

Attitude towards social networking sites for tuberculosis health knowledge dissemination

Sarina Harun *

Universiti Sains Malaysia

Email: sarina_aerin@yahoo.com

Azizah Omar

Universiti Sains Malaysia

Email: aziemar@usm.my

Khairiah Salwa Mokhtar

Universiti Sains Malaysia

Email: khairiah@usm.my

** Corresponding Author*

Abstract

Purpose: The objective of this study is to explore TB health knowledge dissemination among Malaysians through social networking sites (SNS) from both technological and social perspectives.

Design/methodology/approach: This study used a quantitative approach that obtained data from a cross-sectional survey. This survey was conducted among Malaysians who have experience with social networking sites (SNS) and a total of 600 responses were considered suitable for analysis.

Findings: This study argues that social bonding and social bridging are statistically significant ($p < 0.05$) with attitude towards TB health knowledge dissemination via SNS.

Research limitations/implications: The study encountered methodological constraints during data collection, primarily related to the challenges of approaching and obtaining responses through social networking sites (SNS).

Practical implications: This study will help MOH develop a good SNS marketing strategy to disseminate TB health information.

Originality/value: The paper evaluates the critical findings on social bonding and social bridging with attitude towards TB health knowledge dissemination via SNS among Malaysians.

Keywords: Social networking sites, Tuberculosis, Knowledge dissemination, Social capital, Attitude

Introduction

It's worth noting that TB death rate in Malaysia increased to 2,184 cases in 2018, compared to 2,098 incidences in 2017, despite a decrease in incidence from 26,168 in 2017 to 25,837 in 2018. Additionally, according to Yaakob (2017), the level of knowledge about TB among Malaysians is low. This knowledge gap can be attributed to the limited focus on health promotion related to TB disease, as highlighted by Rahman and Mokhtar (2015). Therefore, there is a need for more aggressive knowledge dissemination regarding the dangers of TB disease, particularly through social networking sites (SNS). Unlike TB-related leaflets, banners, posters and books, which are mostly available in clinics and hospitals, SNS can be

gotten to from anyplace. In addition, the predominance of social standards on SNS has set up this stage as a favored source for getting wellbeing information, as emphasized by Bolton et al. (2013). Therefore, the dissemination of TB health knowledge should focus on the social norms related to the Social Capital Theory (SCT) perspective existing on SNS for wellbeing information purposes.

Social Networking Sites

Social networking sites (SNS) are online tools that permit communities to come together, communicate, share information, trade thoughts, and discuss images and content. Moreover, SNS facilitate face-to-face communication, reducing ambiguity. Millions of individuals utilize SNS to look for wellbeing data (Kreuter, Farrell, Olevitch, and Brennan, 2013). Additionally, it's vital to note that the utilize of health-related SNS is regularly a proactive behavior rather than a reactive one. SNS are frequently employed for seeking health information and engaging in health-related communication.

SNS have ended up a crucial device for the worldwide community in disseminating health information and are considered one of the primary sources of such information. SNS are often referred to as the largest medical library, lodging over 100,000 health-related websites (Harrison, Barlow, and Williams, 2007). It is considered the best way to access health information because of its privacy, interoperability, and ability to quickly provide needed health information (Balka, Krueger, Holmes, and Stephen, 2010). SNS are dynamic and intuitively computer-mediated communication tools, broadly utilized in high and middle-income countries for health-related purposes (Grajales III, Sheps, Ho, Novak-Lauscher, and Eysenbach, 2014). Activities such as interacting with wellbeing experts and partaking in social back bunches are more accessible on SNS compared to traditional media like newspapers, radios, and televisions rapid. Moreover, advancements in interactive SNS communications provide chances to alter health behaviors. Users can choose to remain anonymous or identify themselves when discussing health topics, making SNS a versatile platform for individuals of all demographics, whether accessed on computers or mobile devices. Table 1 provides a summary of selected previous literature on the role of SNS in health knowledge dissemination.

