J Ment Health Disord. 2024;4(1):31-33.

Journal of Mental Health Disorders | Letter to the Editor

Combination of Journalism and Psychological Studies: Recommendations for Research on PTSD and Fake News Belief under Natural Disasters

Lan Lin[1,2], **Chen Gong**[3,*]

[1]Advanced Micro Devices, Inc., Shanghai, China

[2]University of Southampton, England

[3]School of Journalism, Fudan University, Shanghai, China

[*]Correspondence should be addressed to Chen Gong, cgong22@m.fudan.edu.cn

Received date: May 30, 2024, **Accepted date:** July 30, 2024

Citation: Lin L, Gong C, Combination of Journalism and Psychological Studies: Recommendations for Research on PTSD and Fake News Belief under Natural Disasters. J Ment Health Disord. 2024;4(1):31-33.

Copyright: © 2024 Lin L, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Dear Editor,

We are writing to express our appreciation for the recent publication of the study titled *"PTSD, FOMO and fake news beliefs: a cross-sectional study of Wenchuan earthquake survivors"* [1]. This study offers valuable insights into the intricate connections among posttraumatic stress disorder (PTSD), fear of missing out (FOMO), and beliefs in fake news. The authors have selected individuals who were affected by the earthquake as a sample to investigate the correlation between FOMO and belief in fake news, which presents a unique and innovative situation. The term "deepfake" is derived from the combination of "deep learning" and "fake". It refers to the creation of highly realistic yet artificial images, sounds, and videos using artificial intelligence techniques [2]. Deepfakes rely on neural networks that analyze extensive datasets to learn and imitate a person's facial expressions, mannerisms, voice, and inflections [3]. According to Saifuddin *et al.* [4], for example, focus on the causes of sharing behavior related to purposeful deepfakes. Regarding the relationship between citizens' usage of news and their sharing of deepfakes, FOMO also acts as a competent mediator.

Post-traumatic stress disorder (PTSD) is a mental health condition triggered by experiencing or witnessing a terrifying event [5]. In Chen's [1] research, they concentrated their investigation on a population that was affected by PTSD as a result of the earthquake, which was a public health emergency. "Fear of missing out" (FOMO) is a psychological construct defined by an apprehension of being absent from other people's rewarding experiences and the desire to stay connected with others' experiences constantly [6]. Chen's [1] research is pertinent and significant for further investigations into the correlation between PTSD/FOMO and beliefs in fake news in the context of various natural catastrophes. Some recent studies found that during times of social isolation, individuals may frequently experience FOMO when they are separated from their social milieu, as they are unable to interact with their friends or family members [7-9]. In addition, FOMO usually plays as a mediator variable to expand PTSD and the domain of psychopathology-related constructs [10,11].

Over the past 20 years, there has been a general increase in the occurrence of catastrophic earthquakes. In 2021, there were 26 catastrophic earthquakes, which is higher than the average of 19.6 earthquakes over the past two decades. The frequency of these earthquakes has been consistently strengthening year after year [12]. In considering natural catastrophes, earthquakes represent an exemplary model for future study due to their frequent occurrence in modern society. Regarding earthquakes, when subsequently validating the rate of gender belief in fake news, the inclusion of 180 males and 176 women is a suitable sample size. Moreover, considering the likelihood that individuals in seismically impacted areas will experience trauma again after obtaining the questionnaire, a completion rate of less than 50% is acceptable. The article is well-formatted with clear tables and diagrams of the moderating effects of each variable. Some positive suggestions are provided for further progress.

Professionals Can Affect Beliefs in Fake News

The general populace, except for professionals in specific relevant domains (such as journalists and government organizations), may not possess the same level of sensitivity and discernment towards news as these experts do. Typically, the substance of the material would get greater interest than the identity of the publisher. Sometimes this might be due to the publisher intentionally creating a deceptive situation [13,14].

