

## Visual Metaphors and Information Dissemination: Exploring the Role of Cartoons and Comics during the COVID-19 Pandemic

Siti Hajar Abd Aziz<sup>1</sup>, Ahmad Nur Azam Ahmad Ridzuan<sup>2</sup>, Siti  
Nur Farrah Faadiah Ab Ghani<sup>3</sup>, Muhamad Hanapi Khamis<sup>4</sup>,  
Zuliani Mohd Azni<sup>5</sup>

<sup>1,3,5</sup>Faculty of Communication and Media Studies, Universiti Teknologi MARA Melaka,

<sup>2</sup>Faculty of Computer & Mathematical Science, Universiti Teknologi MARA Perak, <sup>4</sup>Faculty of  
Communication and Media Studies, Universiti Teknologi MARA Negeri Sembilan

Corresponding Author's Email: shajar\_aziz@uitm.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARBS/v13-i10/19121> DOI:10.6007/IJARBS/v13-i10/19121

**Published Date:** 27 October, 2023

### Abstract

This paper examines the role of cartoons and comics in public communication about COVID-19. Throughout history, cartoons and comics have served as vital mediums for disseminating information and providing entertainment. This essay primarily focuses on two key aspects: (i) understanding the roles of cartoons and comics in effectively disseminating information about the pandemic, and (ii) providing an overview of the visual metaphors used as an element of humour in cartoons and comics. This essay aims to investigate how metaphor, through cartoons and comics, can aid individuals and communities in navigating the stress and challenges posed by the pandemic. The methodology entails a comprehensive literature review of previous research articles obtained from a reliable database. It was found that apart from their role in criticising the government's handling of the COVID-19 situation, cartoons and comics can be used to raise awareness about the urgency of the crisis and educate the public on healthcare issues. It is crucial to note that while metaphors contribute greatly to understanding the impact of cartoons and comics on the pandemic, fewer studies have explored their effectiveness in comprehending their influence on readers. Thus, this essay underscores the need for further research on the use of metaphors in cartoons and comics, particularly in assisting individuals in coping with the public health crisis. It calls for a deeper understanding of how metaphors can enhance public health communication strategies and their potential implications for readers' mental health and coping mechanisms.

**Keywords:** Cartoons, Comics, COVID-19, Media, Metaphor

**Introduction**

The ability to effectively use humour in dealing with challenging circumstances, especially during times of crisis, has long been recognised. The COVID-19 pandemic has been no exception, as people and communities worldwide have turned to humour as a form of expression and communication in various comedic forms. One prevalent form of comedy during the pandemic has been cartoons and comics, which have inundated social media platforms, offering a clear and comprehensible way to explain complex concepts.

Undoubtedly, COVID-19 has had a devastating impact on lives worldwide. Business restrictions and reduced working hours have led to a decline in median income in the Asia-Pacific region, with a 10 percent decrease in labour income during the first three quarters of 2020, according to the International Labour Organization (2020). Malaysia alone witnessed over 140,000 job losses due to COVID-19, resulting in financial and mental health struggles for many individuals (Shanmugam et al. 2020). In such circumstances, social media has played a crucial role in disseminating up-to-date information, providing guidance on precautionary measures, and relaying government announcements.

The Pan American Health Organization (2020) reported that social media was extensively used to share information on confirmed cases, deaths, local and international news, as well as instructions on patient tracing and clinical disease management. While some successful initiatives aimed at using Twitter to increase public awareness and prevent disasters were attempted, a study noted that the platform was primarily used for personal and professional purposes. Moreover, despite the escalating health crisis, several tweets incorporated political undertones (Batol, 2021). Others turned to social media to seek advice on vaccination, curfew policies, and symptoms (Motahari-Nezhad, 2021).

The extensive use of social media was further demonstrated in a study by Mohd Jais, Mustafa, Syed Mukhiar, and Syed Jamaludin (2021), which suggested that the younger generation heavily relied on social media during the pandemic, while the older generation preferred traditional media such as television, radio, and newspapers. These studies also assert that political cartoons wield significant influence as formidable tools capable of shaping the perspectives of the intended audience (Nwachukwu, Waheed, Ahmad, & Mohd Hasan, 2023:71).

