

Research On Influencing Factors of Mobile Short Video Users' Health Information Avoidance Behavior

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Abstract: This paper aims to maximize the attention of different users to avoid health information and reduce its negative impact, so as to maintain the balance and stability of the mobile short video health information ecosystem. Based on the S-O-R theory and the theory of information ecology, this paper constructs a model of the influencing factors of health information avoidance behavior of mobile short video users, puts forward a research hypothesis, and analyzes it by combining the structural equation model method. The results show that mobile short video users' health information avoidance behavior involves the interweaving of multiple factors. The emotional and cognitive factors of users play a mediating role in the influence of information elements, environmental factors and technical factors on health information avoidance. There are differences in the impact of external stimuli on the internal state of users with different levels of demand for health information.

Keywords: Mobile Short Video Users; Health Information Avoidance; S-O-R Theory; Structural Equation Modeling

1. Introduction

With the gradual improvement of economic conditions and living environment, people's attention to health issues continues to increase, and the demand for health information is gradually rising, and short video platforms have become an important place for people to obtain health information. However, because of the information literacy and health literacy deficiencies of different individual users, coupled with the uncertainty of the authenticity of the information, they may be resistant to the health information they are exposed to, or even choose to avoid it.

Therefore, it is of great significance to explore the influencing factors of mobile short video users' health information avoidance behavior and reduce the negative impact caused by health information avoidance to improve the quality of health information, improve the level of health information services, promote the improvement of people's health information behavior literacy, and promote the sustainable development of China's health information service strategy [1].

There have been many studies in the field of health information avoidance behavior at home and abroad. On the basis of S-O-R theory, Wang Jingyi [2] fused the relevant variables of the information system success model and the information adoption model to propose hypotheses, and constructed a model of the influencing factors of college students' health information avoidance in the network environment; Peng Lihui and Jiang Xin [3] explored the generation factors and internal mechanisms of social media users' health information avoidance behavior from the perspective of risk perception, and provided scientific guidance for social media health information services and users' health management decisions; Zhang Shuai and Ma Feicheng [4] meticulously constructed an sophisticated and functional Health Information Avoidance (HIA) Scale designed for college students, with the aim of establishing a foundational basis for the accurate measurement of college students' HIA tendencies and HIA-related research, and also to provide beneficial counsel for health service institutions and college students to manage HIA thoughtfully; Based on grounded theory and incorporating the S-O-R framework, Peng[5] et al. investigated the internal and external influencing factors of health information avoidance behavior in middle-aged and older adults; Yue Xin [6-8] et

al. believe that in order to maintain a good attitude and avoid negative emotions such as anxiety and worry, individuals will avoid health information; Wang [9] et al. found that college students often avoided health information through trunk avoidance, distraction, biased understanding of information, and forgetting; Jiang Tingting[10] et al. believe that bypassing information sources, delaying access to information, and denying information are also effective strategies for avoiding information.

In summary, there is still a great space for theoretical research and practical application in the current research on the health information avoidance behavior of mobile short video users. Therefore, this study will take mobile short video users as the research object, deeply analyze the various influencing

factors of individual users' health information avoidance behavior and put forward suggestions to reduce the health information avoidance behavior of mobile short video users.

2. Research Models and Research Hypotheses

The research data were obtained by semi-structured interview method, and the influencing factors of different users' health information avoidance behaviors were studied through several steps, such as three-level coding, and the influencing factors of mobile short video users' health information avoidance behaviors were constructed based on S-O-R theory, and hypotheses were proposed. The research model is shown in Figure 1.

