From Hashtags to Headlines: Applying Framing Theory to COVID-19 Vaccine Misinformation across Social Platforms and Cable News

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Abstract

This case study analyzes the dissemination of COVID-19 misinformation through the lens of framing theory. Social media misinformation has dramatically affected people's vaccination intentions, and framing is the method by which people develop a clear concept regarding a problem. Drawing on the KFF COVID-19 Vaccine Monitor and a three-month public opinion monitor of over 1,000 posts on Twitter and Facebook, the study examines two prominent sources shaping online discourse: partisan leadership (e.g., Governor Ron DeSantis) and cable news (e.g., Fox News). Using Hallahan's models of framing—especially framing of issues and framing of news—the analysis shows how selective emphasis, wording, and agenda building present "objective facts" in ways that mobilize skepticism toward vaccines and reinforce partisan divides. Findings indicate that persistent negative frames (e.g., "vaccines do not prevent infection") travel widely on social platforms and interact with political identity to lower vaccination intent. The article discusses implications for public health communication and media practice in mitigating the effects of the infodemic.

Keywords: Framing theory, Social media misinformation, Political partisanship, Media effects, Public health communication

1. Introduction

Media sources have evolved to increase consolidation in the media industry and allow for more widespread communication. Media comprises various widespread communications such as television, newspapers, radio, magazines, and internet-based websites. Social media platforms such as Facebook, Twitter and Instagram have also become the primary platform for users to obtain and share the news. The COVID-19 pandemic has affected many people globally in different ways: socially, financially, and psychologically. As a result, most people eagerly awaited the manufacture of a vaccine to help alleviate the spread of the disease. According to data from the Pew Research Center, four-in-ten Americans use social media to obtain information about the COVID-19 vaccine (Mitchell & Liedke, 2021). However, despite the development of COVID-19 vaccines, many arguments over the vaccine and vaccine mandates arose, taking the forefront over social media coverage. The issue of COVID-19 vaccines has been produced globally with the people's willingness or unwillingness to get vaccinated. Social

media is still flooded with posts that belittle vaccines and cause vaccine hesitation. According to the KFF monitor, 78% of people have viewed and believed misinformation about COVID-19 vaccines (Hamel et al., 2021). Social media misinformation has dramatically affected people's vaccination intentions. It is a key area of concern in today's mass communication, considering the fast spread of the disease. This case study analyzes the dissemination of COVID-19 misinformation through the lens of the framing theory.

Framing theory is the method by which people develop a clear concept regarding a problem (Tahamtan et al., 2021). The application of framing theory in communications usually consists of constructing a frame to influence the information received by the audience and then influence their behaviors and attitudes. For politicians, media houses, and popular social media figures, social media can influence public perceptions and behaviors by constructing the frame more directly. An important note is that framing theory does not merely suggest that some COVID-19 vaccine information on social media is fallacious. They may misleadingly present objective facts. Framing news might include the use of misuse of statistics and the use of certain words to convey information. For example, consider how different abortion stances use the terms babies and fetuses. Such comments might help convey a different attitude towards information. Through careful word selection, serious information might seem trivial and non-serious information can be made even worse. The framing of the news provided on the media platforms is enough to alter consumers' perception of the news. Therefore, framing does not necessarily mean that the media or those presenting information lie. It can mean that they are presenting information in a certain way that suits their agenda favorably.

Different media sources have taken the mandate to advocate for vaccination against the virus amidst the worry and concern. Similarly, there has been a lot of misinformation regarding vaccines, especially on media sources such as social media websites. In this regard, it is alarming how fake news could spread faster in online settings than validated and verified news from credible sources (Hamel et al., 2021). Some groups have chosen to manipulate social media on an industrial scale to misinform the COVID-19 vaccines and affect people's vaccination intention. As a result, people may tend to engage more with articles providing false information. Major political parties and famous media houses are the two groups that affect people's vaccination intention the most on social media. Focused on these two sights, this research will analyze the effects of framing on social media misinformation of COVID-19 vaccines. The project will also integrate various scholarly literature regarding the use of these media sources in spreading information. The analysis of social media misinformation is divided into two sections: the partisanship's remarks on social media and framing of issues, and media reports on social media and framing of news.