Against this backdrop of the pandemic's impact and the role of social media, cartoons and comics related to the pandemic gained popularity on social media platforms. These drawings found their way onto community devices through platforms like Facebook, Instagram, Twitter, and short-messaging services like WhatsApp and Telegram. Wang (2021) noted that these cartoons and caricatures focused on various aspects, such as government actions, the struggles of healthcare workers, and the global impact of the virus. Supporting this notion, a study by Nwachukwu, Waheed, Ahmad, and Mohd Hasan (2023:71 specifically explores the power of cartoons to ridicule and satirize the political elite along with their ineffective policies,

A study by Alabi (2020) suggests that cartoons and comics served a dual purpose during the pandemic. They provided humour to the audience while also educating them about the reality of the virus. These visual forms of communication were used to inform citizens about the nature, spread, and prevention of the virus.

Cartoons and comics serve as visual presentations that express ideas across various domains. Often created with the purpose of humour, which is the most effective form of coping with life stresses (Fred et al. 1991), they satirise or ridicule their subjects, primarily for social comedy. Wang (2021) observed that cartoons facilitate cross-cultural understanding,

employing diverse modalities to convey their intentions and meaning. Moreover, comics, being a widely enjoyed entertainment format, attract a broad spectrum of audience demographics and are easily shared on social media for effective mass distribution of information. Kearns & Kearns (2020) noted that simplicity, schematic representation, and metaphor are employed in comics to bring abstract ideas to life, enabling viewers from any demographic to easily identify with and empathise with the characters. This makes the situations portrayed in the narrative more relevant to them, enhancing their understanding and memory retention of the information. Consequently, comics have become a popular and well-liked medium for disseminating information about public health.

In addition to their informational value, comics have emerged as an increasingly significant medium for individuals to cope with and process inconvenient situations, particularly during times of crisis. Crises can be overwhelming and traumatic, making it challenging for people to express their emotions and make sense of what is happening. Comics provide an outlet for individuals to express their feelings and thoughts creatively and critically about the situation (Mihailidis & Viotty, 2017).

During the COVID-19 pandemic, cartoons have been employed to convey messages of resilience and fortitude, often concealing feelings of opposition or dissatisfaction. Despite facing challenges, these messages emphasise the importance of staying strong, indirectly expressing resistance to the situation at hand (Brown University, 2021). This is in line with Alabi's (2020) suggestion that cartoons and comics served as means to alleviate the psychological, moral, and emotional impact of the pandemic by offering humour during challenging times.

To further understand the topic the researchers attempted to discuss, the coping theory was selected to provide a framework for understanding how humour, particularly in the form of cartoons and caricatures, can help individuals and communities navigate and cope with the challenges and adversities of the COVID-19 pandemic. Coping theory suggests that humour and comics can serve as valuable tools in navigating challenging circumstances. Lazarus & Folkman (1984) argued that coping involves cognitive and behavioural strategies that individuals employ to effectively manage external or internal demands that are perceived as overwhelming or surpassing their available resources.

Crawford & Caltabiano (2011) noted that humour and comics play a significant role in helping individuals cope with stress, adversity, and the psychological effects of difficult situations by providing relief, fostering emotional well-being, and offering a means of communication. Meanwhile, Lenggogeni et al. (2022) indicate that humour is an effective coping mechanism for "quarantined residents" during the initial stages of a crisis, especially during lockdown, in the case of the COVID-19 pandemic.

In relation to cartoons and comics, their ability to break down complex topics into smaller, more digestible pieces is noteworthy. They can also be used to engage readers and keep them interested. Additionally, cartoons and comics can be used to promote critical thinking and discussion. This form of visual storytelling uses metaphors to paint a picture, make a joke, or make a point, helping comics reach more people and have a bigger effect (Lewis & Venkatesan, 2021).

A visual metaphor is a metaphor that uses images instead of words. For example, a comic might show a person wearing a mask as a superhero, or a cartoon might depict a virus as a giant monster. These metaphors can help people understand the pandemic in a new way and see humour in a demanding situation. Refaie (2003) suggested that the distinction between a "literal" image and a visual metaphor is not always clear-cut. It depends on the

context in which the image is used and how familiar the metaphor is to the viewer. In other words, a good visual metaphor is one that compares something unfamiliar to something familiar. This helps the audience understand the message of the metaphor by relating it to something they already know.

This is evident in Wang's (2021) study of COVID-1-related cartoons, which found that three popular metaphors were used: 1) the war metaphor, 2) the death metaphor, and 3) the journey metaphor. The war metaphor compares the fight against the pandemic to war; the death metaphor shows the danger and impact of COVID-19; and the journey metaphor symbolises the virus spreading and invading the world.