Increase the Frequency of the Questionnaire Collection

For the frequency of the questionnaire collection, collecting surveys over intervals of 3, 5, and 10 years for the same set of individuals may enhance the objectivity and credibility of the results. There was a significant delay between the occurrence of the earthquake and the gathering of the questionnaire.

Education Level Can Affect Beliefs in Fake News

The level of education is a crucial component that should be considered. Individuals' propensity to believe fake news may differ based on their level of education [15,16].

Reconsidered the Age Range of Participants

The questionnaire was targeted towards individuals aged 20-47 years old (as of 2023). It may be worth considering eliminating the upper age limit. The minimum age in the questionnaire was five years old during the earthquake. From an ethical standpoint, it would be advisable to increase this age regarding the participant's ability to provide informed consent. By combining these two criteria, we may restrict the participants in the questionnaire to individuals aged 24-60, i.e. those who were between the ages of 10 and 45 at the time of the earthquake.

Combined Age and Gender together for Further Research

For *H7 Gender moderates the FOMO–fake news pathway*, a basic slope analysis revealed that FOMO had a significant and positive impact on the belief in fake news among women, but no such effect was observed among men. However, conducting additional research may yield different results when age and gender are combined. Additionally, Tantau *et al.'s* [17] study highlights the important roles that gender and age play in the acceptance and dissemination of fake news. Young women are unlikely to disseminate misleading information online in this scenario. Meanwhile, Warner-Søderholm *et al.* [18], demonstrate that women and young users possess greater expectations for honesty and trust in comparison to others.

Increasing the Sample Size of the Study as well as Designing Other Psychiatric Disorders as a Control Group

The main techniques employed are the collection of questionnaires and the analysis of data. To augment the sample size for the upcoming research, it is advisable to incorporate a comparative examination of the statements and comments found in interconnected posts across several public social media platforms such as Weibo, Zhihu, Tiktok, etc. To examine the susceptibility of individuals to believing fake news, the research can include a control group consisting of persons who were not affected by the Wenchuan earthquake. According to Tobias *et al.* [19], people with good mental health are more likely to believe news that promises to improve their lives in the future, whereas those suffering from mental illnesses tend to be more pessimistic about the future and will interpret news reports with a negative outlook. Moreover, results can vary for different mental disorders. Individuals with autism are vulnerable to higher updating of beliefs when they are given information with an excessively low degree of accuracy." Similar explanations for why persons with post-traumatic stress disorder (PTSD) flashbacks have been put forth by Linson *et al.* [20] and Wilkinson *et al.* [21].

Exploring the Causal Relationship between PTSD and FOMO

The causal relationship between PTSD and FOMO needs further exploration. FOMO caused by the Wenchuan earthquake is positively associated with PTSD; believing fake news is positively associated with FOMO; believing fake news is positively associated with PTSD; PTSD mediates the association between FOMO and believing fake news etc.

Conclusion

In terms of the disaster, our task is not only to reconstruct and repair the facilities of the city's infrastructure, but also to prioritize the development of post-disaster psychology. Psychological professionals with relevant expertise can be employed to offer prompt psychological counseling to individuals and leading cadres in the disaster-stricken region. News media practitioners should exhibit heightened awareness of their professional ethics and morals and refrain from deliberately fabricating fake news for the purpose of attracting attention. Overall, "PTSD, FOMO and fake news beliefs: a cross-sectional study of Wenchuan earthquake survivors" offers significant goals and instructions for future endeavors regarding PSTD, FOMO, and fake news".

References

1. Gong C, Ren Y. PTSD, FOMO and fake news beliefs: a cross-sectional study of Wenchuan earthquake survivors. BMC Public Health. 2023 Nov 9;23(1):2213.

2. Zhang T. Deepfake generation and detection, a survey. Multimedia Tools and Applications. 2022 Feb;81(5):6259-76.

3. Westerlund M. The emergence of deepfake technology: A review. Technology innovation management review. 2019;9(11):40-53.

