# Review of Communication ResearchC:/Users/Administrator/Desktop/zd-rcr-logo.pngzd-rcr-logo

2024, Vol. 12

ISSN: 2255-4165

[https://rcommunicationr.org/index.php/rcr/](about:blank)

**Article Title**

First Name Last Name [ORCID](https://orcid.org/0009-0002-9091-7631)1\*, First Name Last Name[ORCID](https://orcid.org/0000-0001-6126-7401)2

1 Ph.D Candidate, Department of Communication Sciences, Universidade de xxx, xxx, Country

2 xxx

\* **Corresponding Author:** [xxx@g](mailto:noel.pascual.presa@usc.es)mail.com

**Citation:** Xxx, L., & Yyy, L. (2024). Title here. *Review of Communication Research, 7*(1), xxx–xxx. [https://doi.org/10.xxx/RCR.xx.x](https://doi.org/10.55267/iadt.07.13881)xx

|  |  |  |
| --- | --- | --- |
| **ARTICLE INFO** |  | **ABSTRACT** |
| Received: xxx  Accepted: xxx |  | Artificial Intelligence (AI) is increasingly influencing a wide range of societal dimensions, with particular implications for the field of risk communication, a critical domain for managing uncertainties and crises. The global COVID-19 pandemic further underscored the importance of effective communication in mitigating risks and maintaining public trust. In light of these developments, this article explores the convergence of AI and risk communication, emphasizing the implications for communication strategies, tools, and methodologies. Through an exploratory, systematic review of the scientific literature, we adopt a mixed-methods approach that examines both quantitative and qualitative aspects. This enables a comprehensive analysis of the current academic landscape and its practical relevance. Our findings indicate a significant rise in research at the intersection of AI and risk communication since 2019, coinciding with the onset of the COVID-19 pandemic, which served as a catalyst for innovation in risk-related communication technologies. AI's role in transforming communication is particularly evident in the use of social media platforms such as X (formerly Twitter). These platforms have become critical arenas for disseminating information, engaging audiences, and countering misinformation in real time. However, our review reveals a gap in exploring other communication channels, such as community-based messaging platforms and decentralized networks. The study highlights the need for integrating ethical considerations and participatory approaches in AI-driven communication strategies. Ensuring transparency in AI systems and fostering trust through responsible communication practices are critical for mitigating risks effectively. Additionally, AI can empower organizations to foster two-way communication, thereby enhancing dialogue and collaboration with stakeholders.  **Keywords:** Artificial Intelligence,Transformation Communication, Health, Decentralized Networks, Review. |

**INTRODUCTION**

In an increasingly interconnected world exposed to a wide range of hazards, from natural disasters to health emergencies and socio-economic crises, the ability to communicate risks clearly, accurately, and in a timely manner has never been more important (Glik, 2007). We understand risk communication as a two-way exchange of information on risks between the different parties involved in and/or affected by them. This communication can take place in a wide variety of ways, coming from different sources—government institutions, media, stakeholders, social media, etc.—and in a broad range of situations, including crises, emergencies, disasters, and so on. In this context, it is necessary to work with different audiences, each with its own characteristics, needs, concerns, and idiosyncrasies (Covello, Slovic, & Von Winterfeldt, 1986; Covello, Von Winterfeldt, & Slovic, 1988). The main objective of risk communication is to inform the parties involved in risk management decisions in order to maximise welfare by reducing exposure to hazards or threats (National Research Council, 1989; Plough & Krimsky, 2013). Effective risk communication is essential to persuade people to adopt self-protective behaviours.

**LITERATURE REVIEW**

**Risk of Communication in xxx**

Communication Platform

The swift currents of communication have ushered in a notable upswing in the enrollment of international students on a global platform. According to Tamene et al. (2017), China, in particular, has emerged as a significant contender in this trend, with millions of its students choosing to pursue educational opportunities abroad. This surge has significantly shaped the landscape of international education, prompting a closer examination of the psychological adaptation of these students, particularly within the context of cross-cultural experiences. Moreover, Shields (2013) specified that within the scholarly discourse, there is a growing emphasis on understanding the psychological adaptation processes of international students navigating unfamiliar cultural terrains. As these students embark on educational journeys in foreign countries, scholars are increasingly concerned with unravelling the complexities of their psychological adaptation, recognizing its potential impact on overall well-being.

Research in this area consistently highlights two key issues overseas students face: increased stress and a deterioration in general well-being. Distance from familiar surroundings and support networks might amplify the effects of the stress caused by adjusting to a new culture, educational system, and social environment (Li & Li, 2018). Consequently, scholars find themselves driven to delve more into the subtle dynamics of psychological adaptation, aiming to identify the variables impacting the challenges and triumphs experienced by overseas students. A deeper investigation of psychological adaptation is required considering the prevalence of stress and decreased well-being (Ma & Zhao, 2018). Research in this area is vital because scholars seek to discover how students from various cultural backgrounds deal with such challenges (Lin, 2019). By offering insights into the psychological intricacies of adaptation, scholars aspire to develop a deeper understanding that can inform support systems, policies, and interventions, ultimately enhancing international students' overall experience and success in an increasingly interconnected and diverse global academic landscape.