The objective of this literature review are :

- to examine the role of cartoons and comics on various media platforms during the COVID-19 pandemic.
- to explore how visual metaphors are used in cartoons and comics to make light of the pandemic and help people cope with the distress it has caused.

The research questions that kick-start the investigation are:

RQ1: What are the roles of cartoons and comics related to the COVID-19 pandemic in studies published in Scopus between the years 2022 and 2023?

RQ2: What visual metaphors are used in cartoons and comics related to the COVID-19 pandemic in studies published in Scopus between the years 2022 and 2023?

The study is significant as its findings can be a valuable tool for public health communication, which is crucial during times of crisis. The study's findings can also be used to inform the development of future public health campaigns and help people understand and cope with public health issues, especially during crises.

## **Methodology**

This paper analysed research articles published in Scopus, the largest abstract and citation database of peer-reviewed literature. An investigation has identified 40 English-written articles published from 2022 to 2023, retrieved as of May 15, 2023. Figure 1 shows how the query string looks for this investigation.

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(TITLE-ABS-KEY(comic) OR TITLE-ABS-KEY(cartoon) AND TITLE-ABS-KEY(Covid-19) OR TITLE-ABS-KEY(COVID-19) OR TITLE-ABS-KEY(pandemic) OR KEY(social media) OR KEY(media) AND KEY(Covid-19)) AND PUBYEAR > 2021 AND ( LIMIT-TO ( LANGUAGE,"English" ) ) AND ( LIMIT-TO ( DOCTYPE,"ar" ) )
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Figure 1. The Query Strings from Scopus Database

After screening the abstracts, the researchers identified and excluded 21 articles that were not relevant to the study objectives and context. Among the remaining 19 articles, an additional eight were excluded due to limited accessibility, leaving only 11 articles with full access for the researchers to analyse. These 11 articles were subsequently uploaded into the thematic review tool for further analysis. Thematic analysis was employed for this literature evaluation. Thematic analysis is a method used to identify, analyse, and interpret themes in data (Clarke & Braun, 2017). In this process, the researchers thoroughly read and familiarised themselves with the literature to identify research trends and thematic patterns. ATLAS.ti23, a thematic review tool, was utilised to facilitate the analysis of data based on specific criteria and databases.

## **Result and Discussion**

Overall, the 11 articles in this investigation cover two general issues. One section examines the political situation during the COVID-19 pandemic, including the portrayal and handling of

specific political figures. Another section focuses on health communication, exploring how the pandemic has impacted various community segments.

Table 1 lists the summary findings of the evaluated evidence of all articles, which have been identified according to their prominent themes: the role of cartoons and comics and the visual metaphors used in cartoons and comics related to the pandemic. The authors found that most of the articles in their study used qualitative methods to explore the role of cartoons and comics in society as well as the visual metaphors used in these forms of media.

This study employed qualitative analysis to examine the role of cartoons and comics in the context of the COVID-19 pandemic. The thematic category was explored using the ATLAS.ti23 approach to gain insights into the conceptual perspective of the chosen topic. Figure 2 visually represents the content of the 11 articles in this study through a word cloud, generated using the "crunching" lists. In this word cloud, the term "COVID" stands out as the largest and most prominent word, indicating its high frequency in the sampled articles.

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Table 1

*The Summary Findings of the 11 Articles Evaluated.*

Author	Research Method	Theme	Findings
Kudus & Lee (2022)	Qualitative	The role of cartoons and comics. AND The visual metaphors used in cartoons and comics.	The article suggested that Ng's webcomic provides a unique perspective on the COVID-19 pandemic, as it offers a humorous and light-hearted take on a serious issue. Satirising the Malaysian government's response to the pandemic, the comics parallel the political environment in Malaysia, using metaphors to symbolise real events and convey cultural and emotional truths. The COVID-19 virus is depicted as a green alien in the form of a villain, representing its unfamiliarity and threat. Political leaders are caricatured as flawed superheroes, highlighting their shortcomings. General Hisham, representing healthcare professionals, is portrayed as an epic hero leading the fight against the virus. War metaphors are employed to emphasise the battle between politicians, frontline workers, and the virus. The comics employ humour and familiar manga elements to engage

readers and convey messages about the pandemic.

