Using the Health Belief Model (HBM) to Assess Young Aduly Behavior in Health Information Searching and Sharing

Suprihatin Ali[1], Dadang Karya Bakti[1], Dewi Brima Atika[2], Abdul Rohim Juliyansyah[1]
[1]*Department of Business Administration, University of Lampung, Bandar Lampung, Indonesia*
[2]*Department of Public Administration, University of Lampung, Bandar Lampung, Indonesia*
suprihatin.ali@fisip.unila.ac.id

Keywords: Health Belief Model, consumer sharing, Seeking Behavior, health information.

Abstract: In an era of plentiful digital health information, public health communication strategies must understand how young consumers find and share health content. The Health Belief Model (HBM) is used to examine health information behavior in 18-29-year-olds. A quantitative technique was used to poll young individuals from varied demographics online. Survey tool used HBM structures. The HBM helps explain young consumers' health information practices. Findings imply that improving perceived advantages, eliminating barriers, and strengthening information appraisal self-efficacy may improve young adult health information engagement. These insights should help public health communicators customize initiatives to this demographic's beliefs and motives. Implications: This study adds to the literature on digital health communication and can help health educators, policymakers, and digital platform developers increase health literacy and information distribution among young consumers.

1 INTRODUCTION

The Health Belief Model (HBM) is important for studying young adults' behaviour in seeking and sharing health information. This cohort, known for their digital engagement, is a large part of the population that searches for online medical information (Bratland et al, 2024; Lee et.al, 2024). Analysing their activities can reveal the elements that impact their health choices and the efficacy of health communication methodologies.

Some research have shown that the perceived susceptibility and severity of medical information on social media platforms have a substantial effect on the intentions of young elder to seek and spread such information online (Feinberg et al. 2024; Malik et al. 2023). Studies indicate that although young adults report overall satisfaction with the health information they obtain, a significant number of them do not undergo a favorable transformation in their health-related beliefs. This underscores the existence of a deficiency in the realm of efficient health communication (Makesh and Rajasekhar, 2020). Cultural context significantly influences health information-seeking habits, with notable variations seen between people in the United States and China, affected by cultural values and social structures (Zhang and Jiang, 2021).

The Health Belief Model (HBM) offers a conceptual structure for comprehending how attitudes towards health risks and advantages might lead young adults to actively participate in health-related information. It highlights the importance of providing customised health resources that align with their individual experiences (Zewdie et al.; 2022).

Finally, examining the health information-seeking behaviours of younger using the Health Belief Model (HBM) can offer useful insights for creating successful health communication strategies (Malik et al. 2023; Xu et al, 2021; Shang et al., 2021). This approach takes into account the cultural and contextual elements that may impact these behaviours, so assuring that health information is easily accessible .and pertinent to this specific group.

2 CASE PRESENTATION

Health information seeking behavior encompasses the actions individuals undertake to acquire knowledge about their health, such as retrieving, locating, and utilizing information pertaining to diseases, health risks, and health-related concerns (Orji et al., 2012). The aforementioned conduct was frequently motivated by a strong aspiration to enhance one's well-being and can significantly influence the decision-making process for health-related matters.

The determinants of health information seeking behavior are multifaceted, including the nature and scope of the information being sought, the reliability and precision of the sources, the lucidity and precision of the information, the individual attributes and qualities of the information seeker, and the qualities of the healthcare professionals and surroundings.

A comprehensive grasp of these aspects is essential for formulating efficient tactics to encourage patients to make well-informed and accountable health choices. Online communities are about sharing and finding information. Information sharing means giving community people who need it information. The information includes thoughts, suggestions, and responses to inquiries. Not only one party shares information. This involves sharing information with different parties that may benefit everyone (Choi et al, 2023). Conceptualised in 1950, the Health Belief Model (HBM) aims to forecast individual preventive health behaviours (Lalazaryan et al., 2014; Park et al, 2014).