**METHODOLOGY**

In order to analyse AI-related scientific production (in its different aspects and methods) and its convergence with the field of risk communication—including risk communication in crisis situations, emergencies, catastrophes, etc.—we carried out a systematic literature review. These types of studies are becoming increasingly important in the field of communications because they allow previous results to be systematised and new challenges and lines of research to be explored (Aguaded, Vizcaíno-Verdú, García-Prieto, & de-Casas-Moreno, 2023; García-Orosa, Canavilhas, & Vázquez-Herrero, 2023; Terren & Borge, 2021; Vizoso & Pérez-Seijo, 2024). They also make it possible to identify, assess, and interpret data from previous studies, in order to answer questions related to a specific field of study (Cherry, Boland, & Dickson, 2023; Ramírez & García-Peñalvo, 2018). Unlike a conventional literature review, this method provides an overview of all the studies in a specific area of research by using a search strategy and previously defined criteria for inclusion and exclusion (Moher, 2009). In this case, we decided to use a mixed methods approach. We therefore used quantitative analysis techniques that provide an exact, detailed description based on certain variables, as well as qualitative techniques that facilitate and allow a more inferential and in-depth approach to the data (Bedregal, Besoain, Reinoso, & Zubarew, 2017).

‘Risk Communication’ and similar terms that could be related to it in the different studies, such as ‘Crisis Communication’, ‘Disaster Communication’, etc.

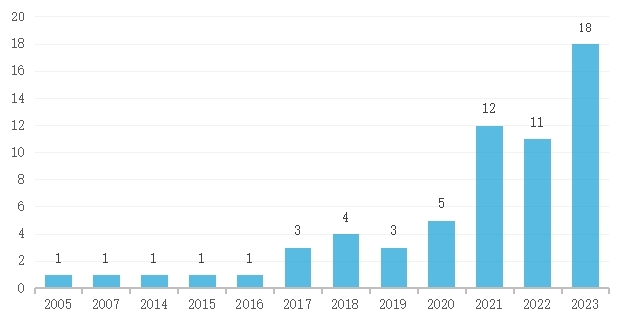
((‘Artificial Intelligence’ OR ‘AI’ OR ‘Machine Learning’ OR ‘Deep Learning’ OR ‘Neural Networks’ OR ‘Genetic Algorithms’ OR ‘Fuzzy Logic’ OR ‘Natural Language Processing’ OR ‘NLP’ OR ‘Data Mining’ OR ‘Expert Systems’ OR ‘Computer Vision’ OR ‘Pattern Recognition’ OR ‘Classification Algorithms’ OR ‘Clustering Algorithms’ OR ‘Predictive Models’ OR ‘Robotics’ OR ‘Intelligent Agents’ OR ‘Chatbot’ OR ‘Language model’ OR ‘Conversational model’) AND (‘Risk Communication’ OR ‘Crisis Communication’ OR ‘Emergency Communication’ OR ‘Disaster Communication’ OR ‘Risk Messaging’ OR ‘Hazard Communication’))

Our initial search yielded 143 results in the WoS database and 273 in Scopus, for a total of 416. In order to select the research papers to make up the final analysis sample of this systematic literature review, the authors established a series of criteria for inclusion and exclusion.

**RESULTS**

**Bibliometric Analysis**

First of all, in relation to Q1, we observe that all the articles published on artificial intelligence and risk communication are dated between 2005 and 2023. We also noticed a significant increase in scientific production on this subject in 2020, which grew markedly in the subsequent years (**Figure 1**).



**Figure 1.** Scientific Articles by Year of Publication

The journals that published the largest number of works in the sample include: *Journal of Medical Internet Research* (4); *International Journal of Disaster Risk Reduction* (4); *Jmir Public Health and Surveillance* (2); *PLOS One* (2); *International* *Journal of Information Management* (2); *Risk Analysis* (2), and *Transportation Research Record* (2).

**Table 1.** Articles Published by Journal, Language and Number of Authors

|  |  |  |
| --- | --- | --- |
| **Journal** | **No. articles published** | |
| Journal of Communication | 4 | |
| Ixxx | 4 | |
| PLOS One | 2 | |
| xxx | 2 | |
| yyy | 2 | |
| xxx | 2 | |
| xxxx | 2 | |
| **Language** | **Articles** | **%** |
| English | 58 | 95.1% |
| French | 2 | 3.3% |
| Turkish | 1 | 1.6% |
| **Authors** | **Articles** | **%** |
| 1 | 2 | 3.3% |
| 2 | 10 | 16.4% |
| 3 | 15 | 24.6% |
| **Authors** | **Articles** | **%** |
| 4 | 11 | 18.0% |
| 5 | 8 | 13.1% |
| 6 | 8 | 13.1% |