2. Literature Review

Public relations can be assessed from various frameworks to influence the public through advocacy and persuasion. Framing is often used as a paradigm to explain communication to general audiences. In this light, people tend to follow cognitive explorations and narrative implications while receiving news and information on social media (Morgan & Shanahan, 2010). Regarding the current COVID-19 vaccines, social media has been impactful in creating

awareness and providing real-time information on the effectiveness and importance of the vaccines. However, the misinformation of the COVID-19 vaccine is quickly spread on social media and affects people's attitudes and behavior. The literature review discusses COVID-19 vaccine misinformation on social media, framing theory, and how it is applied to construct the disinformation on social media.

2.1 Framing Theory

In Public Relations, certain theories are used to explain how messages influence the public (Hallahan, 1999). The framing theory discusses reputation management, public opinion, information, organization, cooperative communication, persuasion, and advocacy. Framing enhances people's view of the world and includes the process of overemphasis, exclusion, and inclusion. Also, it plays an essential role in public relations and reflects judgments created by the framers. According to Hallahan (1999), the seven models of framing involve: framing of risky choices, framing of attributes, framing of actions, framing of situations, framing of responsibilities, framing of News, and framing of issues.

Through framing, the politicians, media houses, popular social media figures can craft a narrative that suits their agenda perfectly (Brennen et al., 2020). Some news sources ignored certain facts or failed to acknowledge others. The role of media in framing a narrative was a point of concern for most of the people who engaged in the medium.

Framing theory entails selecting news, effective advertising, pleasing the audiences, effective relations with the audiences, and staying within society's limits. This helps people understand what is happening, how the content relates to their lives, how the medium might fit into their daily lives, and the differences between various media (McQuail, 1987). In regards to McQuail's theories, it is evident that the framing theory relates to the spread of news and information on the current COVID-19 vaccines.

2.2 COVID-19 Vaccine Misinformation on Social Media

The world continues to face the COVID-19 pandemic. During these times, the information given to the public plays a vital role, for example, in determining the willingness of people to get vaccinated. Bridgman et al. (2020) indicate that coronavirus misperceptions on social media are believed to have an effect on the vaccination intent of COVID-19.

The impact of misinformation on coronavirus vaccination intent in the USA and the United Kingdom was studied by Loomba et al. (2021). According to the researchers, widespread acceptance of the vaccine will be a significant step in the fight against the current pandemic. However, it might be a challenge to achieve high uptake courtesy of online misinformation. A randomized controlled trial was conducted in the USA and the UK to inform effective vaccination campaigns. The objective was to quantify how people's opinions of online misinformation around coronavirus vaccines influence intent to vaccinate to keep oneself and others safe. In the United Kingdom, misinformation induces a decline in the intent of 6.2%, while in the USA, the reduction in intent stood at 6.4%. Another finding was that some

sociodemographic groups would be differentially affected by exposure to misinformation (Loomba et al., 2021). The study showed that misinformation would lower people's intent to be vaccinated.

An investigation was done on the link between people's consumption of media, potential misinformation, and vital behaviors and attitudes, especially during the current covid pandemic. Islam et al. (2020) define the influx of information as an infodemic. This study found that Twitter tends to have comparatively more misinformation being circulated than traditional media. Also, public health guidelines, for example, social distancing, tend to be reinforced by news media. In a nutshell, the research revealed that people's exposure to various social media platforms is closely linked to misperceptions about the pandemic's basic facts. In turn, such misperceptions might result in reduced adherence to proposed social distancing guidelines. In a nutshell, a link is drawn from misinformation going around social media platforms, precisely Twitter, to attitudes and behaviors that potentially increase lethality and affect people's vaccination intentions.

The research was conducted by Basch et al. (2021) about a global pandemic in the time of viral memes. More precisely, the focus of this study was coronavirus vaccine disinformation and misinformation on TikTok. According to the researchers, the vaccine hesitancy being witnessed might be due to disinformation and misinformation regarding coronavirus and vaccination against it. There have been attempts to limit the emergence and impact of false information. Unfortunately, misinformation related to the coronavirus exists online. The goal of this research was, therefore, to analyze the content of coronavirus vaccination on TikTok, which is an emerging and fast-growing social media platform. Overall, the study results showed that anti-vaccination messaging on social media has the potential to undermine any strategies to ensure massive acceptance of the different coronavirus vaccines, especially on young users.

2.3 Framing Theory and COVID-19 Misinformation on Social Media

Studies indicate that information is easily spread through social- medial platforms, especially in engaging ideas about public health as events unfold. People are able to interact with public health specialists from World Health Organization (WHO), Centers for Disease Control and prevention, especially in communicating to the public about the dangers of the pandemic. To understand people's opinion on COVID-19, it is necessary to comprehend how they frame it and their perception. Media personalities use framing to sensitize, hypothesize an issue and lower attention in other cases. Framing is done in a way that people comprehend the pandemic, watch their behaviors and make informed decisions. Research indicates that the Social-media plays a major role in framing public health pandemics. This can be achieved through Hashtags that trend on social media and get most people's attention (Tran et al., 2020). The hashtags on Covid-19 mostly contained the call for Action, shortage, panic, conflicts, solidarity, evidence, facts, etc.

