ORIGINAL ARTICLE

Using the Theory of Motivated Information Management to Understand Direct Information Seeking on COVID-19 from Close Contacts

Tengku Siti Aisha TMAS[a], *Aini Maznina AM*[a], *Sharifah Sofiah SZ*[b]

[a]Department of Communication, Kulliyyah of Islamic Revealed Knowledge and Human Sciences, International Islamic University Malaysia, Kuala Lumpur, Malaysia

[b]Department of Communication, Faculty of Modern Languages and Communication, University Putra Malaysia, Serdang, Malaysia

ABSTRACT

INTRODUCTION: As the COVID-19 pandemic spread like wildfire in 2020, initially, little was known about the pandemic. Various parties including local governments, health agencies, medical researchers, and frontliners made concerted efforts to ensure the accuracy, timeliness, and reliability of the information released to the public. Accordingly, a major focus of this study is to examine the factors influencing COVID-19 direction information seeking from close contacts as determined by the theory of motivated information management (TMIM). **MATERIALS AND METHODS:** A cross-sectional survey using Google form was distributed to undergraduate students pursuing communication courses at public universities in Malaysia. **RESULTS**: Out of six hypotheses, only two are not supported. Consistent with TMIM, outcome expectancy and target efficacy predict direct information seeking on COVID-19 from close contacts. Further, target efficacy mediates the relationship between outcome expectancy and direct information seeking. **CONCLUSION**: Overall, the study found empirical support for TMIM as a useful framework for understanding COVID-19 information management. The repercussions of these findings on TMIM as well as key factors that may influence decision-making on information seeking during a global health pandemic are also discussed.

Keywords
anxiety, close contacts, COVID-19, direct information-seeking, theory of motivated information management (TMIM)

Corresponding Author
Dr. Tengku Siti Aisha Tengku Mohd Azzman Shariffadeen,
Department of Communication,
International Islamic University Malaysia,
Kuala Lumpur, Malaysia
Email: taisha@iium.edu.my

Received: 15th October 2021; Accepted: 14th Dec 2022

Doi: https://doi.org/10.31436/imjm.v21i3

INTRODUCTION

Following the emergence and rapid spread of COVID-19 across the globe, the pandemic has been dubbed a major threat to the world population's health and well-being. It has recorded more than 55.6 million cases and 1.34 million deaths worldwide. The outbreak can be traced back to December 2019 to one of the marketplaces in Wuhan, Mainland China.[1] Consequently, the market was forced to shut down on 1 January 2020 after a declaration of an epidemiologic alert by the local health authority.[2] Moreover, its impact has led the World Health Organisation (WHO) to announce the situation as an epidemic outbreak. The COVID-19 pandemic has been categorised as the worst global crisis of the present time.

In Malaysia, the Malaysian government has been working relentlessly with relevant health agencies and other parties to disseminate information about COVID-19. Part of the effort involves disseminating timely information on COVID-19 through traditional and new media such as social media, television, and mobile messaging applications. However, given that daily cases are still high and there is still a great deal of uncertainty surrounding COVID-19, much remains to be done in terms of educating the general public, particularly regarding the importance of vaccination and the crucial need to adhere to the relevant standard operating procedures. At the very least, when the general public is armed with the right

amount of information, it can help reduce their anxiety regarding the pandemic and lead to informed decision-making on COVID-19, such as getting vaccinated and deciding to get booster shots, practicing social distancing, and avoiding crowded places.

In managing health information, the theory of motivated information management (TMIM) has established factors that would motivate information management in specific health contexts, such as managing health information with romantic partners[3], talking with family members about organ donation[4], or family health history.[5-7] Others have examined how to cope with sexual health information from best friends [8], determining end-of-life preferences with spouses[9], or discussing retirement preferences with romantic partners.[10] TMIM is even applied in the online context, such as understanding how patients with chronic illness seek information from online support groups or how parents manage conflicting online information about childhood vaccination.[11-12]

TMIM predicts information management strategies based on several variables. The theory bases its foundation on examining the relationship between individuals' level of information management and uncertainty.[13] The present study will focus on direct information-seeking COVID-19 from close contacts as an information management strategy, where it is predicted that individuals with high outcome expectancy and target efficacy are more likely to engage in direct information seeking on COVID-19. Researchers have also extended their understanding of TMIM by examining the mediating role of efficacy judgments in the information management process.[4,6,9] Thus, this present study will attempt to extend the understanding of TMIM by focusing on the role of target efficacy as a mediating variable in the TMIM framework.