Table 1: Summary of Selected Previous Literature of SNS

No	Research Title	Authors	Variables	Methodology and Findings	Limitations
1	The Effect of Computer-Mediated Social Support in Online Communities on Patient Empowerment and Doctor-Patient Communication	H. J. Oh and Lee (2012)	-Online community activities -Perceived computer-mediated social support (CMSS) -Intention to communicate with the doctor	Method: -Quantitative -Respondents: -Diabetes patients who have used diabetes online community Findings: - Perceived CMSS from other members in the online community influences their	- This study solely assessed the patients' view on its accessibility.

				intention to actively communicate with the doctor.	
2	Development of a Health Information Technology Acceptance Model Using Consumers' Health Behaviour Intention	J. Kim and Park (2012)	-Health Information Technology Acceptance Model	Methodology: -Quantitative Findings: -Health information on technology influence the intention of users towards health behaviour.	-This study only measured the technology perspective which influenced the behavioural intention.
3	Evaluating Social Media's Capacity to Develop Engaged Audiences in Health Promotion Settings: Use of Twitter Metrics as a Case Study	Neiger, Thackeray, Burton, Giraud-Carrier, and Fagen (2013)	-Engagement -Program Involvement	Method: -Use of Twitter metrics as a case study Findings: - High engagement do not relate to Twitter usage -They are associated with audience member involvement with programs and represent more traditional process evaluation measures typically collected in health promotion practice.	-This study could not view social media as a solution to the complexities of behaviour change and improved health outcomes.
4	Using Social Networking Sites for Communicable Disease Control: Innovative	Mandeville, Harris, Thomas, Chow, and Seng (2014)	-Local health protection service cases -Social media usage	Method: -Qualitative -Respondents: health practitioners Findings:	-This study did not find out the real guidance of using social media.

	Contact Tracing or Breach of Confidentiality?			- Twitter, YouTube and Facebook have attained huge popularity among health practitioners to deliver the health information	
5	Integrating Health Belief Model and Technology Acceptance Model: An Investigation of Health-Related Internet Use	Ahadzadeh, Sharif, Ong, and Khong (2015)	-Health Belief Model -Technology Acceptance Model	Method: -Quantitative Findings: -Women have been using the Internet to manage their health.	-This study only finds out social Internet usage by women related to health management.
6	The Effects of Social Media Use on Preventive Behaviours during Infectious Disease Outbreaks: The Mediating Role of Self Relevant Emotions and Public Risk Perception	S.-H. Oh, Lee, and Han (2020)	-Risk perception -Preventive behaviours -Fear -Anger	Method: -Quantitative Findings: - Social media use can significantly increase preventive behaviours via the fear and anger emotions and the public's risk perception.	-This study did not investigate the sources of information on social media.

Based on the literature presented in Table 1, research on social networking sites (SNS) show a significant discrepancy in the way social factors are measured. Previous studies have primarily focused on measuring technological factors that influence the attitudes of SNS users. It is essential to consider social factors in SNS studies, as the social norms within the digital community should not be overlooked. Therefore, this study aims to integrate both social and technology perspectives. This integration will help assess the attitude of Malaysians towards the dissemination of TB health knowledge via SNS, taking into account both technological and social influences.

Similar to several other nations, Malaysia has also been affected by SNS phenomenon. As a matter of fact, Malaysia is the ninth most engaged nation on SNS worldwide. (Ainin, Naqshbandi, Moghavvemi, and Jaafar, 2015). The popularity of SNS can be attributed to the

social norms it offers to users (Lee, Yen, and Hsiao, 2014). Nevertheless, the spread of information about TB through SNS is inconsistent at most. (Rahman and Mokhtar, 2015), which can have an impact on SNS usage for TB health knowledge. Therefore, this study will encompass social bonding, social bridging, and the overall attitude towards TB health knowledge dissemination.

Attitude Towards TB Health Knowledge Dissemination

Zieger et al. (2017) conducted a review of attitudes as a personal and independent determinant of behavior. It includes a person's beliefs about the outcomes of performing a specific action regardless of whether those consequences are perceived as favorable or unfavorable. These beliefs, in turn, heavily impact a person's tendency to utilize or abstain from utilizing a certain technology. Attitude plays a pivotal role in guiding individual behaviors by shaping perceptions (Ahadzadeh et al., 2015). Attitude is used in this study to measure how SNS are in spreading TB health information. Specifically, it aims to determine whether Malaysians agree or disagree with the benefits of using SNS for health knowledge dissemination. The satisfaction of SNS users in obtaining health information is a crucial aspect validated by measuring these dimensions alongside Social Capital Theory (SCT) variables.