The research by Poirier et al. (2020) shows that several media platforms like Facebook and Twitter played a major role in creating public attention to COVID-19. Data collected from

several online platforms in December 2019 indicates the impact of two COVID-19 waves in Vietnam through media framing theories and issue attention cycle (Poirier et al., 2020). "Issue –Attention Cycle" theory introduced by Downs has five stages where at first the only people interested in a certain issue are the experts, then the issue gets popular due to increased awareness, then chaos as people realize the problems are more than they anticipated, then in the fourth stage the issue has less public attention, and finally issues of public attention experiences a replacement. Research indicates that communication patterns on COVID-19 on social media differed depending on the time, enabling the stakeholders, public health organizations, and government to learn a lot on how to help in case of future pandemics. The act of selecting what to present to the audience is known as framing and enables people to interpret a problem in several ways (Poirier et al., 2020).

Several factors influence vaccination. Message framing has enabled people's behaviors and attitudes towards the vaccine (Borah et al., 2021). With the increased stress on the vaccination studies, the impact of framed messages on the intention for the vaccines, perception, and attitudes have people's choice of vaccines. Gain and loss frames indicate the impact of refusing to partake in activities as gain frames focus on the advantages of participating in suggested health conduct; perceived benefits address the beneficial methods of taking actions that will help prevent disease. Individual Vs. Collective Frames, on the other hand, include influence by cultural perceptions and a combination of individuals who have interacted with a huge population on taking precautions by getting vaccinated.

The above literature review indicates that misinformation in social media can impact the willingness of people to get vaccinated against COVID-19. Although some of the information may be factual, framing it in a certain way or overemphasizing an angle or opinion might lead to misinformation or misleading people. Unless this issue of misinformation is addressed, efforts geared towards fighting the pandemic will bear minimal fruits.

3. Methodology

The Kaiser Family Foundation (KFF) conducted data analysis on media misinformation and summarized eight significant COVID-19 misinformation, which is shown in Figure 1 below. Among them, six statements relate to the COVID-19 vaccine misinformation: the vaccine causes infertility, the government conceals the death caused by the vaccine, the vaccine can cause the infection of COVID-19, the vaccine has chips and the vaccine causes DNA to change (Hamel et al., 2021).

Based on the data sets by KFF, I had a public opinion monitor for over 1000 posts on Twitter and Facebook from September to December. Finally, it is indicated that most users will be influenced by major political parties and famous media houses. The research attributes the main sources of misinformation dissemination in social media to these two aspects and uses different types of frames to analyze them. The analysis of social media information is divided into two sections: the partisanship's remarks on social media and framing of issues, and media reports on social media and framing of news.
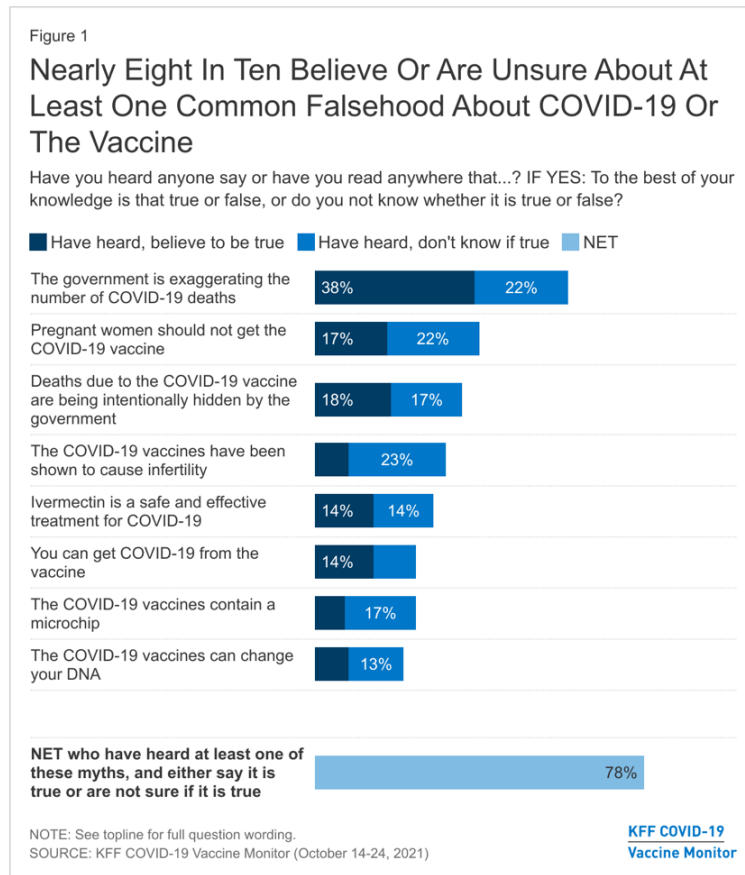
Figure 1. KFF COVID-19 Vaccine Monitor (allows for the sharing)