Thus, drawing upon TMIM and its impact on decision-making regarding COVID-19 direct information sought from close contacts, this study aims to understand the relationship between TMIM variables in the Malaysian context. Figure 1 illustrates a summary of the predictions of the study based on the TMIM framework.

MATERIALS AND METHODS

The main sample for this study comprised undergraduate communication students who were studying in two public universities in the Klang Valley, Malaysia (*N*=438). Non-probability convenience sampling was chosen for this study since there was no access to the sampling frame. To perform the data analysis in PLS-SEM, the sample must be ten times the study paths.[16] This criterion was met in this study. Using the G*power software, a sample size of 119 was determined as the minimum sample based on the number of predictors. An online survey constructed using Google Form was distributed to the respondents from November 2020 to January 2021.

Throughout the survey, the respondents were instructed to respond to survey items, while selecting a close contact who had supposedly tested positive for COVID-19, and their behaviour in seeking information from that person. Informed consent was detailed in the survey instructions;

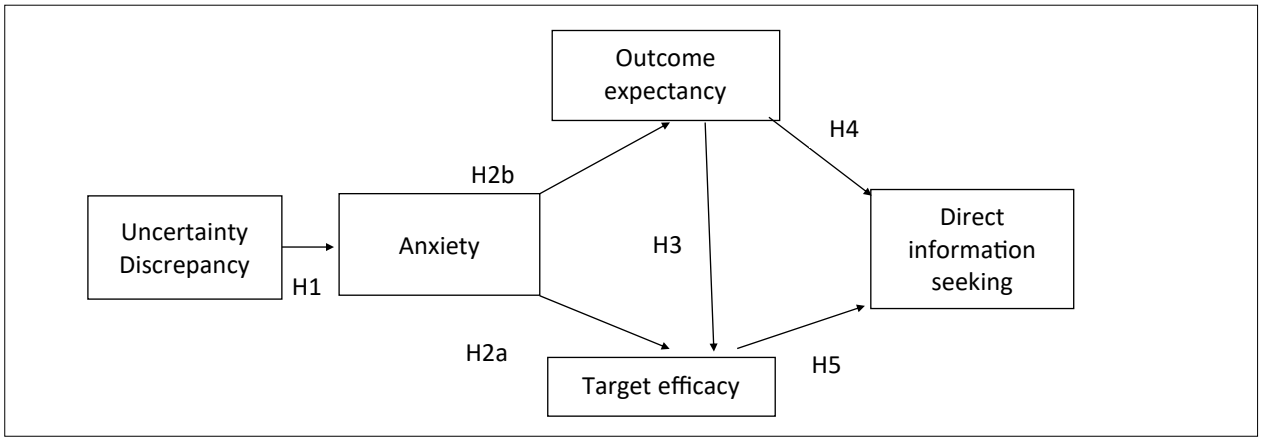

Figure 1 Conceptual framework depicting the relationships between TMIM variables

respondents are reminded that anonymity is ensured and any personal information (i.e., email addresses) is kept in a separate file, and cannot be linked to individual responses. There are minimal to no risks involved in participating, and respondents are also free to withdraw from the study at any time. By proceeding with the first section of the survey, they are consenting to participate in the study. The independent variables of this study are uncertainty discrepancy, anxiety, outcome expectancy, and target efficacy. The dependent variable is direct information-seeking behaviour on COVID-19 from close contacts, while target efficacy is the mediating variable. All scales were adapted from previous studies applying TMIM in health contexts.[3,14-15,17] Each scale has demonstrated adequate internal consistency and validity.

RESULTS

The demographic background of respondents

The respondents who participated in this study were relatively young (M=21.48, SD=2.05), and a majority were females (68%), and Malaysians (65%). Close to one-third of the respondents stayed on campus (27%). The respondents reported an average of four people living in the same residence (M=4.39, SD=2.03). A minority lived in cramped quarters with seven or more people living in the same residence (21%).