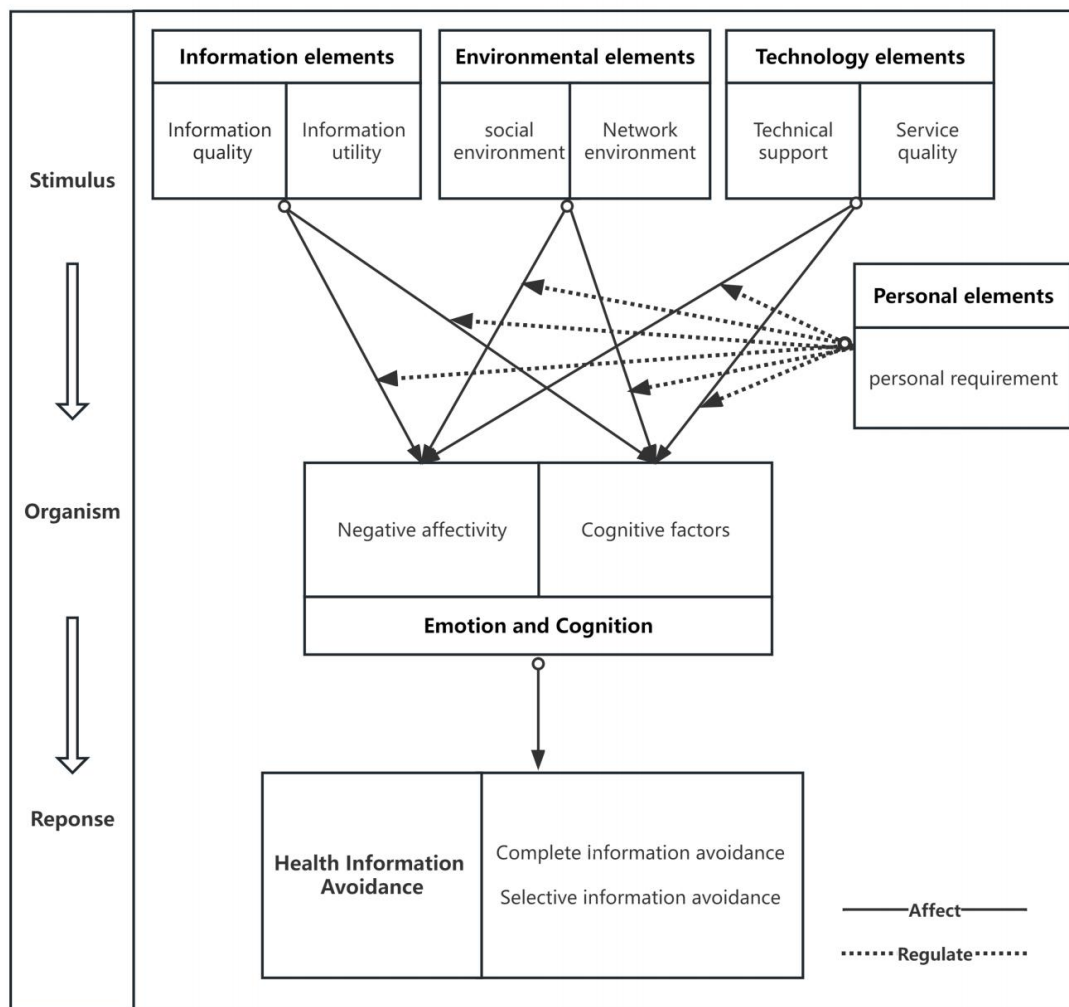


Figure 1. A Model of Influencing Factors in Health Information Avoidance Behavior

Based on the research model, the following assumptions are made:

Q1a: Negative impact of information quality

on mobile short video health information to avoid negative user emotions.

Q1b: The negative impact of information

quality on cognitive components of mobile short video health information avoidance users.

Q2a: The negative impact of information utility on mobile short video health information avoids negative user emotions.

Q2b: The negative impact of information utility on cognitive components of mobile short video health information avoidance users.

Q3a: The negative impact of the social environment on mobile short video health information avoids negative emotions from users.

Q3b: The negative impact of the social environment on the cognitive components of mobile short video health information avoidance users.

Q4a: The negative impact of the network environment on mobile short video health information avoids negative user emotions.

Q4b: The negative impact of the network environment on cognitive components of mobile short video health avoidance users.

Q5a: Technical support has a negative impact on mobile short video health information, avoiding negative user emotions.

Q5b: Technical support negatively affects cognitive components of mobile short video health information avoidance users.

Q6a: Negative impact of service quality on mobile short video health information to avoid negative user emotions.

Q6b: The negative impact of service quality on cognitive components of mobile short video health information avoidance users.

Q7: Negative emotions have a positive impact on the health information avoidance behavior of mobile short video users.

Q8: Cognitive factors have a positive impact on health information avoidance behavior among mobile short video users.

Q9a: Negative emotions play a mediating role in the impact of information quality on health information avoidance.

Q9b: Negative emotions play a mediating role in the impact of information utility on health information avoidance.

