake news with low quality journalism than false information designed to mislead. Also, Domonoske (2016) found that college students, children and teenagers have limited ability to tell whether information is fake or real and they failed to indicate which of the information was false. Moreover, most of the study participants accepted the information provided as true, without checking if the sources were reliable. Nevertheless, due to the exposure to the news and reflections on current events on a variety of platforms, from news websites to blogs and social media, it can be strenuous for consumers, especially young people, to distinguish between false and real information (Marchi, 2012). In fact, people expect the news they see on social media to be "largely inaccurate" (Matsa & Shearer, 2018). With this, they were already aware that fake news is prevalent and in response for this, they were also aware to perform a fact checking to ensure the news or information they will believe or share to others is legitimate and genuine. It also revealed that the relationship exists between their general average to their knowledge and perception in determining fake news form fact was significant.

Last, in terms of their source of knowledge about fake news, the data showed that their main source was from social media which ranked 1st. According to Shearer, (2018) people aged 18-29 cite social media as their main source of news consumption (Shearer, 2018). In addition, Marchi (2012), Gottfried and Shearer (2016) and Shao et al., (2015) found that social media become one of the main news sources. Because of this, social media may become a primary source of fake news. In

the study of Dimoka et al., (2012) and Vance et al., (2018), they found that social media users were poor at detecting fake news. One contributing factor for these is the sheer volume of fake news makes it challenging to separate truth from fiction. More fake news articles are shared on social media than real news (Silverman 2016). In addition, social media is the "lifeblood of fake news" because it permits anyone to share a viral fake story to people at a low cost (Warner-Søderholm et al., 2018 and Klein and Wueller, 2017). Despite this fact, one of the reasons why they still choose social media as their source of news is the convenience and their enjoyment in getting news from it (Matsa and Shearer, 2018).

V. CONCLUSION

A conclusion section must be included and should indicate clearly the advantages, limitations, and possible applications of the paper. Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

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