Measurement model

The measurement model depicts the relationship between the constructs and the indicator variables. The measurement model was assessed to specify how the measured variables logically and systematically represent constructs included in the theoretical model.[18] In evaluating the measurement model, as suggested by the literature, indicators with low factor loadings (i.e., values below 0.60) should be removed.[19] Only three items were removed due to low factor loadings of below 0.60, i.e., anxiety discrepancy 4, target efficacy 2, and target efficacy 6. Further, to examine the reliability, composite reliability and Cronbach's alpha were assessed. First, the desirable cut-off value for composite reliability is 0.70.[20] This criterion was met, and hence, all the latent constructs of the model achieved acceptable composite reliability. The Cronbach's alpha values for all constructs in this study are well above the threshold of 0.70.[21] These outcomes reflect adequate reliabilities of the latent constructs, implying their suitability for further analysis. Complete results are displayed in Table 1.

Table 1: Factor loadings, reliability, and validity

Items	Loadings	CA	CR	AVE
Uncertainty discrepancy (UD)		**NA**	**NA**	**NA**
UD	SIM			
Anxiety (A)		0.864	0.907	0.710
A1	0.871			
A2	0.905			
A3	0.840			
A5	0.747			
Outcome Expectancy (OE)		0.850	0.909	0.769
OE1	0.876			
OE2	0.902			
OE3	0.852			
Target Efficacy (TE)		0.864	0.908	0.711
TE1	0.805			
TE3	0.834			
TE4	0.904			
TE5	0.830			
Direct Information Seeking (DIS)		0.893	0.933	0.823
DIS1	0.916			
DIS2	0.886			
DIS3	0.920			

Note: CA = Cronbach's alpha, CR = Composite reliability; AVE = Average Variance Extracted; SIM = Single Item Measure. Items A4, TE2 and TE6 were deleted due to low loadings below 0.60

Next, the average variance extracted (AVE) and the heterotrait-monotrait (HTMT) ratio procedure were obtained for the convergent validity assessment. The cut-off criterion for the AVE is 0.50,[19] which was met in this study. To assess discriminant validity, the HTMT ratio procedure was employed. The most conservative threshold values of the HTMT ratio should be less than or equal to 0.90.[22] All HTMT values in this study were below the threshold value of 0.90 (refer to Table 2). Thus, the constructs in the study demonstrated acceptable convergent validity.

Table 2: Discriminant validity (HTMT)

Variable	1	2	3	4	5
1. A					
2. DIS	0.242				
3. OE	0.082	0.428			
4. TE	0.214	0.711	0.495		
5. UD	0.157	0.056	0.053	0.033	

Note: UD = uncertainty discrepancy, A = anxiety, OE = outcome expectancy, TE = target efficacy, DIS = direct information seeking

Structural model

The next step of the analysis is to test the hypotheses of the study using the structural model. As suggested by scholars, multivariate skewness and kurtosis were assessed.[23-24] The results revealed that the data collected were not multivariate normal, based on Mardia's multivariate skewness (β=3.208, p<0.0001) and Mardia's multivariate kurtosis values (β=45.071, p<0.0001). Therefore, following suggestions made by Hair et al. (2019), the path coefficients, the standard errors, t-values, and p-values in the structural model are reported using a sample resample of 5,000 bootstrapping procedures.[16]

The structural model displays the relationships among the constructs of the proposed study model. The adjusted r^2 value for the two exogenous constructs (i.e., outcome expectancy and target efficacy) on direct information-seeking explains 40% of the variance in direct information-seeking behaviour. The adjusted r^2 value for the exogenous constructs (i.e., outcome expectancy and anxiety) explains 21% of the change in target efficacy. The predictive relevance (Q^2) value predicting direct information seeking is 0.331, indicating moderate predictive relevance.[22]

