Strategies of Parasocial Opinion Leaders in Using Twitter to Convey Health Messages to Followers

SAW TECK CHEW
EMMA MOHAMAD
SABARIAH MOHAMED SALLEH
Universiti Kebangsaan Malaysia

ABSTRACT

Medical and health professionals who actively share and discuss health information through social media to influence their followers are known as social media health opinion leaders. However, the parasocial relationships between social media health opinion leaders and their followers can influence the opinions, emotions, attitudes, and effective actions of the followers towards leading a healthy lifestyle. Therefore, this study was conducted to identify the strategies employed by social media health opinion leaders when using social media to communicate health issues. This study integrated the process model of health parasocial opinion leadership on social media by Saw et al. as the study guide. An in-depth interview was conducted with five (5) social media health opinion leaders on Twitter. The results of the study show that social media health opinion leaders use a variety of strategies depending on the topic of discussion to effectively convey information to their followers. The strategies revealed in the study show that the delivery and sharing of information by social media health opinion leaders play an important role, namely in reducing information complexity, health orientation, stimulating interest, correcting information and mythic perceptions, and strengthening the image and ethics of medical professionalism. However, there is no emotional stimulation for those who follow their favourite social media health opinion leaders. As a result, the study suggests that social media health opinion leaders improve their emotional stimulation strategies to add value to the quality of parasocial relationships with their followers, thereby strengthening their relationship with their followers.

Keywords: *Opinion Leadership, parasocial relationship, parasocial opinion leadership, health communication, social media.*

INTRODUCTION

A doctor-patient relationship is traditionally based on paternalism and hierarchy. However, some gaps have changed significantly, mainly due to the increasing number of patients with chronic conditions and the digital era (Meskó, Radó, & Gyorffy, 2019). With the rise and popularity of social media, online health opinion leaders have become increasingly important in the dissemination of information in order to influence public opinion (Joyce & Azlina, 2021; Saw, Emma, & Sabariah, 2021). Certified medical doctors have the potential to become social media health opinion leaders because their expertise can influence and change individual opinions on health issues (Rothfischer, 2021). For example, the studies of Akdevelioglu and Kara (2020) and Saw, Emma, and Sabariah (2019) prove that opinion leaders play a significant role in conveying messages to influence the attitudes and behaviours of their followers through social media.

After the COVID-19 pandemic, digital health communication in the healthcare sector has also become more widespread as more and more people search for health-related topics online, such as on Facebook, Twitter, Instagram, TikTok, and YouTube (Rothfischer, 2021).

These social media platforms allow certified doctors to promote healthcare online, they will also have the opportunity to gain access to their target group of specialists more quickly, allowing them to establish themselves within the specialist community more easily (Rothfischer, 2021).

A lack of knowledge will cause Malaysians to be easily influenced by health information that is susceptible and ineffective. Therefore, the Twelfth Malaysia Plan (2021-2025) for the healthcare system touches on the importance of opinion leaders. Health opinion leaders on social media portray a form of leadership in which people can be utilised to improve one's healthy lifestyles. This plan emphasises the constraints the government faces in the existing health system, namely the lack of leadership skills and health promotion activities. Also, the government attaches the importance of prioritising digital innovation in healthcare solutions and delivery in the community. Health opinion leaders on social media are capable of influencing social media users by sharing and delivering health information, besides fostering parasocial relationships with social media users (Saw et al., 2021).

A study by Saw et al. (2021) not only proves that health opinion leaders on social media could create parasocial relationships with their followers through the sharing and delivery of information, but also identifies health opinion leaders as health parasocial opinion leaders. In addition, this study found that social media users view their relationships with health opinion leaders on social media as those of mentors, family members, friends, and idols or fans. Nevertheless, Saw et al. (2021) suggest that future research and review involving health parasocial opinion leaders on social media be on a periodic basis to assess any changes that may occur due to the rapidly changing social media environment. Also, the study by Saw et al. (2021) fails to examine the strategies used by health parasocial opinion leaders in their presentation and discussion of health information on social media. Even though previous studies have touched on the effectiveness of the delivery of social media health opinion leaders when sharing health information, the relationship between social media health opinion leaders and their followers is rarely studied (Saw et al., 2019).

Therefore, this study identifies the strategy of social media health opinion leaders when using social media to communicate health issues based on the process model of health parasocial opinion leadership on social media (Saw et al., 2021). The results of this study are expected to help the Ministry of Health and health organisations to make decisions regarding the appropriate programmes to increase the effectiveness of health opinion leaders on social media. Also, the results of this study can serve as a source of reference for the Ministry of Health Malaysia to formulate strategic plans and collaborate with social media health opinion leaders to deliver health information that can influence Malaysian attitudes to prioritise a healthy lifestyle via social media.

LITERATURE REVIEW

Developmental Patterns of Health Communication on Social Media

People can get information, including health information, on the Internet or social media such as Facebook, Twitter, and Instagram, especially during the COVID-19 pandemic (Aneesa, Irfan & Ahmad Firdaus, 2021). Since then, it has become common for users of social media platforms to exchange health information that can leave an emotional impact on other users (Bashar, Nayak, & Balasubramaniam, 2022). Expert power, in particular, is a crucial constituent of opinion leaders that affects the extent to which their views can influence the thoughts, attitudes, and behaviours of social media users and their followers (Savolainen, 2021). Hence, the existence of health opinion leaders on social media contributes to a space

for them, social media users, and their followers to share and exchange health information easily and effectively (Joyce & Azlina, 2021; Saw et al., 2021).