Q9c: Negative emotions play a mediating role in the impact of the social environment on health information avoidance.

Q9d: Negative emotions play a mediating role in the impact of the online environment on health information avoidance.

Q9e: Negative emotions play a mediating role in the impact of technical support on health information avoidance.

Q9f: Negative emotions play a mediating role in the impact of service quality on health information avoidance.

Q10a: Cognitive factors play a mediating role in the impact of information quality on health information avoidance.

Q10b: Cognitive factors play a mediating role in the impact of information utility on health information avoidance.

Q10c: Cognitive factors play a mediating role in the impact of the social environment on health information avoidance.

Q10d: Cognitive factors play a mediating role in the impact of the online environment on health information avoidance.

Q10e: Cognitive factors play a mediating role in the impact of technical support on health information avoidance.

Q10f: Cognitive factors play a mediating role in the impact of service quality on health information avoidance.

Q11a: There are differences in the impact of information quality on negative emotions among users who have different levels of demand for health information.

Q11b: There are differences in the impact of information quality on cognitive factors among users with different levels of demand for health information.

Q11c: There are differences in the impact of information utility on negative emotions among users with different levels of demand for health information.

Q11d: There are differences in the impact of information utility on cognitive factors among users with different levels of demand for health information.

Q11e: There are differences in the impact of the social environment on negative emotions among users who have different levels of demand for health information.

Q11f: There are differences in the impact of the social environment on cognitive factors among users with different levels of demand for health information.

Q11g: Users with different levels of demand for health information have different impacts on their negative emotions in the online environment.

Q11h: Users with different levels of demand for health information have different impacts

on their cognitive factors in the online environment.

Q11i: There are differences in the impact of technical support on negative emotions among users who have different levels of demand for health information.

Q11j: There are differences in the impact of technical support on cognitive factors among users with different levels of demand for health information.

3. Questionnaire Design and Data Collection

Based on the proposed research model and hypotheses, the initial questionnaire is divided into two parts.

The variables in the questionnaire were formed by referring to mature domestic and foreign scales and combining them with the characteristics of the research subject.

To verify the validity and rationality of the initial questionnaire, a pre-investigation method was used to analyze the initial questionnaire. A total of 89 valid questionnaires were collected. Based on the analysis results of the questionnaire data and the suggestions obtained from the communication, further adjustments and modifications were made to the questionnaire, forming a final questionnaire with 9 variables and 36 measurement items.

To ensure the quantity, quality and coverage of the questionnaire, electronic questionnaires are mainly distributed, supplemented by paper questionnaires.

Electronic questionnaires are distributed using the QuestionStar platform, using snowball sampling to expand sample coverage. A total of 436 questionnaires were collected, and 405 valid questionnaires were obtained after elimination.

4. Reliability and Validity Testing

This study used SPSS 26.0 and AMOS 26.0 for reliability and validity analysis. The results showed that the CITC value of each item was greater than 0.5, the Cronbach's α coefficient was greater than 0.8, and the reliability of the questionnaire did not increase significantly after the deletion of each item, and the questionnaire did not need to be modified, and the questionnaire had good reliability as a whole. Bartlett spherical factor analysis can be used to test the correlation between the items

in the questionnaire, to some extent, to indicate the validity of the sample, and also to determine whether the analysis effect of the data can be used for factor analysis. The KMO value was 0.894 and the result was greater than 0.8, indicating that the scale could be used for factor analysis.

Convergence validity reflects whether each measurement item can converge significantly to the corresponding variable. Based on the results of confirmatory factor analysis, this study selected three indicators: Estimate, CR, and AVE to measure the convergence validity of the sample. Specific results are shown in Table 1.