The social cognitive model originally comprised five elements: perceived susceptibility is an individual's assessment of their risk of acquiring health information); perceived severity (an individual's appraisal of the seriousness and potential consequences of health information); perceived benefits (an individual's convictions regarding the efficacy of the recommended behavior in reducing risk); perceived barriers (an individual's assessment of the obstacles); and cues to action (the internal or external motivators that promote the desired behavior).

Social media is a powerful tool for connecting with others, communicating, doing well in school, and maintaining your mental and social health. It not only lets people share different kinds of content, but it also gives them creative ways to find, organize, and handle that content. When it comes to health communication, social media is a way to get health information out there. The sharing of information and building relationships on social media both help each other (Tang et al., 2024). This relationship makes it easier for health information to get around quickly and effectively, which makes it easier to share health information and creates new ways for people to talk about health. Scholars agree that social media has a lot of promise to help people take care of themselves and make decisions about their health. However, the rise of new media in healthcare comes with some problems, such as the fact that a lot of health information on social media is unclear, false, and not reliable (Wang et al., 2020).

The notion of health information seeking behavior (HISB) is intricate when considering health promotion and the psychological well-being of those who are managing or have received a medical diagnosis (Zimmerman et al., 2020). The act of seeking health information online is believed to have a beneficial impact on consumers of health information, as they are more inclined to comply with treatment decisions after acquiring sufficient knowledge about their health conditions (Jia et al, 2021). Many people get their health information from social media, but it has also propagated misinformation. The concern has numerous causes (Tang et al, 2024.; Tasnim et al, 2020): First, social media lacks gatekeeping and fact-checking, making it ideal for spreading false health information.

The participatory aspect of social media makes it easy to spread fraudulent health claims, increasing their reach and impact. Third, excessive social media use can cause information fatigue, diminishing users' drive to verify information and increasing their chance of disseminating disinformation that supports their opinions. Fourth, social media's tailored information flows promote health misinformation by immersing users in ideologically similar environments where misinformation can reinforce biases. Social media continues to affect health information-seeking behaviors, therefore resolving these difficulties is essential to ensure the dependability and quality of health information on these platforms.

Information sharing is a significant segment of information behavior study, encompassing voluntary actions that facilitate the availability of information to others. It posits that the advancement of information technology has led to information sharing becoming the primary means by which people acquire and utilize information. This article defines health information sharing behavior as the process of sending health information from one party to other parties through online communication and engagement (Tang et al., 2024; Wang et al., 2020).

Online health-information seeking behavior (HIS) research using the Health Belief Model (HBM) has grown, particularly in social media and digital health interventions, showing significant trends (Zhao et al.,

2022). Scholarly attention on the HBM peaked during 2022-2023, highlighting its usefulness in health behaviour studies. The HBM is being studied for its involvement in understanding health behaviours during the COVID-19 pandemic and digital health interventions (Tam et al, 2023; Yastica et al., 2020; Alagili et al., 2021). Race and confidence in information strongly affect self-treatment decisions based on social media health information, according to a pilot study (Silver et al., 2023).

Online HIS assessment is now reliable thanks to the Online Self-care Scale (OSS). Younger, more educated people use social media for health information, often for advice and symptom inquiry, according to research. Social media facilitates HIS, but ignorance and anxiety about health information seeking persist (Zhao et al., 2022). The HBM provides a solid foundation for studying online HIS, however disinformation and the psychological impacts of digital health information seeking must be addressed (Nan et al., 2022). We build hypotheses on theories from relevant studies. This study employs the health belief model (HBM) to represent young adult health information seeking and sharing (see Fig 1). The conceptual model was adapted from Malik et.al. (2023).

The use of health behavior theories in treatments advocated to increase our understanding of the theoretical mechanisms that drive behavior change and to develop consensus about shared theoretical constructs and pathways.