Health opinion leaders can be medical and non-medical health practitioners on social media (Emma & Ummu Khadijah, 2018; Emma et al., 2017; Emma & Wan, 2017). Many people still refer to advice from individuals without a medical background. This situation raises concerns and doubts because the information provided by uncertified individuals may be false or inaccurate. Nevertheless, these individuals often have the charisma and clout to influence followers or social media users.

Since social media is part of communication, many medical professionals have acquired new skills in social media. Twitter is one of the most popular social media platforms used for healthcare communication. According to Little and Romee (2020), tweeting can be beneficial for fostering opportunities for networking or collaboration, promoting one's research, increasing access to the research of others, and providing an efficient way of learning and education. Studies show that the use of Twitter in health communication has become the choice of medical experts in sharing information (Katz et al., 2019; Little & Romee, 2020; Pershad et al., 2018) because Twitter allows patients, healthcare professionals, and researchers to become more informed on healthcare issues.

Given the novelty of this platform and the limited formal training on its use and the concern about patient privacy and professionalism, equity must be considered. As a result, specific guidelines for the appropriate use of social media platforms are necessary. Although Malaysia has seen the development of health opinion leaders on social media, there has not been much research on this matter in Malaysia.

Parasocial Relationship and Opinion Leaders
The theory of parasocial relationships explains how people interact with other people in the media (Horton & Wohl, 1956), especially through social media, which is an ideal platform for generating parasocial relationships. Horton and Wohl (1956) when exploring the different interactions between social media users to determine the existence of a parasocial relationship in which users act as if they are involved in this social relationship found unique characteristics of electronic media, particularly television, in fostering the relationship. Media users assume media characters as friends when parasocial relationships are formed through delivery or interaction. Close parasocial relationships in the delivery of information from various sources are also proven in the study of Sherman-Morris, Poe, Nunley, and Morris (2020).

Interpersonal attraction is a concept that involves the evaluation of whether we like other people or feel good with them (McCroskey, Larson & Knapp, 1981). Interpersonal attraction is an antecedent of parasocial relationships and is a multidimensional concept consisting of three dimensions, namely task, social, and physical (McCroskey & McCain 1974). Moreover, the influence of information, the moderating effect of comments, and expertise also shape parasocial relationships.

Parasocial relationships are shaped by the influence of information. The study by Su et al. (2021) proves the positive influence of information on parasocial relationships. Also, according to Stehr et al. (2015), parasocial opinion leader relationships define the interpersonal relationship between opinion leaders and their followers as a channel for information delivery. They believe that classifying and evaluating information is more important than transferring information. Available sources of information will influence the

target group's thinking and behaviour that can also serve as a source of social support (Katz 1957).

In addition, online comments confirm the credibility of media characters on social media (Aronson, Wilson & Akert, 2005). As a result, media characters often try to use their expertise to positively influence parasocial relationships (Eugene & Stephanie, 2021). The results of the study by Su et al. (2021) show that online comments moderate the relationship between social media characters and social media users. Audiences that refer more to positive comments from social media characters have stronger parasocial ties. When audiences take positive comments as evidence to make referrals, it encourages them to be willing to refer to social media characters (Su et al., 2021). Besides that, content uniqueness and continuity significantly influence emotional expectations, thereby generating more online comments (Na, Kang, & Jeong, 2021).

Last but not least, parasocial relationships are influenced by the expertise of opinion leaders. In the results of the study by Folkvord, Roes and Bevelander (2020), social media influencers established friendly and close relationships with their followers when promoting healthy food products. A strong relationship with their followers has proven to deliver an effective message to followers. As a result, Folkvord et al. (2020) suggest that future research should investigate how social media influencers can influence health campaigns.

