Exploring the Psychological Profile of Individuals Vulnerable to Fake News A Conceptual Framework

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Abstract. Fake news has several negative consequences for consumers, the news ecosystem, and even public trust. Because of the impacts of echo chambers, it generates an incorrectly informed public that continues to be misinformed. It has a significant impact on political activities, such as election results, as well as business. For example, fake news on WhatsApp has been connected to mob deaths in India in 2018 and panic purchasing in the aftermath of the COVID-19 assault. As a result, many people are concerned that, if left unchecked, false news would erode public faith in legitimate news sources. The previous study focused on false news identification approaches, with the Tri-Relationship Fake News Detection Framework being one of the most well-known (TriFN). Even though some researchers discovered that participants were usually dubious of false news stories and were extremely good at discriminating real from fake news, others found that participants were typically skeptical of fake news stories. Some people, on the other hand, are unconcerned about discovering the truth if the news serves their wants and convictions, such as political or religious beliefs. Low-level cognitive processing mechanisms (e.g., fluency) that are not interrupted by high-level reasoning processes appear to impact judgments of false news accuracy, according to certain research findings. As a result, the goal of this research is to provide a conceptual framework for the psychological profile of people who are vulnerable to fake news.

Keywords: Conceptual framework · Psychological profile · Vulnerable to Fake News

1 Introduction

The effects of false news are being studied more and more. According to Bakir and McStay [1], fake news is socially and politically undesirable since it leads to citizens

being misinformed due to the influence of echo chambers. The impact of false news on political activities, such as election outcomes, industry, and social morale, is widespread. For example, mob killings in India have been connected to fake news circulated on WhatsApp [2]. As a result, it is concerned that, if left unchecked, fake news may erode public trust in legitimate news outlets [3]. TriRelationship Fake News Detection Framework (TriFN) [4] and instructional online studies on fake news detection approaches have proliferated over the world [5]. However, the impact of all those inventions in fake news detection did not seem to create a spark for many fake news creators and many are also unintentionally (naïve) to spread fake news without a second thought.

The topic of misleading information and its impact on attitude development has become very significant, given its growing importance in the public sphere and the scale on which it may spread through contemporary technologies. Moreover, the report from the Malaysian Communications and Multimedia Commission (MCMC) on the spreading of fake news about coronavirus deaths is alarming in our society [6]. This is because irresponsible people's attitudes induce panic and worry in individuals who don' t have credible sources of viral knowledge and can easily believe it. They spread the phoney news through other social media platforms such as WhatsApp groups, family, community, and more. A sensible individual should be able to determine their authenticity by accessing more accurate information, such as the Ministry of Health Malaysia's website or Facebook page.

As a result, the current study does not analyse or develop a new way of detecting fake news, as several approaches have been developed throughout the world, but fake news continues to make headlines. The current research will be studying the underlying factor that governs people's minds and actions to naively fall into fake news. Briefly, the study is meant to explore the psychological profile of individuals vulnerable to fake news. The current study provides an important foundation for furthering our understanding of the impact of fake news and incorrect information on high-profile contemporary events such as elections, health, societal morale, and legal trials by identifying which people are most vulnerable to the lingering effects of false information.

2   Literature Reviews

False news refers to a specific phenomenon, which is a packaged false fact to appear like news to intentionally deceive. Fake news has many detrimental impacts on individual users, on the news environment, and on confidence in society. Numerous studies have investigated the impact of false news. Bakir and McStay (2018: 159) argued that fake news is ' socially and politically harmful ' as it produces a citizenry that is misinformed because of the impact of echo chambers [1]. The effect of fake news has a pervasive influence on political activities, such as election results, and industry [7]. For example, fake news spreading over WhatsApp has been connected to a mob killing cases in India [2] and panic shopping due to COVID-19 attacks [6]. Consequently, in the long run, there is concern that fake news, if unchecked, can undermine public trust in actual news outlets [3].