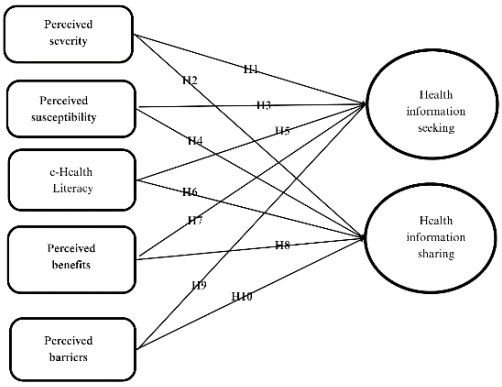

Fig. 1 Conceptual model

Following are a number of research hypotheses that we have formulated in accordance with the results and analyses of our previous study, as well as adaptations from Malik et al. (2023).

H1: Perceived severity has a positive effect on the intention to seek health information on social media.

H2: Perceived severity has a positive effect on the intention to share health information on social media

H3: Perceived susceptibility has a positive effect on the intention to seek health information on social media.

H4: Perceived susceptibility has a positive effect on the intention to share health information on social media

H5: Perceived benefits has a positive effect on the intention to seek health information on social media

H6: Perceived benefits has a positive effect on the intention to share health information on social media

H7: Perceived barriers has a negative effect on the intention to seek health information on social media.

H8: Perceived barriers has a negative effect on the intention to share health information on social media

H9: e-Health literacy has a positive effect on the intention to seek health information on social media.

H10: e-Health literacy has a positive effect on the intention to share health information on social media.

3 DISCUSSION

The authors conducted a quantitative research study by using a survey methodology. Analysis of the data conducted to identify opinions, attitudes, and behaviours about the health belief model and health information seeking and sharing behaviour.

3.1. Questionnaire

The study utilized measurement scales from previous investigations because of their established validity and reliability. The participant responses were collected using a five-point Likert scale, with 1 representing strong disagreement and 5 representing strong agreement. The assessment measure items evaluating the constructs of perceived vulnerability were sourced from Malik et.al (2023). The questionnaire can be found in appendice.

This study examines the reliability ratings of different factors associated with online health information seeking and sharing habits. Perceived Susceptibility, e-Health Literacy, Health Information Seeking, Health Information Sharing, Perceived Barriers, Perceived Benefit, and Perceived Severity are among the constructs included in this study. The reliability ratings vary between 0.759 and 0.955, with the majority of values above 0.900, suggesting a good level of dependability and consistency in assessing the intended concepts. In general, the metrics employed in

the research are of reliable quality and can be trusted to yield accurate and consistent data.

3.2. Data Collection

The present study utilized a questionnaire-based survey methodology specifically designed for Google Forms to gather data from young adults residing in Indonesia. The survey hyperlink sent using WhatsApp, a widely used social media network in the area, throughout the period of June to July 2024. In order to maintain the integrity of the data, the study limited the number of responses generated by the same respondent.

The questionnaire comprised three sections: an introductory section elucidating the objective of the study and guaranteeing respondents of anonymity and confidentiality, a segment collecting demographic data (such as gender, age, qualification, etc.), and a concluding section including questions pertaining to the empirical variables of the study. The collection yielded a total number of 209 replies. The data obtained in Excel format and then imported into SPSS (version 24) and SmartPLS (version 0.3) for additional analysis, following the experimental protocol described by Malik et al. (2023).

Table 1. Characteristic of respondents

	N	%
Gender		
Male	66	31,6
Female	143	68,4
Age		
18-24	176	84,2
25-34	24	11,5
35-44	9	4,3
Working status		
Student	162	77,5
Employed	29	13,9
Others	18	8,9
Field study backgrounc		
College		
Health department	22	10,5
Not a health department	187	89,5

Table 1 presents a demographic overview of the participants in a survey, including their gender, age, employment situation, and educational background. Primary results indicate that 68.4% of the participants were female, whilst 31.6% were male. The age group with the highest representation was 18-24 years old, accounting for 84.2% of the respondents.

Smaller proportions distributed among the 25-34 (11.5%) and 35-44 (4.3%) age groups. Regarding employment status, the bulk of participants were students (77.5%), with a lesser percentage being employed (13.9%), and the remaining 8.9% assigned to the "Others" group. Evidently, a significant proportion of participants (89.5%) had not received any formal education in a health department, although 10.5% had prior experience in a health department.