Table 1. Results of Convergent Validity Analysis

	Entry	Estimate	CR	AVE
Information quality	IQ1	0.794	0.859	0.671
	IQ2	0.834		
	IQ3	0.83		
Information utility	IU1	0.806	0.853	0.668
	IU2	0.833		
	IU3	0.813		
Social environment	SE1	0.81	0.853	0.659
	SE2	0.835		
	SE3	0.791		
Network environment	NE1	0.811	0.854	0.661
	NE2	0.832		
	NE3	0.797		
Technical support	TS1	0.834	0.867	0.686
	TS2	0.813		
	TS3	0.838		
Quality of Service	SQ1	0.823	0.858	0.669
	SQ2	0.821		
	SQ3	0.81		
Negative affectivity	NA1	0.844	0.888	0.725
	NA2	0.854		
	NA3	0.858		
Cognitive factors	CF1	0.882	0.921	0.796
	CF2	0.913		
	CF3	0.882		
Health Information Avoidance	HIA1	0.823	0.887	0.724
	HIA2	0.831		
	HIA3	0.898		

Table 1 shows that the standard factor loads of each item in the corresponding dimensions are all greater than 0.5; the CR values of variables in each dimension are all greater than 0.8; and the AVE values of each group are all greater than 0.6. In summary, the influence factor scale of mobile information encountered in this study has good convergent validity.

Discriminant validity is a measure that reflects exclusivity between items in various dimensions, and good discriminant validity indicates that the correlation between variables

is not significant. This study analyzed the discriminant validity based on the results of the confirmatory factor analysis, as shown in Table 2.

Table 2. Results of the Discriminant Validity Test

	IQ	IU	SE	NE	TS	SQ	NA	CF	HIA
IQ	0.819								
IU	0.306	0.817							
SE	0.250	0.325	0.812						
NE	0.327	0.268	0.237	0.813					
TS	0.320	0.410	0.322	0.312	0.828				
SQ	0.233	0.303	0.295	0.316	0.389	0.818			
NA	-0.388	-0.416	-0.402	-0.416	-0.452	-0.400	0.853		
CF	-0.370	-0.420	-0.391	-0.388	-0.438	-0.377	0.359	0.893	
HIA	-0.336	-0.376	-0.333	-0.339	-0.388	-0.351	0.445	0.476	0.850

The diagonal numbers in Table 2 represent the AVE square root values of each variable, and the values below the AVE square root represent the variable's correlation coefficient values with other variables. It can be seen that the square root AVE values of each variable are greater than their correlation coefficients with other factors, indicating good discriminant validity of the variables in the study scale.

5. Structural Equation Modeling Analysis and Hypothesis Testing

5.1 Model Construction Fitting Analysis

Firstly, establish a structural equation model to examine the direct and significant effects of external stimuli on health information avoidance. Based on this, a partial mediation model was established to fit and analyze the influencing factors of health information avoidance behavior among mobile short video users. The bootstrap method was used to test the size and significance of the mediation effect. Finally, a complete mediation model for health information avoidance based on S-O-R theory was established, as shown in Figure 2.