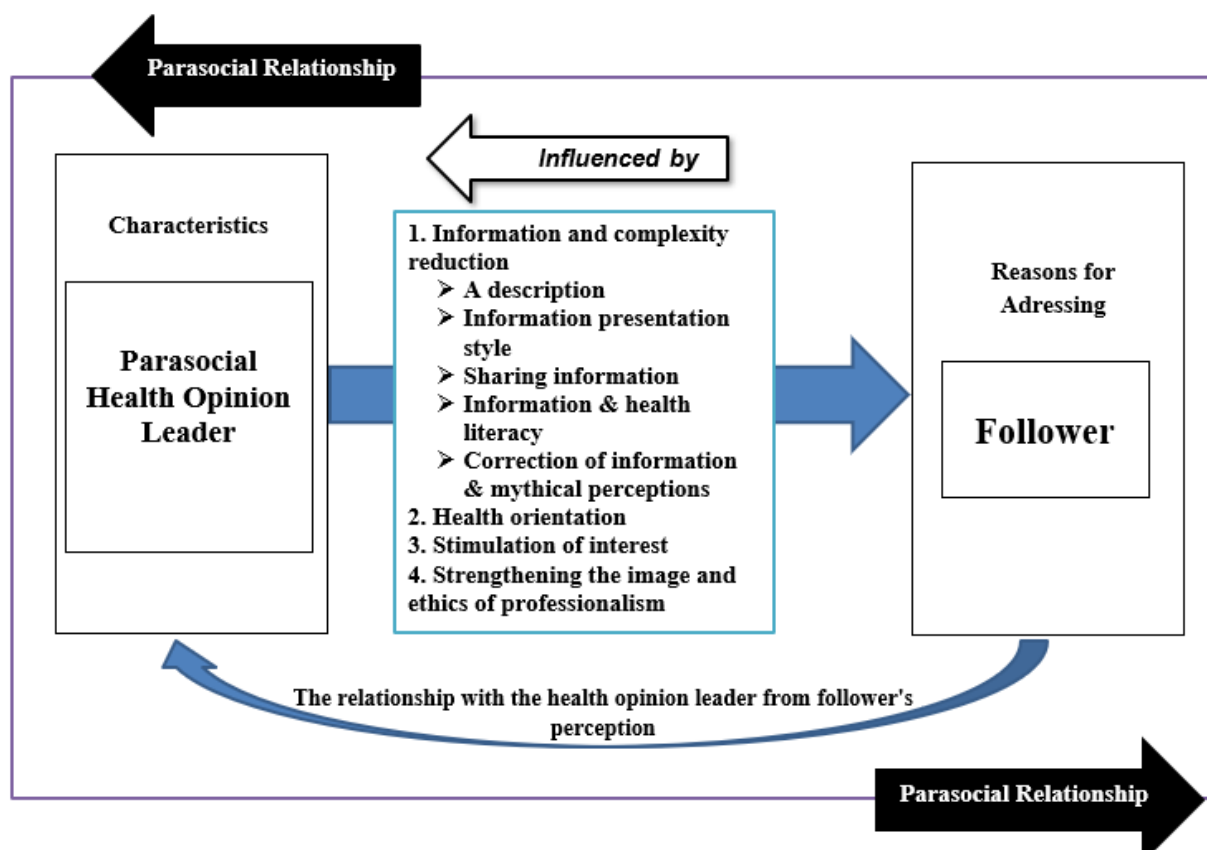*Process Model of Health Parasocial Opinion Leadership on Social Media*

Figure 1: A process model of health parasocial opinion leadership on social media

The parasocial opinion leader process model that was initially developed by Stehr et al. (2015) for political communication referred to the functions of opinion leaders and the relationship established between opinion leaders and their followers on social media. Using the results from this model as the basis of a study, Saw, Emma, and Sabariah (2021) expanded the model into the field of health communication, as shown in Figure 1. As a result, Saw, Emma, and Sabariah (2021) has developed a new process model that is suitable for health opinion leaders in social media, which is the proces model of health parasocial opinion leadership on social media (Figure 1). The model is a continuation of the model developed on investigating the relationship between the use of media, social media users, and media personalities. The relationships drawn by the model allow social media users to perceive as having a relationship and experience interpersonal relationships with media personalities.

Using the newly developed model, the study by Saw, Emma, and Sabariah (2021) proves that the model is compatible with any study conducted on investigating the influence of parasocial opinion leaders when delivering healthcare information on social media with three prerequisites. The first prerequisite is the characteristics of an opinion leader.

The second prerequisite in the basic model developed by Stehr et al. (2015) only involved information and complexity reduction, orientation, and interest stimulation. However, the detail of the prerequisite and the basic model is suitable for studying political communication, but not suitable for use for health communication. As a result, the second prerequisite is a delivery strategy that is inherent in information processing and has a low level of complexity when writing a description, sharing information and health literacy, correcting information and mythical perceptions, and the style of delivering information to stimulate interest and strengthen the image and ethics of professionalism. The study of in their process model emphasises the reception of messages and information by followers when social media health opinion leaders share and discuss information and health issues through social media. The study's findings show that followers value not only knowledge, understanding, and awareness, but also the ethics and professionalism of the social media health opinion leaders they follow. Followers are often exposed to complicated and incorrect health information, and thus are confused by the information they receive through social media from parties who are not medical doctors. Therefore, followers are influenced by medical doctors in the reduction of information complexity, information correction, information literacy, health orientation, and interest stimulation.

The last prerequisite is the reason for referring from the recipient in the process of a parasocial opinion leader. Media users and followers will be influenced by more than one medical doctor whom they follow when receiving health information. Although there may be more than one influence when receiving health information, social media users or followers are usually influenced to obtain information from at least one medical doctor. Followers follow medical doctors on social media based on their wishes and the characteristics of the parasocial opinion leaders. The parasocial attraction of social media health opinion leaders has formed a relationship based on followers' perceptions. In the Saw, Emma, and Sabariah (2021) study, findings show that when followers receive health information from social media health opinion leaders, they are influenced by the health information they receive. They also explore and interact with social media health opinion leaders, making them feel the existence of the relationship between them and the social media health opinion leaders. The relationship with social media health opinion leaders perceived by followers is similar to the relationship with mentors, family members, friends, and idols.

