

## **MEDIA FRAMING ON COVID-19 BOOSTER SHOTS NEWS REPORTING IN MALAYSIA: A CONTENT ANALYSIS OF *THE STAR ONLINE***

Lim Lai Hoon

### **ABSTRACT**

As of May 2022, the death toll of the Covid-19 pandemic in Malaysia reached more than 35,000. To battle the pandemic, since February 2021, Malaysia accelerated its vaccination program nationwide and has become one of the countries with the highest vaccination rate. However, the new Omicron variant set the alarm to the country again for a new wave is approaching. People in the country who have completed two doses of the Covid-19 vaccine were urged for the booster shot. As most people get to know public health and policy information from mediated sources, news media play a crucial role in communicating the importance and the urgency of booster shots. This study examined the salient news themes and the media framing on booster shot news reporting in the highest circulated newspaper in Malaysia, *The Star Online*. The news about booster shots were content analysed from 1 August to 31 December 2021 where the extensive stories were covered within these 5 months. This study aimed to advance knowledge on Covid-19 booster shot news coverage from a framing perspective. Based on the principle that media have a momentous effect, frames enable audiences to discover a particular point of view in a given situation that was set more noticeably. It takes an inductive approach to the analysis. The findings revealed vaccine information is the dominant news theme where the framing generally carried an urging tone. It concluded media framing of the Covid-19 booster shot transformed the infodemic into informing, assuring, and urging modes in confronting the new wave of a health crisis.

**Keywords:** Media framing, Covid-19 booster shots, news reporting, content analysis, online news

### **INTRODUCTION**

Coronavirus disease 2019 (COVID-19), which took the world by surprise, has killed more than 6.24 million people worldwide since it was first identified in Wuhan, China in December 2019 (World Health Organisation, 2022). It emerged as one of the utmost community health threats in human history which has proven that the global health system is still vulnerable (Gever & Ezeah, 2020). Unlike other pandemics such as Ebola and H1N1, the media has largely highlighted Covid-19 as an exceptional menace that amplifies momentous concern for global public health hazards (Zhou, et al, 2020; Apuke & Bahiyah, 2020). Malaysia, just like many other countries around the globe, is not spared from the scourge of the pandemic. As of May 2022, the death toll of the Covid-19 pandemic in Malaysia exceeded 35,000. At its peak, the pandemic cases in the country surpassed 32,000 dailies. In the effort to curb the spread of the pandemic, the Malaysian government accelerated its vaccination programme nationwide and has become one of the countries with the highest vaccination rate (Malaysia Ministry of Health, 2022). Malaysia was

relieved observing the gradually-dropped cases and the death toll from October 2021 onwards when the vaccination rate reached 90 percent of its adult population.

However, with the emergence of the new Omicron variant, the country faced a new wave of threats. The Malaysian government strongly encouraged people in the country who have completed two doses of the Covid-19 vaccine for the booster shot uptake. Many were in doubt about the necessity of the booster shot, especially within such a short period. As most people get to know public health and policy information from mediated sources, news media become one of the most veritable channels of information on the Covid-19 pandemic, as well as the 'window' in communicating the urgency and importance of booster shots to the audiences (Nulman, 2022; Kiptinness & Okoye, 2021; Aderogba, 2021).

The audience's reaction and behaviour is usually a reflection of the media representation of the event. News media coverage of booster shots sets the agenda of public debate and determines the reaction of the public. It impacts how the people comprehend and possibly respond to the mediated messages, eventually affecting the booster shot vaccination rate in the country (Kim & Noriega, 2020; Andre et al, 2008; Meijer & Kormelink, 2021, Palm, Bolsen & Kingsland, 2021; Gever & Ezeah, 2020). As this outbreak is unique with a sense of urgency, good delivery of messages by the media is pertinent (Nwakpu et al, 2022). Sudharsanan, et al (2021) indicated how medical risks are framed in news media gives an impact on people's perception and behaviour. Negative beliefs about vaccination, including booster shots, are linked with inadequate knowledge of the associated risks. Studies showed that the amount of media coverage goes in line with the public's level of vaccine knowledge and thus in the changes of vaccination behaviour (Ma et al, 2006; Kelly, et al, 2009; Lazic & Zezelj, 2021).

Wan Norshira (2020) asserted it is very important for the news media to emphasise the urgency and importance of vaccination against Covid-19. Positive coverage of the urgency of vaccination can create public awareness and thus promote vaccination compliance. As compared to other contagious diseases, Covid-19 vaccination, including the booster shots faced substantial barriers in public acceptance, especially in the aspect of safety and efficacy (Hornsey et al., 2018). Thus, news coverage plays a central role during health emergencies as it frames risks to readers, as well as ties health professionals, policymakers, and the populace in critical ways during the time of uncertainty (Mach et al, 2021; Laing, 2011; Hoffman & Justicz, 2016). News media coverage can educate the public on the risk of this pandemic and the importance of booster shots through frequent reporting, recommendations on appropriate health behaviour, and suggestion for policy (Gever & Ezeah, 2020).

It is crucial to know how information the Malaysian public receives about booster shots ultimately shape their decisions on whether to get the extra dose or not, especially when people were still wondering if there are any long-term side- or hidden-effect of the first two doses they have taken. Therefore, messages that revealed all the relevant information about extra doses against Covid-19 and its success in curbing the spread of the virus may increase the willingness to take the booster. News media, through the content, the frequency of news reporting, and the tone in writing, play a vital role in communicating public health and societal risks of a pandemic. It shaped public opinion and established accountability for influencing people's booster shot vaccination attitude, intention and even for making an informed decision for the uptakes, for the many years to come (Reintjes et al, 2016; Klemm et al, 2016;). This study is important to pave the

way for a better understanding of how the policymaker could craft effective interventions on media that promote booster uptake.

There were numerous studies on the media reportage on the Covid-19 pandemic since its outbreak, however, as the new variants emerged and the vaccination program is ongoing, it has been insufficient scholarly attention on the media framing of booster shots in the context of realistic news setting. Therefore, additional work is needed to fill this lacuna in the existing literature on media framing of the necessitated booster shots, especially when the Covid-19 outbreak is on the rise due to the novel variants. A better understanding of the news frames in this context, would lead to a better adjustment to the public sentiment and increase the public health authority's capability in adapting the suitable communication strategies in curbing the future pandemic, not limited to Covid-19.

In this study, the broad objectives were to determine how the media in Malaysia framed Covid-19 booster shots in news reporting. The specific objectives were to ascertain the media coverage of the themes and the key spokesperson in the sampled newspapers. Guided by these objectives, this study examined the salient news themes and the media framing on booster shot news reporting in the highest circulated newspaper in Malaysia, *The Star Online*. When it comes to public health that involves life and death, it is also crucial to determine who to trust and distrust. Therefore, dominant news sources were also investigated in this study. This study aimed to advance knowledge on Covid-19 booster shot news coverage from a framing perspective. Based on the principle that media have a momentous effect, frames enable audiences to discover or recognise a particular point of view in a given situation that was set more noticeably. The following research questions guided this study:

RQ1: What are the salient news themes in Covid-19 booster shot stories in *The Star Online*?

RQ2: What are the dominant news sources of Covid-19 booster shot stories in *The Star Online*?

RQ3: How did *The Star Online* frame the Covid-19 booster shot stories?