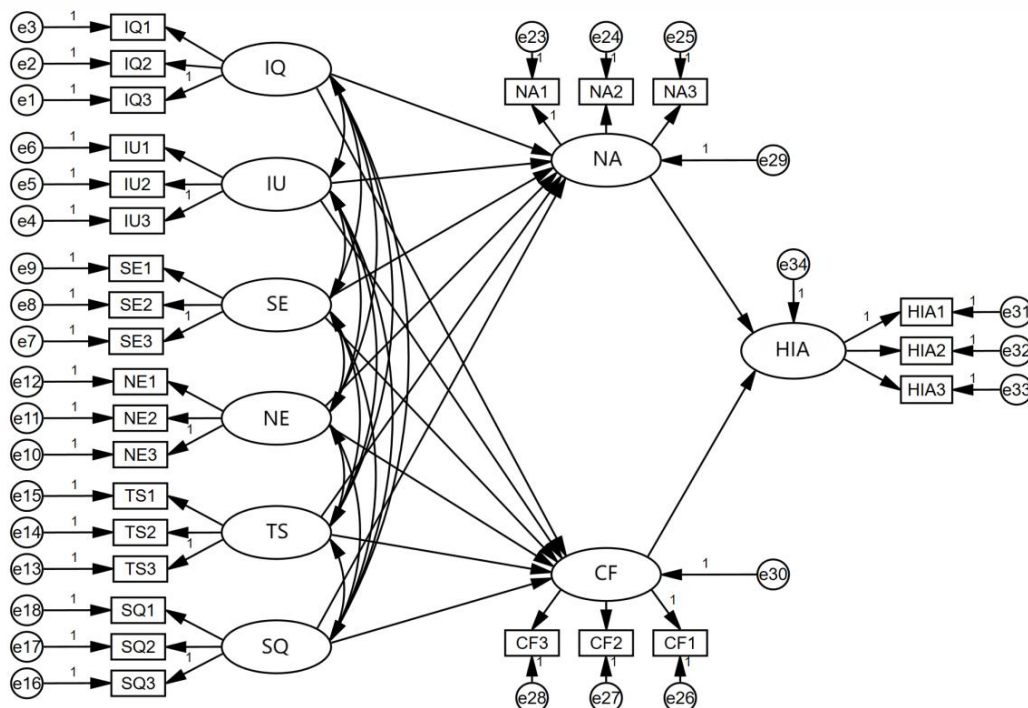


Figure 2. Influencing Factors Fully Mediated Model

Subsequently, a model fit analysis was conducted, and the results are shown in Table

3.

Table 3. Indicators of Model Fit

	CMIN	df	CMIN/df	RMSEA	GFI	NFI	IFI	TLI	CFI
Ideal			<3	<0.08	>0.90	>0.90	>0.90	>0.90	>0.90
Model values	368.547	295	1.249	0.025	0.938	0.947	0.989	0.987	0.989

According to Table 3, the absolute fit parameter CMIN of the model is 368.547; RMSEA is 0.025; CMIN/df is 1.249, GFI is 0.938, IFI is 0.989, TLI is 0.987, and the fit indicators of the structural equation model all meet the standard values. The fitting degree of the structural equation model is good, which has practical significance.

Perform model structure verification and path analysis using AMOS26.0 software to verify the validity of the research hypothesis. Based

on the model test results in Table 4, it can be seen that information quality, information utility, social environment, network environment, technical support, and service quality have significant impacts on negative emotional and cognitive factors, and negative emotional and cognitive factors have significant impacts on health information avoidance. C R. The absolute value is greater than 2, assuming that Q1a-Q10f are all valid.

Table 4. Impact Factor Model Test Results

			Estimate	st. Estimate	S.E.	C.R.	P
NA	←	IQ	-0.166	-0.156	0.056	-2.958	0.003
NA	←	IU	-0.172	-0.154	0.062	-2.76	0.006
NA	←	SE	-0.227	-0.184	0.064	-3.522	***
NA	←	NE	-0.226	-0.201	0.061	-3.733	***
NA	←	TS	-0.182	-0.174	0.061	-2.979	0.003
NA	←	SQ	-0.17	-0.152	0.061	-2.779	0.005
CF	←	IQ	-0.171	-0.145	0.062	-2.738	0.006
CF	←	IU	-0.223	-0.181	0.069	-3.218	0.001
CF	←	SE	-0.233	-0.172	0.072	-3.231	0.001
CF	←	NE	-0.193	-0.167	0.068	-2.833	0.005
CF	←	TS	-0.151	-0.123	0.067	-2.239	0.025
CF	←	SQ	-0.209	-0.168	0.067	-3.132	0.002
HIA	←	NA	0.392	0.36	0.058	6.81	***
HIA	←	CF	0.376	0.38	0.051	7.388	***

5.2 Testing of Moderating Variables

This study used individual needs as the control variable and divided them into two groups: high-level and low-level. Multi-group analysis was performed using AMOS 26.0. Test

whether there are differences in the impact of high and low demand variables on negative emotional and cognitive factors in terms of information quality, information utility, social environment, network environment, technical support, and service quality.

Table 5. Moderating Effect of High and Low Demand Testing

Pathway	CMIN	DF	P	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2
IQ→NA	19.92	13	0.097	-0.015	0.001	-0.005	0.001
IU→NA	6.618	13	0.921	-0.005	0.005	0.005	0.005
SE→NA	15.944	13	0.252	-0.012	0	-0.002	0
NE→NA	7.614	13	0.868	-0.006	0.005	0.004	0.005
TS→NA	14.021	13	0.372	-0.010	0	-0.001	0
SQ→NA	6.432	13	0.929	-0.005	0.011	0.004	0.011
IQ→CF	8.694	13	0.796	-0.006	0.003	0.003	0.004
IU→CF	7.116	13	0.896	-0.005	0	0.004	0.001
SE→CF	15.937	13	0.253	-0.01	0.001	-0.002	0.001
NE→CF	30.191	13	0.004	-0.02	-0.007	-0.011	-0.007
TS→CF	11.799	13	0.544	-0.007	-0.003	0.001	-0.003
SQ→CF	5.898	13	0.950	-0.129	-0.004	0.003	0.005

Table 5 shows that there is a slight difference between high and low individual needs in the impact of information quality on negative emotions ($P < 0.1$). High and low individual

needs play a significant role in regulating the impact of the network environment on cognitive factors, while other pathways are not significant.