The demographic data suggests that the study mostly focused on young students, with a greater percentage of female participants. Additionally, the majority of respondents did not have any experience in the health department, which may be pertinent to the study's scope.

Data on the respondents' social media engagement and health information seeking behaviours presented in the table 2. Only 12.4% of respondents claimed that they did not usually seek for health information online, whereas a substantial majority of respondents (87.6%) acknowledged doing so. According to the survey, a significant majority (81.3%) of respondents indicated that they obtained health information from online sources, specifically by searching using internet-connected devices.

Table 2. Activity in Social Media and Health information

	N	%
Do you often search for information on Health topics?		
Yes	183	87,6
No	26	12,4
Where do you look for health information?		
Consult with Health Workers (Doctors, Nurses,	21	10

Midwives, etc.) online		
Consult with Health Workers (Doctors, Nurses, Midwives, etc.) face to face	18	8,6
Search using devices connected to the internet	170	81,3
Through what means (devices) do you seek information about health?		
laptop	3	1,4
Handphone	206	98,6

Approximately 10% of individuals sought online consultations with health professionals, while an even smaller percentage (8.6%) opted for in-person consultations. Regarding the equipment employed for getting health information, a vast majority (98.6%) favoured their mobile phones, whereas a minority (1.4%) used PCs. These results indicate that the participants are actively involved in seeking health information online and almost exclusively depend on their mobile devices to acquire this information..

4 CONCLUSIONS

4.1. Measurement model assessment

The present study aims to examine the reliability, convergent validity, and discriminant validity of measurement models for reflective constructs (Hair et al., 2010; Ahadzadeh, 2018). As shown in Table 3, the construct reliability of all reflective constructs ranges from 0.759 to 0.932, all of which exceed 0.7, suggesting a satisfactory level of reliability (Hair et al., 2016; Nunnally and Bernstein, 1994).

Furthermore, the average variance extracted (AVE) from all Reflective Constructs exceeds 0.5 (ranging from 0.525 to 0.842), and the dependability of each construct surpasses its corresponding AVE. Such evidence demonstrates that convergent validity has been confirmed, therefore satisfying the essential criteria for discriminant validity (Becker et al., 2012; Nunnally and Bernstein, 1994; Ahadzadeh, 2018).

Table 3. Reflective constructs measurement

	AVE	Composite reliability
I.1. Perceived Severity	0.525	0.765
I.2. Perceived Susceptibility	0.576	0.915
1.3. e-Health Literacy	0.774	0.932
1.4. Perceived Benefit	0.696	0.902
1.5. Perceived Barriers	0.557	0.759
1.6. Health Information Seeking Intentions	0.842	0.955
1.7. Health Information Sharing Intentions	0.622	0.832

To assess the measuring model of formative constructs, this study examines the presence of collinearity across formative indicators, as well as their outer weights and outer loadings, as proposed by Falk and Miller (1992) and Fornell and Larcker (1981). Table 4 presents the findings of this formative construct evaluation.

Table 4. The result of Fornell– Larcker criterion

	.2	I.3	I.6	I.7	I.5	I.4	I.1
I.2	724						
I.3	.487	759					
I.6	.312	600	880				
I.7	.524	717	608	0.834			
I.5	).061	).125	).139	-0.180	0.746		
I.4	.491	677	507	0.732	-0.238	0.918	
I.1	.570	394	329	0.436	-0.087	0.453	).789

The Fornell-Larcker criterion, a statistical tool for measuring model convergent validity, shown in the table 4. The table 4 illustrates the correlation coefficients between model construct pairs. The diagonal members of the matrix represent each construct's correlation with itself, which should be close to 1.0. The off-diagonal elements show construct relationships. These correlations should be high if the model is convergent, indicating that the constructs measure related concepts.

Table 4 also suggests that the model has reasonable convergent validity. Most off-diagonal correlations are positive and moderately high, showing construct relationship. There are also cases with weaker correlations, demonstrating that several constructions measure different parts of the same idea. The Fornell-Larcker criterion shows that the measurement model is relatively valid.