The previous study focused on fake news detection methods and one of the famous methods is the Tri-Relationship Fake News detection framework (TriFN) [4] and the

tutorial online [5]. However, the impact of all those inventions in fake news detection did not seem to create a spark for many fake news creators and many are also unintentionally (naïve) to spread fake news without a second thought. Furthermore, the current scenario in our culture, in which bogus news regarding coronavirus fatalities is proliferating, is concerning [6]. This is because irresponsible behaviour causes panic and worry in individuals who do not have access to credible sources of viral knowledge and can readily believe it. They disseminate the fake news using other social media platforms, such as WhatsApp groups for friends, family, and community, among others. A sensible individual should be able to determine their authenticity by accessing more accurate information, such as the Ministry of Health Malaysia's website or Facebook page.

Very captivating research by Pennycock and Rand [8] considers clear evidence that the propensity to ascribe complexity to randomly generated sentences – pseudo-profound nonsense receptivity – correlates positively with expectations of fake news accuracy, and negatively with the ability to distinguish between fake and real news. Relatedly, people who over claim their level of information often view false news as being more reliable. On the other hand, the propensity to ascribe depth to prototypically insightful quotes is not associated with discernment of media truth; and both deep-sea interventions are positively correlated with the ability to post both false and actual social media data.

Their results suggest that perceptions of false news accuracy are affected by processes of low-level cognitive processing (e.g., fluency) that do not tend to be disrupted by high-level reasoning. Pennycook and Rand [8] have found, however, those that who were largely skeptical about fake news reports were very successful in distinguishing between true and false news.

Recent findings on critical reasoning, which correlates negatively with perceived accuracy of false news and positively with discernment of media reality, shed more light on this relationship by demonstrating that it is not moderated by the existence or absence of information about the source of the news story, or by the previous familiarity with the news headlines. Their findings indicate that belief in false news has similar cognitive properties to other types of nonsense receptivity, which highlights the important role critical reasoning plays in accepting misinformation.

Furthermore, when people find that critical information on which their initial judgment was based was erroneous, they typically modify their views; but the extent to which they correct their assessment relies on their cognitive abilities [8]. In particular, people with lower cognitive ability levels changed their behaviours to a lesser degree than those with higher cognitive ability levels.

Additionally, among individuals with lower rates of cognitive capacity, changed attitudes remained skewed and significantly different from control group views that had never been exposed to the erroneous information, even after explicit disconfirmation of the false information. The changed behaviours of individuals with greater cognitive ability, on the other hand, were similar to those of the control group. The link between cognitive ability and attitude change was unaffected by controlling the urge for closure and right-wing authoritarianism. The above findings suggest that, even under ideal conditions, the initial effect of inaccurate information cannot be undone merely by pointing out that it was incorrect, especially in persons with limited cognitive capacity. Another especially interesting avenue for follow-up research of clear functional significance

will be to explore how individual situations can impact the severity of the residual false information effects, how the influence of incorrect information can be reversed, and how different approaches can be more successful for people with higher or lower cognitive abilities.

In this regard, according to Pennycook and Rand [8], the widespread effect of incorrect knowledge in the present research on individuals with a lower cognitive is especially striking because their analysis was structured in a way that maximally promotes adjustment of the initial assessment. Nonetheless, all the knowledge was fresh and so no pre-existing theories could play a role in the actual target individual. The incorrect knowledge was clearly and unmistakably disconfirmed. Ultimately, all original accurate knowledge was specifically replicated while doing the new assessment. In short, their study shows that such optimal conditions can elicit adequate adjustment by those with higher cognitive ability but not by those with lower cognitive ability. Yet, such optimal conditions are usually not present in real-life situations.

Pennycook and Rand [8] further advise that future research should look at whether an adjustment in low cognitive ability persons deteriorates more under less ideal settings, and if high ability individuals can preserve their capacity to make acceptable adjustments.