The Role of Social Capital Theory (SCT) in SNS

The importance of social capital in improving healthcare in the community is mainly because of the growing availability of SNS. It serves as a channel or medium for health interventions. Previous research has presented varying interpretations of social capital, highlighting that its significance and comprehension depend on the objectives of health interventions. Moore and Kawachi (2017) acknowledged certain challenges associated with social capital. Portes (2014) argued that the opportunities for social capital in the community are constrained, while the demands are often exaggerated. The inherent freedom within the structure of social capital is also limited (Moore, Daniel, Gauvin, and Dubé, 2009). However, the main goal of this research is to offer a thorough insight into the importance of social connections in the social capital framework, specifically in terms of promoting the spread of TB health information through SNS. Social capital should be assessed based on the suitability of the medium and the segmentation of the audience, as not all communication mediums imply social capital. In this research, we will focus on social capital in relation to attitudes towards SNS. Social bonding and social bridging, though having distinct definitions within the social capital structure, both offer advantages in forming connections. By examining both types of bonding for sharing TB health information through SNS, it is possible to improve the community's capacity to embrace a healthier way of life, ultimately decreasing TB morbidity and mortality rates in Malaysia. SNS offer numerous opportunities to foster social bridging and social bonding (Zhang and Daugherty, 2009). These opportunities, which include considerations of privacy, security, and intimacy, can enhance users' trust on the internet. As noted by Best and Krueger (2006), the level of social capital remains unchanged even without in-person interaction and continues to evolve through the development of new online relationships. SNS have been found to strengthen weak ties due to the internet's inherent features, such as convenience, low cost, and user-friendly systems. For instance, SNS provide information to individuals or other parties and display a list of individuals or other parties with whom new relationships can be formed (Ellison, Steinfield, and Lampe, 2007). Prior literature on SNS consistently affirms that these platforms possess the capability and capacity to create and maintain social bridging and social bonding within the context of social capital (Brandtzæg, Lüders, and Skjetne, 2010).

Social Bonding

Social bonding is a fundamental dimension within the Social Capital Theory (SCT), illustrating the close relationships between its members characterized by emotional attachment, interdependence, shared interests, and opinions (H.-H. Chi, 2011). In such bonds, members provide substantial support to one another, fostering strong relationships, often observed in familial or peer connections. These relationships maintain regular interactions that mutually uplift each other emotionally (Huang, 2016). Social bonding is defined as an exclusive relationship formed by members who share common backgrounds, opinions, and a willingness to offer emotional support to each other. SNS provide a digital space for individuals with strong relationships to stay connected, share information, and knowledge. It's worth noting that users who maintain close ties online can significantly influence each other. This is supported by Eytan, Benabio, Golla, Parikh, and Stein (2011), who suggested that users with a high level of emotional bonding and trust in these strong ties are more inclined to use SNS positively to achieve their desired goals.

According to Kuss and Griffiths (2011), social bonding demonstrates a positive correlation between family members and close friends within the framework of making decisions about health. The strong relationships involve communication and interaction, as individual social motivations, directly influence health evaluations. SNS have proven beneficial in helping users maintain these pre-existing close ties (Ellison, Vitak, Gray, and Lampe, 2014), as individuals on SNS feel more at ease discussing various topics with group members in a social bonding context (Fortin and Dholakia, 2005). Beldad and Hegner (2018) further revealed that the SNS community actively seeks individuals with strong social bonds to assist in health decision-making. Additionally, Ruane and Wallace (2013) highlighted that the SNS community tends to maintain strong bonding relationships while obtaining information from its members. SNS users are more receptive to information provided by their peers with such strong bonding ties. Through these relationships, individuals find greater meaning in life (Chu, Windels, and Kamal, 2016). Furthermore, as suggested by Burke, Marlow, and Lento (2010), information obtained through strong bonding relationships holds more significance than information from other sources.

Duhan, Johnson, Wilcox, and Harrell (1997) presented a contrasting viewpoint, suggesting that strong reliance on relationships may pose challenges in health decision-making. In contrast, Horng, Wu, and Liang (2016) pointed to evidence that social SNS facilitate effective social communication processes and contribute positively to health evaluations. Vitak, Ellison, and Steinfield (2011) emphasized that individuals are often influenced by their social circles, particularly within bonding groups. Trust within close relationships can lead individuals to work together in a mutually beneficial manner, ensuring overall well-being. Factors that involve seeking advice through interdependent relationships can also shape an individual's perception of SNS as valuable for accessing health information. The comfort of sharing information within close bonds leads to increase satisfaction. The need for emotional support and someone to talk to further encourages the usage of SNS for facilitating sharing (Barman-Adhikari, Bowen, Bender, Brown, and Rice, 2016).