The third prerequisite is the attitude of the followers towards the opinion leader's parasocial relationship process. Researchers believe that the characteristics of opinion leaders should not be tied to the stated characteristics in the previous studies but should be based on the respective fields and types of followers. Each follower is attracted to an opinion leader for a variety of reasons. The characteristics of opinion leaders include expert, active, popular, confident, knowledgeable, and correcting information. Saw, Emma, and Sabariah (2021) show that individuals follow another individual of their own will, including when on social media. As there is valid proof that medical doctors have extensive knowledge of medicine and are specialised individuals, some individuals would be actively following the doctors who are active on social media, if not those who are known to the public. Many followers follow medical doctors on social media because the doctors give them confidence through their sharing and telling information. There are various characteristics of health opinion leaders in many studies which have met the general concept that Katz advocates. Katz (1960) and Katz (1957) categorise that influence as related to an opinion leader's embodiment of specific values   (who the person is), competence (what knows), and social location (who knows).

Although the study of Saw, Emma, and Sabariah (2021) has examined the acceptance of health information delivered by parasocial opinion leaders among their followers on social media, the strategy of delivering health information by parasocial opinion leaders has not been explored.

METHODOLOGY

Participants
This study used an in-depth interview research method. It used non-probability sampling, particularly purposeful sampling, to explore the strategies of social media health opinion leaders when delivering health information and discussing health issues on social media. Five (5) social media health opinion leaders were interviewed to answer the research objectives and questions. The selection of informants was based on several aspects: informants were certified doctors for a Malaysian non-governmental organisation called MedTweeetMY (MTM), had more than ten thousand followers on their Twitter accounts, and actively shared health information or issues, and constantly interacted with followers. MTM is a Malaysian non-governmental organisation (NGO) that was established based on the awareness of the importance of disseminating authentic health information from certified medical doctors.

Respondent and Public Involvement
Informants were not involved in the study design. Results were returned to the informant when the qualitative analysis was completed to obtain feedback and comments from them. The study also obtained consent from participants to publish their personal information in the study.

Validity and Reliability
Validity and reliability are important in qualitative research. This includes the accuracy of collecting, analysing, interpreting, and presenting research results (Creswell & Guetterman, 2019; Creswell & Poth, 2018). In addition to an audit trail, inspection, and peer review in the process of validity and reliability in the design of interview questions, expert verification was also involved. Five (5) experts, including two (2) creators of the parasocial model of opinion leaders with experience in the relevant field and qualitative approaches were selected to

assess the instrument's validity of this study. This study was granted ethical approval from Universiti Kebangsaan Malaysia (UKM PPI/111/8/JEP-2021-220).

Interviews
Interviews were pilot tested and modified based on given feedback. All interviews were conducted individually and face-to-face for between 60 and 90 minutes. The interviews were recorded using a recording device and transcribed. The completed transcripts were then reviewed by the researchers involved.

Analysis
This study used the qualitative data analysis software, Atlas. Ti Version 8. Interviewed data were transcribed verbatim, coded, and organised into categories based on the model that was adopted. A Certified Senior Trainer from Atlas. Ti monitored and guided the analysis process to ensure the validity of the process.

RESULTS

This study looked at the strategies of social media health opinion leaders when using social media to communicate about health issues. Five (5) forms of strategies are identified based on the results of this study, namely, 1) information and complexity reduction (description, information presentation style, information sharing, information and health literacy, correction of information and mythical perceptions), 2) health orientation, 3) stimulation of interest, 4) strengthening of the image and ethics of professionalism, 5) stimulation of emotional (see Table 1).

Table 1: The list of superordinate themes and connected subordinate themes

Superordinate Themes	Subordinate Themes
1. Information and complexity reduction	
I. A description	● Principled explanation
	● Explanation of the incident
	● The right explanation
	● General explanation
II. Sharing information	● Crisis information
	● Statement
	● Statement from the Ministry of Health Malaysia
	● Experience sharing
	● Straight to the point in sharing information
	● Sharing information in general
	● Translate
	● Validation
	● comment

III.	Information presentation style	
		● a language that is easy to understand
		● Informal language
		● Friendly language
		● Language in general
		● A picture that is easy to understand
		● Images in general
		● Infographics
		● Infographic from the Ministry of Health Malaysia
		● Short video
		● Videos in general
		● Live
		● A short story
		● The story in general
		● Writing short sentences
		● Titled writing
		● Writing in general
		● Style in general
IV.	Information & health literacy	
		● Research
		● Statistics
		● Evidence
		● Information literacy & health in general
V.	Correction of information & mythical perceptions	
		● Awareness in effect
		● Awareness in correction
		● Awareness in general
2. Health orientation		
		● Consequential orientation that can increase awareness
		● Guide
		● Situation description
		● Orientation in the correct information
		● Orientation in general
3. Stimulation of interest		
		● Wanted a further explanation
		● Disseminate information to other individuals
		● Pay attention
		● Sharing experiences
		● Stimulation of interest in general

4. Strengthening the image and ethics of professionalism	
	● Refuse online consultations
	● Ethics in general
	● Ethical advice
	● Professionalism in general
5. Emotional stimulation	
	● Sad emotional
	● Angry emotional
	● Emotional in general

a.   Information and Complexity Reduction

The results of the study show that information and complexity reduction are divided into descriptive presentation style, information presentation style, information sharing, information and health literacy, and correction of information and mythical perceptions, as shown in Table 1. There are four (4) open codes for the categories of description identified, namely principled description, event description, accurate description, and general description.

