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Research on Influencing Factors of College Students' Intention of Online Health Information Behavior Based on Social Cognitive Theory

Jia Kong, Sanhong Deng*, Yue Zhang

School of Information Management, Nanjing University, Nanjing 210023, China

Jiangsu Key Laboratory of Data Engineering and Knowledge Service, Nanjing University, Nanjing 210023, China

sanhong@nju.edu.cn

Abstract: Based on the Social Cognition Theory, we constructed the influencing factors model of college students' intention of online health information behavior from three levels of individual, society and information systems, which was analyzed by using the PLS-SEM. Research shows that self-efficacy, information service quality, social support, information literacy and information quality significantly influence college students' intention of online health information behavior. However, the influence of perceived risk and information system quality is not significant.

1. Introduction

Exploring the influencing factors of college students' intention of online health information behavior is of great significance to improve college students' health level and online health information service of related institutions. Domestic and foreign scholars have discussed many factors affecting network health information behavior. Although these factors include individual, society and information system levels, the comprehensive research on the combination of the three factors is not perfect.

Based on Bandura's Social Cognition Theory[1] and IS Success Model[2], we constructed the model with reflective and formation indicators from three levels (Individual, Society and Information System). Moreover, Partial Least Squares-Structural Equation Model (PLS-SEM) was used for analysis by using Smart PLS 3 software.

2. Theoretical Framework and Model Construction

2.1. Information Literacy

The higher the information literacy is, the more clearly users can recognize the change of self-efficacy and make the choice of behavioral intention. V. R. Suri has found that the improvement of electronic health information literacy can promote the evaluation of online health information and personal health management[3]. Wang Fenfen has found that information literacy significantly influence online health information behavior[4]. Based on this, we propose the following hypotheses:

H1a: Information literacy has a positive effect on self-efficacy.

H1b: Information literacy has a positive effect on the intention of online health information behavior.



2.2. *Perceived Risk*

The increase of perceived risk will reduce the satisfaction of users, thus influencing the intention of online health information behavior and vice versa. Deng zhaohua's research shows that perceived risk has a slight negative effect on the adoption intention of network health information[5-6]. Zhang Keyong has found that perceived risk has a negative impact on personal health knowledge sharing in online health communities[7]. Based on this, we propose the following hypotheses:

H2a: Perceived risk has a negative effect on self-efficacy.

H2b: Perceived risk has a negative effect on the intention of online health information behavior.

2.3. *Social Support*

Social support factors could affect self-efficacy perception and thus affect the intention of network health information behavior. Deng Zhaohua's research shows that social support dimension significantly affect network health information behavior[5-6]. Zhang Keyong has found that social trust has a significant positive effect on the sharing of health knowledge in online health communities[7]. Based on this, we propose the following hypotheses:

H3a: Social support has a positive effect on self-efficacy.

H3b: Social support has a positive effect on the intention of online health information behavior.

2.4. *Information System*

The improvement of information system quality will affect user satisfaction, thus affecting the intention of network health information behaviour and vice versa. Deng Zhaohua has found that information quality has a significant positive effect on network health information behavior[5]. D. Johnson has found that the quality of information system has a significant positive impact on network health information behavior[8]. S. Ziebland's research shows that factors such as experiencing health services significantly influence the communication and dissemination of online health information[9]. Based on this, combined with the IS Success Model[2], we propose the following hypotheses:

H4a: Information quality has a positive effect on self-efficacy.

H4b: Information quality has a positive effect on the intention of online health information behavior.

H5a: System quality has positive effect on self-efficacy.

H5b: System quality has positive effect on the intention of online health information behavior.

H6a: Service quality has a positive effect on self-efficacy.

H6b: Service quality has a positive effect on the intention of online health information behavior.

2.5. *Self-Efficacy*

In Bandura's theoretical framework, self-efficacy is an individual's self-judgment of the environment and behavior[1]. Changes in factors at different levels will lead to changes in self-efficacy, which will affect the behavior. Deng Zhaohua has found that health self-efficacy has a positive effect on the adoption intention of network users' health information[5-6]. Zhang Keyong found that self-efficacy significantly influence the health knowledge sharing behavior of online health communities[7]. Based on this, this paper proposes the following hypothesis:

H7: Self-efficacy has a positive effect on the intention of online health information behavior.