Labbé et. al (2022)	Qualitative	<p>The role of cartoons and comics.</p> <p>AND</p> <p>The visual metaphors used in cartoons and comics.</p>	<p>The study found that the cartoons often portrayed people who were seen as being responsible for the spread of COVID-19 as being to blame for the pandemic. These groups included Chinese people, international travellers, people who did not respect public health measures, and people who questioned the scientific consensus on COVID-19. The authors argue that these cartoons contribute to the stigmatisation of these groups and can lead to real-world consequences, such as discrimination and violence.</p>
Polak & Zwetsloot (2022)	Qualitative	<p>The role of cartoons and comics.</p> <p>AND</p> <p>The visual metaphors used in cartoons and comics.</p>	<p>The article suggests that Donald Trump used cartoon logic as a political strategy to grab attention and provoke meme responses during the COVID-19 pandemic. In the visual elements analysed in three case studies, it was observed that Trump's representations transitioned from cartoon-like, narrative, and personal depictions to broader consumer attitudes and directly politicised behaviours. Cartoon logic played a significant role in Trump's response, employing gestures common to</p>

New Conspiracism to insinuate and create conspiracy allegations without supporting evidence. For instance, he theatrically removed face masks to criticise scientists and politicians who recommended their use. Trump's rhetorical strategy aligns with traditional chauvinist outbreak narratives and the historical trend of US presidents lying about their health. Examples of his cartoon reasoning include suggesting he would appear wearing a Superman shirt, proposing disinfection as a potential cure for COVID-19, and his approach to face masks.

Wiles et al. (2023)	Qualitative	<p>The role of cartoons and comics</p> <p>AND</p> <p>The visual metaphors used in cartoons and comics.</p>	<p>The article examines the collaboration between microbiologist Siouxsie Wiles and cartoonist Toby Morris in New Zealand to create visually engaging and shareable graphics about COVID-19. The authors argue that visual metaphors can be an effective way to communicate complex scientific ideas to a wide audience and thus can be a model for other scientists and communicators who want to use social media to share their work with the public. The visual metaphors studied in the article include the "Flatten the Curve" graphic, which uses a simple visual metaphor to explain the concept of social distancing and how it can help to slow the spread of COVID-19; the "Mask Up" graphic, which uses a simple visual metaphor to explain the importance of wearing masks to protect yourself and others from COVID-19; and the "Wash Your Hands" graphic, which uses a simple visual metaphor to explain the importance of washing your hands to prevent the spread of germs.</p>
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Asenjo & Gil. (2022)	Qualitative	The role of cartoons and comics	<p>The study has classified 57 cartoons into four domain scenarios as groups: i) arts and literature; ii) conflicts; iii) sports and games; and iv) other (which includes a variety of symbolic presentation). The study found that the cultural and political background of each country played a significant role in interpreting the humour and satire in cartoons. The choice of metaphors was influenced by the ideologies of the newspapers publishing them, reflecting their criticisms of political figures and actions. The study also compared its findings with previous research on the SARS epidemic, which showed how metaphors can reflect political agendas and ideologies. The study concluded that metaphors in cartoons are influenced by cultural and political factors, and the use of metonymy helps represent complex concepts.</p>
Hrvatín (2022)	Qualitative	<p>The role of cartoons and comics</p> <p>AND</p> <p>The visual metaphors used in cartoons and comics.</p>	<p>The articles discuss the Japanese artists revival of the traditional yōkai Amabie in response to the COVID-19 outbreak. Amabie is a mythical creature with the power to stop illnesses and bring good health. Artists created paintings, drawings, and computer images of Amabie, often incorporating face masks and other symbols of social distancing. The trend grew in popularity on social media, where artists shared their work and encouraged others to join in. Amabie became a symbol of hope and resilience in the face of COVID-19. The revival of Amabie shows how art can be used to cope with difficult times. It also shows how cultural symbols can be repurposed to meet new needs.</p>