Table 6. Table of Differences in Individual Needs Adjustment

PE	Path			Estimate	S.E.	C.R.	P
High demand	NA	←	IQ	-0.334	0.1	-3.341	***
	CF	←	NE	-0.781	0.088	-8.916	***
Low demand	NA	←	IQ	-0.277	0.097	-2.868	0.004
	CF	←	NE	-0.662	0.084	-7.921	***

The results in Table 6 show that at high levels of individual needs, information quality has a stronger impact on negative emotions, and the network environment has a stronger impact on cognitive factors. Based on Tables 5 and 6, it can be seen that in assumptions Q11a-Q11j, assumptions Q11a and Q11h hold, while other assumptions do not.

In summary, the results of the hypothesis test in this study are shown in Table 7.

5.3 Model Correction

Based on the above hypothesis test results, the theoretical model originally proposed in this study has been revised, and the revised model is shown in Figure 3.

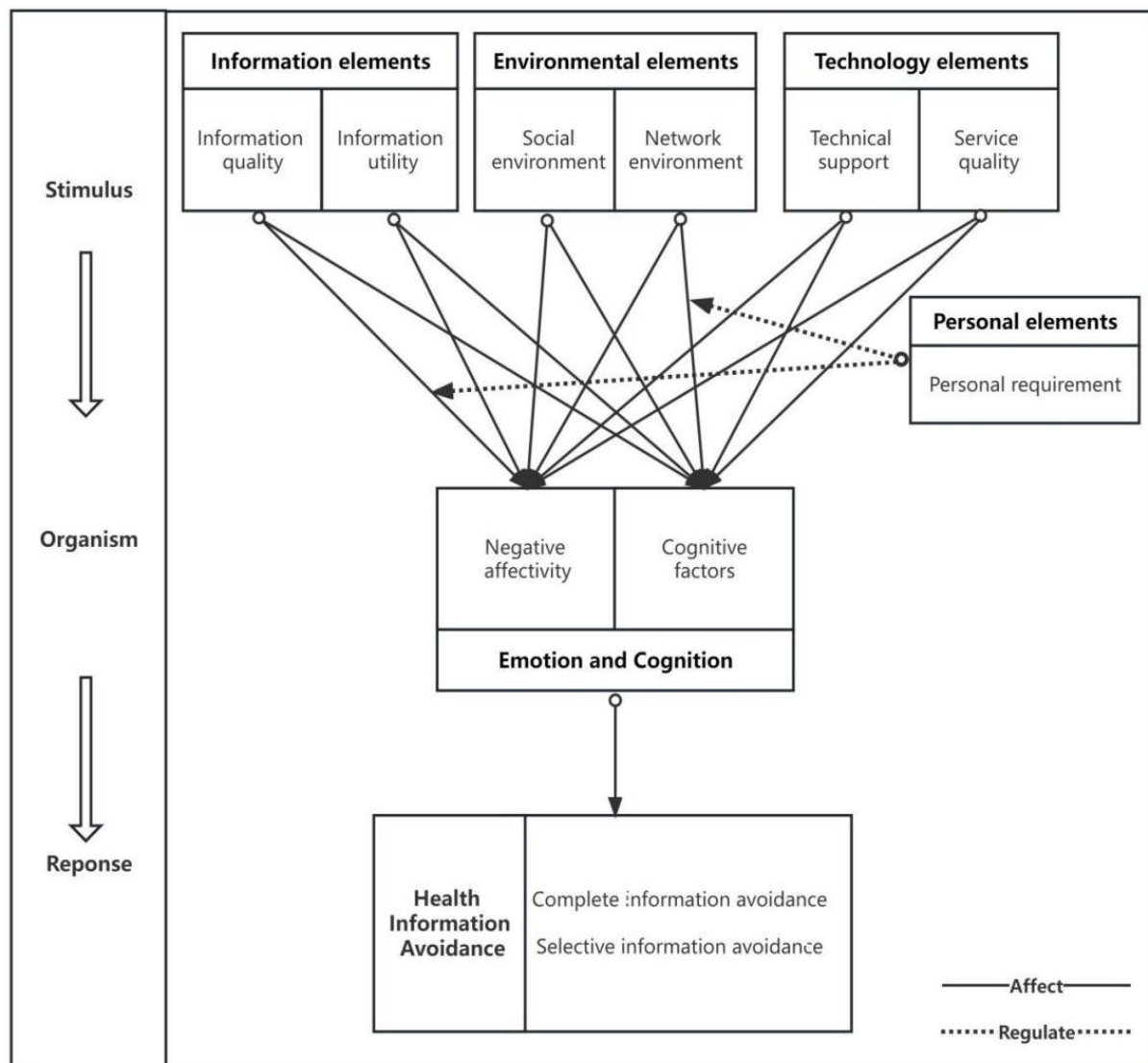


Figure 3. Modified Influencing Factor Model

Table 7. Relationship Hypothesis Results

Research hypothesis	Assumption Content	Assumption results
Q1a	Negative impact of information quality on mobile short video health information to avoid negative user emotions.	Establish
Q1b	The negative impact of information quality on cognitive components of mobile short video health information avoidance users.	Establish
Q2a	The negative impact of information utility on mobile short video health information avoids negative user emotions.	Establish
Q2b	The negative impact of information utility on cognitive components of mobile short video health information avoidance users.	Establish
Q3a	The negative impact of the social environment on mobile short video health information avoids negative emotions from users.	Establish
Q3b	The negative impact of the social environment on the cognitive components of mobile short video health information avoidance users.	Establish
Q4a	The negative impact of the network environment on mobile short video health information avoids negative user emotions.	Establish
Q4b	The negative impact of the network environment on cognitive components of mobile short video health avoidance users.	Establish
Q5a	Technical support has a negative impact on mobile short video health information, avoiding negative user emotions.	Establish
Q5b	Technical support negatively affects cognitive components of mobile short video health information avoidance users.	Establish
Q6a	Negative impact of service quality on mobile short video health information to avoid negative user emotions.	Establish
Q6b	Negative impact of service quality on mobile short video health information to avoid negative user emotions.	Establish
Q7	Negative emotions have a positive impact on the health information avoidance behavior of mobile short video users.	Establish
Q8	Cognitive factors have a positive impact on health information avoidance behavior among mobile short video users.	Establish
Q9a	Negative emotions play a mediating role in the impact of information quality on health information avoidance.	Establish