The methodology is to use continuous posts and data collection to analyze the effects of social media misinformation on the intention of vaccination. The research evaluated the ten most influential social media accounts which have made misinformation remarks on COVID-19 and finally targeted two accounts as a typical case for analysis (Governor Ron DeSantis and Fox News). Then a three-month monitor was implemented on the posts and comments on COVID-19 vaccine misinformation to demonstrate the effects of framing on the vaccination intention. Meanwhile, the research was also integrated with the KFF monitor. The media content was relevant to the target audience considering the current COVID-19 vaccine.

The content was well researched and presented based on accuracy, credibility, and audience appeal in mind. The media content was collected from Google functionality and social media (Facebook and Twitter) to understand the message being sent to the public regarding the vaccines. The selection of related sources was meant to get the different perspectives and influence provided by the media sources concerning the COVID-19 vaccination. Content in the form of text was retrieved from Facebook and Twitter from the various groups and influencers to determine the authenticity and effects on people's vaccination intention.

4. Media Review

4.1 The Partisanship's Remarks on Social Media and Framing of Issues

First, the misinformation on social media may stem from political differences. Some of the contemporary media opinions have become politically charged. Information on social media may align with certain political sides. Different parties use COVID-19 vaccination as a distinction between parties. Followers of different parties also accept and express their convincing views on social media. Therefore, it is possible to understand how media framing might have affected the information disseminated during the vaccine period from a political angle. Framing of issues can be used as the main way to analyze this situation (Hallahan, 1999).

Affected by politics, people in different parties have different judgments on the disinformation of the COVID-19 vaccine. Typically, voters listen to the opinions of partisans and insist on complying. Unvaccinated Americans are three times as likely to be a Republican as a Democrat (Mitchell & Liedke, 2021). After research, it can be found that Republicans are more susceptible to misinformation than Democrats. According to the KFF monitor (2021), 31% of Republicans are not vaccinated, and more than half of Republicans believe in vaccination misinformation; however, 90% of Democrats have completed the vaccination, and only 14% of Democrats believe in false information.

The research monitored the social media accounts of key personnel from different political parties and selected the most typical person: Florida Governor Ron DeSantis, to analyze his social media posts and public opinion orientation. As a Republican, Ron DeSantis has always insisted on opposing compulsory vaccination on social media, claiming it is a free choice. However, some of his remarks and actions were misleading and mobilized more people skeptical of vaccines.
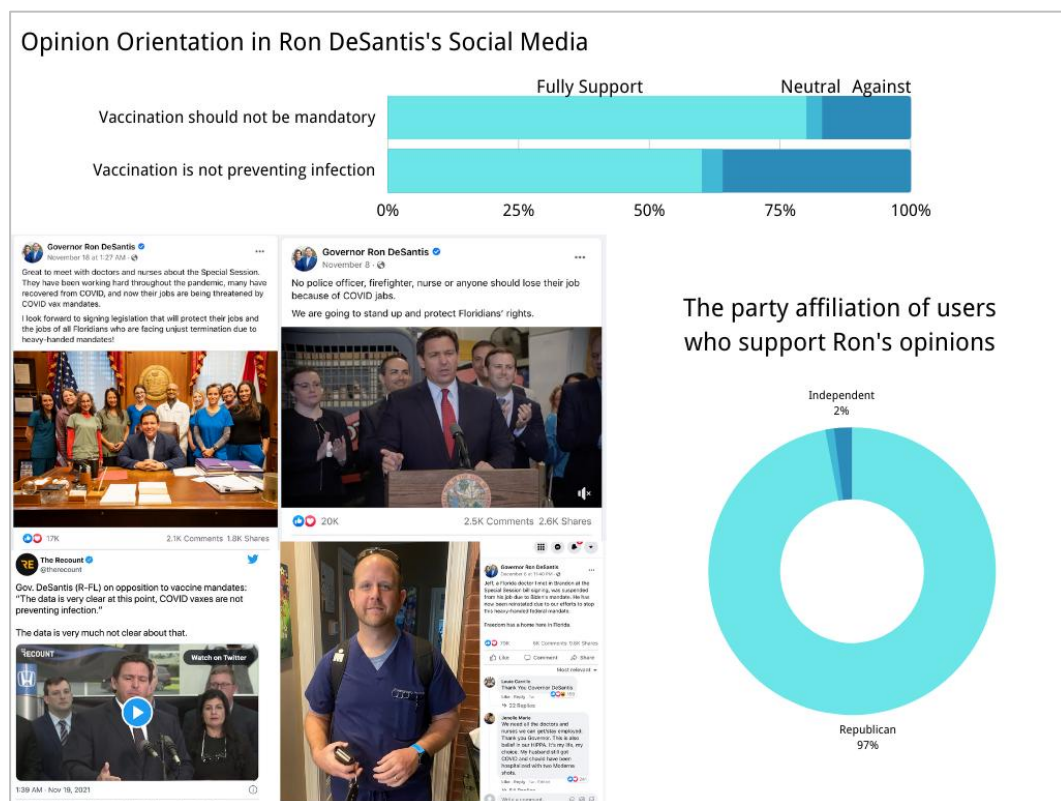