Domínguez & Sapina (2022)	Mixed Method	<p>The role of cartoons and comics.</p> <p>AND</p> <p>The visual metaphors used in cartoons and comics.</p>	<p>The authors analysed 401 cartoons from 36 countries, and contradict to the statistic that 70% health workers are women, metaphors in the studies suggested that; doctors as men and nurses as women, a which metaphor reinforces the traditional gender roles that often relegate women to subordinate positions in the healthcare field; women in subordinate roles; a metaphor suggests that women are not as capable as men of leading and taking charge in a crisis; and a stereotypes about women, suggesting a lack of recognition for their expertise and perpetuates gender biases.</p>
Koinig (2022)	Quantitative	The role of cartoons and comic	<p>The study found that motivational quotes and influencer posts were the most favourably evaluated content formats, while comics were the least favourably evaluated. The study also found that content was seen as not particularly cognitively stimulating, while affective post-evaluations were slightly better. The study's findings indicate that individuals search out content that enhances their self-esteem or has a "human touch."</p>
Greijdanus & van der Voorn (2022)	Quantitative	The role of cartoons and comics.	<p>The article investigates the potential usefulness of humour in an anti-alcohol health campaign targeting women who have sex with women (WSW) during the COVID-19 pandemic. The findings suggested that WSW who saw the humorous cartoons were more likely to perceive the campaign as inclusive and to report feeling amused and less angry than those who saw the non-humorous cartoons. However, humour did not significantly influence binge drinking's determinants. The study's findings suggest that humour can be an effective way to reach WSW with anti-alcohol health messages.</p>

Hill et al. (2022)	Quantitative	The role of cartoons and comics.	The study found that youth who reported getting information from more sources were more likely to have accurate knowledge about the pandemic. The study also found that reading comics about COVID-19 was associated with a 7–29% higher accuracy rate in questions about the pandemic. The study's findings suggest that youth can acquire accurate knowledge about COVID-19 by getting information from multiple sources. The study also suggests that comics can be an effective way to communicate scientific information to youth.
Abdel-Raheem & Alkhamash (2022)	Quantitative	The role of cartoons and comics.  AND  The visual metaphors used in cartoons and comics.	The results showed that readers of the news articles were more likely to be influenced by the framing of the message than readers of the cartoons. In other words, those who read pro-vaccination articles were more likely to say they would get vaccinated, and those who read anti-vaccination articles were more likely to say they would not get vaccinated. The authors argue that these findings have implications for journalists and health professionals. They suggest that journalists should be careful about how they frame stories about vaccines and that health professionals should use a variety of communication methods to reach different audiences.

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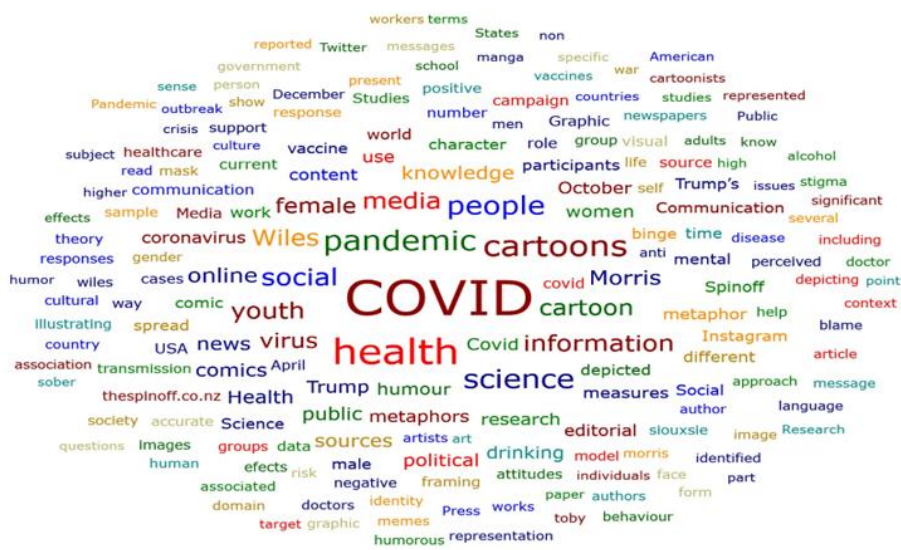


Figure 2. Word Cloud Generated from 11 Articles.

Additionally, the word cloud highlights other significant words associated with COVID-19, including "health," "cartoons," "pandemic," "social," and "science." These words suggest that cartoons and comics serve as effective health communication strategies, raising awareness about COVID-19, disseminating information about the pandemic, and exploring its social and scientific dimensions.

Subsequently, a systematic analysis was conducted to present the synthesised data uploaded into the database. All the articles in this investigation discuss the role of cartoons and comics in relation to the pandemic, with seven articles providing insights on the use of metaphors relevant to the topic. The generated networks automatically produced qualitative visualisations to analyse the linkages and identify the relationships between the two objectives being studied.