Q9b	Negative emotions play a mediating role in the impact of information utility on health information avoidance.	Establish
Q9c	Negative emotions play a mediating role in the impact of the social environment on health information avoidance.	Establish
Q9d	Negative emotions play a mediating role in the impact of the online environment on health information avoidance.	Establish
Q9e	Negative emotions play a mediating role in the impact of technical support on health information avoidance.	Establish
Q9f	Negative emotions play a mediating role in the impact of service quality on health information avoidance.	Establish
Q10a	Cognitive factors play a mediating role in the impact of information quality on health information avoidance.	Establish
Q10b	Cognitive factors play a mediating role in the impact of information utility on health information avoidance.	Establish
Q10c	Cognitive factors play a mediating role in the impact of the social environment on health information avoidance.	Establish
Q10d	Cognitive factors play a mediating role in the impact of the online environment on health information avoidance.	Establish
Q10e	Cognitive factors play a mediating role in the impact of technical support on health information avoidance.	Establish

Q10f	Cognitive factors play a mediating role in the impact of service quality on health information avoidance.	Establish
Q11a	There are differences in the impact of information quality on negative emotions among users who have different levels of demand for health information.	Establish
Q11b	There are differences in the impact of information quality on cognitive factors among users with different levels of demand for health information.	Not established
Q11c	There are differences in the impact of information utility on negative emotions among users with different levels of demand for health information.	Not established
Q11d	There are differences in the impact of information utility on cognitive factors among users with different levels of demand for health information.	Not established
Q11e	There are differences in the impact of the social environment on negative emotions among users who have different levels of demand for health information.	Not established
Q11f	There are differences in the impact of the social environment on cognitive factors among users with different levels of demand for health information.	Not established
Q11g	Users with different levels of demand for health information have different impacts on their negative emotions in the online environment.	Not established
Q11h	Users with different levels of demand for health information have different impacts on their cognitive factors in the online environment.	Establish
Q11i	There are differences in the impact of technical support on negative emotions among users who have different levels of demand for health information.	Not established
Q11j	There are differences in the impact of technical support on cognitive factors among users with different levels of demand for health information.	Not established

