

## Acceptance of Health Messages Conveyed by Parasocial Opinion Leaders on Twitter among Followers

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### ABSTRACT

Social media does not only provide a space for individuals to communicate, but it also encourages individuals to find and share health information. This situation has led to a change in the patterns and functions of health opinion leaders that exist on social media. Health opinion leaders influence media users by sharing and delivering health information and are capable of fostering parasocial relationships with media users. Therefore, it is essential to investigate the process by which parasocial opinion leaders shape health messages on social media. In correspondence, this study sought to understand the level of acceptance of health messages among Twitter users of the information tweeted by parasocial opinion leaders. In-depth interviews were conducted on 25 followers of parasocial health opinion leaders on Twitter. This study found that the formation of health messages and information conveyed by parasocial health opinion leaders could influence their followers. Four forms of message reception were identified in this study: 1) information and complexity reduction (a description, information delivery style, information sharing, information, and health literacy, and correction of information and mythical perceptions), 2) health orientation, 3) stimulation of interest, and 4) strengthening of the image and ethics of professionalism. Additionally, this study also discovered that media users perceived health opinion leaders as mentors, family members, friends, and idols.

**Keywords:** *Health communication, opinion leader, parasocial opinion leaders, parasocial relationship, social media.*

### INTRODUCTION

Social media has replaced other communication media by becoming the primary means of communication (Bugini, 2018; Jin, Group, & Central, 2018; Multimedia Commission and Malaysian Communications, 2020). It has changed communication styles and patterns (Bugini, 2018; Jin et al., 2018; Mehta & Dixit, 2015), and the exchange of information and opinions (Multimedia Commission and Malaysian Communications, 2020; Ozturk, Li, & Sakamoto, 2015). Social media users rely on social media facilities to access and share information in various fields, including health. Health information tailored to the needs, interests, abilities, and motivations of the targeted community or followers usually contains a warning or an explanatory statement or visual representation of the health issue in effect (Rimal & Adkins, 2003). Therefore social platforms are frequently used to gather health information, and social media users are allowed to frequently engage in discussion on health issues (Saw, Emma, & Sabariah, 2019). Via social media platforms, opinion leaders can play a role in delivering messages to influence the attitudes and behaviours of media users. Media users engage in information exchange and have strong intentions to create groups of followers in the world of social media (Flodgren, O'Brien, Parmelli, & Grimshaw, 2019; Saw et al., 2019).

Social media causes an evolution among opinion leaders (Emma, Abdul Latiff, Sabariah & Ummu Khadijah, 2017), besides providing an opportunity for health opinion leaders to spread their opinions and ideas to media users (İnceoğlu, Özçetin, Gökmen Tol & Alkurt, 2014). Health opinion leaders actively deliver health messages to influence media users on social media. Nevertheless, there are health opinion leaders who do not have any medical background. Though without credentials, their leadership could still influence and attract media users, resulting in their media users receiving less accurate health information (İnceoğlu et al., 2014; Emma et al., 2017). Opinion leaders who lack a medical background can complicate society's understanding of health messages, considering not all individuals can differentiate and evaluate health information, i.e., whether the information is beneficial or harmful for them (Carrotte, Vella & Lim, 2015).

Examples of parasocial health opinion leaders include the health director-general in the Ministry of Health Malaysia, Tan Sri Dr. Noor Hisham Abdullah, a Malaysia Consultant Physician and Nephrologist, Dr. Rafidah Abdullah, physicians for a Malaysian non-governmental organisation called 'MedtweetMy' etc. They are active and part of opinion leaders to influence followers in delivering social media health messages.

Accordingly, the evolution of opinion leaders in social media in the field of health is observable in the new media environment (Meskó, Radó, & Gyorffy, 2019; Schafer & Taddicken, 2015). However, new challenges exist among users regarding relocating reliable information (Chen, Glass, & McCartney, 2020). Past studies have identified the characteristics of opinion leaders with influence in various fields, including health communication. However, studies on the functions of opinion leaders and their parasocial influence in the context of health communication on social media remain scarce (Saw et al., 2019). In the study by Saw, Emma and Sabariah (2019), they discovered that most previous studies only focused on the effectiveness of health opinion leaders in disseminating health messages. Therefore, this study explores the acceptance of health messages conveyed by parasocial health opinion leaders through a social media platform based on the process model of parasocial opinion leaders developed by Stehr, Rössler, Leissner and Schönhardt (2015).