This analysis was observed through ATLAS.ti23's network view, revealing connections among related research studies on the role of cartoons and comics. In this study, the researchers identified 12 themes represented as labelled node layouts, including "portrayal of the virus", "portrayal of people's fight against the virus", "portrayal of healthcare professionals", "portrayal of armed forces", "portrayal of the government and politicians", "humour", "blaming", "knowledge and information", "health campaign", "coping" and "mental health". The investigation into the use of metaphor has identified an additional eight themes coded as "battle of gender", "war metaphor", "superheroes", "satirical analogy of politicians", "virus as supervillain", "symbolise country", and "cultural symbol". These codes were interconnected in the data network, demonstrating the research links between these fundamental aspects and the samples involved.

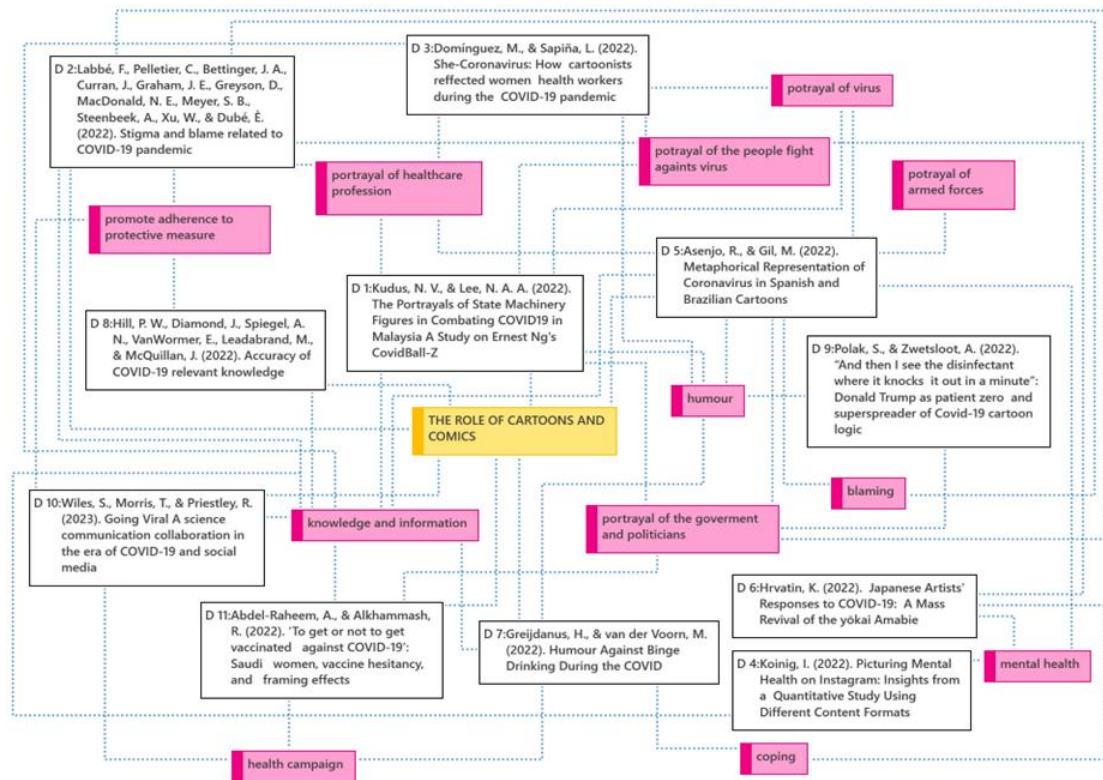


Figure 3. The Role of Cartoons and Comics Data Network Collections Analysis.