As shown in **Table 1**, almost all of the articles were originally written in English, while Spanish was chosen in only 3.3% of cases, and Turkish in 1.6%. There were also articles published in Portuguese and French, although the documents were not originally written in those languages. Articles with only one author make up 3.3% of the total. The most frequent number of authors is 3, accounting for 24.6% of the total. The average number of authors per article is 4.47. The articles in the sample have 2,975 citations in the aggregate, with an average of 48.77 citations per article. The articles with the largest number of citations include Ragini, Anand, and Bhaskar (2018), with 254, Lazard, Scheinfeld, Bernhardt, Wilcox, and Suran (2015), with 132, Wirz et al. (2018), with 115, Bukar et al. (2022), with 105, Yan, Mai, Wu, Chen, and Li (2023), with 103, and Michela et al. (2022), with 100 citations. It should be noted that the year of publication of each article affects this variable.

**DISCUSSION**

This exploratory study, based on a systematic literature review, offers a complete overview of the use and impact of risk communication and Artificial Intelligence. Regarding the main objective of this study, the research confirms that AI has a dual impact on risk communication: (i) by generating new risk scenarios and new challenges in the field, and (ii) by introducing new methods and tools that broaden the scope of research and offer new opportunities. This is in line with previous research studies that have concluded that AI presents both challenges and opportunities (Cunneen et al., 2019; Zerfass et al, 2020).

The results of our bibliometric analysis of the intersection of AI and risk communication indicate a significant increase in scientific production from 2019 onwards, suggesting that COVID-19 was a clear driver of this increase. This has in turn fuelled other types of research related to the health field. Topics related to natural disasters, such as floods, hurricanes, earthquakes, and fires, also stand out as important. The risks addressed are all natural and beyond human control, which means that anthropogenic risks are not usually considered.

**CONCLUSIONS**

It has also been determined that overly politicised and polarised messages may negatively impact risk communication strategies, as they reduce their legitimacy and effectiveness. The choice of spokespersons, such as celebrities, may influence the public’s emotional response and increase participation.

Finally, for the improvement of risk communication, this study reveals important insights, such as the need to consider the context of risks, clear and detailed descriptions, risk visualisation, transparency and trust, consistency across multiple platforms, frequency of publication, use of an empathetic tone, visual content, adaptation to the local context, and avoidance of probabilistic language.

In conclusion, our research provides a complete overview of how AI converges and interacts with risk communication, and this study illustrates how AI-driven risk communication not only facilitates the flow of information, but also aligns with theoretical frameworks that emphasise strategic message dissemination and audience engagement.

**LIMITATIONS**

Conducting a systematic literature review inherently involves certain limitations, particularly those related to epistemic and methodological biases within the selected studies. .

**FUNDING**

This research was funded by….if any

**CONFLICT OF INTEREST**

Authors must declare all potential interests in a 'Conflicts of interest' section, which should explain why the interest may be a conflict.

**REFERENCES**

Cunneen, M., Mullins, M., & Murphy, F. (2019). Artificial intelligence assistants and risk: Framing a connectivity risk narrative. *AI & Society*, *35*, 625-634.

Dehghani, A., Ghomian, Z., Rakhshanderou, S., Khankeh, H., & Kavousi, A. (2022). Process and components of disaster risk communication in health systems: A thematic analysis. *Jamba: Journal of Disaster Risk Studies*, *14*(1). https://doi.org/10.4102/JAMBA.V14I1.1367

DiClemente, R. J., & Jackson, J. M. (2016). Risk communication. *International Encyclopedia of Public Health*,378-382. https://doi.org/10.1016/B978-0-12-803678-5.00389-1

Ems, L., & Gonzales, A. L. (2016). Subculture-centered public health communication: A social media strategy. *New Media & Society*, *18*(8), 1750-1767.

Fineberg, H. V., & Stern, P. C. (Eds.). (1996). *Understanding risk: Informing decisions in a democratic society*. Washington, DC: The National Academies Press.

Frewer, L. (2004). The public and effective risk communication. *Toxicology Letters*, *149*(1), 391-397.

García García, S. (2014). Las narrativas del riesgo. *Revista de Antropología Social*, *23*, 281-286.

García-Orosa, B. (2021). Disinformation, social media, bots, and astroturfing: The fourth wave of digital democracy. *El Profesional De La Informacion*, *30*(6). https://doi.org/10.3145/epi.2021.nov.03

García-Orosa, B., Canavilhas, J., & Vázquez-Herrero, J. (2023). Algoritmos y comunicación: Revisión sistematizada de la literatura. *Comunicar (Huelva, Spain)*, *31*(74), 9-21.

Gates, C. S., Li, N., Peng, H., Sarma, B., Qi, Y., Potharaju, R., . . . Molloy, I. (2014). Generating summary risk scores for mobile applications. *IEEE Transactions on Dependable and Secure Computing*, *11*(3), 238-251.

Glik, D. C. (2007). Risk communication for public health emergencies. *Annual Review of Public Health*, *28*(1), 33-54.