3 Theories

The theories describing the phenomena under examination are characterised by five. The theories are Cognitive theory, Supply and Demand theory, Maslow's Hierarchy of Needs theory, Ecological System theory, and Personality theory.

The cognitive theory gives a basic reason for evaluating and adjusting cognitions to change how individuals think, feel, and conduct. For example, Zimbardo et al. (2012) [9] describe procrastination in their book. Procrastinators frequently underestimate how long a project will take, demonstrating the importance of cognitive expectancy in our behaviour patterns. Procrastinators may also be victims of confirmation bias if they recall earlier instances where they were able to complete the assignment on time. Those who put things off until the last minute may not see their behaviour as a problem; instead, they argue that they perform best under pressure. Similarly, believing in something without a second thought while rejecting that they may have made a mistake in their decision since the negative consequences have not explicitly occurred to them. This behaviour and cognition have provided insight into the internal thinking processes that impact belief in fake news.

Besides, in microeconomics law, the law of supply and demand reflects the relationship between demand and supply in that a change in one causes a change in the other [10]. Therefore, according to the law of supply and demand, if there is higher demand (people believe in fake news) there will be a rise in the supply (fake news production) and vice versa. Briefly, fake news is produced based on the higher demand of "believers" and "spreaders". The law of supply and demand explains the interaction between the fake news creator/spreader and believers. If there is low demand (people being cautious in believing and spreading fake news), the supply would not as active and aggressive to produce more fake news.

Maslow's hierarchy of needs analyses human motivation by focusing on several degrees of requirements [11]. The desire for safety, belonging, and love has increased

societal demand for any news (even fake news) to have a sense of belonging to the mainstream media. They accept any news or are less skeptical of anything that supports their beliefs and wants and is consistent with their perception and belief. They would feel uneasy if they are not informed or a part of the mainstream media.

Moreover, personality seems also to influence or not someone easily falls into fake news. "Personality is the dynamic organization within the individual of those psychophysical systems that determine his characteristics behaviour and thought" (Allport, 1961, p. 28) [12]. "The characteristics or a blend of characteristics that make a person unique" [13]. Gordon Allport defined personality as a "dynamic organization inside a person, of psychophysical systems that create the person's characteristic patterns of behaviour, thoughts, and feelings." The question whether which type of personality easily falls into fake news and which ones are not is very stimulating to be investigated. Understanding personality allows psychologists to predict how people will respond to certain situations and the sorts of things they prefer and value. To understand how researchers study personality psychology, it is important to start by learning more about some of the most influential personality theories.

Finally, the ecological systems theory holds that we encounter different environments throughout our lifespan [14] that may influence our thinking (cognitive) and behaviour to various degrees such as believing fake news. One's personality is also influenced by the ecological system that he or she was raised in since childhood. These systems include the microsystem, the mesosystem, the exosystem, the macro system, and the chronosystem. Each of these ecological systems inevitably interacts with and influences each other in all aspects of one's life, i.e., background/upbringing, religion, school, society, organisation may influence their belief, thinking, perception, and act toward any news/behaviour). And it influences others in the circles and vice versa. In other words, the enforcement and implementation of the law, and the economic and political system influence effectiveness of the authority in curbing the spread of fake news.

4 Methods

The study will be using a mixed-method approach. Both quantitative and qualitative approaches (interviews, observations, and documents), known as Sequential Explanatory design will be utilised [15]. The design begins with a quantitative study first followed by a qualitative study. The respondents for the quantitative method will be identified among social media users such as Facebook, Twitter, Instagram, etc., with ages ranging from 18 years old and above. An online survey will be conducted on all social media users to gather information about their knowledge of fake news. Meanwhile, for the qualitative method, interviewing selected respondents will be conducted. Then each data collection and analysis is done separately but it is compiled when interpreting the study data before reporting the study. The following are the research questions:

1. What is the level of cognitive processing mechanism among Malaysian toward fake news?
2. Who are the people who easily fall into fake news?
3. How to deal with fake news more systematically and appropriately?