## **REVIEW OF LITERATURE**

While the world unexpectedly found itself amid of COVID-19 pandemic that it did not prepare for, the haste of vaccine progress, manufacture, and mass rollout has been accelerated, leading to the concerns if this is going to be an ongoing program for the years to come. As the transmission of new variants continues around the world, the critical need for booster shots increased concerns about their necessity, safety, and efficacy (Dubé & MacDonald, 2020; Lurie, Saville, Hatchett, Halton, 2020). News media become a sensible and credible source for vaccination. News media communicate health-related information, such as booster shots vaccination, more effective and faster in reaching the public as compared to physical meetings with the health practitioners (Wan Norshira, et al, 2020). Scholars argued that, to a large extent, the mass media are likely to influence health-related attitudes and perceptions on vaccination. Positive coverage of the importance and urgency of vaccination could help in creating awareness of the pandemic risk, as well as to promote vaccination compliance (DeVreese, 2005; Yanovitzky, 2002; Chong & Druckman, 2007; Wan Norshira, et al, 2020). Vaccination behaviour changes accorded with the amount of media coverage and the public's general knowledge of the vaccine (Ma et al, 2006; Kelly et al. 2009;

Lazić, A., & Zezelj, 2021).

McQuail (2010) emphasized how content is presented implies that the media engages in framing practices. Framing effects are significant in the aspect of information processing. Perceptions about vaccines were dominantly dependent on the ways media relay the information to the audiences (Nan et al, 2018). When framing is involved, media introduces value judgment and bias. Through framing, the media could affect how the general public and policymakers think about an event, including health and vaccine-related information, and thus trigger behaviour change (Dannetun et al., 2005; Evans et al., 2001; Guillaume & Bath, 2004; Chong & Druckman, 2007; Yanovitzky, 2002). The media angles of presentation induce an attitudinal response and lead to behavioural changes. Insufficient knowledge on associated risks of vaccination, negative beliefs, and miscommunication may prevent the execution of pro-booster shots vaccination policies.

In a recent experiment conducted on framing effects of vaccine hesitancy among Saudi women, it found that the media use of language has a significant impact on people's reactions and may increase the public's hesitance to get the vaccine (Ahmed & Reem, 2021). It hypothesized that the willingness of the general public in getting Covid-19 vaccination depends on how the framing is presented in mass media. Boucher et al (2021) found attitudes toward vaccines are significantly determined by the information obtained from social media with specific themes on safety, efficacy, freedom, and trust in the institution. This went in line with another study that evaluated vaccine hesitancy through content analysis of tweets in Canada. The study identified major themes in tweets including safety, knowledge deficit, suspicion of economic or political motivation, lack of liability from pharmaceutical companies, and opinions of authority figures (Griffith, Marani & Monkman, 2021; Boucher, et al, 2021). A Malaysian study that examined the coverage of Covid-19 vaccination in the Malay newspapers revealed that vaccination is typically seen as reported news rather than an issue to be emphasized and highlighted. Therefore, more media coverage is crucial to increase awareness of the effect of vaccination on public health. (Wan Norshira, Shafizan, Nkira & Mohd Helmi, 2020). Mass media played a crucial role in enlightening the populace. Chaiuk & Dunaievska (2020) revealed that fear emanated from the British press did help in communicating the risk of the pandemic at curbing the spread of the disease.

In a study that investigated the negativity in online news coverage of vaccination rates in Serbia, Lazić, A., & Zezelj (2021) pointed framing vaccination rates negatively, through simple attribute frames and imprecise descriptions, could discourage vaccination among the public. If vaccination is encouraged, the news stories should be framed positively or not to frame them at all. In a study of Nigeria's media framing of coronavirus pandemic and audience response, Nwakpu, Ezema & Ogbodo (2020) found continuous reportage of Covid-19 and frequent embracing of fatality frame in the reports were effective in creating awareness about preventive and safety measures as public fear was accentuated. In the study of news media coverage of Covid-19 public health and policy information, Mach et al. (2021) found disease risks or the efficacy of protective measures would not be successfully communicated if the pandemic-related coverage was of low scientific quality, thus constraining the feasibility of directing government action among policymakers, as well as to inform individuals making a health decision. It concluded that media representations of complex epidemiological science influence public perceptions of health emergencies and associated policy discourse.

In the context of the Covid-19 pandemic, Hamleers (2021) confirmed the effect of positive and negative frames on promoted support for risk-aversion interventions or risk aversive alternatives. However, Sanders et al. (2021) revealed opposite findings in the study where there was no significant difference in people's reasoning for complying with public health guidelines upon exposure to 'loss' and 'gain' frames in the media reporting. Studies found that vaccine hesitancy in Africa can be critically linked to the media's influence on potential side effects. It indicated that media is influential in public understanding of public health risks and emergencies during the pandemic outbreak, impact, transmission, and remedies. Trust increased when the media clearly explained the benefits and potential side effects of vaccination (Hou, et al, 2021; Mtewa, et al, 2021; Sheku, et al, 2021). Abhyankar et al. (2008) indicated that gain-loss frames are consequential to persuasion. It looked at the relative persuasiveness of frames that examined the 'gains' of compliance as opposed to 'loss' for not taking any action and non-compliance. A loss-framed message increased intention for vaccination, as well as the belief about vaccine efficacy. Optimists are more receptive to 'loss' frames when they experience a high level of uncertainty whereas gain frames are more appealing under the condition of low uncertainty.

Masele (2021) in Ethiopia found there is a high correlation between media exposure and vaccination rate where people who accessed mainstream conventional media as the main sources of information for the Coronavirus disease are more receptive to vaccination. How medical risks are framed and presented can influence the perception and behaviour of the populace, and thus will impact the public's willingness to be vaccinated. The future effort to increase the vaccination rate is also closely linked with people's media exposure to Covid-19 information (Sudharsanan, et al, 2021). Scientific misinformation on media seems to be a challenge to vaccine uptake in combatting the pandemic (Rutjens et al, 2021).

This is very different from the newspaper report on the Covid-19 pandemic in the early stage before the advent of an effective vaccine. Apuke and Omar (2020) found in their study that the most common topics covered in Nigeria's newspapers were the number of cases, death rates, and Nigeria's preparedness. Sparingly, public sensitisation and education were covered. However, the coverage was mostly straight news reporting and was not in-depth. In conveying importance to certain aspects of an event, news source plays a crucial role. When content analysed newspapers and television on the disease issues in America from March to May 2020, Hart et al (2020) showed politicians were featured more often than the scientist. At times politics may affect the truthfulness in the reporting since many of the stories are quoted from government officials, such as the house of representatives' members, ministers, senators, and political spokespeople (Gever, 2019; Apuke & Omar, 2020). Palm et al (2021) and Mheidley & Fares (2020) demonstrated that media reporting on the safety and efficacy of an approved vaccine increases the willingness of vaccine uptake among individuals, and even shapes their decisions on taking or not to take a vaccine. Frequent reporting of other Americans who take the vaccine is also an effective way to promote vaccine attitude and uptakes

Another study on enumerating online news media coverage of the Covid-19 pandemic at the early stage by using text mining suggested that the coverage was largely heterogeneous, with numerous themes contributing to the totality of messaging. The three most negative themes highlighted in the Covid-19 pandemic reporting included fear, crisis, and death. The latter was mentioned with high frequency. It was concluded that there was a substantial quantity of negative

news that contributed to overall reporting negativity in the early stage of pandemic reporting (Krawczyk, et. al., 2021).