## LITERATURE REVIEW

### *Social Media and Opinion Leadership in Health Communication*

The concept of opinion leadership was established in the 1940s (Lazarsfeld, Berelson, & Gaudet, 2021). It was prevalent in the 1970s across various fields, namely, marketing, fashion, politics, family planning, science, agriculture, and even healthcare (Weimann, 1994). According to Weimann (1994), in the field of opinion leaders in healthcare, personal advice and guidance play an important role in the two dimensions of healthcare, namely information exchange and the influence among medical professionals and non-professional audiences. Health opinion leaders are able to provide guidance, advice, and information to influence an individual's decisions and attitudes, especially in the areas of awareness, knowledge, technology, or new practices (Weimann, 1994). Nevertheless, according to Weimann (1994), previous studies involving the activation of opinion leaders within the professional community have demonstrated the practical value of medical opinion leaders as drivers for positive innovation, practice, and knowledge to an individual. Moreover, in a study, Carpenter and Sherbino (2010) and Flodgren, O'Brien, Parmelli, and Grimshaw (2019) have stated that healthcare professionals could use opinion leaders to influence a person positively.

Opinion leaders use social media to easily and quickly interact and communicate information on general health with media users through various methods such as video, live broadcasts, writing, photos, infographics, etc. Social media platforms provide a space for opinion leaders to share health information and experiences. As a result, media users now have easy access to health information through the internet or social media platforms such as Facebook, Twitter, and Instagram. Even this sharing can result in a pool of available and accessible health information (Emma & Ummu Khadijah, 2018; Emma et al., 2017; Emma & Wan, 2017; Saw et al., 2019), according to Emma and Ummu Khadijah (2018), Emma et al. (2017), Emma and Wan (2017), many people seek advice from individuals who do not have a medical background because they have their appeal and influence on social media, which allows them to influence media users. As media users have the freedom to obtain information from whomever they prefer (Emma & Ummu Khadijah, 2018; Emma et al., 2017; Emma & Wan, 2017; Saw et al., 2019), this situation raises concerns and doubts about the accuracy of information provided by unauthorised groups or individuals.

Previous studies have proven the influence of opinion leaders and the application of communication through new media. Given that the development of health opinion leaders on social media also happens in Malaysia and that the research in this area is still lacking in Malaysia, the influence of health opinion leaders who are on social media should be explored further by researchers. Emma and Ummu Khadijah (2018) suggest that future study should not only be limited to the medium but should also take into account the strategies and means of communication used by health opinion leaders because according to the study by Emma et al. (2017), opinion leaders play an essential role in reducing health problems and influence the individual's health attitudes and behaviours.

#### *Parasocial Relationship Approach by Opinion Leaders*

Parasocial interaction was first discussed in the perspective of media and communication studies in 1956 by Horton and Wohl (1956). This concept began to gain attention in the field of communication in 1970. It is described as an interaction that paints a picture of face-to-face relationships or interpersonal exchanges involving characters or personalities (Gregg & Schiappa, 2017). The concept of parasocial interaction originated from the overall development of the theory of users and gratification, which examines how media users use media and its intended purpose (Marmor-Lavie, 2017). Media users in this parasocial relationship create a sense of intimacy, reality, and affinity towards the opinion leaders in the communication media (Marmor-Lavie, 2017). Parasocial interactions have been discovered to exist even before the advent of mass media when citizens established relationships with political figures and certain members. Subsequently, psychologists adopted these interactions between the public and prominent politicians and representatives in the emerging social relationships between mass media users (Horton & Wohl, 1956).

Parasocial interactions inherent in users' media exposure experience evolve, creating a parasocial relationship that permanently spans multiple media, outside the context of media exposure (Horton & Strauss, 1957). Horton and Strauss (1957) stated that long-term feedback is more commonly referred to as one of the characteristics of a parasocial relationship. Due to the requirement of interpersonal attractions to increase an individual's proclivity for engagement in relationships in general, parasocial relationships are also referred to as social relationships (Tukachinsky, 2014). Generally, these parasocial relationships have the potential to contribute to media impact in two ways. First, parasocial relationships can

serve as motivational and guidance factors to media exposure. Second, parasocial relationships may act as mediating variables in the transmission of the effects of media exposure (Sokolova & Kefi, 2020; Tukachinsky, 2014; Yuksel & Labrecque, 2016).