The model's standardised path values, t-values, standard deviation, confidence interval, effect size, and p-values are displayed in Table 3. First, the direct effect of UD on A was tested. The path coefficient between UD and A indicates a significant and positive relationship between UD and A (β = 0.148, t = 2.796, p < 0.01). Consequently, H1 is supported. H2a measures whether A has a significant impact on OE. The results show that A has no significant impact on OE (β = 0.073, t = 1.316, p = 0.09). Thus, H2a is not supported. H2b evaluates whether A is positively related to TE. The path values revealed that A has a significant impact on TE (β = 0.160, t = 3.484, p < 0.001), but the relationship is positive. Consequently, H2b is not supported. Next, H3 examines the effect of OE on TE; results indicate a positive relationship between OE and TE. Thus, H3 is also accepted (β = 0.416, t = 9.708, p<0.001). For H4, the analysis examines the relationship between OE and DIS; the path values indicate a significant relationship (β= 0.133, t=3.107, p<0.01). Next, H5 examines the effect of TE on DIS; and the results indicate a positive relationship between TE and DIS (β=0.568, t=12.568, p<0.001). Therefore, H5 is accepted.

Table 3 Hypothesis testing

Hypotheses	Path coefficient	Standard deviation	t-value	p-value	BCI LL	BCI UL	f^2	VIF
H1: UD -> A	0.148	0.053	2.796	P <.010	-0.028	0.156	0.022	1.000
H2a: A -> OE	0.073	0.055	1.316	P =0.090	0.084	0.233	0.005	1.000
H2b: A -> TE	0.160	0.046	3.484	P <.001	0.062	0.205	0.032	1.005
H3: OE -> TE	0.416	0.043	9.708	P <.001	0.341	0.481	0.218	1.005
H4: OE -> DIS	0.133	0.043	3.062	P <.010	0.486	0.636	0.024	1.224
H5: TE -> DIS	0.568	0.045	12.568	P <.001	0.054	0.229	0.444	1.224

Note: UD = uncertainty discrepancy, A = anxiety, OE = outcome expectancy, TE = target efficacy, DIS = direct information seeking

Mediation Analysis

To test the mediating analysis, we bootstrapped the indirect effect as suggested by Preacher and Hayes (2004; 2008).[25-26] H6 evaluates whether TE positively mediates the relationship between OE and DIS. As shown in Table 4, TE à OE à DIS (β=0.236, p<0.001) is significant. The confidence intervals bias-corrected 95% also did not indicate that the interval is straddling a 0 thus confirming our findings. Thus, H6 is accepted.

Table 4 Hypothesis testing indirect effects

Hypothesis	Relationship	Std Beta	Std Error	t-values	p-values	BCI LL	BCI UL
H6	TE → OE → DIS	0.236	0.030	7.832	<0.001	0.188	0.287

Note: OE = outcome expectancy, TE = target efficacy, DIS = direct information seeking

DISCUSSION

This study aims to examine factors influencing direct information-seeking behavior on COVID-19 from close contacts based on TMIM predictions. First, the results indicate a positive relationship between uncertainty and anxiety (H1). However, there is no significant relationship between anxiety and outcome expectancy (H2a), and contrary to predictions, there is a positive relationship between anxiety and target efficacy (H2b). There is also a positive relationship between outcome expectancy and target efficacy (H3). Further, there is a positive relationship between outcome expectancy and direct information seeking (H4) and between target efficacy and direct information seeking (H5). Finally, target efficacy functioned as a mediator in the TMIM framework (H6). The next paragraphs will discuss the specific details of the study's findings.

Accordingly, as predicted by TMIM, through a three-phase process (i.e., interpretation, evaluation, and decision -making) for those motivated to reduce their uncertainty on health issues, higher levels of uncertainty discrepancy will lead to an emotional response, such as anxiety.[14] Consistent with previous studies, uncertainty discrepancy was positively associated with anxiety (H1).[3,9] Therefore, in dealing with COVID-19, those with a higher desire to learn more about COVID-19 from close contact are also likely to experience more anxiety. This finding is valuable input to health professionals in trying to engage with the public on a global health pandemic. Medical professionals, frontliners, and health officials can reduce the uncertainty discrepancy related to COVID-19 by providing accurate, timely, and updated information about COVID-19 on various platforms.