4. Ahmed S. Disinformation sharing thrives with fear of missing out among low cognitive news users: A cross-national examination of intentional sharing of deep fakes. Journal of Broadcasting & Electronic Media. 2022 Jan 1;66(1):89-109.

5. Weathers FW. The PTSD Checklist: Reliability, validity and diagnostic utility. Presented at the Annual Meeting of the International Society for Traumatic Stress Studies. San Antonio, TX, October, 1993 1993.

6. Przybylski AK, Murayama K, DeHaan CR, Gladwell V. Motivational, emotional, and behavioral correlates of fear of missing out. Computers in human behavior. 2013 Jul 1;29(4):1841-8.

7. Hattingh M, Dhir A, Ractham P, Ferraris A, Yahiaoui D. Factors mediating social media-induced fear of missing out (FoMO) and social media fatigue: A comparative study among Instagram and Snapchat users. Technological Forecasting and Social Change. 2022 Dec 1;185:122099.

8. Elhai JD, McKay D, Yang H, Minaya C, Montag C, Asmundson GJG. Health anxiety related to problematic smartphone use and gaming disorder severity during COVID-19: Fear of missing out as a mediator. Hum Behav Emerg Technol. 2021 Jan;3(1):137-46.

9. Elhai JD, Yang H, Fang J, Bai X, Hall BJ. Depression and anxiety symptoms are related to problematic smartphone use severity in Chinese young adults: Fear of missing out as a mediator. Addict Behav. 2020 Feb;101:105962.

10. Balakrishnan V, Ng KS, Rahim HA. To share or not to share - The underlying motives of sharing fake news amidst the COVID-19 pandemic in Malaysia. Technol Soc. 2021 Aug;66:101676.

11. Tandon A, Dhir A, Almugren I, AlNemer GN, Mäntymäki M. Fear of missing out (FoMO) among social media users: a systematic literature review, synthesis and framework for future research. Internet Research. 2021 Feb 12;31(3):782-821.

12. Wei F, Geng Q, Muping Y. Overview of worldwide earthquake disasters in 2021. Progress in Earthquake Sciences. 2022(6):263-70.

13. Waisbord S. Truth is what happens to news: On journalism, fake news, and post-truth. Journalism studies. 2018 Oct 3;19(13):1866-78.

14. Jerónimo P, Amaral I, Correia JC. Disinformation Studies: Global Perspectives. Journalism Practice. 2023 Nov 26;17(10):2079-83.

15. Pop MI, Ene I. Influence of the educational level on the spreading of Fake News regarding the energy field in the online environment. Proceedings of the International Conference on Business Excellence. 2019 May;13(1):1108-17.

16. Baptista JP, Correia E, Gradim A, Piñeiro-Naval V. The influence of political ideology on fake news belief: The Portuguese case. Publications. 2021 May 27;9(2):23.

17. Tantau A, Pelau C, Pop M. Fake news in the energy industry. Proceedings of the 4th BASIQ International Conference on New Trends in Sustainable Business and Consumption. 2018;(pp. 204-10).

18. Warner-Søderholm G, Bertsch A, Sawe E, Lee D, Wolfe T, Meyer J, Engel J, et al. Who trusts social media?. Computers in human behavior. 2018 Apr 1;81:303-15.

19. Kube T, Rozenkrantz L. When Beliefs Face Reality: An Integrative Review of Belief Updating in Mental Health and Illness. Perspect Psychol Sci. 2021 Mar;16(2):247-74.

20. Linson A, Friston K. Reframing PTSD for computational psychiatry with the active inference framework. Cogn Neuropsychiatry. 2019 Sep;24(5):347-68.

21. Wilkinson S, Dodgson G, Meares K. Predictive Processing and the Varieties of Psychological Trauma. Front Psychol. 2017 Oct 17;8:1840.