In the ever-changing media landscape, media users form parasocial relationships with their preferred opinion leaders. They follow and connect with opinion leaders through social media to strengthen their parasocial relationships (Hanief, Handayani, Azzahro, & Pinem, 2019; Yuan & Lou, 2020; Sokolova & Kefi, 2020). From the basis of parasocial relationships, Horton and Wohl (1956) stated that opinion leaders who engage in direct communication with media users on social media platforms have developed a sense of leadership, which can later strengthen the intimacy between the two parties. This intimacy exists as media users regard opinion leaders as peers. This friendship is more important than physical attraction in developing parasocial relationships. Media users interact with opinion leaders on a regular basis and thus form bonds similar to those formed with friends in which they feel intimate or are emotionally connected with each other (Rubin, & McHugh, 1987; Gregg & Schiappa, 2017; Marmor-Lavie, 2017). This is due to parasocial experiences relying on opinion leaders to address media users or their audiences, in particular (Hartmann, & Goldhoorn 2011). Accordingly, some media users may interact with opinion leaders through social media and play a particular role in the relationship, such as in interpersonal relationships. In this situation, users have the opportunity to experience things from a different perspective or that they have not experienced before (Gregg & Schiappa, 2017). Moreover, the relationship accepts or rejects discussions between opinion leaders and media users (Horton & Wohl, 1956). However, self-disclosure plays an important role in shaping parasocial relationships (Chung & Cho, 2014; Ledbetter & Redd, 2016).

According to Stehr et al. (2015), opinion leaders are highly integrated and socially active. These opinion leaders, when compared to non-opinion leaders, exhibit high levels of social abilities and social relationships in social groups (Nisbet, 2005; Weimann, 1994). They do not only have a large number of friends in social relationships, but are also active in social groups and have a solid social network presence (Weimann, 1994; Chaudhry & Irshad, 2013). According to the parasocial theory of opinion leaders, interpersonal opinion leaders serve two important functions; first, they evaluate, and second, they transfer information disseminated by the mass media (Stehr et al., 2015).

### Process Model of the Concept of Parasocial Opinion Leadership

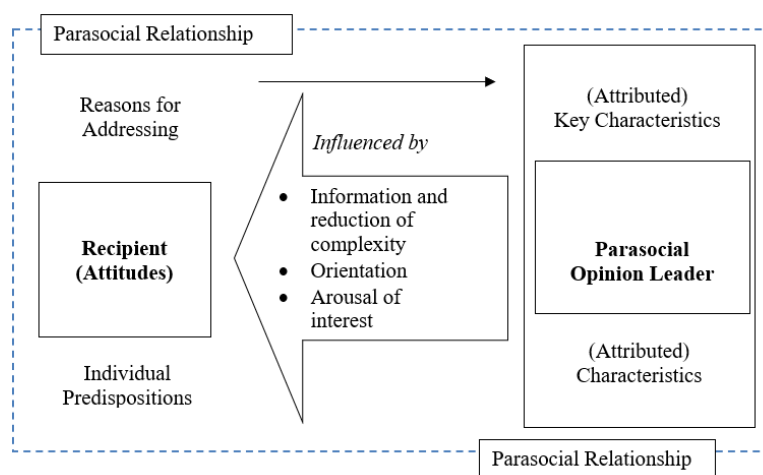


Figure 1: Process Model of Parasocial Opinion Leadership (Stehr et al., 2015)

Figure 1 presents a process model of parasocial opinion leadership developed by Stehr et al. (2015) in political communication to describe the relationship that is forged between opinion leaders and their followers through media. This model contains three pre-conditions. The first pre-condition is the characteristics of opinion leaders. The second pre-condition is the functions inherent in processing information and complexity reduction, orientation, and arousal of interest. In the second pre-condition, at least one function exists during the processing of the opinion leader's parasocial relationship. Furthermore, the third pre-condition is the recipient's attitude in the process of parasocial relations with the opinion leader.

According to Rubin and Step (2000), parasocial relationships are a continuation of the media relationship between media users and media personalities, celebrities, or opinion leaders. Through this relationship, media users may forge an interpersonal relationship with their favourite media personality and regard them as best friends (Huang, Chan & Tse, 2011). This is because media users, particularly followers of opinion leaders, are more likely to develop parasocial relationships with opinion leaders as they are perceived as trustworthy and risk-free individuals (Kim, Ko & Kim, 2015). Not only that, as a result of the exposure, profound parasocial experiences result in a stronger commitment to social norms and a greater sense of enjoyment (Hartmann & Goldhoorn, 2011).

Media users who follow the parasocial opinion leader have their own wants and reasons, and the leadership of the opinion leader parasocial influence possesses characteristics that can attract media users' attention. In the digital environment, social media existence strengthens the relationship between opinion leaders and their followers. Fans can connect with their opinion leaders via social media platforms such as Twitter and Facebook (Click, Lee, & Holladay, 2013). While it is possible that the parasocial opinion leadership process may exist in social media, further research needs to be conducted to confirm this (Stehr et al., 2015). This is because, even though interpersonal communication with opinion leaders has become an alternative channel to influence interactions in the mass media, the role of opinion leaders in providing health explanations on social media remains unclear (Stehr et al., 2015).