The next hypothesis examines the relationship between anxiety with outcome expectancies and efficacy judgments. Anxiety is expected to negatively affect the expected outcomes (outcome judgements) of the information search in the evaluation phase and also the perceived ability to procure the information sought (efficacy judgements). The most perplexing finding is that anxiety does not influence outcome expectancy (H2a), contrary to previous studies.[3-4] Perhaps, other factors influence perceptions of positive outcomes in managing the pandemic. For instance, the dominant culture in Malaysia tends to lean towards being comfortable with uncertainty avoidance.[27-28] Individuals in this cultural context may have a general belief in God controlling the final destiny of human beings, leading to anticipating positive outcomes from seeking additional information even in the face of uncertainty and distress caused by the pandemic. Future studies could explore individual cultural value orientations and/or religiosity as a mediator of the relationship between anxiety and outcome expectancy.

H2b is also not supported, where the relationship between anxiety and target efficacy is in the opposite direction than the hypothesised relationship. Considering that COVID-19 is also a recent occurrence, it certainly highlights novel information pertaining to emotions, specifically regarding the complexities of emotions and how heightened anxiety is not a deterrent and instead may motivate someone to reduce information discrepancy by directly approaching a close contact and obtaining the information they desire.

Further, consistent with TMIM assumptions, H3 predicts that perceptions about the outcome of an action (i.e., positive outcomes from information seeking) will influence the perceptions about the target's ability and honesty to self-disclose. This hypothesis was supported. Further, in the final stage of information management, individuals are given diverse factors and decisions as a management strategy in accordance with the level of emotion caused by the uncertainty discrepancy. The outcomes and efficacy judgements in the earlier phase will trigger the individual's action regarding the information they sought.[4] These earlier assessments in the evaluation phase will lead to the decision-making stage, where the individual is to choose the most advantageous strategy taking into account physiological, cognitive, social, and behavioural concerns as well as cognitive limitations.[4] Accordingly, H4-H5 predicts that outcome expectancies and target efficacy will lead to direct information seeking on COVID-19, and these hypotheses were supported.

Thus, the study findings highlight the importance of outcome expectancy in influencing target efficacy (H3)

and direct information seeking (H4), thus establishing significant transitions from the evaluation phase to the decision-making phase in COVID-19 information management. The results also highlight the importance of target efficacy in influencing direct information-seeking behaviour (H5). Therefore, in an effort to encourage the general public to seek direct information from the appropriate individuals, it is also important to encourage open discussions on COVID-19, including disclosing positive status and recovery experience. When an individual anticipates a fruitful and honest conversation about COVID-19, they are more likely to seek information directly, as information is perceived as "power" and can help them be more proactive in dealing with their health situation.

Consequently, given the importance of disclosing honest and reliable health information, the government could also incorporate testimonials, disclosures, and real-life experiences of those who have direct contact with COVID-19 such as frontliners or patients recovering from COVID-19 when designing health campaign messages. News reports by online, print and broadcast media could also emphasise true accounts by those dealing directly with COVID-19. These strategies may normalise honest public discourses on COVID-19.

Disclosures of private or sensitive information, such as one's health condition may be taboo in certain cultures, particularly if it is embarrassing, painful, or face-threatening to self, others, or mutual face (refer to Ting-Toomey & Kurogi, 1998).[29] On the other hand, when individuals are reluctant to approach close contacts for further information, they may even resort to obtaining unverified, or inaccurate information from other sources. For instance, recent research on vaccine hesitancy stated that a major reason for vaccination refusal among some Malaysians was due to the influence of hearsay or anti-vaccination propaganda obtained from word of mouth and social media.[30] The study participants also believed in the information disseminated by friends and/or the media even though they had not directly experienced a negative consequence of vaccination. In sum, in this particular context, a truthful discourse on COVID-19 far outweighs the disadvantages to encourage information seeking from believable and credible sources.