Social Bridging

Social bridging is another vital dimension within the Social Capital Theory (SCT), distinct from social bonding. Social bridging reflects the existence of weak and loose relationships where individuals share and disseminate information, acquiring new knowledge with minimal emotional support (Putnam, 2000). Despite the broad nature of these relationships, individuals can still offer and receive information and experiences through these connections (H.-H. Chi, 2011). Social bridging encompasses social relationships that gather various features of individuals, with a particular focus on the breadth of the relationship rather than its depth. Thus,

social bridging highlights the potential for social relationships to expand one's social horizons and continue to offer opportunities for obtaining necessary information (Williams, 2006). Horng et al.'s (2016) study on behaviors on SNS demonstrated that weak relationships can connect individuals to valuable sources of information within SNS, particularly information that circulates on social networks. The relative detachment among members of a network allows for the exchange of a significant amount of information. Additionally, as noted by Fortin and Dholakia (2005), users with loose ties often seek support from their online peer communities and other social connections, which positively influences their access to health knowledge.

Hypothesis Development

Social Bonding

Searching for health references within these close bonds can influence an individual to select SNS as a medium for finding individuals who can provide health information (Liu et al., 2017). These interdependent relationships are typically supportive of overall well-being. Therefore, it is plausible that social bonding significantly impacts the attitude towards TB health knowledge dissemination via SNS. Additionally, given the serious and sensitive nature of TB disease, privacy considerations make social bonding, which constitutes an exclusive relationship, a suitable avenue for seeking confidential health advice. Therefore, this study puts forward the following hypotheses:

H1: There is a positive relationship between social bonding and the attitude towards TB health knowledge dissemination via SNS.

Social Bridging

As demonstrated in the study by Horng et al. (2016), weak relationships can effectively connect individuals to the right sources of information within social networking sites (SNS), especially information circulating on social networks. This suggests that the favorable use of SNS for obtaining health information is not limited to close ties but can also be realized within loose relationships. This is because SNS have evolved to unite all members in loose bonds, essentially making them integral parts of the online community. Consequently, health knowledge shared within these platforms is accessible to all members, not restricted to close contacts only. Thus, using SNS for accessing health information in a positive manner becomes convenient. Moreover, each member in these loose relationships gains a better understanding of health knowledge, covering a wide range of topics (Y.-C. Kim, Lim, and Park, 2015). Furthermore, involving new individuals, particularly healthcare practitioners, in disseminating health information via SNS can significantly improve health knowledge within the SNS community. Each person should have access to valuable information from healthcare practitioners, contributing to the prevention of TB disease and reducing associated risks through SNS. Membership with diverse features fosters increased access to reliable health information. SNS users with loose ties appreciate other users' opinions through an evaluation process that ensures they value the information they receive, particularly since it overcomes geographic and time constraints (MacKenzie and Lutz, 1989). Therefore, it is appropriate for this research to investigate the connection between social bridging and attitude towards disseminating TB health knowledge through SNS. Accordingly, the proposed hypothesis is as follows:

H2: There is a positive correlation between social bridging and the attitude towards TB health knowledge dissemination via SNS.

Methods

This study adopted a quantitative approach, which was considered more suitable for its specific context. The choice of a quantitative research method was driven by its compatibility with conducting a hypothesis-based study, as recommended by MacKenzie and Podsakoff (2012). Data was obtained through a cross-sectional study. The study focused on Malaysians who had experience with social networking sites (SNS), and a total of 600 responses were deemed usable for analysis. Statistical Package for the Social Sciences (SPSS) was used to generate descriptive findings, such as the frequency and percentage of respondents' demographic profiles. To examine the research hypotheses, Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized, with the application of the SmartPLS software.

Findings

The survey contained three demographic inquiries about gender, marital status, and SNS usage, as detailed in Table 2. The majority of respondents identified as female, making up 58.3% of the sample, while the remaining respondents were male, accounting for 41.7%. More than half of the participants were unmarried when it came to their marital status, comprising 59.3%, with 38.2% being married, and 2.5% indicating they were divorced. In relation to SNS usage, a significant portion of respondents, 62.5%, reported using social media for 7 years or more.