## METHODOLOGY

### *Participants*

This study employed an in-depth interview research method and a non-probability sampling technique to explore the acceptance of health messages that parasocial health opinion leaders convey through social media. 25 eligible respondents were interviewed for data collection, consisting of 11 males and 14 females. Their ages ranged between 21 to 43 years. Several factors influenced the selection of respondents. To begin with, respondents must have interacted with at least one medical doctor on Twitter. Second, the medical doctors, whom the informants followed, had a Twitter following of more than 10,000. Third, informants must have actively re-tweeted or shared health information shared by medical doctors on Twitter. Four informants had constantly interacted with and participated in health information discussions with medical doctors. Accordingly, this study recruited respondents who were followers of a Twitter account run by certified physicians for a Malaysian non-governmental organisation called 'MedtweetMy.' Interview sessions were ceased at informant number 25 because the saturation point has been met.

*Validity and Reliability*

Peer reviews were involved in the process of determining the validity and reliability of the interview questions, alongside expert validation. Qualitative research methods such as interviews and focus groups were underused in the data collection stage of research on health opinion leaders. Therefore, a qualitative approach was adopted in this study. Five (5) experts, including two (2) of the creators of the process model of parasocial opinion leadership, with relevant field experience, evaluated instrument validity in this study. This study had been granted ethical approval from Universiti Kebangsaan Malaysia (UKM PPI/111/8/JEP-2021-220).

*Interviews*

Pilot interviews were first conducted to test and modify interview questions based on the initial feedback. All interviews were conducted individually, with each interview lasting between 60 and 90 minutes. The interviews were recorded and then transcribed by a professional transcriber. The completed transcripts were later reviewed by the researchers involved in this study.

*Analyses*

This study utilised Atlas.ti version 8 for qualitative data analysis. The interview data were transcribed verbatim, coded, and categorised according to the model used. The analysis process was monitored and guided by a certified Atlas.ti senior trainer to ensure its validity and correctness.

RESULTS

This study explored the acceptance of health messages conveyed by parasocial health opinion leaders via Twitter. Apart from the prevalence of information and complexity reduction, the findings of this qualitative study confirmed that orientation and arousal of interest also exist in the process model of parasocial opinion leadership in health communication. Four (4) forms of message receptions were identified in this study: 1) information and complexity reduction (a description, information delivery style, information sharing, information and health literacy, correction of information and mythical perceptions), 2) health orientation, 3) stimulation of interest, and 4) strengthening of the image and ethics of professionalism. Table 1 presents a summary of each reception.

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

<b>Superordinate Themes</b>	<b>Subordinate Themes</b>
<b>1. Information and complexity reduction</b>	
I. A description	<ul style="list-style-type: none"> <li>● Principled explanation</li> <li>● Explanation of the incident</li> <li>● The right explanation</li> <li>● General explanation</li> </ul>
II. Information & health literacy	<ul style="list-style-type: none"> <li>● Research</li> <li>● Statistics</li> <li>● Evidence</li> <li>● General information literacy &amp; health</li> </ul>

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<b>III.</b> Sharing information	<ul style="list-style-type: none"> <li>● Crisis information</li> <li>● Statement</li> <li>● Statement from the Ministry of Health Malaysia</li> <li>● Experience sharing</li> <li>● Straight to the point in sharing information</li> <li>● Sharing general information</li> <li>● Translation</li> <li>● Validation</li> <li>● Comment</li> </ul>
<b>IV.</b> Information presentation style	<ul style="list-style-type: none"> <li>● A language that is easy to understand</li> <li>● Informal language</li> <li>● Friendly language</li> <li>● Language in general</li> <li>● A picture that is easy to understand</li> <li>● General images</li> <li>● Infographics</li> <li>● Infographic from the Ministry of Health Malaysia</li> <li>● Short videos</li> <li>● General videos</li> <li>● Live</li> <li>● A short story</li> <li>● General story</li> <li>● Writing short sentences</li> <li>● Titled writing</li> <li>● General writing</li> <li>● General style</li> </ul>
<b>V.</b> Correction of information & mythical perceptions	<ul style="list-style-type: none"> <li>● Awareness in effect</li> <li>● Awareness in correction</li> <li>● Awareness in general</li> </ul>
<b>2. Health orientation</b>	<ul style="list-style-type: none"> <li>● Consequential orientation that increases awareness</li> <li>● Guidance</li> <li>● Situation description</li> <li>● Orientation in the correct information</li> <li>● General orientation</li> </ul>
<b>3. Stimulation of interest</b>	<ul style="list-style-type: none"> <li>● Desire for further explanation</li> <li>● Disseminate information to other individuals</li> <li>● Pay attention</li> <li>● Sharing experiences</li> <li>● Stimulation of interest in general</li> </ul>
<b>4. Strengthening the image and ethics of professionalism</b>	<ul style="list-style-type: none"> <li>● Refuse online consultations</li> <li>● General ethics</li> <li>● Ethical advice</li> <li>● Professionalism in general</li> </ul>

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*a. Information and Complexity Reduction*

Information and complexity reduction are divided into description, information presentation style, information sharing, information literacy, health, and the correction of information and mythical perceptions, as shown in Table 1.