On the other hand, Aderogba (2021) found the salient themes of Covid-19 media coverage while it emerged as the ravaging pandemic that shaking the world was more focused on the effect on the economy. The media reporting was less concerned about the vaccine development, testing, isolation, treatment, and the state of the health facility. Qian Liu et al (2020) in examining health communication through news media during the early stage of the Covid-19 outbreak in China pointed out that the key themes of the content are mainly emphasise on the greater society than the individuals. Media reporting on clinic and medicine choices and detection, and instructions on personal prevention and are lag behind. It mainly focused on the themes such as medical treatment, control procedures, and research. Kiptinness & Okoye (2021) found newspapers in Kenya employed a variety of frames, predominantly basic and social frames where Coronavirus is either depicted as a national crisis or a global threat. The reporting triggered different response strategies taken by the government – sensitising the public about the virus or treating the information with levity.

Caron (2021, p.2) argued that how government engages the populace about the pandemic and how people responded to the communicated messages are closely “related to political authority and community spirit”. In other words, government serves as an authoritative and dominant voices for assurance and direction during the outbreak. While panic tends to be the default response, Southwell et al (2020) reminded us that effective communication is crucial for people’s better understanding in curbing the spread. Infodemic, during this critical pandemic time, could also confuse and harm people who encounter it if the media carry an overabundance of misleading information. It undermined the public’s ability in making informed health risk decisions (Levy et al, 2021; Wright, 2020; Kiptinness & Okoye, 2021; Culloty & Suiter, 2021). Media play a central role in delivering timely information to the public in which the information could be relied on for action. Media also serves as a credible public sphere to engage citizens on how to defeat the virus during the pandemic (Hart et al, 2020; Manganello et al, 2020).

Media framing patterns in media reporting did leave an impact on the audience’s mental well beings (Zheng et al, 2020). Dong and Zheng (2020) concluded that the sensationalised reporting on Covid-19 triggered fear and panic among audiences. This was consistent with Hart et al (2020) study where the media reporting led to the polarised attitudes about this disease among US citizens. Frame definers influence how the audience perceived and responded to mediated messages where political institutions, elites, and actors played the roles as dominant news frames definers (Okoye, 2020; Kiptinness, Okoye, 2021; Gabore, 2020). While scholars (Berry et al., 2007; Washer, 2004; Chiang & Duann, 2007; Larson et al., 2005; Camus, 2009) claimed that covering the virus could have full of emotional language and military metaphors, Morissan, et al. (2020) found the militaristic language was largely absent in Malaysian and Indonesian newspapers. Sparingly, the metaphor appeared to describe the Covid-19 pandemic as a “dangerous disease”.

## **THEORETICAL FRAMEWORK**

This study drew upon framing as the theoretical framework by focusing on the media frame - the process of presenting a news story. Baran and Davis (2009) indicated there is a significant

relationship between media reporting and public opinion on the ranking of the issues. The framing was initially developed by cognitive psychology researchers in the 1970s and then was adopted by Sociologist Erving Goffman in communication studies (Aderogba, 2021; Ardèvol-Abreu, 2015). Framing refers to the words, images, phrases, and presentation styles used in conveying messages to the audiences employed for representing stereotyped events and situations (Lazić & Zezelj, 2021; Chong & Druckman, 2007; Goffman, 1974; Minsky, 1975). Entman (1993, p.52) referred framing as “to select some aspects of perceived reality and make them more salient in a communication text, in such a way as to promote a particular problem definition, causal interpretation, and moral evaluation, and/or treatment recommendation for the item described”. Fillmore (1982, p.119) emphasised that a frame is a system of categories structured following some contexts’ where choices in the text may impact perception. In media perspectives, framing is a process of calling attention to a selected number of thematically related attributes that might trigger various public reactions (Matthes, 2009; Scheufele and Tewksbury, 2007).

In covering news, journalists inevitably adapt and develop frames to construct the news story in terms of causes, predictions, solutions, and responsibilities. The frames carry a tone in voice, e.g. assuring or emotionally charged words (Scheufele, 1999; Lakoff, 2004). Based on the assumption that people solicit opinion based on the information stored in their memory, the presentation of an issue guide preference and public opinion. The framing theory predicts that the presentation of an event will exert a preference when the audience believes that the context is relevant and applicable (Chong & Druckman, 2007; Druckman, 2004). The presentation guides public opinion (Druckman, 2001; Lazić & Zezelj, 2021). It is a standard part of the communication process where communicators act to construct a specific perspective that allows individuals to discover, recognise information (Kiptinness & Okoye, 2021; Kuypers, 2010; Kiptinness & Kiwanuka-Tondo, 2019; Goffman, 1974).

Druckman (2007, p.105) argued that “a frame is effective—that is, it influences individuals’ opinions—if it stimulates a significantly different distribution of opinions than an alternative frame when individuals are exposed to them separately in one-sided conditions”. Persuasion scholars (Nan et al, 2018; Huang & Liu, 2022) suggested that contingency of framing affects information processing. The effects of framing, positive or negative, hold for both informed and uninformed, especially on people’s capability in reasoning (Sniderman & Theriault, 2004). From a communication perspective, how a message is presented not only influences the public’s opinion but also alters preferences. In other words, frames are not only playing a crucial role in information processing but also serve as a vehicle for persuasion (Zaller & Feldman, 1992; Druckman, 2007; Shulman & Sweitzer, 2018).

Conventionally there are two types of frames, namely emphasis frames and equivalency frames. Emphasis frames provide “an interpretation of an issue or policy by emphasizing which aspect of the issue is relevant for evaluating it, without.... providing any substantive information about the issue (Leeper & Slothuus, 2020, p.154). Gamson & Modigliani (1987, p.143) defined emphasis frames as “a central organising idea ... that provides meaning to an unfolding strip of events”. It is widely used in a political context where it is used in examining how an issue is communicated and portrayed in themes (Scheufele & Iyengar, 2014). Emphasis frames look at the relative persuasiveness that underlines compliance with a particular behaviour. Equivalency frames imply that the same piece of the message could be communicated using a different

description which is logically equivalent (Tversky & Kahneman, 1987). It “presents different, but logically equivalent words or phrases” (Druckman, 2004, p. 671). For example, the efficacy of a vaccine could be framed as either 60% effective or 40% ineffective. Instead of the equivalency frames, this study examined emphasis frames to look at the relative persuasiveness that underlines compliance with a particular behaviour where diverse aspects of an issue may be chosen to build a significant context and the framed information unconsciously influences preferences (Sniderman & Theriault, 2004).

## **RESEARCH METHODOLOGY**

Content analysis is a research method that prudently, and systematically examines all the data manifest in the recorded information (Wimmer & Dominick, 2014). It is a technique for making inferences by empirically and analytically identifying itemised characteristics of messages (Holsti, 1969; Nwakpu, Ezema & Ogbodo, 2020). This study used quantitative and qualitative content analysis to investigate the salient news themes, the dominant news sources and the media frames in Covid-19 booster shots reporting. *The Star Online* was selected because of its national reach and readership. The news about booster shots was content analysed from 1 August 2021 to 31 December 2021 where extensive stories were covered within these 5 months. This time frame is selected to encompass a period from the first news story which discussed the possibility of having booster shots in Malaysia until the country officially ran the booster vaccination programme.

This study employed a motif sampling approach where an online search on newspapers archive that had keywords among others, but not limited to “booster shot”, “3<sup>rd</sup> vaccine”, “booster vaccine” in its headline and news content selected. For inclusion, Covid-19 booster shots must be the emphasis of the story and the article must publish in the regular news columns where letters, commentaries, and editorials are not included. The news story needs to report the booster shot in Malaysia. Stories on the booster shots that happened in other countries were excluded. By using these criteria, the search retrieved a total of 128 news articles under examination. The unit of analysis was the news stories on Covid-19 booster shots found in the sampled newspaper news column.