> On Twitter, we cannot explain this in detail. We share the principles. So, in the end, if he wants something like that, sometimes someone directly asks. "Doctor, if my tongue is red like this, what medicine should I take?" (Informant Y1)

A total number of seventeen (17) open codes for the categories of information presentation styles are identified, which are the language that is easy to understand, informal language, friendly language, general language, a picture that is easy to understand, general images, infographics, infographics from the Ministry of Health Malaysia, short videos, general videos, live, short stories, general stories, writing short sentences, titled writing, general writing, and general writing style.

> We can't use scientific language. You want them to listen to you, they won't understand and then he will say: What la doctor, are you talking to the doctor? (Informant Y3).

A total of nine (9) open codes for information sharing categories have been identified, namely crisis information, statements, statements from the Ministry of Health Malaysia, experience sharing, direct information, general information, translation, validation, and comments. During the in-depth interview, all informants were concerned with the strategies used with information literacy and health, especially when sharing information concerning research information, statistics, and evidence statements. As a result, four (4) open codes for information and health literacy have been identified, namely research, statistics, evidence, and general literacy and health information.

Moreover, three (3) open codes of correction of information and mythical perceptions have been identified: awareness in effect, awareness in correction, and awareness in general. It was found that informants shared their personal statements as well as statements from the Ministry of Health Malaysia. Also, most of the statements given by medical practitioners were

similar to each other. The difference was that the informants of the study used different presentation styles and strategies when on social media.

> Straight to the point *[Direct].* Because if jargon, I will make it a translation as well; let's say for example, party. So I will translate it into Malay, but I will find it, so what is party? It's more like an infection. It depends on the terms. If, let's say, too much jargon is something like medical jargon already understood by the netizen (Informant Y2).

b.   Health Orientation

In terms of health orientation, five (5) open codes have been identified as the consequential orientation that can increase awareness, guidance, situational description, the orientation of correct information, and orientation in general. For instance, the informants provided a clear orientation by describing potential consequences, such as giving a situational picture of the benefits of vaccination with followers.

> I once had a patient who came to see me ask about the vaccine injection. She doesn't want to go to the government hospital because the government has to vaccinate the baby when the baby is born, but there is no time to explain why. She came privately, and I talked to her; it just so happened that she had a little time that day. I open my computer, show it to her, and tell her that it's almost 1 hour for lecturing that day. In the end, she agreed to vaccinate her baby. She changed her mind. She stated to me privately the government doctor is not that clear for her to understand. However, the government doctor cannot make an effort to clarify more; they only have a few minutes. She happens to be a person who is not much on social media, so she came to me there. However, some people can go to social media to find information. Probably, we could convert that person as well (Informant Y5).

c.   Stimulation of Interest

A total of five (5) open codes for the category of stimulation of interest have been identified as wanting a further explanation, disseminating information to other individuals, paying attention, sharing experiences, and stimulating general interest. During the in-depth interview, the study found that informants used different delivery styles and strategies according to the situation they were in to increase the interest of social media users and their followers of the health issue conveyed on social media. Often, the interest of social media users and followers on social media was measured in terms of the number of likes, comments, and reshare of the informational posts shared by social media health opinion leaders on social media.

> Benefits, yes. The benefits and the impact of the article. We can look at three. Number one a number of likes. Number two, comments. Number three is sharing. Okay, so when you said the article was beneficial and impactful. I put it. I'll say engagement, article engagement, and this is also an article, the indicator from social media. We called it a social media engagement (Informant Y2).

d.   Strengthening The Image and Ethics of Professionalism
There are four (4) open codes identified for strengthening the image and ethics of professionalism, which are refusing online consultations, ethics in general, ethical advice, and professionalism in general. The study results showed that all informants firmly adhered to the principles of medical experts, which is to be ethical and not to violate the outlined principles when sharing, discussing, and communicating about health issues.

> In fact, in terms of ethics as a doctor, we cannot direct, "Oh, you go to the pharmacy to buy this kind of medicine." That's wrong. So, what we can tell, should be: "If it's like this, it's better to go see the person who treats (Informant Y1).

e.   Stimulation of Emotional
A total of four (4) open codes for the stimulation of emotions have been identified, which are sad, angry, and generally emotional. Informants who used emotional stimulation when sharing information were found capable of touching the hearts of their followers. This strategy that was used by social media health opinion leaders when sharing and communicating health information to their followers through social media was found appropriate because it could improve the followers' understanding of the situation of the health issue being discussed or conveyed.