This study found that media users were easily influenced by medical doctors, or opinion leaders, with reduced complexity and uncertainty associated with health information. The four (4) open codes for the identified explanatory categories are principled explanations, incident explanations, accurate explanations, and general explanations. This study confirmed that media users valued explanations on health messages from opinion leaders. Respondents in this study agreed that explanation and sharing of health information in detail via a health presentation style aided their comprehension. This finding indicated that explanation plays a role in the process of receiving messages from opinion leaders.

This confidence is important to increase one's perseverance. Because the description that is shared by the doctor has an in-depth description of an event or consequence that will happen, that is, we gain an awareness of the correct information about an ongoing health situation if we do not follow what will happen to ourselves (Informant Y3).

Media users in the process of receiving health messages and information are influenced by the various delivery styles used by opinion leaders. In this study, different doctors employed different presentation styles to attract the attention of different Twitter followers. There were seventeen (17) identified open codes for the categories of information delivery styles which are: a language that is easy to understand, informal language, friendly language, language in general, a picture that is easy to understand, pictures in general, infographics, infographics from the Ministry of Health Malaysia, short videos, videos in general, live broadcasts, short story, a story in general, short sentence writing, titled writing, writing in general, and style in general.

Usually, most people also that there are a lot of scientific things to learn, which is difficult to understand, then they try to help followers use a style that is easier to understand (Informant Y1).

Meanwhile, nine (9) open codes were identified for the information sharing categories which are crisis information, statement, statements from the Ministry of Health Malaysia, experience sharing, straight to the point in sharing information, sharing information in general, translation, validation, and comments. In addition, four (4) open codes for information and health literacy were identified, namely, research, statistics, evidence, and information and health literacy in general.

According to the in-depth interview analysis of this study, respondents prioritised information literacy and health, especially when prioritising research information, statistics, and evidence statements. Additionally, three (3) open codes for information correction for awareness were identified: awareness in effect, awareness in correction, and awareness in general. Respondents who received messages and health information from the doctors on 'MedtweetMy' had increased health awareness. The results showed that sharing and discussion of health information by opinion leaders have extensively corrected the previously held health beliefs among their followers and other social media users.



There is a myth about drinking water, cannot take a shower at night. ..Then if you drink tea after eating, it will hurt. Then it is like a common myth, a popular topic. But the doctors I follow always have discussions and explanations about myths, so I understand and realise this myth is not true and not factual (Informant Y6).

*b. Health Orientation*

Five (5) open codes are identified in the health orientation category. They are consequential orientation that increases awareness, guidance, situation description, orientation in the correct information and orientation in general. Through this study's in-depth interviews, it is discovered that opinion leaders could provide persuasive information orientation, as was evident during the Covid-19 disease outbreak. The respondents of this study received a comprehensive and accurate health orientation regarding the Covid-19 disease outbreak. Therefore, it is concluded that in the reception of health messages and information, social media users are influenced by the health orientation communicated by opinion leaders.

Like when Covid-19, at first, I did not know what Covid-19 was; after many doctors made discussions and shared it through social media, I started to be interested in this topic. Interest in the topic of Covid-19 is nothing, I am just afraid of being infected, so I have to understand exactly what the Covid-19 chain is (Informant Y1).

*c. Stimulation of Interest*

Five (5) open codes for the categories of stimulation of interest are identified which are the request for further explanation, information dissemination, paying attention, sharing experiences and stimulation of interest in general. This study found that media users who follow health doctors on social media are those who are interested in health issues. It was also discovered that the interest of media users in health issues and information was motivated by the expertise and leadership of the opinion leaders. In this study, respondents who were interested in the information generated by the tweets on 'MedtweetMy' began following the respective doctor's personal social media account to gain knowledge about health issues and information.

I think, maybe because after I was diagnosed and have breast cancer last 2 years. So, I started to take care of my health better as compared to before. So, I follow all the doctors on Twitter, psychology, physiatry, and general health, and then a lot (Informant Y25).

*d. Strengthening the Image and Ethics of Professionalism*

Four (4) open codes for strengthening the image and ethics of professionalism are identified. They are refusal of online consultations, ethics in general, ethical advice, and professionalism in general. This study found that respondents felt comfortable with the ethics presented by the doctors. Besides that, opinion leaders who adhered to the principles and ethics while on social media platforms did not accept online consultations.