2.6. *Model Construction*

Five reflective measurement models (Information Literacy, Self-Efficacy, Perceived Risk, Social Support and Behavioral Intention) and three formative measurement models (Information quality, Information System Quality and Information Service Quality) were constructed from the three levels of individual level, society level and information system level. The self-efficacy is a mediator variable and the theoretical model is presented in Fig. 1.

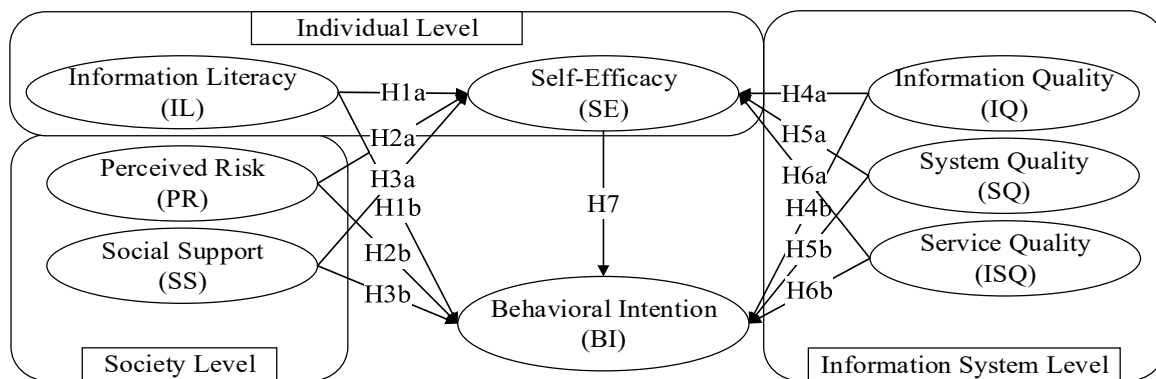


Fig.1 Theoretical model

3. Research Methodology

A survey questionnaire was used for data collection. Based on the hypotheses, we use the Likert 5 scale to design the questionnaire. Before the questionnaire was officially issued, 10 pre-surveys were conducted and the items were adjusted according to the results to ensure the content validity.

702 questionnaires were distributed in Nanjing University (213 copies), Fudan University (89 copies), Sichuan University (86 copies) and other colleges and universities. A total of 585 responses were received back, with an effective recovery rate of 83.33%. Among them, there are 267 males (45.6%) and 318 females (54.4%). People under the age of 18 accounted for 0.3%, 18 to 25 years old accounted for 92.7%, and 26 to 36 years old accounted for 7.0%. Undergraduate students accounted for 71.5%, graduate students accounted for 24.4%, and doctoral students accounted for 4.1%.

4. Results

4.1. Analysis of reflective measurement models

The results of the reflective construct assessments are presented in Table 1.

Table 1 Results of the reflective construct assessments.

Const- ructs	Indicators	Outer Loadings	AVE	CR	Cronb- ach α	IL	PR	SS	SE	BI
IL	IL1 Description	0.71	0.62	0.87	0.80	0.79				
	IL2 Retrieval	0.83								
	IL3 Utilization	0.80								
	IL4 Assessment	0.80								
PR	PR1 Health Risk	0.72	0.63	0.84	0.71	0.02	0.80			
	PR2 Psychological Risk	0.78								
	PR3 Time Risk	0.88								
SS	SS1 Medical Condition	0.72	0.65	0.84	0.72	0.24	0.22	0.80		
	SS2 Relationship	0.84								
	SS3 Social Recognition	0.84								
SE	SE1 Feeling of Success	0.72	0.54	0.86	0.80	0.44	0.18	0.51	0.74	
	SE2 Mental Relaxation	0.71								
	SE3 Enthusiasm	0.78								
	SE4 Encourage Synergy	0.72								
	SE5 Behavior Confidence	0.77								
BI	BI1 Search	0.75	0.59	0.85	0.76	0.41	0.14	0.45	0.61	0.77
	BI2 Communicate	0.78								
	BI3 Recommend	0.78								

BI4 Change Behavior

0.75

The indicator's outer loadings are all higher than 0.7, Cronbach's alpha values are all higher than 0.7, and the CR values are all higher than 0.8, indicating that the measurement model has good reliability[10-11]. The average variance extraction (AVE) values are all higher than 0.5 and the square root of the AVE of each construct is higher than its highest correlation with any other construct, indicating that the model has good convergent validity and discriminant validity[10].