4.2. Structural model assessment

This work estimates the path coefficients of the research statistical structural model depicted in Figure 2 using a PLS algorithm and assesses their statistical significance using bootstrapping with 300 replications to evaluate the research hypotheses.

Figure2.

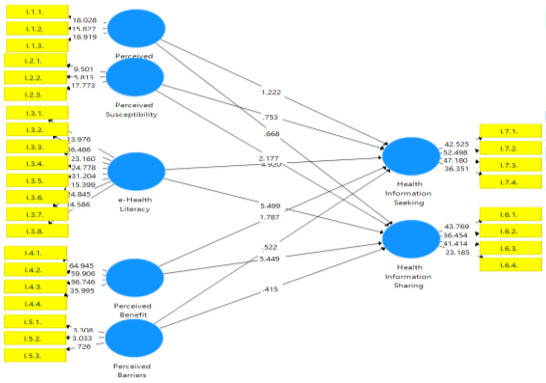

Table 5 shows the findings that this study confirms that e-Health literacy is positively associated with online health information seeking and sharing behaviour in younger adults.

Table 5. Results of the main efect model

Hypothesis	Path coeffcient	Standard error	T statistic	P value
H1:I.2→I.6	-0.056	0.075	0.753	0.452
H2:1.2→I.7	0.127	0.059	2.177	0.030
H3:I.3→I.6	0.477	0.097	4.920	0.000
H4:I.3→I.7	0.369	0.067	5.499	0.000
H5:I.5→I.6	-0.037	0.070	0.522	0.602
H6:I.5→I.7	-0.028	0.068	0.415	0.678
H7:I.4→I.6	0.158	0.089	1.787	0.075
H8:I.4→I.7	0.397	0.073	5.449	0.000
H9:I.2→I.6	0.098	0.080	1.222	0.222
H10:I.2→I.7	0.036	0.054	0.668	0.504

The structural equation modeling analysis revealed that only e-Health Literacy ($\beta = 0.477$, $p = <0.001$) were significantly linked to Health Information Seeking Intentions positively. This indicated that young adults were more likely to engage in Health Information Seeking Intentions. However, none of them (Perceived Severity, e-Health Literacy, Perceived Benefit, Perceived Barriers) were statistically significant. Moreover, Perceived Susceptibility, e-Health Literacy, and Perceived Benefit were linked positively to Health Information Sharing Intentions ($\beta = 0.127$, $p = <0.001$; $\beta = 0.369$, $p = <0.001$; $\beta = 0.397$, $p = <0.001$ respectively).

5 CONCLUSION

This study illuminates the intricate interaction of factors influencing health information practices in young adults through the Health Belief Model. We found a complex relationship between HBM characteristics and e-Health literacy on health information seeking and sharing intentions. The

structural equation modeling analysis produced several notable outcomes. Specifically, e-Health literacy significantly predicts health information seeking intentions, highlighting the importance of digital health abilities in encouraging young adults to actively seek health-related information. This supports prior study on the importance of e-Health literacy in a digital healthcare setting. We found no significant associations between health information seeking intentions and other HBM categories including perceived severity, benefit, or barriers. This surprising finding implies that young individuals' health information seeking decisions may be more impacted by their perceived ability to navigate digital health resources than by health threats or possible benefits. Our study of health information sharing intentions found more complex variables. The intention to share health information was positively correlated with perceived vulnerability, e-Health literacy, and felt benefit. These findings imply that young individuals are more likely to share health information when they feel susceptible to health dangers, secure in their capacity to interpret and assess health information, and recognize the potential advantages.

The differences in seeking and sharing motives show the complexity of health information activities. E-Health literacy drives both activities, but other HBM dimensions have differing effects, suggesting that different psychological mechanisms may underlie these two elements of health information engagement. This has major implications for public health communication and interventions for young adults. This demographic should be encouraged to seek and share health information by improving e-Health literacy. Interventions that increase health information sharing should include emphasize personal health risk and information dissemination benefits. Future research should investigate why some HBM constructs do not affect health information seeking intentions. Longitudinal studies may reveal how these associations change over time or across health environments. Investigating moderating factors like health status or previous health experiences may help explain young individuals' complex health information practices. This study illuminates health information behaviors through the Health Belief Model, emphasizing the importance of e-Health literacy and showing diverse patterns of influence for seeking and sharing intentions. These findings can improve health communication methods and interventions for digital-age young adults, improving health outcomes..