> I use layman's terms, but if we are angry, it is useless. You cannot be so angry. You must have some words, so they know you are upset (Informant Y4).
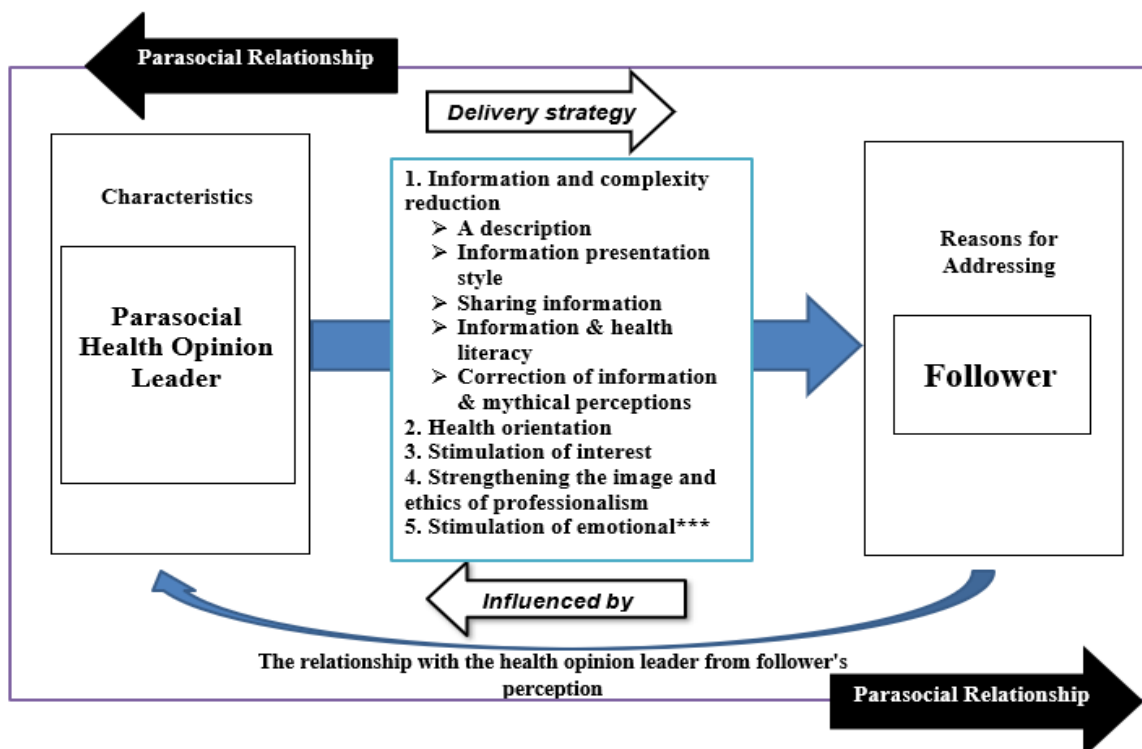
CONCEPTUAL FRAMEWORK OF FINDINGS OF THE STUDY

Figure 2: A process model of health parasocial opinion leadership and followers on social media

The study by Saw, Emma, and Sabariah (2021) has developed a new process model suitable for health opinion leaders in social media: the process model of health parasocial opinion leadership and followers on social media (Figure 1). Their study further developed the model and examined the acceptance of health information delivered by parasocial opinion leaders among their followers on social media.

The current study used this model to identify the strategies of social media health opinion leaders to communicate health issues. The study found that social media health opinion leaders utilised delivery strategies when sharing and communicating health information on social media. When sharing and conducting a discussion on health information, there would usually be a process of accepting health information among social media users or followers as a result of being influenced by social media health opinion leaders. As a result, this has attracted the attention of new followers to follow social media health opinion leaders.

Our study shows that the model developed by Saw, Emma, and Sabariah (2021) needs to have two directions. The first direction is that social media health opinion leaders can influence their followers during the process of sharing and discussing health information on social media. Another direction is the strategies adopted by social media health opinion leaders when using social media to communicate about health issues. In short, social media health opinion leaders need to share new health information to influence their followers. Therefore, this study builds a more appropriate conceptual framework from the findings of this study, as shown in figure 2.

The new model for parasocial opinion leaders in health communication on social media contains three prerequisites. The first prerequisite is the characteristics of an opinion leader. The second prerequisite is a delivery strategy inherent in information processing and complexity reduction (a description, information and health literacy, sharing information, information presentation style, and correction of information and mythical perceptions), health orientation, interest stimulation, strengthening the image and ethics of professionalism. The third prerequisite is the reason to refer to the parasocial opinion leaders. Findings suggest that health opinion leaders utilise emotional stimulation strategies that can strengthen relationships to add value to the quality of parasocial relationships between social media health opinion leaders and their followers. The difference is that emotional stimulation is a strategy for social media health opinion leaders when sharing health information. Still, it does not exist from the perspective of followers that Saw et al. (2021) studied. Therefore, the study also found that all the strategies add value to the quality of parasocial relationships between social media health opinion leaders and their followers, except for the emotional stimulation strategy.

DISCUSSION

The process model of health parasocial opinion leadership on social media developed by Saw et al. (2021) was from a follower's point of view about receiving health information from health opinion leaders through social media. This study also adopted the model to study a similar phenomenon, but from the perspective of social media health opinion leaders. This study found that social media health opinion leaders have strategies for the delivery and sharing of health information through social media. The results of the study by Saw et al. (2021) showed that recipients were influenced by the information and complexity reduction (descriptive, information delivery style, information sharing, information and health literacy, correction of information, and mythical perceptions), health orientation, stimulation of

interest, as well as being able to strengthen the image, ethics, and professionalism of medical doctors. In addition to the four (4) influencing strategies used by social media health opinion leaders in the delivery of health information to followers, emotional stimulation is also a delivery strategy. However, emotional stimulation was not addressed in the study of Saw et al. (2021).