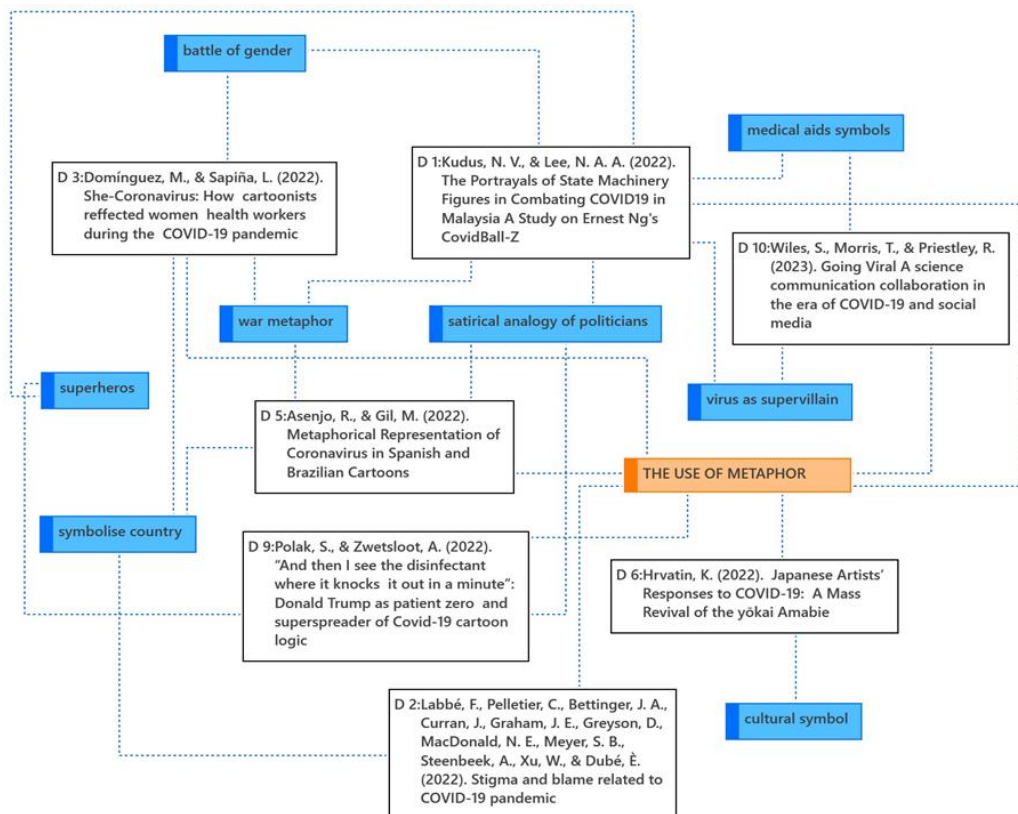


Figure 4. The Use of Metaphor Data Networks Collection Analysis

Figure 3 provides a perspective on how to answer the research question on the role of cartoons and comics which was addressed using a thematic review, incorporating an analysis of data network links obtained through a structured analysis of the topic. The outcomes depicted in the network reflections indicate that while many studies have explored various roles of cartoons and comics in the media, further work is needed to examine the use of visual metaphor as an effective health communication strategy, especially during crises.

This is further demonstrated in Figure 4, which not only provides a perspective on how to answer the research question but also provides an overview of the visual metaphors used as an element of humour in cartoons and comics. This finding suggests that although metaphor plays a crucial role in understanding the impact of cartoons and comics in relation to the COVID-19 pandemic, fewer studies are investigating its effectiveness in comprehending its impact on readers.

### Conclusion

Figure 5 presents a Sankey diagram provides a comprehensive overview and connections of the analysis conducted on the role of cartoons and comics. The Sankey diagram illustrates the utilisation of metaphors to communicate various messages, such as highlighting the severity of the pandemic, underscoring the importance of adhering to health regulations, acknowledging the bravery and heroism of healthcare professionals, and criticising the government. Among the most prevalent metaphors found in cartoons and comics were war metaphors and the portrayal of viruses as supervillains.