5 Conclusions

The fake news problems and their impact on the development of attitudes becoming increasingly important, owing to its cumulative exposure in the community and the scale it may spread via contemporary technology. This research provides an important foundation to understand the influence of incorrect information on society and the country by identifying the individuals who are most susceptible to the enduring effects of fake news.

Moreover, Anti-Fake News 2018 (Act 803) was abolished due to several weaknesses in its content and implementation. Therefore, the outcome of this study may give a piece of new knowledge and idea if a new fake news act is to be designed and implemented in the future. It adds a new value and could be used as a guideline for new fake news (if any) to be implemented in our country and simultaneously could educate the public to be more critical and rational in their thinking and action.

Authors' Contributions. Hawa Rahmat prepared the conceptualization of the paper and writing the original draft. Rohaidah Mashudi, Nalini Pragasam, Hazlina Mohd Miskam, Azlina Mohd Khir, Kogilavani Rajendran, and Fatimah Rahmat contributed to writing final draft. The team members have equal contributions to work. Umi Naqiyah Ahmat Puat responsible for the project administration.

References

1. Bakir, V., & McStay, A. (2018). Fake news and the economy of emotions: Problems, causes, solutions. Digital journalism, 6(2), 154–175.
2. Frayer, L. (2018). Viral Whatsapp messages are triggering mob killings in India. Npr. com. Available at: https://www.npr. org/2018/07/18/629731693/fake-news-turnsdeadly-in-india.
3. Lazer, D. M., Baum, M. A., Benkler, Y., Berinsky, A. J., Greenhill, K. M., Menczer, F., ... & Schudson, M. (2018). The science of fake news. Science, 359(6380), 1094–1096.
4. Kai Shu, Suhang Wang and Huan Liu (2018) Exploiting Tri-Relationship for Fake News Detection. Computer Science and Engineering, Arizona State University, Tempe, 85281, USA Copyright c 2018, Association for the Advancement of Artificial Intelligence (www.aaa i.org).
5. Zhou, X., Zafarani, R., Shu, K., & Liu, H. (2019, January). Fake news: Fundamental theories, detection strategies and challenges. In Proceedings of the Twelfth ACM International Conference on Web Search and Data Mining (pp. 836–837).
6. Malaysian Communications and Multimedia Commission (MCMC) Portal. Retrieved March 2020 at https://www.mcmc.gov.my/
7. Allcott, Hunt, and Matthew Gentzkow. (2017). "Social Media and Fake News in the 2016 Election." Journal of Economic Perspectives 31 (2): 211–236.

8. Pennycook, G., & Rand, D. G. (2018). Who falls for fake news? The roles of bullshit receptivity, overclaiming, familiarity, and analytic thinking. Journal of personality. 88, 2, 185–200

9. Zimbardo, P. G., Johnson, R. L., & McCann, V. (2012). Psychology: Core Concept. 7th Edition. Boston: Pearson.

10. Maclachlan, F. (2011). "Supply and Demand" Retrieved 18 June 2022 from http://demonstrations.wolfram.com/SupplyAndDemand/WolframDemonstrationsProject

11. McLeod, S. (2007). Maslow's hierarchy of needs. Simply psychology, 1(1–18).

12. Allport, G. W. (1961). Pattern and growth in personality. New York: Holt, Rinehart & Winston.

13. Weinberg, R., & Gould, D. (1999). Foundations of sport and exercise psychology (No. Ed. 2). Human Kinetics Publishers (UK) Ltd.

14. Bronfenbrenner, U. (1992). Ecological systems theory. Jessica Kingsley Publishers.

15. Creswell, J. W., & Plano Clark, V. L. (2018). Designing and conducting mixed methods research. SAGE publication: Thousand Oaks United State.