The study's findings show that social media health opinion leaders do not only use social media to deliver health information, but they also open an opportunity for their followers to discuss and interact with them. The delivery and sharing of health information through social media by social media health opinion leaders are considered two-way communication because social media users can interact with each other. Two-way discussion and interaction do not exist in mass media communication. This limits mass media opinion leaders as their role is limited to only developing strategies and functions. Hence, the results of the study show that social media parasocial opinion leaders have advantages in terms of strategies during a communication process compared to mass media parasocial opinion leaders. Social media opinion leaders should have more potential to develop and expand their functions and strategies that also exist through mass media communication to be applied in the delivery and sharing of information through social media.

In addition, parasocial opinion leaders reduce the complexity and uncertainty of information and facilitate the delivery of topic discussions to their followers (Katz & Lazarsfeld, 1955; Katz, 1957; Stehr et al., 2015). Research findings show that social media health opinion leaders play a role in information strategies and complexity reduction. Information and complexity reduction strategies can be divided into descriptive delivery style, informative delivery style, information sharing, information and health literacy, and correction of information and mythical perceptions. The study found that the strategies in information and reducing complexity play an important role in the delivery and sharing of health information on social media. The results of previous studies did not delve into strategies in the information and the reduction of complexity due to the limitations of mass media communication. As such, the findings of this study show the strategies of information delivery practised by social media health opinion leaders, including descriptive delivery style, informative delivery style, information sharing, information and health literacy, correction of information and mythical perceptions. In the delivery and sharing of information, social media health opinion leaders will determine the appropriate delivery styles for their followers so that their followers can easily understand the information shared by reducing the complexity of information on health issues. In addition, the extension of the research findings in the information strategy and the reduction of complexity applied by social media health parasocial opinion leaders and the research results of the in-depth interviews found that accurate and principled description, event description, crisis information sharing, statement, translation of information, statement, direct information, comments, information verification, and experience sharing are the strategic elements in reducing complexity in the information regarding health issues to their followers on social media.

The findings of the study found that social media health opinion leaders often deal with incorrect information that spreads on social media platforms, especially information that can threaten the health of the community. This includes myths such as having night showers causes water to enter the lungs and misconceptions about the COVID-19 vaccines. Social media health parasocial opinion leaders also attach information strategies and complexity reduction which are the importance of the description, information presentation style,

information, information and health literacy, and correction of information and mythical perceptions. As such, the findings of the study show that social media health parasocial opinion leaders often use the strategy, which is the correction of information and mythical perceptions as well as providing information and health literacy to correct incorrect information and myths with the support of research, statistics, evidence, general information literacy and health, awareness in effect, awareness in correction, and awareness in general to reduce the complexity of information delivered to their followers and increase the followers' understanding and knowledge of a health issue.

The findings of the study also discovered the health orientation strategies. Health orientation prioritises consequential orientation that can increase awareness, as well as guidance situational description, orientation in the correct information, and orientation in general. The presentation of health information through health orientation can give social media users a clear picture of the consequences of ignoring a healthy lifestyle. As a result, health orientation can provide guidance not only to improve understanding, but also to influence social media users to live a healthier lifestyle.

This study's findings also show interest stimulation, another strategy practised by parasocial opinion leaders. The stimulation of interest played by health parasocial opinion leaders can be seen in the followers wanting a further explanation, disseminating information to other individuals, paying attention, sharing experiences, and stimulating general interest of a health issue. Sharing experiences on a health issue can not only attract the attention of followers, but the followers will become more interested in the issue. However, the study's findings were different from the findings of the initial model process because this study found that emotional stimulation also plays a role in the delivery and sharing of health information through social media. For instance, sad emotions, angry emotions, and emotions in general are the emotional stimulation strategy used by social media health opinion leaders in the delivery and sharing of health information to followers. The strategy is important when sharing health information to influence the thoughts and behaviours of social media users. The study's findings also show that social media health opinion leaders use feelings of sadness and anger when sharing and discussing health information to attract attention and encourage participation. However, the emotional stimulation strategy utilised often stems from the personal experiences or feelings of social media health opinion leaders as medical doctors regarding health issues, such as doctors getting angry with incorrect information that spreads on social media. The use of anger by social media health opinion leaders is, however, not to anger followers but to address health issues.

The study's findings show that social media health opinion leaders could utilise the available functions on social media platforms according to the situation and topic of discussion with their followers. Doctors use various functions provided by social media platforms such as pictures, videos, writing, and infographics when making live sessions according to the situation, wishes, and the selection of discussion topics by their followers. Despite the fact that different communication mediums have different functions that can affect the development of a model, the functions available on social media are not available in traditional communication such as radio, television, newspapers, and posters. In a growing media environment, people may still receive information through radio and television, yet as traditional communication platforms only create one-way communication, it has limitations and similar studies on the use of the platform will give different research results.

Although the study's results prove that the study of communication of opinion leaders is not limited to the theory of two-step flow communication, the two-step flow communication theory has been tested and confirmed on many occasions through studies on different topics (Katz, 1957). However, technological changes in the past decade, especially with the spread of media such as blogs, online communities, and social media, have led to the re-evaluation of the validity of the theories related to the new media environment.