According to Matthes (2009) and Semetko & Valkenburg (2000), normally there are two approaches to analysing news frames, namely inductive and deductive. The inductive approach starts with loosely defined pre-suppositions of frames to unravel all possible frames. The deductive approach predefines and has tougher pre-suppositions of frames which enable the researcher to verify the rate of these frames in the news. This study takes an inductive approach in the analysis where the news was analysed with an open mind to detect the possible ways an issue could be framed. As for the coding category, this study employed an emergent coding method where all the categories will only be established after the researcher carefully examined the data collected (Wimmer & Dominic, 2014; Wan Norshira, et al, 2020; Kiptinness & Okoye, 2021).

To achieve the research objectives, this study used descriptive statistics involving the frequency and percentage of stories covered on COVID-19 booster shots that appeared within the stipulated time examined. Besides, the researcher also looked into the news themes and the key spokesperson covered in the sampled media. The data were analysed by employing both quantitative and qualitative approaches where the frequency and percentage were taken in for the



calculation. From the news themes, this study would be able to scrutinise the tone and the style media frames the stories which eventually affect public opinion about the necessity and the safety of having booster shots. On the other hand, in the context of public health communication, especially in the roll-out of the 3<sup>rd</sup> dose, identifying the key spokesperson is essential because news sources play a vital role in shaping public perceptions and determining the receptive to the message.

## **RESEARCH FINDINGS**

A total of 128 news contents and headlines were analysed. *Table 1* was used to determine the news themes found in the sampled newspaper that reported the booster shots in Malaysia. Results from this table revealed 22 themes in the coverage of booster shots stories. The most dominant theme adopted by the sampled newspaper was the vaccine information which carried 19.53% (N=25). The information consists of the booster shot plan, the roll-out of the programme, and the prioritised recipients for the booster shots in the country which are generally framed in a neutral tone. The second dominant theme was the urge for the vaccination (15.63%, N=20) where people are asked to book an appointment for booster shots the soonest. It also includes the necessity for booster shot; booster for Sinovac vaccine recipients first as efficacy wanes soonest; Omicron probably more transmissible than Delta, so take boosters, the government urged the private health provider to take part in the programme; frontliners and elderly are urged to take boosters the soonest; people were asked to continue to wear face masks and avoid crowded areas as infectivity rate rise; no benefits without booster; and assemblymen to get the booster.

The third dominant theme covered the stories of booster shot progress or success story which carried 7.81% (N=10) of the total samples. The themes covered the stories that described how the cases could be decreased by having more people take up the booster. It also covered how the programme has been going smoothly as more people are taking up in the programmes, such as firefighters, policemen; percentage of Malaysian adults who have got their booster jobs; hospital admissions and ICU cases fall in some states as vaccinations rise; over 300,000 individuals to get the third dose of Covid-19 vaccine in Terengganu. The fourth and the fifth news theme are the vaccine brands (6.25%, N=8) and the debate on the booster shots necessity (5.47%, N=7) where the reporting covered if booster shots are necessary and the various brand's availability. The reporting also covered the recipients' preferred brand of booster vaccines. The theme of the assurance given on the booster shots' efficacy and safety was also adopted (4.69%, N=6).

The rest of the themes covered included updates on booster shots uptake (3.91%, N=5), assurance on the mix-and-match efficacy/safety (3.91%, N=5), clarification on the doubt against booster shots (3.91%, N=5), public's response to the booster shots ((3.91%, N=5), jab gap (3.13%, N=4), urgency of getting the booster shots (3.13%, N=4), booster shots for teens/children (3.13%, N=4), hesitance on getting booster shots (2.34%, N=3), warning to anti-vaxxers (2.34%, N=3), authority's advice for getting booster shots (2.34%, N=3), public figure's booster shot uptake (2.34%, N=3), side effect/death after taking booster shots(1.56%, N=2), Covid-19 variants (1.56%, N=2), compliment to health ministry (1.56%, N=2), deregulation after booster shots (0.78%, N=1) and budget for booster shots (0.78%, N=1).

The dominant themes adopted in the headlines are consistent with the central themes of the news content, namely booster information (20.31%, N=26), urging for booster / stricter SOP

compliance (17.19%, N=22), booster shot progress/success (7.81%, N=10), booster brands (5.47%, N=7) and debate on the booster shots necessity (5.47%, N=7). These are followed by the coverage on assurance of the booster shot's efficacy and the public's response to booster shots (4.69%, N=6), as well as the updates for booster shots uptake (3.91%, N=5). The themes that were covered at 3.13% (N=3) included the stories on the assurance of the mix-and-match efficacy/safety, clarification on the doubt against booster shots, jab gap, the urgency of getting booster shots, booster shots for teens/children, hesitance on getting booster shots, warning to anti-vaxxers and authorities' advises in getting booster shot, as well as death/side effect. Small numbers of stories, 1.56% (N=2) and 0.78% (N=1) respectively, were covered on Covid-19 variants, compliment to the health ministry, deregulation after booster shots, public figure's booster shot uptake, and budget for the booster shots

Table 1: News Themes in *The Star Online* for the coverage of Covid-19 booster shots

News Theme	<i>The Star Online</i>			
	Headline		News Content	
	N	%	N	%
Booster information / plan / program	26	20.31	25	19.53
Urging for booster shot / stricter SOP compliance	22	17.19	20	15.63
Booster shot progress / success	10	7.81	10	7.81
Booster brands	7	5.47	8	6.25
Debate on the booster shots' necessity	7	5.47	7	5.47
Assurance of the booster shots efficacy	6	4.69	6	4.69
Assurance of the mix-and-match efficacy / safety	4	3.13	5	3.91
Clarification on the doubt against booster shots	4	3.13	5	3.91
Updates for booster shots uptake	5	3.91	5	3.91
Public's response to booster shots	6	4.69	5	3.91
Jab gap	4	3.13	4	3.13
Urgency of getting booster shots	4	3.13	4	3.13
Booster shots for teens / children	3	2.34	4	3.13
Hesitance on getting booster shots	3	2.34	3	2.34
Warning to anti-vaxxers	3	2.34	3	2.34
Authorities advise getting booster shots	3	2.34	3	2.34
Public figure's booster shot uptake	1	0.78	3	2.34
Covid-19 variants	2	1.56	2	1.56
Death / Side effect	3	2.34	2	1.56
Compliment to health ministry	2	1.56	2	1.56
Budget for booster shots	1	0.78	1	0.78
Deregulation after booster shots	2	1.56	1	0.78
<b>TOTAL</b>	<b>128</b>	<b>100</b>	<b>128</b>	<b>100</b>

*Table 2* showed the key spokesperson in *The Star Online* for the coverage of Covid-19 booster shots. The results from the table indicated that there were 16 news sources identified in this study. The Health Minister of Malaysia was portrayed as the significant news source (27.34%, N=35), followed by public health experts (14.06%, N=18), local government (10.16%, N=13), medical institutions (8.59%, N=11), health authority (8.59%, N=11) and Director General of Health of Malaysia (7.81%, N=10). Other spokespersons included journalists (5.47%, N=7), public (4.67%,

N=6), political figure (2.34%, N=3), Prime Minister of Malaysia (1.56%, N=2), police (0.78%, N=1), non-governmental organisations (NGOs) (2.34%, N=3), Speaker of the House of representatives (1.56%, N=2), health advisor (0.78%, N=1) and other authorities (3.91%, N=5). Generally, the top six news sources are medical-related figures as well as the local authorities who are in power to implement the health policies and communicate the information on public health risks and crisis. A handful of straight reporting were found with public opinion widely cited. In the context of Covid-19 pandemic coverage where health is the dominant issue, the Prime Minister of the country was only quoted in a small percentage, just as other authorities, such as policemen/enforcers, political figures, Speakers of House Representatives, NGOs, and health advisors. Prime Minister did not seem to carry significant weight in this pandemic reporting as compared to other non-health-related topics.