Table 2: Demographic Profile

Demographic		Frequency	Percentage	Cumulative
Gender	Male	250	41.7	41.7
	Female	350	58.3	100
Married	Single	356	59.3	59.3
	Married	229	38.2	97.5
	Divorced	15	2.5	100
How long have you been using SNS?	3 to 4 years	124	20.7	20.7
	5 to 6 years	101	16.8	37.5
	Over 7 years	375	62.5	100

Table 3 displays the results, demonstrating that all items exceed the recommended threshold of 0.5, in accordance with the guidance of Cheah, Sarstedt, Ringle, Ramayah, and Ting (2018). Furthermore, each variable's Composite Reliability (CR) exceeds the recommended threshold of 0.8, as suggested by Hair, Ringle, and Sarstedt (2011). Moreover, the Average Variance Extracted (AVE) for every construct analyzed in this research surpassed the 0.5 minimum threshold, in line with the findings of Joseph F. Hair Jr, Hult, Ringle, and Sarstedt (2016), with values falling within the range of 0.615 to 0.758.

Table 3: Summary of Construct Validity and Reliability

Con-structs	Item		Loading	α	CR	AVE
ATT	ATT1	I am positive about using social media to search for TB health information.	0.862	0.840	0.904	0.758

	ATT2	I think social media is beneficial to search for reliable TB health information.	0.907			
	ATT3	I am satisfied with the use of social media to search for reliable TB health information.	0.843			
SBND	SBND1	There are several people on social media I trust to help solve my problem.	0.814	0.918	0.934	0.67
	SBND2	There is someone on social media I can turn to for advice about making very important decisions.	0.841			
	SBND3	There is someone on social media that I feel comfortable talking to about TB disease.	0.854			
	SBND4	When I feel lonely, there are several people on social media I can talk to about TB disease.	0.732			
	SBND5	The people I interact on social media would put their reputation on the line for me.	0.832			
	SBND6	The people I interact on social media would be a good TB health reference to me.	0.823			
	SBND7	The people I interact on social media would help me to support my fight in good health.	0.831			
SBRG	SBRG1	Interacting with people on social media makes me feel like part of a larger community.	0.808	0.929	0.941	0.615
	SBRG2	Interacting with people on social media makes me feel connected to the bigger picture.	0.815			
	SBRG3	Interacting with people on social media reminds me that everyone in the world is connected.	0.817			
	SBRG4	Interacting with people on social media gives me new people to talk.	0.790			
	SBRG5	Social media constantly introduces me to new individuals to communicate with.	0.665			
	SBRG6	Interacting with people on social media makes me interested in TB disease that happens surrounding me.	0.852			
	SBRG7	Engaging with individuals on social media motivates me to explore new TB-related activities.	0.787			

	SBRG8	Interacting with people on social media makes me interested in what people unlike me are thinking about TB disease.	0.823			
	SBRG9	Talking with people on social media makes me curious about TB disease in other places in the world.	0.818			
	SBRG10	I am willing to spend time to support general social media community activities related to TB health.	0.636			

Based on the obtained results, both H1 and H2 were accepted, given that the p-values for these hypotheses were less than 0.05, and the t-values exceeded 1.645. This level of acceptance aligns with the criteria set by Joe F. Hair Jr, Matthews, Matthews, and Sarstedt (2017). It's worth noting that this study employed the bootstrapping method with 5000 resampling iterations to evaluate the significance of the regression coefficients, as outlined in Table 4.

Table 4: Direct Relationships in this Study

H	Path	Beta	Standard Error	t-values	p-values	Decision
H1	SBND -> ATT	0.134	0.058	2.292	0.011	Accepted
H2	SBRG -> ATT	0.223	0.068	3.197	0.001	Accepted

*Significance at $p < 0.10$, **significance at $p < 0.05$, ***significance at $p < 0.01$ (based on one-tailed test), bootstrapping (n=5000).

This study examined the R^2 of the latent variable and the path coefficients related to the hypotheses when evaluating the structural model. The R^2 values for the endogenous constructs were analysed in Table 5. It's important to note that path coefficients with values exceeding 0.10 are considered acceptable, as per the guidelines set forth by Lohmöller (1989).

Table 5: Coefficient of Determination (R^2)

Construct	R Square
ATT	0.422

In addition, the present study assessed the effect size (f^2) using Cohen's effect size estimation. Effect sizes were categorized into three groups, following Cohen's guidelines: small (0.02), medium (0.15), and large (0.35) (Cohen, 1988). Table 6 presents the effect sizes of the variables.