He is a very active person, interacting with his followers and netizens. Sometimes there will be open space to ask questions, but they answer in general; if you need a face-to-face consultation, they are ethical and will not answer and tell us to see a doctor face to face just the right way (Informant Y20).

### CONCEPTUAL FRAMEWORK OF FINDINGS OF THE STUDY

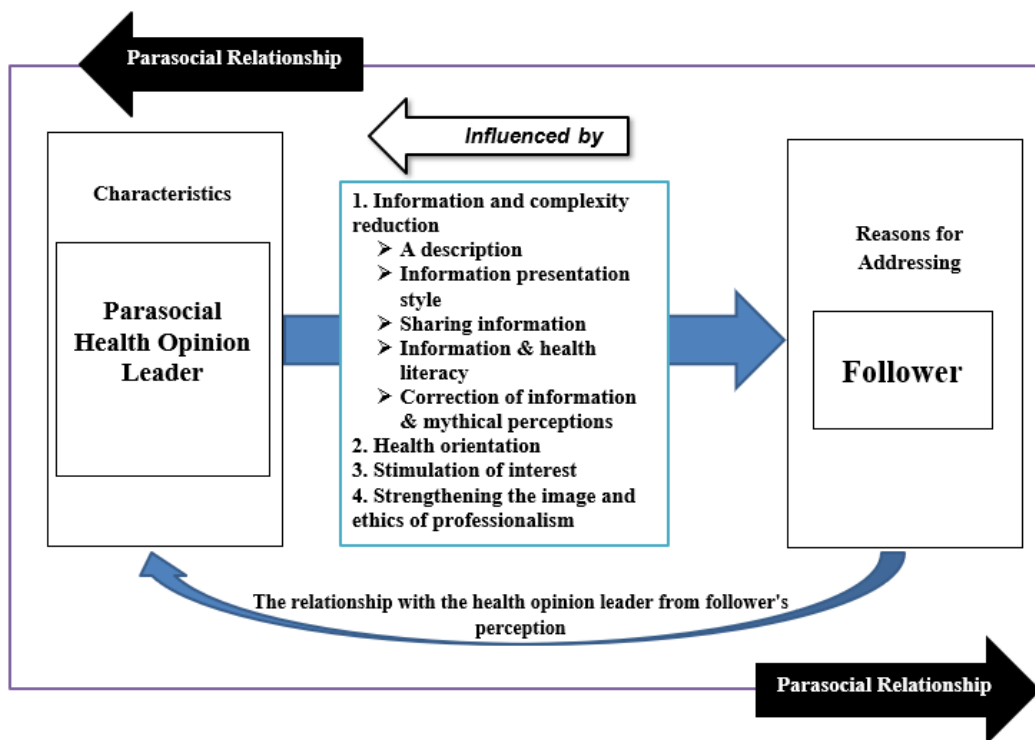


Figure 2: The process model of health parasocial opinion leadership on social media

This study indicated that multiple factors influence the process model of parasocial opinion leadership on social media, especially by the respondents who receive health information from the medical doctors. As a result, this study hypothesised that when followers in the process model of parasocial health opinion leadership on social media receive health information from medical doctors, more than one effect exists. This finding follows the study by Stehr et al. (2015) who found that when media users receive information from parasocial opinion leaders, they will be influenced by at least one of the available functions, as shown in Figure 2.

According to Katz and Lazarsfeld (1955), Weimann (1994), and Greene (2019), each opinion leader possesses different characteristics in their respective fields that entice media users. Although many previous studies have isolated the opinion leader characteristics into social activities, general attitudes, demographics and lifestyle in order to determine who is appropriately termed as the opinion leader (Engel, Blackwell, & Kollat, 1978), no universal feature has been identified that allows opinion leaders to influence media users (Stehr et al. 2015). Engel, Blackwell and Kollat (1978) discovered a group of characteristics of health opinion leaders dependent on the followers' motivations and reasons to address the health opinion leaders they follow. They argue that opinion leaders' characteristics should not act as the primary guide or be tied to the characteristics of past studies, but rather by their respective fields and media users.

Every follower is attracted to an opinion leader for their own reasons. The findings of this study indicate that opinion leaders possess the following characteristics: expertise, activeness, popularity, confidence, extensive knowledge, and the ability to correct information. However, this study did not demonstrate the characteristics of opinion leaders in terms of social activities, general attitudes, demographics, socioeconomics, risk tolerance, and lifestyle. Not only that, it is found that media users follow a parasocial opinion leader of their own volition. The respondents of this study agreed that the reason they followed 'MedtweetMy' tweets and some medical doctors were due to extensive shared knowledge in the field of medicine and that the doctors were highly specialised individuals. For some, the doctors or opinion leaders whom they followed were well-known individuals and active on social media.