Table 2: Key Spokesperson in *The Star Online* for the coverage of Covid-19 booster shots

Key spokesperson	<i>The Star Online</i>	
	N	%
Health minister	35	27.34
Public health expert	18	14.06
Local government	13	10.16
Medical institution	11	8.59
Health authority	11	8.59
Director-General of Health	10	7.81
Journalist	7	5.47
General public	6	4.69
Political figure	3	2.34
Prime Minister	2	1.56
Policeman / Enforcer	1	0.78
Non-governmental organisation	3	2.34
Speaker of the House of Representatives	2	1.56
Health advisor	1	0.78
Other authorities	5	3.91
<b>TOTAL</b>	<b>128</b>	<b>100</b>

## DISCUSSION

This study scrutinised the media coverage of Covid-19 booster shot stories with attention to salient news themes, dominant sources, as well as the way media frame the stories. Generally, from the total of 22 themes, this study acknowledged six media frames – informative, assuring, urging, warning, rewarding, and hesitating. Out of the six media frames, there are three in positive mode (assuring, urging, and rewarding), two in negative mode (warning, hesitating), and one in neutral mode (informative). Informative themes which are in neutral tone appeared to be the dominant frame. The assuring, urging and rewarding frames which adopted a positive mode are the second dominant. The stories are adopting, in a small percentage of coverage, the warning and the hesitating themes which are primarily in negative mode. Overall, most of the themes are neutral and positive in the tone and mode.

The most dominant theme is the general information about booster shots which carries a neutral tone. It is followed by the other two themes which adopted an urging and assuring tone, namely strong urge for booster uptake and stricter SOP compliance, as well as on the positive progress/success of the booster shot program. Debate on the booster necessity and the vaccine brands were ranked the 4<sup>th</sup> and the 5<sup>th</sup> salient news themes. They were straight reporting in a neutral tone.

On the other hand, assurance of the booster shot efficacy and positive response from the booster recipients are highlighted. Public figures and children who took the booster shots were given substantial coverage. Clarification on the misinformation on booster shots, jab gap, as well as the emphasis on the urgency on getting the booster shots are covered too, which generally are in neutral mode. However, a small number of news themes adopted rewarding, warning, hesitating, and terrified tones. These included the themes of “deregulation after booster shots”, “budget allocation for booster shots”, “warning to anti-vaxxers”, “hesitance on getting booster shots”, and “death/side effect of booster shots”.

The finding indicated the key spokesperson that has been widely cited as the credible source by the media are mainly public health-related authorities, such as the Health Minister, the health expert, the health authority, and the Director-General of Health. This is consistent with Druckman’s (2001, p.1045) argument that “only sources that are perceived to be credible can engage in successful framing”. The remarks and statements made by those people are framed in assuring, informing, and urging modes where the tone used were generally neutral and educating without a harsh push on the boosters. The booster shot information, such as the booster plan, the program rollout, and the jab gap are given out to enlighten the readers on the in-and-out of the booster shots. Local governments who were widely involved in the implementation of the health-related policy and communication were also highlighted as the dominant and credible sources.

The reporting focused on the positive side of getting a vaccine booster and the success of the booster shot program to lift confidence among the hesitant groups. Those who have their jab done, especially the public figures, are covered in a positive light where their responses are encouraging. The coverage also highlighted the benefits for those who have had their booster jabs where they could enjoy more privileges under the deregulated policy. Assurance is given on the booster's safety and efficacy, especially on the mix-and-match brands, as well as the clarification on the doubt against the booster. On the other side, to a small extent, the reporting also covered death and side effect, the hesitance of getting booster shots, and the warning to the anti-vaxxers. The coverage opens up two-side of the booster, both positive and negative. However, this study found the negative perspective is very much underscored if compared to the assurance frame.

## **CONCLUSION**

The media could not cure the virus but it could cure its spread (Adelakun & Adnan, 2016). Based on the findings, this study concluded media framing of the Covid-19 booster shot transformed the infodemic into informing, assuring, and urging modes in confronting the new wave of a health crisis. Explicitly, media have a high potential in influencing health-related behaviours and perceptions where the country’s highest health authority such as the Health Minister was depicted as the credible figure in delivering the information on the necessity, efficacy, and safety of the

booster shots.

This study marked differences from some of the current studies that tend to blame the media for producing unnecessary fear among the public by widely reporting on the fatality and side effects of booster shots. Instead of creating panic and hesitance, this study revealed that the media in Malaysia adopted the approach of enlightening, educating, and assuring to help the Malaysians duly informed of the benefits of getting the booster shots in curbing the spread of the pandemic.

Although the news coverage this study examined surrounding the media framing on the Covid-19 booster shots, mainly the 3<sup>rd</sup> dose, the implications are transferable to other vaccine-preventable outbreaks in the future where the assuring modes of reporting help promote vaccine uptake in the years to go. The media can sustain this tempo in covering the health crisis in the future to mobilise people in vaccination to curb the spread of the virus

There are a few limitations to this study. First, Although the study is beneficial in the context it was set, the dependence on content analysis limits our understanding of audience perception, reaction, and response to the framing of Covid-19. Secondly, the focus on emphasis frames in this study may limit the ability to look beyond and extend the content analysis to equivalency frame that would purview of framing effect.

The researcher suggested that future research focus on assessing people's responses to framed messages they exposed in their daily lives. This would have broadened our understanding of the audience's reaction to framed information. Further, it is a fruitful avenue for future research to apprehend the effects of equivalency frames that are uncovered in this study. Also, some studies indicated that women are more susceptible to the framing effect as compared to men. It is worth evaluating gender as a significant factor in the framing effect of Covid-19.

## REFERENCES

- Abhyankar, P., O'Connor, D. B., & Lawton, R. (2008). The role of message framing in promoting MMR vaccination: evidence of a loss-frame advantage. *Psychology, health & medicine*, 13(1), 1–16. <https://doi.org/10.1080/13548500701235732>
- Adekunle, A. L., & Adnan, H. M. (2016). Communicating health: Media framing of Ebola outbreak in Nigerian newspapers. *Jurnal Komunikasi, Malaysian Journal of Communication*, 32(2), 362-380.
- Aderogba, A. (2021). Nigeria's media framing of -Covid 19 pandemic: A content analysis of selected national dailies, *World Scientific News*, 159, 167-178. [https://www.academia.edu/65799492/Nigeria\\_media\\_framing\\_of\\_coronavirus\\_pandemic\\_and\\_audience\\_response](https://www.academia.edu/65799492/Nigeria_media_framing_of_coronavirus_pandemic_and_audience_response)
- Ahmed Abdel-Raheem & Reem Alkhamash (2021). 'To get or not to get vaccinated against COVID-19': Saudi women, vaccine hesitancy, and framing effects. *Discourse & Communication*, 1–16. <https://doi.org/10.1177/17504813211043724>
- Andre, F. E., Booy, R., Bock, H. L., Clemens, J., Datta, S. K., John, T. J., Lee, B. W., Lolekha, S., Peltola, H., Ruff, T. A., Santosham, M., & Schmitt, H. J. (2008). Vaccination greatly reduces disease, disability, death and inequity worldwide. *Bulletin of the World Health Organization*, 86(2), 140–146. <https://doi.org/10.2471/blt.07.040089>