Table 6: Effect Size (f^2)

CONSTRUCT	AT
SBND	0.017
SBRG	0.040

Discussion and Conclusion

This study, which focuses on TB health knowledge dissemination via SNS based on technology and social perspectives, distinguishes itself from previous research. The study's findings confirm that SNS are the most favoured platform for sharing TB health information due to the distinct social norms found exclusively on SNS and not on other platforms. The results show that social bonding and social bridging on SNS make it the preferred platform for easily accessing tuberculosis health information. The government needs to take a more proactive approach in addressing TB morbidity and mortality, as preventing the disease is more effective than trying to cure it once it has already occurred. Hence, spreading TB health information quickly through the most appropriate platform for modern society is essential. Tackling these issues will help the Ministry of Health improve the spread of knowledge on TB health, leading to lower mortality and morbidity rates in Malaysia, ultimately supporting the End TB Strategy for 2035.

Theoretical Implications

Social bonding and attitudes toward the dissemination of TB health knowledge have shown a significant positive relationship in this study. The newly discovered knowledge from this research indicates that Malaysians consistently seek support from their fellow digital natives when making decisions. This is largely due to their high level of trust in close relationships within the social networking community itself. The trust established within close relationships greatly influences individuals to unite in a favorable manner to ensure mutual well-being. Feeling comfortable within these close bonds also enhances the value of information sharing, especially when using a medium that offers maximum satisfaction. The need for emotional support from someone also impacts attitudes towards TB health knowledge dissemination via SNS, making sharing information more effective. The search for health references within these close bonds leads individuals to choose SNS as a medium for finding those who can provide health information. This interdependent relationship also commonly supports the fight against TB disease. Thus, it is clear that social bonding is an important factor in utilizing social networking sites for accessing tuberculosis health information.

There is a strong positive correlation between social bridging and attitudes towards sharing TB health information on SNS. This suggests that the use of SNS for obtaining health information isn't confined to close connections but extends to loose relationships as well. This positive relationship has unveiled new insights into SNS, transforming loosely connected members into an integral part of the community. As a result, health knowledge shared becomes accessible to all members, making it easy for this generation to use SNS for acquiring health information in a favourable manner. Moreover, being part of this loosely connected community exposes each member to a broader spectrum of health knowledge, which contributes to a healthier lifestyle. Engaging new individuals, such as healthcare practitioners, in health-related discussions influences SNS usage among Malaysians due to the necessity for obtaining reliable information from health experts. This study also underscores Malaysians' inclination to maintain their digital community relationships, which have a global reach and provide them with benefits in accessing health information.

Practical and Social Implications

The research findings can be utilized by the Ministry of Health (MOH) and SNS users in Malaysia. The MOH needs to recognize that utilizing SNS is a useful method of sharing information on tuberculosis health. Alternatively, this research will assist MOH in expanding their distribution of TB health information through social SNS to effectively reduce TB rates

among Malaysian SNS users. Moreover, these results will assist the MOH in formulating an effective plan for utilizing SNS for disseminating information about TB health.

Limitations and Suggestions for Future Research

Although the research design was altered to match the research goals, multiple limitations were uncovered in the study. The study encountered methodological constraints during data collection, primarily related to the challenges of approaching and obtaining responses through SNS. The population was hesitant to respond to the questionnaire distributed via Google Forms. Furthermore, it's important to note that the current study specifically concentrates on assessing attitudes toward TB health knowledge dissemination via SNS. Therefore, the findings of this research are specifically relevant to the favorable attitudes of Malaysians regarding TB health knowledge dissemination through SNS.

Despite the aforementioned limitations, this research opens up possibilities and points towards future research directions. Firstly, future studies could employ different data collection techniques like focus groups, to gather more in-depth insights into Malaysians' attitudes toward TB health knowledge dissemination. Additionally, while this study primarily focused on assessing attitudes toward TB health knowledge dissemination via SNS, future research could explore the preferred SNS platforms chosen by different generations in Malaysia.