Figure 2. Ron DeSantis Social Media Monitor

Regarding the social media posts published by Ron DeSantis since September, I monitored ten related content and counted the opinion orientations of comments and reposts (see Figure 2). Governor DeSantis has repeatedly stated some misinformation, such as the COVID-19 vaccine cannot effectively prevent infection. In Ron DeSantis's posts, the results showed that 80% of people supported his statement that vaccines should not be compulsory, and more than 60% supported his opinion that vaccines would not prevent infection. Second, 97% of the supporters belonged to Republicans among the ten posts. Combining the data from the KFF monitor (2021), more than 80% of Republicans believe that the government has exaggerated the number of deaths from COVID-19, which is an action that the government force people to get vaccinated. Affected by Ron DeSantis' remarks, his supporters would choose to believe in misinformation and are skeptical of vaccines, thereby affecting their willingness to vaccinate.

In this regard, framing of issues can be used as a tool to check and analyze the problem. Republicans and Democrats use the COVID-19 vaccine to form opposing ideological factions. Issue advocates like Ron DeSantis use agenda building to manipulate and promote their statements, and appeal to the public on social media for support to achieve necessary political goals (Hallahan, 1999). They use the negative framing of the COVID-19 vaccine to prompt the public to focus on the misinformation of the vaccine and conceptualize it, thereby affecting the public's judgment on vaccine information.

4.2 Media Reports on Social Media and Framing of News

It is clear that when it comes to issuing definitions different media houses choose different styles to influence their audience 's behavior (Hallahan, 1999). Some media houses such as Fox News and One America News spread false information about the COVID-19 vaccine. They started the "anti-COVAX" movement where the audience affiliated with the newsroom started going against any health guidelines that WHO issued. Some other media houses, such as CNN, took the positive side to educate the public on the importance of face masks and social distancing.