4.2. Analysis of formative measurement models

The results of the formative construct assessments are presented in Table 2. The level of collinearity in the formative measurement model is at a critical level, as each indicator's variance inflation factor (VIF) value is lower than 5[11]. Except for four indicators, other indicators' outer weights are higher than 0.2 and significant. For the four substandard indicators, their outer loadings are also higher than 0.5, so they are retained[11]. Therefore, it can be considered that the formative measurement model has good validity.

Table 2 Results of the formative construct assessments.

Constructs	Indicators	Outer Weights	t-values	Outer Loadings	VIF
IQ	IQ1 Accuracy	0.35	2.47	0.83	1.78
	IQ2 Integrity	0.40	3.34	0.80	1.57
	IQ3 Real-Time	0.15	0.38	0.71	2.05
	IQ4 Authority	0.14	0.91	0.74	2.14
	IQ5 Validity	0.33	2.34	0.77	1.74
SQ	SQ1 Flexibility	0.46	4.19	0.75	1.22
	SQ2 Security	0.30	2.48	0.71	1.33
	SQ3 Privacy	0.37	2.62	0.70	1.22
	SQ4 Aesthetic Design	0.16	0.43	0.52	1.25
	SQ5 Ease of Use	0.27	1.81	0.60	1.32
ISQ	ISQ1 Interactivity	0.48	5.83	0.78	1.28
	ISQ2 Personalized Service	0.23	2.54	0.68	1.44
	ISQ3 Reference Service	0.34	3.86	0.72	1.45
	ISQ4 Community Service	0.15	1.71	0.63	1.55
	ISQ5 Navigation Service	0.22	2.38	0.65	1.52

4.3. Analysis of structural model

Findings of structural model are presented in Fig. 2.

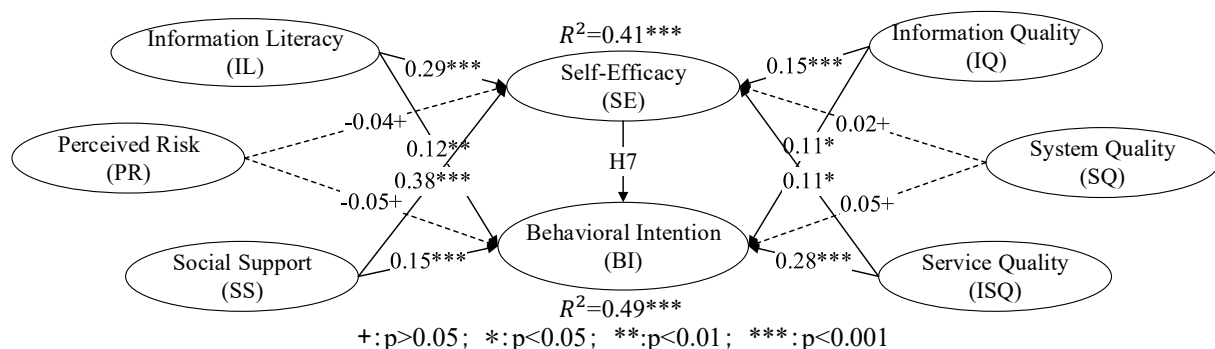


Fig.2 Results of structural model

The key criteria for assessing the structural model in PLS-SEM are the significance of the path coefficients, the f^2 effect size, the R^2 value and the predictive relevance (Q^2)[11]. Perceived risk and system quality have no significant effect on the intention of online health information behavior. Except for these four paths, the f^2 values of other paths are higher than 0.02[11]. The R^2 values of Self-

Efficacy and Behavioral Intention are 0.41 and 0.49, both around 0.5[11]. The Q^2 values of Self-Efficacy and Behavioral Intention are 0.20 and 0.27, both higher than 0[11]. These indicate that the model has strong explanatory power and prediction relevance. The mediating effect of Self-Efficacy is tested and the results show that Self-Efficacy plays a significant part mediating effect.

5. Conclusion

This study explores the influencing factors of college students' intention of online health information behavior from three levels (Individual, Society and Information Systems). From the results, the six hypotheses of H1a, H3a, H3b, H4a, H6b and H7 are supported, but the four hypotheses of H2a, H2b, H5a and H5b are not supported. Different purposes of using online health information will lead to different perceptions of risk and the quality of the system is generally improved at present, so the influence of Perceived Risk and System Quality is not tested. In the follow-up study, we will expand the scope of research and explore relevant research methods in order to provide effective support for college students to use online health information more effectively.

Acknowledgments

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