6. Conclusions

Based on S-O-R theory, this paper constructs a model of influencing factors of health information avoidance behavior of mobile short video users, and introduces personal demand variables as moderating variables to explore the differences in health information avoidance behaviors of users with different levels of health information demand, and has the following conclusions:

First, the behavior of mobile short video users to avoid health information involves the interweaving influence of multiple factors such as individuals, information, environment, and technology. According to the fitting results of the model constructed in this paper, information quality, information utility, social environment, network environment, technical support, and service quality have a significant negative impact on health information avoidance; negative emotions and cognitive factors have a significant positive impact on health information avoidance.

Secondly it has been shown that users' emotional and cognitive factors play a mediating role in the impact of information,

environmental and technological factors on health information avoidance.

Third, there are differences in the impact of external stimuli on the internal state of users who have different levels of demand for health information.

7. Service Countermeasures

7.1 Improving User information Literacy

First, users' own health information literacy needs to be improved. The improvement of health information literacy of short video users should start from the users themselves, from passively accepting health information to actively inquiring about health information and strengthen the understanding of health information in different ways. Second, maximizing the utility of health information should be promoted. When users are looking for health information that can meet their own needs, they should make reasonable use of the positive effects of health information avoidance behavior, reduce the negative effects of health information avoidance behavior, face different types of health information with an open and compatible

attitude, and avoid missing valuable health information due to personal factors, so as to maximize the effectiveness of information.

7.2 Improving the Service Level of Short Video Users

First, attention should be paid to the quality of health information. Information publishers should pay attention to the content and quality of health information, and refuse to publish false, unsubstantiated, and low-quality health information. When making short videos, news publishers should establish relationships between health information, integrate information, and ensure information integrity. Second, improve user satisfaction. First of all, we should set the goal of building a pleasant interactive field. Secondly, in the process of short video services, more methods should be used to combine artificial intelligence and manual labor to improve user satisfaction.

References

- [1] Gu Dongxiao, Sun Jiayue, Ding Qingxiu, et al. A study on the impact pathway of health information anxiety on health information avoidance behavior: an exploration based on grounded theory [J]. Library and Information Work, 2023,67 (19): 111-120.
- [2] Wang Jingyi. Research on the influencing factors of health information avoidance behavior among college students in the online environment. Intelligence Exploration, 2022, (12): 92-100.
- [3] Peng Lihui, Jiang Xin. Research on the generation mechanism of health information avoidance behavior among social media users from the perspective of risk cognition. Library and Information Work, 2022, 66 (22): 55-65.
- [4] Zhang Shuai, Ma Feicheng. Research on the Construction of a Health Information Avoidance Scale for College Students. Library and Information Work, 2020,64 (09): 3-9.
- [5] PENG L H, ZHANG Q H. Research on the association path and influencing factors of middle-aged and older adults' health information avoidance behavior: an exploratory analysis based on the grounded theory. Research on library science, 2022(1): 77-86, 76.
- [6] SOROYA S H, FAROOQ A, MAHMOOD K, et al. From information seeking to information avoidance: understanding the health information behavior during a global health crisis. Information processing & management, 2021, 58(2): 102440.
- [7] CHEN Y, WANG Y, YUE X, et al. Research on the action mechanism of health information avoidance behavior in sports-injured people. Journal of modern information, 2023, 43(1): 55-68.
- [8] ZHANG N, GAO B J. Research on the formation and influencing factors of the negative use behavior of online health information services for the elderly under the CAC paradigm. Library and information service, 2021, 65(19): 96-104.
- [9] WANG W T, ZHANG S, LI J, et al. Analysis on the driving factors of college students' health information avoidance behavior and the construction of the theoretical model. Library and information service, 2018, 62(3): 5-11.
- [10] JIANG T T, QUAN M Z, WEI Z Y. A review of information avoidance studies: domain boundaries, research foci, and future trends. Journal of library science in China, 2020, 46(4): 99-114.