After the three-month monitor, more than 40% of people believe Fox News reports on COVID-19 vaccine misinformation. Fox News kept posting misinformation about vaccines on social media and always received tens of thousands of likes and reposts. As early as June, Fox News announced that "over thousands of people who were fully vaccinated have tested positive for COVID-19" and issued negative news about Johnson & Johnson's vaccine in July (in figure 3). These persistent negative news conveyed to the public the ideology that vaccination cannot prevent infection in the form of framing, thereby affecting the public's perceptions.
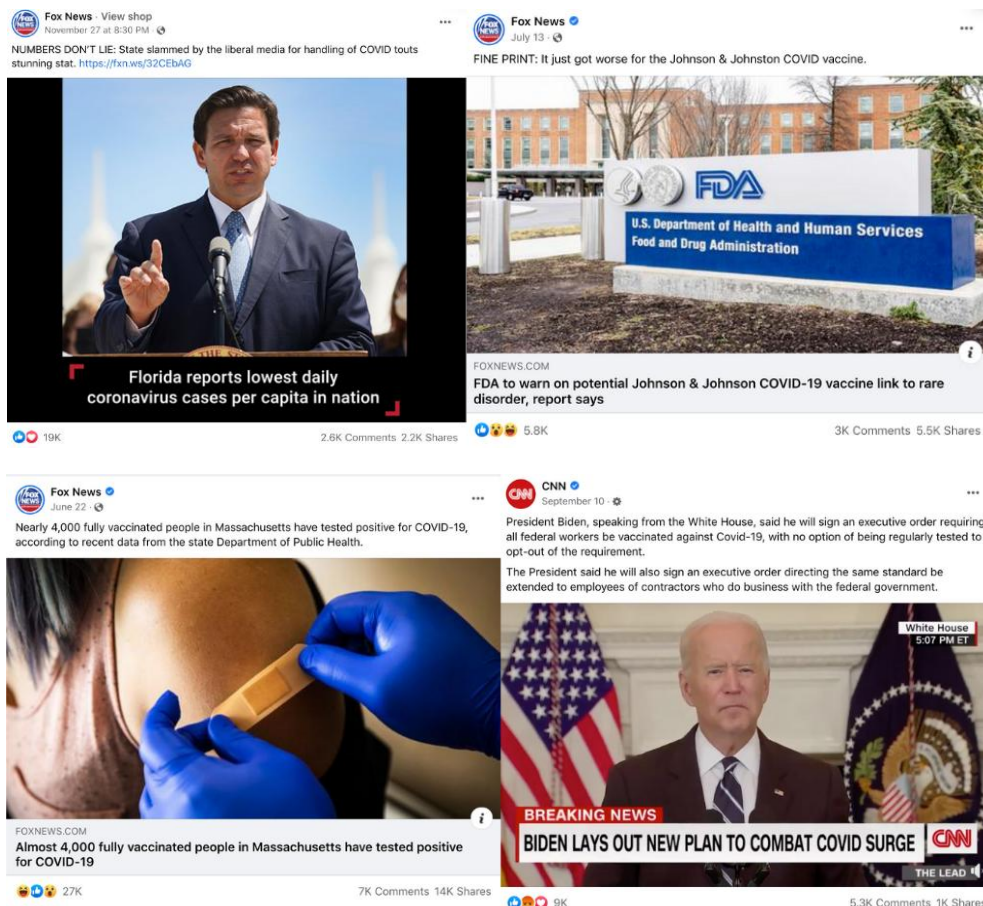
Figure 3. Examples of Fox News and CNN Social Media Posts

On the basis of framing of news, media houses realized that people thrive with misinformation and people's attitude and behaviors are likely to be swayed through constant persuasion (Hallahan, 1999). These media like FOX News started framing the news with audience attributes such as COVID-19 vaccine is useless to deal with the pandemic. People thus had choices and aligned with what was working for them, which was the total disregard for any set guidelines. When examining the actions, they were two sides to the issue (Hallahan, 1999). Media workers use frames to construct the text content of news, and use frame devices to spread the main ideas. The controversy about COVID-19 vaccination is the core of the report. Vaccine-related news is given an ideological frame, and media workers use social media to generate strong responses. Media houses are framing the news in such a way that they will alter the audience's thinking.

Conclusion

The evidence from the selected media samples showed the framing of social media misinformation. The framing theory can explain the dissemination of misinformation by main groups in the COVID-19 vaccine context. In regard to the case study, the spread of misinformation on COVID-19 vaccines. People obtain information on social media to understand the effects of the current COVID-19 vaccines. The urge behind getting this information is for them to make the key decision on whether to get vaccinated or not. However,

some groups have propagated falsified information on social media about the dangers of the COVID-19 vaccine. As the two prominent issue advocates analyzed in this article, the partisanship and media houses use different types of frames to construct effective information in social media, allowing the public to gradually form ideologies and influence subsequent judgments of information (Hallahan, 1999). Indeed, social media platforms have introduced various policies to prevent users from obtaining erroneous information about the COVID-19 vaccine. For example, Facebook freezes the main users who post misinformation, and users cannot directly search for "anti-vaccine" on Twitter. However, there are still a large number of users who are affected by the opinions of their following accounts on social media. In the three months following on Fox News, I have been able to obtain misinformation, such as vaccines that do not prevent infection and can still be affected by the comments of advocates who refuse vaccination in the posts. As of today, more than 70% of users are still affected by vaccine misinformation (Hamel et al., 2021). Based on the framing theory on the analysis of social media misinformation, the media practitioner should follow the latest COVID-19 vaccine requirements and continually prevent the further spread of disinformation.

Conflict of Interest

The authors have no conflicts of interest to declare.

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