The findings of this study fail to discuss the validity of the theory of two-level flow communication through social media, and whether this theory is still appropriate in the social media environment because the re-evaluation of the validity of this two-level flow communication theory is beyond the scope of this study. Therefore, the findings of this study show the process of the social media health parasocial opinion leader model when delivering information to their followers, particularly strategies used.

The findings of this study show that the communication process of opinion leaders has changed using new media communication. This study discovers that social media health opinion leaders have their own strategies when delivering health information to their followers. The information and knowledge about health issues and information they convey and share with their followers do not come from the mass media, but from the knowledge and expertise that the Ministry of Health Malaysia has recognised. Social media health opinion leaders have extensive knowledge to create and interpret health information based on issues discussed by the public, incorrect information circulating on social media, and situations and requests from their followers. For example, social media health opinion leaders correct information and mythic by discussing and clarifying information with facts and studies to improve the understanding and knowledge of their followers. In short, social media health opinion leaders can provide guidance, advice, and information to influence an individual's decisions and attitudes. The discussion and explanation of the information they interpret through social media are also based on their knowledge and expertise as doctors. Also, health parasocial opinion leaders create and interpret health information that adheres to their ethics, professionalism, and medical expertise.

According to previous studies, such as in the study of Katz and Lazarsfeld (1955), Katz (1957), Weimann (1994), and Lazarsfeld, Berelson and Gaudet (2021), opinion leaders who are more exposed to mass media and media that are closely related to their field of expertise will further convey information to their followers. According to Weimann (1994), opinion leaders obtain more information from the media, process and store more information, and use it. However, the findings of this study do not support previous studies that social media health opinion leaders are less exposed to mass media in the formation of information to followers. The formation of health information is based on their expertise, the situation of the wants and demands of the followers, and the topics being hotly discussed. Based on the study's findings, social media health opinion leaders are guided by their assessment based on deep understanding and continuous engagement with the subject of expertise and the continuous formation of health information according to the situation and circumstances. The findings of the study also show that most health information formation delivered by social media health opinion leaders is at the request of followers and circumstances. Medical doctors will open opportunities for topics that interest their followers, including any topics to be discussed in the future. Nevertheless, social media health opinion leaders also discuss and share information based on critical and controversial information, such as the vaccination of the COVID-19. Many doctors faced with critical and controversial issues played a role in

explaining, discussing, and sharing information about receiving vaccination with the support of facts, statistics, and studies to influence and convince their followers to receive vaccination for personal and community safety.

Medical doctors have credibility, and thus can internalise change by adapting information to reliable sources and convincing their followers through social media. The findings of this study show that social media health opinion leaders are skilled in processing health information based on their information sources and expertise. Besides that, they are socially active and involved in many social relationships, they also integrate social media. Medical doctors who are opinion leaders use social channels to gather information and gain insights needed by their followers before spreading their influence and advising them. However, the findings of this study are based on certified medical doctors, so the results may be different with health opinion leaders who do not have a certified medical background such as exercise instructors.

CONCLUSION

In conclusion, the study has identified the strategies used by social media health parasocial opinion leaders, as well as the exposure of the various sources and information processing patterns of health opinion leaders among medical doctors involving their areas of expertise only. The study shows that social media health opinion leaders know their status as a body of expertise in the delivery of health information, as well as their influence. Their familiarity, interest, and self-confidence make social media health opinion leaders the expert in their field. However, their impact depends on their assessment based on their expertise and interests. As such, the medical doctors in this study are considered health parasocial opinion leaders on social media because they are active creators of health information for their followers. They tend to be influenced by external factors such as followers, but are more likely to seek information from various sources to discuss, interact, and share health information with their followers. Medical doctors deliver and share health information, as well as establish two-way communication. Parasocial opinion leaders can influence followers' attitudes in terms of opinions, emotions, and actions. However, researchers do not think this processing creates a direct relationship in the fulfilment of certain functions and components.

Nevertheless, the influence of opinion leaders in specific fields should be studied every year to identify the impact and effectiveness of opinion leaders. Therefore, it is suggested that future studies review studies related to health parasocial opinion leaders on social media from time to time to see if there are changes following the rapidly changing social media environment. In addition, Saw et al. (2021) in a study emphasised a parasocial relationship between opinion leaders and their followers. Even though opinion leaders may not know their followers, some followers still feel they have a relationship with social media health opinion leaders. Yet the quality of parasocial relationships remains unexplored, especially in social media health communication between social media health opinion leaders and followers.

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BIODATA

Saw Teck Chew is a postgraduate student at Center for Media and Communication Research (MENTION), Faculty of Social Sciences and Humanities (FSSK), Universiti Kebangsaan Malaysia. Email: tc_saw82@hotmail.com

Emma Mohamad (Ph.D.) is an Associate Professor at the MENTION, FSSK, Universiti Kebangsaan Malaysia. She is also a director of UKMxUNICEF HealthComm C4D. Her expertise is in Health and Crisis Communication. Email: emmamohamad@ukm.edu.my

Sabariah Mohamed Salleh (Ph.D.) is an Associate Professor at MENTION, FSSK, Universiti Kebangsaan Malaysia. Her area of specialization is media and information literacy. Email: sabariah@ukm.edu.my

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