References

- Ahadzadeh, A. S., Sharif, S. P., Ong, F. S., & Khong, K. W. (2015). Integrating health belief model and technology acceptance model: an investigation of health-related internet use. *Journal of medical Internet research*, 17(2).
- Ainin, S., Naqshbandi, M. M., Moghavvemi, S., & Jaafar, N. I. (2015). Facebook usage, socialization and academic performance. *Computers & Education*, 83, 64-73.
- Ayers, S. L., & Kronenfeld, J. J. (2007). Chronic illness and health-seeking information on the Internet. *Health*, 11(3), 327-347.
- Balka, E., Krueger, G., Holmes, B. J., & Stephen, J. E. (2010). Situating internet use: Information-seeking among young women with breast cancer. *Journal of computer-mediated communication*, 15(3), 389-411.
- Barman-Adhikari, A., Bowen, E., Bender, K., Brown, S., & Rice, E. (2016). *A social capital approach to identifying correlates of perceived social support among homeless youth*. Paper presented at the Child & Youth Care Forum.
- Beldad, A. D., & Hegner, S. M. (2018). Expanding the Technology Acceptance Model with the Inclusion of Trust, Social Influence, and Health Valuation to Determine the Predictors of German Users' Willingness to Continue using a Fitness App: A Structural Equation Modeling Approach. *International Journal of Human-Computer Interaction*, 34(9), 882-893.
- Best, S. J., & Krueger, B. S. (2006). Online interactions and social capital: Distinguishing between new and existing ties. *Social science computer review*, 24(4), 395-410.
- Bolton, R. N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., . . . Solnet, D. (2013). Understanding Generation Y and their use of social media: a review and research agenda. *Journal of service management*, 24(3), 245-267.
- Brandtzæg, P. B., Lüders, M., & Skjetne, J. H. (2010). Too many Facebook "friends"? Content sharing and sociability versus the need for privacy in social network sites. *Intl. Journal of Human-Computer Interaction*, 26(11-12), 1006-1030.
- Burke, M., Marlow, C., & Lento, T. (2010). *Social network activity and social well-being*. Paper presented at the Proceedings of the SIGCHI conference on human factors in computing systems.

- Cheah, J.-H., Sarstedt, M., Ringle, C. M., Ramayah, T., & Ting, H. (2018). Convergent validity assessment of formatively measured constructs in PLS-SEM. *International Journal of Contemporary Hospitality Management*.
- Chi, H., Yeh, H. R., & Yang, Y. (2011). Applying theory of reasoned action and technology acceptance model to investigate purchase behavior on smartphone. *Journal of International Management Studies*, 6(3), 1-11.
- Chi, H.-H. (2011). Interactive digital advertising vs. virtual brand community: Exploratory study of user motivation and social media marketing responses in Taiwan. *Journal of Interactive Advertising*, 12(1), 44-61.
- Chu, S.-C., Windels, K., & Kamal, S. (2016). The influence of self-construal and materialism on social media intensity: a study of China and the United States. *International Journal of Advertising*, 35(3), 569-588.
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences. 2nd. In: Hillsdale, NJ: Erlbaum.
- Duhan, D. F., Johnson, S. D., Wilcox, J. B., & Harrell, G. D. (1997). Influences on consumer use of word-of-mouth recommendation sources. *Journal of the academy of marketing science*, 25(4), 283.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends:” Social capital and college students’ use of online social network sites. *Journal of computer-mediated communication*, 12(4), 1143-1168.
- Ellison, N. B., Vitak, J., Gray, R., & Lampe, C. (2014). Cultivating social resources on social network sites: Facebook relationship maintenance behaviors and their role in social capital processes. *Journal of computer-mediated communication*, 19(4), 855-870.
- Eytan, T., Benabio, J., Golla, V., Parikh, R., & Stein, S. (2011). Social media and the health system. *The Permanente Journal*, 15(1), 71.
- Fortin, D. R., & Dholakia, R. R. (2005). Interactivity and vividness effects on social presence and involvement with a web-based advertisement. *Journal of Business Research*, 58(3), 387-396.
- Grajales III, F. J., Sheps, S., Ho, K., Novak-Lauscher, H., & Eysenbach, G. (2014). Social media: a review and tutorial of applications in medicine and health care. *Journal of medical Internet research*, 16(2).
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing theory and Practice*, 19(2), 139-152.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*: Sage Publications.
- Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107-123.
- Harrison, S., Barlow, J., & Williams, G. (2007). The content and interactivity of health support group websites. *Health Education Journal*, 66(4), 371-381.
- Horng, S.-M., Wu, C.-L., & Liang, T.-P. (2016). *How Behaviors on Social Network sites and Online Social Capital Influence Social Commerce: the Case of Facebook*. Paper presented at the PACIS.
- Kim, J., & Park, H.-A. (2012). Development of a health information technology acceptance model using consumers’ health behavior intention. *Journal of medical Internet research*, 14(5).
- Kim, Y.-C., Lim, J. Y., & Park, K. (2015). Effects of health literacy and social capital on health information behavior. *Journal of health communication*, 20(9), 1084-1094.
- Kreuter, M. W., Farrell, D. W., Olevitch, L. R., & Brennan, L. K. (2013). *Tailoring health messages: Customizing communication with computer technology*: Routledge.