- Apuke, O.D. & Bahiyah Omar (2020). How do Nigerian newspapers report Covid-19 pandemic? The implication for awareness and prevention. *Health Education Research*, 35(5), 471-480. <https://doi.org/10.1093/her/cyaa031>
- Ardèvol-Abreu (2015): “Framing theory in communication research in Spain. Origins, development and current situation”. *Revista Latina de Comunicación Social*, 70, pp. 423 to 450. <http://doi.org/10.4185/RLCS-2015-1053en>
- Baran S.J, Davis D.K. (2009). *Mass communication theory: Ferment, and future*. Boston: Wadsworth Cengage Learning.
- Berry T.R., Wharf-Higgins J., Naylor P.J. SARS wars: An examination of the quantity and construction of health information in the news media. *Health Commun.* 2007, 21(1):35–44. <https://doi: 10.1080/10410230701283322>
- Blanco-Herrero, D.; Gallardo-Camacho, J.; Arcila-Calderón, C. H. (2021). Advertising during the lockdown: A comparative analysis of commercial TV in Spain. *International Journal of Environmental Research and Public Health*, 18, 1054. <https://doi.org/10.3390/ijerph18031054>
- Boucher, J., Cornelson, K., Benham, J., Fullerton, M., Tang, T., Constantinescu, C., Mourali, M., Oxoby, R., Marshall, D., Hemmati, H., Badami, A., Hu, J. & Lang, R. (2021). Analyzing social media to explore the attitudes and behaviors following the announcement of successful COVID-19 vaccine trials: Infodemiology study. *JMIR Infodemiology*, 1(1). <https://doi.org/10.2196/28800>
- Camus, W. J. T. (2009). Metaphors of cancer in scientific popularization articles in the British press. *Discourse Studies*, 11(4), 465–495. <https://doi.org/10.1177/1461445609105220>
- Caron, J.-F. (2021). *A sketch of the world after the COVID19 crisis: Essays on political authority, the future of globalisation, and the rise of China*. Palgrave Macmillan.
- Chaiuk, T. A. & O. V. Dunaievska. Fear culture in media: an examination on coronavirus discourse. *Journal of History Culture and Art Research*, 9(2), (2020) 184- 194
- Chiang, W. Y., & Duann, R. F. (2007). Conceptual metaphors for SARS: “war” between whom? *Discourse & Society*, 18(5), 579–602. <https://doi.org/10.1177/0957926507079631>
- Chiou, L. & Tucker, C.E. (2018). Fake news and advertising on social media: a study of the anti-vaccination movement. *JAMA*, 320 (23), 2417-2418. <https://doi:10.1001/JAMA.2018.16865>.
- Chong, D. & Druckman, J. N. (2007). Framing theory. *Annual Review of Political Science*, 10, 103-126
- Chu, M. M. (13 September 2019). Survey: The Star most read English newspaper, online news site. *The Star Online*. <https://www.thestar.com.my/news/nation/2019/09/13/survey-star-most-read-english-newspaper-online-news-site>
- Cooper, S., Rooyen, H. V. & Wiysonge, C.S. (2021). COVID-19 vaccine hesitancy in South Africa: How can we maximize uptake of COVID-19 vaccines?. *Expert Review of Vaccines*, 20(8), 921-933, <https://doi.org/10.1080/14760584.2021.1949291>
- Culloty, E., & Suiter, J. (2021). *Disinformation and manipulation in digital media: Information pathologies*. Routledge
- Dannetun, E., Tegnell, A., Hermansson, G., Törner, A., & Giesecke, J. (2004). Timeliness of MMR vaccination--influence on vaccination coverage. *Vaccine*, 22(31-32), 4228–4232.

- <https://doi.org/10.1016/j.vaccine.2004.04.018>.
- De Vreese, C.H. (2005). News framing: Theory and typology. *Information Design Journal & Document Design*, 13(1), 51-62.
- Druckman, J. N. (2001). The implications of framing effects for citizen competence. *Political Behavior*, 23(3), 225-256. <https://doi.org/10.1023/A:1015006907312>
- Druckman, J. N. (2004). Political preference formation: Competition, deliberation, and the (ir)relevance of framing effects. *American Political Science Review*, 98, 671-686. <https://doi:10.1017/S0003055404041413>
- Druckman, J. N. (2001). On the limits of framing effects: Who can frame? *The Journal of Politics*, 63, 1041-1066.
- Dubé E. & MacDonald NE (2020). How can a global pandemic affect vaccine hesitancy? *Expert Rev Vaccines*, 19(10):899-901. <http://doi:10.1080/14760584.2020.1825944>.
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43(4), 51-58.
- Evans, M., Stoddart, H., Condon, L., Freeman, E., Grizzell, M., & Mullen, R. (2001). Parents' perspectives on the MMR immunisation: a focus group study. *The British Journal of General Practice: The Journal of the Royal College of General Practitioners*, 51(472), 904-910. <http://www.ncbi.nlm.nih.gov/pubmed/11761204>
- Fillmore, C.J. (ed.) (1982). Frame semantics. In: The Linguistic Society of Korea (ed.) *Linguistics in the Morning Calm*. Seoul: Hanshin, pp.111-137.
- Gamson, W. A., & Modigliani, A. (1987). The changing culture of affirmative action. In R. Braungart & M. M. Braungart (Eds.), *Research in political sociology* (pp. 137-177). Greenwich, CT: JAI Press.
- Gever, C.V. (2019). When solution triggers more conflicts: frames and tone of media coverage of the anti-open grazing law of Benue State, Nigeria. *Media War Conflict*, 12: 468-482.
- Gever, V. C., & Ezeah, G. (2020). The media and health education: Did Nigerian media provide sufficient warning messages on coronavirus disease? *Health Education Research*, 35(5), 460-470. <https://doi.org/10.1093/her/cyaa020>
- Goffman E (1974). *Frame Analysis: An Easy on the Organization of Experience*. Cambridge, MA: Harvard University Press.
- Griffith J., Marani H., Monkman H. (2021). COVID-19 vaccine hesitancy in Canada: Content analysis of Tweets using the theoretical domains framework. *Journal of Medical Internet Research*, 23(4):e26874
- Guillaume L, Bath P.A. (2008). A content analysis of mass media sources in relation to the MMR vaccine scare. *Health Informatics Journal*, 323-334. <https://doi:10.1177/1460458208096654>
- Hart, P. S., Chinn, S., & Soroka, S. (2020). Politicization and Polarization in COVID-19 News Coverage. *Science Communication*, 42(5), 679-697. <https://doi.org/10.1177/1075547020950735>
- Hameleers, M. (2021) Prospect theory in times of a pandemic: The effects of gain versus loss framing on risky choices and emotional responses during the 2020 Coronavirus outbreak – Evidence from the US and the Netherlands. *Mass Communication & Society*, 24,479-499