Medical doctors can play a role in the delivery and sharing of health information through social media by correcting information to increase the understanding and knowledge of the media users. The respondents of this study agreed that the doctors they followed had instilled confidence among media users through information sharing and narration techniques. Although the characteristics of health opinion leaders inherent in this study were different from previous studies, they conformed to the general concept espoused by Katz (1957, 1960). Katz (1960) and Katz (1957) classified the presence of influence into three categories: 1) embodiment of specific values (who the person is), 2) efficiency (what one knows), and 3) social location strategy (who the person knows). Additionally, this study also found that media users perceive the relationship between them and opinion leaders as mentors, family members, friends, and idols and fans. This relationship allows media users to experience interpersonal relationships with their favourite opinion leaders and regard them as their best friends (Huang et al., 2011).

## DISCUSSION

This study expanded on the preliminary results from the process model of parasocial opinion leadership developed by Stehr et al. (2015). This study emphasised the media users' reception of messages and information upon receiving shared information and reading discussions on health issues posted on social media by parasocial health opinion leaders. The findings showed that media users value knowledge, comprehension, awareness and the values, ethics, and professionalism of the opinion leaders they follow. Media users are more vulnerable to complicated and incorrect health information and are perplexed by information provided by non-medical doctors on social media. As such, opinion leaders, particularly medical doctors, influence media users in the following ways: 1) information and complexity reduction (a description, information delivery style, information sharing, information & health literacy, and correction of information and mythical perceptions), 2) health orientation, 3) stimulation of interest, and 4) strengthening the image and ethics of professionalism.

Media users are influenced by information and reduced complexity (a description, information presentation style, information sharing, information and health literacy, and correction of information and mythical perceptions) when receiving health information from parasocial health opinion leaders on social media. The medical doctors in this study shared and discussed information and health issues by tweeting them on Twitter. According to Stehr et al. (2015) and Gheorghe and Liao (2012), parasocial opinion leaders could facilitate complex topics during the presentation of information to media users and may even help reduce information uncertainty. While many argue that information and complexity

reduction is a broad process that has a major influence on how media users receive health information through social media, media users are concerned with the reduction in the complexity, even when they receive information that emphasises the style of delivery used by parasocial health opinion leaders. In this study, respondents preferred messages with comfortable language styles because it was easy to understand. It is also found that respondents disliked the use of scientific language and medical language terminology because respondents read health messages for the purpose of general understanding and knowledge. This is in line with the findings in the study by Payton, Kvasny, and Kiwanuka-Tondo (2014), which revealed that media users require language that is easy to understand rather than scientific jargon. Therefore, when receiving health information, media users appreciate a language style that is easily understood.

Furthermore, the findings of the study showed that in addition to the language style, information delivery methods such as video, photos, infographics, live broadcasts, writing, and stories, also influence media users. This informative presentation in sharing and discussion of information is both interesting to read and see. Therefore, media users can receive health messages in a manner that suits them to reduce the complexity and uncertainty of information on an issue. As each respondent had a unique social and educational background, they had different wants and needs when confronted with the sharing and discussion of health information by medical doctors on Twitter.

Media users have their preferred style of presentation. This study found that in addition to language, the respondents were interested in presentation through infographics and pictures that were packed with accurate information and important images. It was discovered that video is a method that has a tremendous potential to influence media users. However, this does not signify that media users are biased towards some delivery styles because different modes of delivery serve different functions. According to the results of this study, some respondents lacked the patience and time to read lengthy text and watch lengthy videos. They were more oriented towards short writing that is compact with important information. Meanwhile, short videos in the range of three to five minutes in length could retain media users' attention.

According to Kwon and Hae (2015) with Chakravarthy and Prasad (2011), parasocial health opinion leaders influence the decision-making process of media users. The respondents in this study were highly dependent on the orientation of the opinion leaders on 'MedtweetMy'. Opinion leaders are believed to have provided accurate advice and information to media users. In this study, respondents were willing to take time to read and understand the discussion and sharing of information that the doctors presented because of the quality of the health messages. The respondents also had an interest in the topics and health issues that were being discussed on Twitter. Not only that, the respondents in this study paid attention to the issue by reading and understanding, and they would ask for further clarification by utilising the comments section or personally messaging the doctors. Even so, the doctors who received further inquiries from media users usually responded and answered appropriately in general terms.