- Kuss, D. J., & Griffiths, M. D. (2011). Online social networking and addiction—a review of the psychological literature. *International journal of environmental research and public health*, 8(9), 3528-3552.
- Lee, M. R., Yen, D. C., & Hsiao, C. (2014). Understanding the perceived community value of Facebook users. *Computers in Human Behavior*, 35, 350-358.
- Liu, Y., Kornfield, R., Shaw, B. R., Shah, D. V., McTavish, F., & Gustafson, D. H. (2017). When support is needed: Social support solicitation and provision in an online alcohol use disorder forum. *Digital health*, 3, 2055207617704274.
- Lohmöller, J.-B. (1989). Predictive vs. structural modeling: Pls vs. ml. In *Latent variable path modeling with partial least squares* (pp. 199-226): Springer.
- MacKenzie, S. B., & Lutz, R. J. (1989). An empirical examination of the structural antecedents of attitude toward the ad in an advertising pretesting context. *The Journal of Marketing*, 48-65.
- MacKenzie, S. B., & Podsakoff, P. M. (2012). Common method bias in marketing: Causes, mechanisms, and procedural remedies. *Journal of retailing*, 88(4), 542-555.
- Mandeville, K. L., Harris, M., Thomas, H. L., Chow, Y., & Seng, C. (2014). Using social networking sites for communicable disease control: Innovative contact tracing or breach of confidentiality? *Public Health Ethics*, 7(1), 47-50.
- Moore, S., Daniel, M., Gauvin, L., & Dubé, L. (2009). Not all social capital is good capital. *Health & place*, 15(4), 1071-1077.
- Moore, S., & Kawachi, I. (2017). Twenty years of social capital and health research: a glossary. *J Epidemiol Community Health*, 71(5), 513-517.
- Neiger, B. L., Thackeray, R., Burton, S. H., Giraud-Carrier, C. G., & Fagen, M. C. (2013). Evaluating social media's capacity to develop engaged audiences in health promotion settings: use of Twitter metrics as a case study. *Health promotion practice*, 14(2), 157-162.
- Oh, H. J., & Lee, B. (2012). The effect of computer-mediated social support in online communities on patient empowerment and doctor-patient communication. *Health Communication*, 27(1), 30-41.
- Oh, S.-H., Lee, S. Y., & Han, C. (2020). The Effects of Social Media Use on Preventive Behaviors during Infectious Disease Outbreaks: The Mediating Role of Self-relevant Emotions and Public Risk Perception. *Health Communication*, 1-10.
- Portes, A. (2014). Downsides of social capital. *Proceedings of the National Academy of Sciences*, 111(52), 18407-18408.
- Putnam, R. D. (2000). Bowling alone: America's declining social capital. In *Culture and politics* (pp. 223-234): Springer.
- Rahman, N. H. A., & Mokhtar, K. S. (2015). Challenges of National TB Control Program Implementation: The Malaysian experience. *Procedia-Social and Behavioral Sciences*, 172, 578-584.
- Ruane, L., & Wallace, E. (2013). Generation Y females online: insights from brand narratives. *Qualitative Market Research: An International Journal*, 16(3), 315-335.
- Vitak, J., Ellison, N. B., & Steinfield, C. (2011). *The ties that bond: Re-examining the relationship between Facebook use and bonding social capital*. Paper presented at the System sciences (HICSS), 2011 44th Hawaii international conference on.
- Williams, D. (2006). On and off the 'Net: Scales for social capital in an online era. *Journal of computer-mediated communication*, 11(2), 593-628.
- Yaakob, M. F. M. (2017). Penularan Penyakit Tuberculosis (TB) di Malaysia: Amalan Pencegahan dan Mekanisme Pengawasan di Institusi Pendidikan. *Jurnal Sains Kesihatan Malaysia (Malaysian Journal of Health Sciences)*, 15(1).

- Zhang, J., & Daugherty, T. (2009). Third-person effect and social networking: implications for online marketing and word-of-mouth communication. *American Journal of Business*, 24(2), 53-64.
- Zieger, A., Mungee, A., Schomerus, G., Ta, T. M. T., Weyers, A., Böge, K., . . . Angermeyer, M. C. (2017). Attitude toward psychiatrists and psychiatric medication: A survey from five metropolitan cities in India. *Indian journal of psychiatry*, 59(3), 341.