REFERENCES

Ahadzadeh, A. S., Pahlevan Sharif, S., & Sim Ong, F. (2018). Online health information seeking among women: the moderating role of health consciousness. *Online Information Review*, *42*(1), 58-72.

Alagili, D. E., & Bamashmous, M. (2021). The Health Belief Model as an explanatory framework for COVID-19 prevention practices. *Journal of infection and public h*

Becker, J.-M., Klein, K. and Wetzels, M. (2012), “Hierarchical latent variable models in PLS-SEM: guidelines for using reflective-formative type models”, Long Range Planning, Vol. 45 Nos 5/6, pp. 359-394.

Bratland, K. M., Wien, C., & Sandanger, T. M. (2024). Exploring Online Health Information Seeking Behaviour (OHISB) among young adults: A scoping review protocol. *BMJ open*, *14*(1), e074894.

Choi, H. S., & Lee, J. E. (2023). Factors affecting COVID-19 preventive behaviors of young adults based on eHealth literacy and the Health Belief Model: a cross-sectional study. *INQUIRY: The Journal of Health Care Organization, Provision, and Financing*, *60*, 00469580231159487.

Feinberg, I., Aycock, D. M., Tighe, E. L., & Detamore, D. (2024). Outreach for Young Adult African Americans with Risk Factors for Stroke. *HLRP: Health Literacy Research and Practice*, *8*(1), e38-e46.

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010), Multivarite Data Analysis, 7th ed., Prentice Hall, Upper Saddle River, NJ.

Jia, X., Pang, Y., & Liu, L. S. (2021, December). Online health information seeking behavior: a

systematic review. In *Healthcare* (Vol. 9, No. 12, p. 1740). MDPI.

Lalazaryan, A., & Zare-Farashbandi, F. (2014). A Review of models and theories of health information seeking behavior. *International Journal of Health System and Disaster Management*, *2*(4), 193-193.

Lee, C., Choi, Y., Kim, K., Lim, Y., Im, H., & Hong, S. J. (2023). Health-promoting behavior among undergraduate students in the COVID-19 era: Its association with problematic use of social media, social isolation, and online health information-seeking behavior. *Archives of Psychiatric Nursing*, *45*, 1-6.

Makesh, D., & Rajasekhar, S. (2020). A Study of Health Information Search Behaviour and Its Application among Young Adults. *Indian Journal of Youth and Adolescent Health (E-ISSN: 2349-2880)*, *7*(1), 1-6.

Malik, A., Islam, T., Ahmad, M., & Mahmood, K. (2023). Health information seeking and sharing behavior of young adults on social media in Pakistan. *Journal of Librarianship and Information Science*, *55*(3), 579-595.

Malik, A., Islam, T., Ahmad, M., & Mahmood, K. (2023). Health information seeking and sharing behavior of young adults on social media in Pakistan. *Journal of Librarianship and Information Science*, *55*(3), 579-595.

Massey, P. M., Prelip, M. L., & Contreras, R. D. (2021). Understanding the health information seeking behaviors of adolescents on social media: Implications for health promotion interventions. *Journal of Adolescent Health, 69*(5), 855-862.

Nan, X., Wang, Y., & Thier, K. (2022). Why do people believe health misinformation and who is at risk? A systematic review of individual differences in susceptibility to health misinformation. *Social Science & Medicine*, *314*, 115398.

Nunnally, J.C. and Bernstein, I.H. (1994), Psychometric Theory, 3rd ed., McGraw-Hill, New York, NY.

Orji, R., Vassileva, J., & Mandryk, R. (2012). Towards an effective health interventions design: an extension of the health belief model. *Online journal of public health informatics*, *4*(3), e61050.