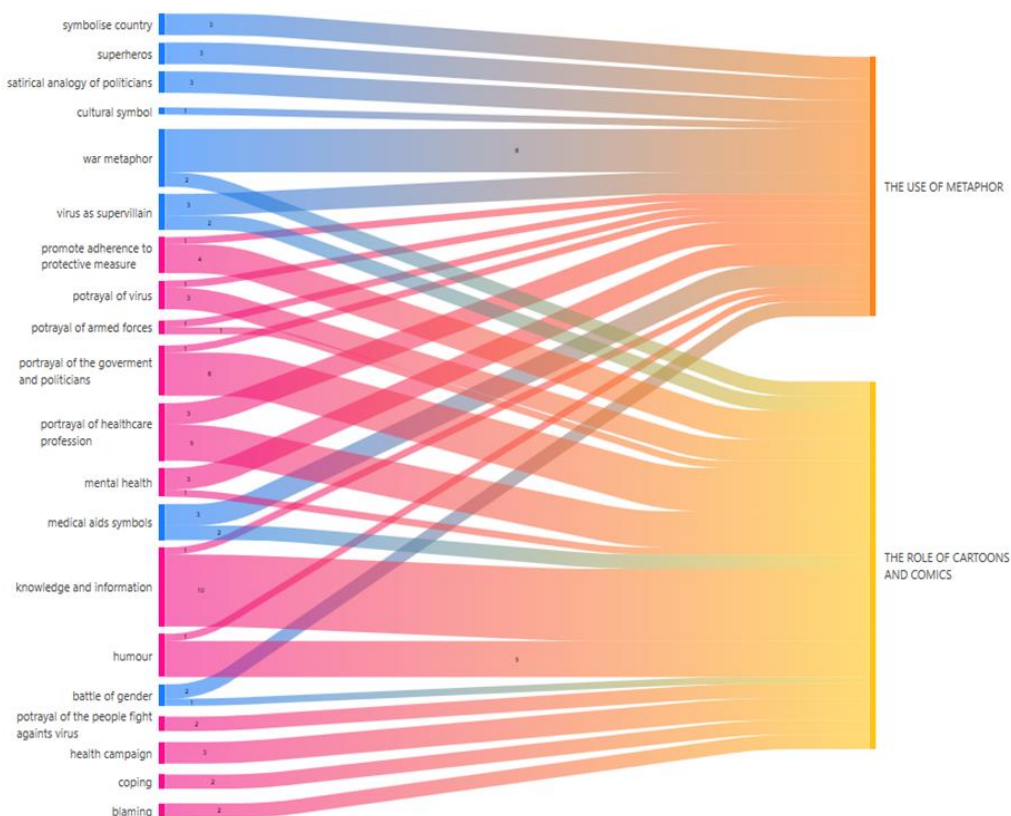


Figure 5. An Analysis of The Sankey Diagram

Furthermore, metaphors were frequently employed in portraying the healthcare professions and in a satirical manner to depict the government and politicians, which includes the "superhero" symbol used to represent politicians and healthcare personnel both positively and negatively in relation to their handling of the COVID-19 pandemic.

Overall, the Sankey diagram shows that cartoons and comics played a significant role in the pandemic. They were used to communicate important messages about the pandemic, and they also helped to shape public opinion about the pandemic. While cartoons and comics can be powerful tools for communication, it is important to be aware of their potential for harm. For example, the battle over gender, which includes stereotypes and unfair treatment, can be harmful as it can reinforce negative beliefs about certain groups of people.

As depicted in the Sankey diagram, metaphors were primarily used in cartoons and comics to convey information about the pandemic. However, their use to represent other aspects of the pandemic, such as coping, mental health, and cultural symbols, was less prevalent. There are multiple possible explanations for this observation. The inherent difficulty of metaphorically conveying these topics is a plausible explanation. For instance, it may be difficult to locate a suitable metaphor for attribution or mental health. In addition, the study did not provide considerable insights into the efficacy of metaphors in assisting individuals to contend with pandemic-related distress or in expressing the emotions and struggles experienced by individuals during this time. These findings therefore provide direction for future studies in these areas. Authors too see this as a call for more investigation of the use of metaphor and its reflective role in cartoons and comics, as well as the impact of cartoons and comics on public opinion or behaviour.

This study correlates with the previous theoretical framework, suggesting that cartoons and comic have played a critical role in the narration of the comic-19 pandemic. This includes communicating awareness of the danger of the COVID-19 virus and portraying the act of the government and the healthcare profession. Visual metaphor through the media, however, served not as a mere storyteller, but a powerful 'watchdog', pushing the media freedom boundaries in criticising the actions of the authorities in the matters of public healthcare. Lessons learned during the pandemic are likely to shape future crisis communication approaches, including the continued use of visual media, thus serving as a call to more aggressive research on its cognitive and emotional impact, as well as its influence on public opinion.

The authors acknowledge that the findings of this study need to be interpreted with caution due to certain limitations. The study was constrained by a small sample size, which was a result of limited accessibility. It is important to recognise that if the study had been conducted on a different database or with a larger sample size, the findings could have taken a different direction.

The authors would like to recommend some specific research questions that could be investigated to extend the research. These questions are:

- How do different metaphors used in cartoons and comics affect people's understanding of the pandemic?
- How can the use of metaphors in cartoons and comics be used to promote positive outcomes, such as increased knowledge and understanding of the pandemic, improved coping strategies, and reduced stigma associated with mental health issues?
- How does cultural background influence the use of metaphors in cartoons, and how can this be effectively used to present humour that helps people cope during crises?

By answering these questions, more effective ways can be developed to use cartoons and comics to promote positive outcomes.

### Corresponding Author

Siti Hajar Abd Aziz is a Senior Lecturer at the Faculty of Communication and Media Studies, Universiti Teknologi MARA (UiTM) Melaka, Malaysia.

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