- Hoffman S.J., Justicz, V. (2016) Automatically quantifying the scientific quality and sensationalism of news records mentioning pandemics: Validating a maximum entropy machine-learning model. *Journal of Clin Epidemiol*, 75:47–55. <https://doi.org/10.1016/j.jclinepi.2015.12.010>
- Holsti, O.R. (1969). *Content analysis for the social sciences and humanities*. Reading, MA: Addison-Wesley.
- Hornsey, M. J., Harris, E. A., and Fielding, K. S. (2018). The psychological roots of anti-vaccination attitudes: A 24-nation Investigation. *Health Psychology*, 37 (4), 307–315. <https://doi:10.1037/hea0000586>
- Hou, Z., et al (2021). Assessing COVID-19 vaccine hesitancy, confidence, and public engagement: A global social listening study. *Journal of medical Internet research*, 23(6), e27632. <https://doi.org/10.2196/27632>
- Huang, Y., & Liu, W. (2022). Promoting COVID-19 vaccination: The Interplay of message framing, psychological uncertainty, and public agency as a message source. *Science Communication*, 44(1), 3–29. <https://doi.org/10.1177/10755470211048192>
- Hubner, A. (2021). How did we get here? A framing and source analysis of early COVID-19 media coverage. *Communication Research Reports*, 38(2), 112-120, <https://doi.org/10.1080/08824096.2021.1894112>
- Kelly, B. J., Leader, A. E., Mittermaier, D. J., Hornik, R. C., & Cappella, J. N. (2009). The HPV vaccine and the media: How has the topic been covered and what are the effects on knowledge about the virus and cervical cancer?. *Patient education and counseling*, 77(2), 308-313.
- Kim, G. & Noriega, C. (2020). The value of media studies approaches for the evaluation of entertainment education: A case study of East Los High. *Health Education & Behavior*, 47: 24–8
- Kiptinness, E.M. & Okoye, J.B. (2021) Media coverage of the novel Coronavirus (Covid-19) in Kenya and Tanzania: Content analysis of newspaper articles in East Africa. *Cogent Medicine*, 8(1), <https://doi.org/10.1080/2331205X.2021.1956034>
- Kiptinness, E. M., & Kiwanuka-Tondo, J. (2019). The prevalence of HIV/AIDS frames in Kenya Newspapers: A summative content analysis of the Daily Nation. *Cogent Medicine*, 6(1), 1596047. <https://doi.org/10.1080/2331205X.2019.1596047>
- Klemm, C., Das, E., and Hartmann, T. (2016). Swine flu and hype: a systematic review of media dramatization of the H1N1 influenza pandemic. *Journal of Risk Research*, 19, 1–20. <https://doi: 10.1080/13669877.2014.923029>
- Kuypers, J. A. (2010). “Framing Analysis from a Rhetorical Perspective,” *Doing news framing analysis*. In Paul D’Angelo and Jim A. Kuypers (Eds.), New York: Routledge, 286-311.
- Krawczyk, K., Chelkowski, T., Laydon, D.J., Mishra, S., Xifara, D., Gibert, B., Flaxman, S., Mellan, T., Schwämmle, V., Röttger, R., Hadsund, J.T. & Bhatt, S. (2021). Quantifying online news media coverage of the COVID-19 pandemic: Text mining study and resource. *Journal of Medical Internet Research*, 23(6). <https://doi.org/10.2196/28253>.
- Laing A (2011) The H1N1 crisis: roles played by government communicators, the public and the media. *Journal of Professional Communication*, 1:123–149. <https://doi.org/10.15173/jpc.v1i1.88>



- Lakoff, G. (2004). *Don't think of an elephant! – Know your values and frame the debate*. White River Junction, VT: Chelsea Green Publishing.
- Larson, R.J., Schwartz, L.M., Woloshin, S. & Welch, H.G. (2005). Advertising by academic medical centers. *Archives of internal medicine*, 165(6), 645–651. <https://doi.org/10.1001/archinte.165.6.645>
- Lazić, A., & Zezelj, I. (2021). *Negativity in online news coverage of vaccination rates in Serbia: A content analysis*. <https://doi.org/10.31234/osf.io/nqjb9>
- Leeper, T. J. & Slothuus, R. (2020). How the news media persuades: Framing effects and beyond. In Elizabeth Suhay, Bernard Grofman, and Alexander H. Trechsel (Eds). *The Oxford handbook of electoral persuasion*. <https://doi:10.1093/oxfordhb/9780190860806.013.4>
- Levy, J., Bayes, R., Bolsen, T., and Druckman, J.N. (2020). Science and the politics of misinformation. *Handbook of media, misinformation, and populism*, 23, 77–94. <https://doi:10.1146/annurev-polisci-050718-032814>
- Lurie N., Saville, M., Hatchett, R., Halton, J. (2020). Developing Covid-19 vaccines at pandemic speed. *New England Journal of Medicine*. <https://doi: 10.1056/NEJMp2005630>
- Ma, K. K. (2006). Influenza vaccinations of young children increased with media coverage in 2003. *Pediatrics*, 117(2), e157–e163. <https://doi.org/10.1542/peds.2005-1079>
- Mach, K.J., Salas R., R., Pentz, B. et al. (2021). News media coverage of COVID-19 public health and policy information. *Humanities and Social Sciences Communications*, 8(1): 220. <https://doi.org/10.1057/s41599-021-00900-z>
- Malaysia Ministry of Health (2022, April 11). COVID-19 di Malaysia. <https://covidnow.moh.gov.my/bm/?refresh=1649581552367>
- Manganello, J., Bleakley, A., & Schumacher, P. (2020). Pandemics and PSAs: Rapidly changing information in a new media landscape. *Health Communication*, 35(14), 1711–1714. <https://doi.org/10.1080/10410236.2020.1839192>
- McQuail, D. (2010). *McQuail's Mass Communication Theory* (6th ed.). London: SAGE.
- Mesele, M. (2021). COVID-19 vaccination acceptance and its associated factors in Sodo Town, Wolaita Zone, Southern Ethiopia: Cross-Sectional Study. *Infection and drug resistance*, 14, 2361–2367. <https://doi.org/10.2147/IDR.S320771>
- Matthes, J. (2009). What's in a frame? A content analysis of media framing studies in the world's leading communication journals, 1990-2005. *Journalism & Mass Communication Quarterly*, 86(2): 176-187. <http://dx.doi.org/10.1177/107769900908600206>
- Meijer, I. C., & Kormelink, T. G. (2021). *Changing news use: Unchanged news experience?* Routledge.
- Mheidly, N., and Fares, J. (2020). Leveraging media and health communication strategies to overcome the COVID-19 Infodemic. *Journal of Public Health Policy*, 41, 410–420. <https://doi:10.1057/s41271-020-00247-w>
- Minsky, M. (1975) Frame system theory. In Johnson-Laird P.N. and Wason P.C. (Eds). *Thinking: Reading in Cognitive Science*. Cambridge: Cambridge University Press, pp.355–376.
- Morissan, Abdul Wahab, Siang, T. G., & Cahyowati, T. D. (2020). Media framing on Covid-19 pandemic in Malaysian and Indonesian newspapers. *International Journal of Academic Research in Business and Social Sciences*. 10(10), 800-812.
- Nabila Ashraf M., Jennings H., Chakma N., Farzana N., Islam M.S., Maruf T., Uddin M.M.J.,