Additionally, the experience of parasocial health opinion leaders also influence media users. Parasocial opinion leaders are believed to be capable of broadening the understanding and views of media users by engaging them in new or previously unknown topics. The findings of this study were similar to the study by Stehr et al. (2015). Once media users have completed the process of understanding and accepting health information presented by parasocial health opinion leaders, they become more interested in the topic being discussed. The

respondents in this study were more interested in a health topic if the information they received was important. They would pass the information to their friends and family members via word of mouth and even share the information on their social media accounts. This supports findings by Katz and Lazarsfeld (1955) who discovered that once media users are interested in one topic, they would actively turn the information into advice.

Factors that influence media users in the process of receiving health information are the image, expertise and professionalism ethics upheld by the parasocial health opinion leaders during sharing and discussion sessions. The respondents preferred parasocial health opinion leaders who are ethical and credible during their presentation and less inclined to parasocial health opinion leaders who promoted and sold health products as an element of advertising, refused online consultations during discussions, not reprimanded other media users, and those who were not political during information discussions. Not only that, parasocial health opinion leaders have more potential to develop and expand on available functions and strategies that can be maximised during information delivery and sharing via social media. It is found that parasocial health opinion leaders have more advantages during the communication process on social media compared to traditional platforms.

This study found that media users obtained important health information directly from the media, such as health information about the Covid-19 disease outbreak. Media users obtain important and official information directly from mass media. However, they require additional information, confirmation, discussion, clarification, and the reduction of information complexity from parasocial health opinion leaders whom they follow on social media. The respondents of this study admitted that they rarely turned on the radio and television to get information or news and did not read the news through physical newspapers because most traditional media outlets opted for new media in the delivery and transmission of information.

However, the findings of this study revealed a lack of two-step flow communication. Media users receive important information on mass media, but later on, they seek for further information to correct and validate the information from opinion leaders (Deutschmann, & Danielson, 1960). In this study, respondents often contacted the medical doctors they followed on Twitter to inquire about a health topic that they considered important. As such, parasocial health opinion leaders play a role in assisting media users to better understand the information through their expertise, as appropriate. In addition to helping media users to understand health information better, opinion leaders are also not bound by important information conveyed by the mainstream media or official bodies. Therefore, this model is suitable for health communication in that media users can be influenced by the formation of health messages and information conveyed by parasocial health opinion leaders in the four forms of message reception identified. Parasocial health opinion leaders can give a warning or an explanatory statement or picture about the health issue in effect. These messages cater to individuals' needs, interests, abilities, and motivations.

This discussion focuses on the influences that affect acceptance of health messages by followers as they receive health information conveyed by parasocial health opinion leaders. According to Stehr et al. (2015), parasocial opinion leaders could influence media users through six (6) stages of influence, namely, 1) attention, 2) understanding, 3) trust, 4) consent, 5) integration, and 6) action. Nevertheless, this study examined the effectiveness level that was inherent in decision-making, or the attitudes and understandings of media users as recipients or followers of the information. Accordingly, our study did not attempt to examine

the level of influence and staged decision-making that may exist in the questions of our study. However, it is believed that each influence in the reception of information has a gradually increasing level of influence.

#### CONCLUSION AND FUTURE RECOMMENDATIONS

The evolution of media technology and the media landscape has changed the communication patterns of society and the function of opinion leaders. Many studies have emphasised the advantages of using social media to convey messages more easily and quickly by opinion leaders. Even though this encourages media users to communicate more openly, media users often encounter parasocial relationships with their favourite opinion leaders (Hanief et al., 2019; Yuan & Lou, 2020; Sokolova & Kefi, 2020). Opinion leaders contribute to the spread of health communication on various channels. The influence of opinion leaders in the health field should be reviewed annually to detect and identify the influence and effectiveness of the opinion leader. According to Doumit, Wright, Graham, Smith and Grimshaw (2011), the influence of opinion leaders is constantly changing and is unstable.

Furthermore, the environment for communicating health messages has changed significantly over the past few years and will continue to change over time (Thomas, 2006). These changes are likely to lead to the existence of a dramatic increase in the number of communication channels and the number of public health problems. According to Thomas (2006), these changes have also increased the demand for better quality health information among media users. The growing number of health issues on the public agenda increases the competition for media users' time and attention, creating more opportunities for them to select information based on their interests and preferences due to the increase in communication channels.

Moreover, the changing media landscape necessitates analysis and evaluation of the importance and content disseminated by opinion leaders (Schafer & Taddicken, 2015). Therefore, it is suggested that future research review the studies involving parasocial health opinion leaders on social media periodically to assess any changes that may have occurred following the rapidly changing social media environment. We also suggest that future studies examine the strategies or functions that parasocial health opinion leaders use in the presentation and discussion of health information on social media. Stehr et al. (2015) emphasised the parasocial relationships between opinion leaders and media users, and stressed that the quality of parasocial relationships have yet to be explored, especially in the context of health communication on social media.

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