Previous TMIM research has suggested that efficacy assessments may function as a partial mediator in information management decisions.[15] For example, researchers found that efficacy judgements mediated the relationship between outcome expectancy and topic avoidance when deciding to discuss end-of-life preferences with the spouse.[9] A similar relationship was hypothesised here, where target efficacy functions as a mediator in the relationship between target efficacy and direct information seeking. For individuals seeking COVID-19 information from close contacts, it is predicted that they anticipate the outcome of seeking additional information will be positive and that they will consider the availability of the close contact and their ability to honestly self-disclose information about their health status, but the latter will play a smaller role since they already anticipate positive outcomes from seeking additional information on COVID -19. Consistent with TMIM, the present study finds that target efficacy mediates the relationship between outcome expectancy and direct information seeking (H6).[13]

Therefore, in deciding to approach close contacts about COVID-19, the close contact's efficacy does play a role, albeit a small one. Although Afifi and Weiner (2004)[15] postulated that the effect of coping efficacy may be even smaller relative to target efficacy, future studies may focus on the mediating role of communication efficacy in the relationship between outcome expectancy and direct information seeking, particularly among individuals with developing communication skills who may not be able to articulate their health concerns to close contacts, e.g., adolescents or younger children. Their communication abilities may play a bigger role when they are considering the outcomes of seeking additional information and choosing strategies to manage that decision-making.

This study is not without limitations. The use of cross-sectional surveys is often plagued with recall issues and social desirability bias. Survey respondents are often prone to giving the response they think the researchers want and may have trouble recalling the frequency of certain

behaviours. Finally, the nature of cross-sectional studies using correlational analyses does little to highlight the long-standing pattern that respondents may have in dealing with this global health pandemic. Also, as this cross-sectional study only focused on anxiety, it is suggested that future studies adopt the longitudinal approach in examining how fluctuating patterns of other emotions besides anxiety (i.e. fear, guilt, panic, distress, frustration) may influence COVID-19 information management. Furthermore, the applicability of TMIM does support multiple emotions in the framework.[7]

In sum, it is crucial for health organisations and local governments to consider the management of a global pandemic from the health communication perspective. This study has demonstrated the importance of having fruitful and honest interpersonal conversations about health, and how discrepancies in health information may ultimately lead to active direct information seeking on health-related issues. Therefore, in managing the outbreak of the pandemic, it is vital that local governments, health officials, vaccination advocates, non-profit organisations, and medical professionals actively use interpersonal communication to create awareness about the pandemic and to encourage the public to be proactive in managing health information. Dealing with the pandemic more effectively could inevitably save more lives and improve the health conditions of a community currently struggling to control the devastating impact of the pandemic.

CONFLICT OF INTEREST

The authors declare that they have no financial and non-financial conflict of interest

ACKNOWLEDGEMENT

This research was sponsored under the Research Management Grant provided by the Research Management Center (RMC), International Islamic University Malaysia

REFERENCES

1. Readfern, G. How did coronavirus start and where did it come from? Was it really Wuhan's animal market? [Available from https://www.theguardian.com/world/2020/apr/28/how-did-the-coronavirus-start-where-did-it-come-from-how-did-it-spread-humans-was-it-really-bats-pangolins-wuhan-animal-market Accessed 30 May 2021.
2. Wu YC, Chen CS, Chan YJ. The outbreak of COVID-19: An overview. J Chin Med Assoc. 2020; 83(3): 217-20.
3. Tannebaum M. Seeking sexual health information from romantic partners: Testing an application and extension of the theory of motivated information management. [Available from https://scholarworks.gsu.edu/communication_diss/ Accessed August 18 2021.
4. Afifi WA, Morgan SE, Stepheson MT, Morse C, Harrison, T, Reichert T, Long SD. Examining the decision to talk with family about organ donation: Applying the theory of motivated information management. Communication Monographs. 2006; 73 (2), 188-215.
5. Hovick SR. Understanding family health information seeking: A test of the theory of motivated information management. Journal of Health Communication. 2014; 19(1): 6-23.
6. Kuang K, Gettings PE. Applying the theory of motivated information management to family health history. Personal Relationships. 2020; 27(4): 846-79.
7. Rauscher EA, Hesse C. Investigating uncertainty and emotions in conversations about family health history: A test of theory of motivated information management. Journal of Health Communication. 2014; 19(8): 939-54.
8. Chang, L. College students' search for sexual health information from their best friends: An application of the theory of motivated information management. Asian Journal of Social Psychology. 2014; 17(3): 196-205.
9. Rafferty KA, Cramer E, Priddis D, Allen M. Talking about end-of-life preferences in marriage: Applying