- Uddin Ahmed H., McDaid D. & Naheed A. (2021). Mental health issues in the COVID-19 pandemic and responses in Bangladesh: View point of media reporting. *Frontiers in Public Health*, 9:704726. <https://doi.org/10.3389/fpubh.2021.704726>
- Nan, X., Daily, K., & Qin, Y. (2018). Relative persuasiveness of gain-vs. loss-framed messages: A review of theoretical perspectives and developing an integrative framework. *Review of Communication*, 18(4), 370–390. <https://doi.org/10.1080/15358593.2018.1519845>
- Nulman, E. (2022). *Coronavirus capitalism goes to the cinema*. Routledge
- Nwakpu, E.S., Ezema, V.O., Ogbodo, J.N. (2020). Nigeria media framing of coronavirus pandemic and audience response. *Health Promotion Perspectives*, 10(3), 192-199. <https://doi.org/10.34172/hpp.2020.32>
- Palm, R., Bolsen, T. & Kingsland, J.T. (2021). The effect of frames on COVID-19 vaccine resistance. *Frontiers in Political Science*, 3:661257. <https://doi:10.3389/fpos.2021.661257>
- Qian Liu, Zequan Zheng, Jiabin Zheng, Qiuyi Chen, Guan Liu, Sihan Chen, Bojia Chu, Hongyu Zhu, Babatunde Akinwunmi, Jian Huang, Casper J. P. Zhang, Wai-Kit Ming (2020). Health communication through news media during the early stage of the COVID-19 outbreak in China: Digital topic modeling approach. *Journal of Medical Internet Research*, 22(4). <https://doi.org/10.2196/19118>: 10.2196/19118
- Reintjes R., Das E., Klemm C., Richardus J.H., Keßler V., et al. (2016) “Pandemic public health paradox”: Time series analysis of the 2009/10 Influenza A / H1N1 epidemiology, media attention, risk perception and public reactions in 5 European Countries. *PLOS ONE*, 11(3): e0151258. <https://doi.org/10.1371/journal.pone.0151258>
- Rutjens, B. T., van der Linden, S., and van der Lee, R. (2021). Science skepticism in times of COVID-19. *Group Process & Intergroup Relations*, 24(2), 276–283. <https://doi:10.1177/1368430220981415>
- Sanders M., Stockdale E., Hume S., et al. (2021) Loss aversion fails to replicate in the coronavirus pandemic: Evidence from an online experiment. *Economics Letters*, 199:109433.
- Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication*, 49(1), 103–122.
- Scheufele, D. A., & Tewksbury, D. (2007). Framing, agenda setting, and priming: The evolution of three media effects models. *Journal of Communication*, 57, 9–20. <https://doi:10.1111/j.1460-2466.2006.00326.x>
- Scheufele, D. A., & Iyengar, S. (2014). The state of framing research: A call for new directions. In K. Kenski & K. H. Jamieson (Eds.), *The Oxford handbook of political communication* (pp. 619–632). New York, NY: Oxford University Press. <https://doi:10.1093/oxfordhb/9780199793471.013.47>
- Semetko, H. A., & Valkenburg, P. M. (2000). Framing European politics: A content analysis of press and television news. *Journal of Communication*, 50(2), 93–109. <https://doi.org/10.1111/j.1460-2466.2000.tb02843.x>
- Sheku, M., Ralf Clemens, Sue Ann Costa Clemens et al. (2021). COVID-19 vaccine acceptability: A cross-sectional mixed methods study in Sierra Leone, *Research Square*, <https://doi.org/10.21203/rs.3.rs-625455/v2>
- Shulman, H. C., Sweitzer, M. D. (2018). Advancing framing theory: Designing an equivalency frame to improve political information processing. *Human Communication Research*,

- 44(2),155–175, <https://doi.org/10.1093/hcr/hqx006>
- Similarweb (2022). *Top websites rankings*. <https://www.similarweb.com/top-websites/>
- Sniderman, P. M., & Theriault, S. M. (2004). The structure of political argument and the logic of issue framing. In W. E. Saris & P. M. Sniderman (Eds.) *Studies in public opinion* (pp. 133–165). Princeton, NJ: Princeton University Press.
- Southwell, B. G., Kelly, B. J., Bann, C. M., Squiers, L. B., Ray, S. E., & McCormack, L. A. (2020). Mental models of infectious diseases and public understanding of COVID-19 prevention. *Health Communication*, 35(14), 1707–1710. <https://doi.org/10.1080/10410236.2020.1837462>
- Sudharsanan, N., Favaretti, C., Hachaturyan, V. et al. (2021). The effect of framing and communicating COVID-19 vaccine side-effect risks on vaccine intentions for adults in the UK and the USA: A structured summary of a study protocol for a randomized controlled trial. *Trials*, 22, 592. <https://doi.org/10.1186/s13063-021-05484-2>
- Tavoschi, L., Quattrone, F., D'Andrea, E., Ducange, P., Vabanesi, M., Marcelloni, F., & Lopalco, P. L. (2020). Twitter as a sentinel tool to monitor public opinion on vaccination: An opinion mining analysis from September 2016 to August 2017 in Italy. *Human vaccines & immunotherapeutics*, 16(5), 1062–1069. <https://doi.org/10.1080/21645515.2020.1714311>
- Tversky, A., & Kahneman, D. (1973). Availability: A heuristic for judging frequency and probability. *Cognitive Psychology*, 5, 207–232. [https://doi:10.1016/0010-0285\(73\)90033-9](https://doi:10.1016/0010-0285(73)90033-9)
- Tversky, A., & Kahneman, D. (1987). Rational choice and the framing of decisions. In R. M. Hogarth & M. W. Reder (Eds.), *Rational choice: The contrast between economics and psychology* (pp. 67–94). University of Chicago Press.
- Wan Norshira, Shafizan Mohamed, Nur Shakira & Mohd Helmi Yusoh (2020). The coverage of vaccination in the Malay newspapers: An exploratory study. *Asian Journal of Applied Communication*, 9(1), 351-366.
- Washer, P. (2004). Representations of SARS in the British newspapers. *Social Science and Medicine*, 59(12), 2561–2571. <https://doi.org/10.1016/j.socscimed.2004.03.038>
- Wilson S.L. & Wiysonge, C. (2020). Social media and vaccine hesitancy. *BMJ Global Health*.
- Wimmer, R.D. and Dominick, J.R. (2014). *Mass media research: An introduction* (10th Edition), Wadsworth, Cengage Learning, Boston.
- Wright, J. (2020). STOP locking-down to control Covid. *Dailymail*. <https://www.dailymail.co.uk/news/article-8825949/Coronavirs-UK-Britains-envoy-tells-government-stop-locking-down.html>
- World Health Organization (2022, April 11). *WHO Coronavirus (COVID-19) dashboard*. <https://covid19.who.int/>
- Yanovitzky, I. (2002). Effects of news coverage on policy attention and actions. *Communication Research*, 29(4), 422–451. <https://doi.org/10.1177/0093650202029004003>.
- Zaller, J., & Feldman, S. (1992). A simple theory of the survey response: Answering questions versus revealing preferences. *American Journal of Political Science*, 36, 579–616. <https://doi:10.2307/2111583>
- Zheng, Y., Goh, E., & Wen, J. (2020). The effects of misleading media reports about COVID-19 on Chinese tourists' mental health: A perspective article. *ANATOLIA*, 31(2), 337–340.

<https://doi.org/10.1080/13032917.2020.1747208>

Zhou, W. K., Wang, A. L., Xia, F., Xiao, Y. N., & Tang, S. Y. (2020). Effects of media reporting on mitigating spread of COVID-19 in the early phase of the outbreak. *Mathematical biosciences and engineering* : *MBE*, 17(3), 2693–2707.  
<https://doi.org/10.3934/mbe.2020147>.

## **ABOUT THE AUTHOR**

### **DR. LIM LAI HOON**

Tunku Abdul Rahman University College,  
Penang Branch Campus  
limlaihoon@tarc.edu.my