Paige, S. R., Krieger, J. L., & Stellefson, M. (2020). The influence of eHealth literacy on perceived benefits and barriers to online health information. *Frontiers in Public Health, 8*, 385.

Pariera, K. L., & Brody, E. V. (2018). "Testing the waters": Barriers to discussing sexual health topics with health care providers in emerging adulthood. *Journal of Adolescent Health, 62*(3), 246-251.

Park, J. H., Gu, B., Leung, A. C. M., & Konana, P. (2014). An investigation of information sharing and seeking behaviors in online investment communities. *Computers in Human Behavior*, *31*, 1-12.

Shang, L., Zhou, J., & Zuo, M. (2021). Understanding older adults' intention to share health information on social media: the role of health belief and information processing. *Internet Research*, *31*(1), 100-122.

Silver, R. A., & Johnson, C. (2023). Health Information Seeking Behavior on Social Networking Sites and Self-Treatment: Pilot Survey Study. *Online Journal of Public Health Informatics*, *15*, e51984.

Smith, S. G., Yang, J., & Salerno, J. (2019). Adolescents' perceived susceptibility to health risks: An integrative review. *Journal of Adolescent Health, 65*(5), 641-649.

Stellefson, M., Hanik, B., Chaney, B., & Chaney, D. (2020). eHealth literacy among college students: A systematic review with implications for eHealth education. *Journal of Medical Internet Research, 22*(10), e20368.

Tam, C. C., Li, X., Li, X., Wang, Y., & Lin, D. (2023). Adherence to preventive behaviors among college students during COVID-19 pandemic in China: The role of health beliefs and COVID-19 stressors. *Current Psychology*, *42*(20), 17280-17290.

Tang, Y., Luo, C., & Su, Y. (2024). Understanding health misinformation sharing among the middle-aged or above in China: roles of social media health information seeking, misperceptions and information processing predispositions. *Online Information Review*, *48*(2), 314-333.

Tasnim, S., Hossain, M. M., & Mazumder, H. (2020). Impact of rumors and misinformation on COVID-19 in social media. *Journal of preventive medicine and public health*, *53*(3), 171-174.

Wang, W., Zhuang, X., & Shao, P. (2020, July). Exploring health information sharing behavior of Chinese elderly adults on WeChat. In *Healthcare* (Vol. 8, No. 3, p. 207).

Witte, K., & Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. *Health education & behavior*, *27*(5), 591-615.

Xu, X., Li, H., & Shan, S. (2021). Understanding the health behavior decision-making process with situational theory of problem solving in online health communities: the effects of health beliefs, message credibility, and communication behaviors on health behavioral intention. *International Journal of Environmental Research and Public Health*, *18*(9), 4488.

Yastica, T. V., Salma, S. A., Caesaron, D., Safrudin, Y. N., & Pramadya, A. R. (2020, December). Application of theory planned behavior (TPB) and health belief model (HBM) in COVID-19 prevention: a literature review. In *2020 6th International Conference on Interactive Digital Media (ICIDM)* (pp. 1-4). IEEE.

Yoo, W., Choi, D. H., & Park, K. (2020). The effects of health information sharing on social networking sites: An integrated model of social support and social capital. *Journal of Health Communication, 25*(12), 913-922. Vchhh.

Zewdie, A., Mose, A., Sahle, T., Bedewi, J., Gashu, M., Kebede, N., & Yimer, A. (2022). The health belief model's ability to predict COVID-19 preventive behavior: A systematic review. *SAGE open medicine*, *10*, 20503121221113668.

Zimmerman, M. S., & Shaw Jr, G. (2020). Health information seeking behaviour: a concept analysis. *Health Information & Libraries Journal*, *37*(3), 173-191.

Zhang, L., & Jiang, S. (2021). Linking health information seeking to patient-centered communication and healthy lifestyles: an exploratory study in China. *Health Education Research*, *36*(2), 248-260.

Zhao, Y. C., Zhao, M., & Song, S. (2022). Online health information seeking among patients with chronic conditions: integrating the health belief model and social support theory. *Journal of Medical Internet Research*, *24*(11), e42447.