the theory of motivated information management. Health Communication. 2015; 30(4): 409-18.
10. Gettings PE, Kuang K. Communicating about retirement preferences: Testing the moderating role of age, marital quality, and communal coping in the theory of motivated information management. Communication Studies. 2021; 72(3): 402-19.
11. Kanter E, Bevan JL, Dorros SM. The use of online support groups to seek information about chronic illness: Applying the theory of motivated information management. Communication Quarterly. 2019; 67(1): 100-21.
12. Li J, Wen J, Kim J, McKeever R. Applying the theory of motivated information management to the context of conflicting online health information: Implications for childhood vaccination communication with parents. International Journal of Strategic Communication. 2020; 14(5): 330-47.
13. Afifi WA, Weiner, JL. Toward a theory of motivated information management. 2004. Communication Theory; 14(2): 167-90.
14. Afifi WA, Afifi TD. Avoidance among adolescents in conversations about their parents' relationship: Applying the theory of motivated information management. 2009. Journal of Social and Personal Relationships; 26(4): 488-511.
15. Afifi WA, Weiner JL. Seeking information about sexual health: Applying the theory of motivated information management. 2006. Human Communication Research; 32: 35-7.
16. Hair JF, Risher, JJ, Sarstedt M, Ringle CM. When to use and how to report the results of PLS-SEM. 2019. European Business Review; 31(1): 2-24.
17. Dillow MR, Labelle S. Discussion on sexual health testing: Applying the theory of motivated information management. Personal Relationships; 21(4): 676-91
18. Hair JF, Black WC, Babin BJ, Anderson, RE. Multivariate data analysis. New Jersey: Prentice Hall, 2010.
19. Gefen D, Straub D. A practical guide to factorial validity using PLS-Graph: tutorial and annotated example. 2005. Communications of the Association for Information Systems; *16*(1): 91-109.
20. Ringle CM, Sarstedt M, Mitchell R, Gudergan SP. Partial least squares structural equation modelling in HRM research. 2018. The International Journal of Human Resource Management: 1-27.
21. Chin WW. How to write up and report PLS analyses. In: Vinzi VE, Chin WW, Wang H, eds. Handbook of Partial Least Squares: Concepts, Methods and Applications in Marketing and Related Field. Berlin: Springer, 2010: 655-690.
22. Henseler J, Ringle CM, Sarstedt M. A new criterion for assessing discriminant validity in variance-based structural equation modeling. 2015. Journal of the Academy of Marketing Science; 43(1): 115-35.
23. Hair JF, Hult GTM, Ringle CM, Sarstedt, M. A primer on partial least squares structural equation modeling (PLS-SEM). Newbury Park, CA: SAGE Publications, 2017.
24. Cain MK, Zhang Z, Yuan KH. Univariate and multivariate skewness and kurtosis for measuring nonnormality: Prevalence, influence and estimation. 2017. Behavior Research Methods; 49(5): 1716-35.
25. Preacher KJ, Hayes AF. SPSS and SAS procedures for estimating indirect effects in simple mediation models. 2004. Behavior Research Methods, Instruments, & Computers; 36: 717-31.
26. Preacher KJ, Hayes AF. Contemporary approaches to assessing mediation in communication research. In: Hayes AF, Slater MD, Snyder LB, eds. The Sage sourcebook of advanced data analysis methods for communication research. Thousand Oaks: Sage, 2008: 13-54.
27. Hofstede G. Cultures and Organizations: Software of the Mind. McGraw Hill, London, 1991.
28. Hofstede G. Culture's consequences: International differences in work-related values. Newbury Park, CA: Sage, 1984
29. Ting-Toomey S, Kurogi A. Facework competence in intercultural conflict: An updated face negotiation theory. 1998. International Journal of Intercultural Relations; 2(1):187-225.
30. Wong LP, Wong PF, Abu Bakar, S. Vaccine hesitancy and resurgence of vaccine preventable diseases: the way forward for Malaysia, a Southeast Asian country. 2020. Human Vaccines & Immunotherapeutics; 16(7):1511-20.