Mediating Effects of Information Asymmetry Between Perceived Health Information Quality and Evaluations of Physicians, Moderating Role of Information Pathways

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Abstract. A total of 324 questionnaires were collected from across the country to examine the mediating role of information asymmetry between perceived health information quality (PIQ) and evaluations of physicians' enthusiasm, competence, and ethics, as well as the moderating role of the health information pathway (IP). The results of the study showed that: 1) perceived health information quality positively affects doctors' enthusiasm, competence, and ethical evaluations; 2) information asymmetry mediates the relationship between perceived information quality and doctors' enthusiasm, competence, and ethical evaluations-perceived information quality negatively affects information asymmetry, and information asymmetry negatively affects doctors' enthusiasm, competence, and ethical evaluations; and 3) the information pathway has a moderating role, taking the official website of administrative authorities or medical institutions + health community/health APP (OW+C/A) as a reference, the social media (SM)pathway positively moderates the effect of perceived information quality on information asymmetry, and finally discusses the theoretical significance and practical value of the results.

Keywords: Information asymmetry, Perceived information quality, Enthusiasm, Competence, morality, Information pathway

1 Introduction

The doctor-patient relationship is currently the subject of widespread social concern. The earliest doctor-patient relationship specifically referred to the process and outcome of interpersonal interaction between a particular doctor and patient involved in health care and treatment activities. The high level of development of modern medicine has further expanded this concept [1-3]. In order to better reflect the purely medical relationship between patients and physicians, this paper still follows the pre-expansion concept.

Information asymmetry is currently one of the causes of doctor-patient discord, and the Internet makes up for certain deficiencies due to insufficient medical knowledge,

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which makes it difficult for patients to judge medical situations and doctor behavior. This paper predicts and investigates the mediating role of information asymmetry between perceived information quality and doctors' enthusiasm, competence, and ethical evaluation; and the moderating role of information pathways.

2 Theory Hypotheses

2.1 Information Asymmetry and Evaluation of Physician Enthusiasm, Competence, and Ethics

Information asymmetry refers to the fact that one of the interacting parties has information that the other party wants to know but does not know, the former is called the information superior party and the latter is called the information inferior party. This paper focuses on information asymmetry in medical knowledge. Patients in the healthcare market have an extreme lack of information, such as the time and extent of the demand for healthcare services and their effectiveness, which increases the risk and uncertainty when patients consume healthcare services [4]. The complexity and individualization factors of medical treatment lead to certain risks and uncertainties in the medical process, which may be perceived as a problem of doctor's competence, skill or ethics under the condition of asymmetric information, affecting the evaluation of medical treatment.

It is worth noting that the evaluation of doctors can be divided into three dimensions according to the content of the stereotype model proposed by Cheng Jiting et al [5]: enthusiasm, competence, and ethics. The mutual matching of the three fits the patients' expectations of doctors as well as their own health and emotional aspirations, and is suitable for use as a basic observational indicator of doctor-patient harmony [1]. This study also used these three dimensions as outcome variables for observation.

Firstly, due to busy schedules or medical models, doctors only provide patients with partial information and partial alternatives, or convey too much information and communicate insufficiently, so that patients are unable to understand and digest the whole process of consultation and treatment, and may therefore think that the doctors are not warm and approachable enough.

In addition, due to information asymmetry, the principal (the patient) does not know whether the agent (the doctor) is over-testing, prescribing more expensive medicines, and whether the individual's health condition matches the diagnosis and treatment plan. Doctors can make different choices and orientations regarding the diagnosis and treatment of diseases and have a great deal of decision-making power. It has been suggested that the problem of medical professional information creates an unequal power relationship between the specialist and the client, which the former may exploit for his or her own benefit [6]. The treatment process reflects the physician's competence, but the patient's needs present a passive nature and certain opportunistic behaviors may occur, i.e., healthcare service provider moral hazard - induced demand behavior [7-8], mainly for recommending and using additional services. In order to gain greater financial benefits or take smaller risks, physicians do not behave like perfect agents [9]. It is easy to see from the above analysis that information asymmetry may

lead patients to negatively evaluate doctors in terms of enthusiasm, competence, and morality, which leads us to the hypothesis:

H1: Information asymmetry negatively affects doctors' enthusiasm, competence, and moral evaluation.

2.2 Perceived Information Quality, Information Asymmetry, and Physician Enthusiasm, Competence, and Ethical Evaluation

An important way to address information asymmetry is information seeking, and information seeking quality is a prerequisite for guiding the seeker to take the right steps [10]. Eppler used the definition of quality to introduce the connotation of information quality-meeting the customer's expectations and fulfilling the requirements of the activity such as truthfulness, accuracy, authoritativeness, normativity, ease of comprehensibility [11-14], and usefulness and ease of use of information as proposed by Anol Bhattacherjee [15]. Perceived information quality is the subjective evaluation of information quality by users [16]. In the Internet various platforms can be targeted to seek relevant health information, easy and fast access, time elasticity, not subject to geographical constraints, more time for doctors and patients to communicate, share, and think about each other, and the flow of information between the doctor and the patient is effective [17], and this approach is also friendly. Internet health information can provide a sense of empowerment, purpose, and control [6], which reduces information asymmetry and anxiety to some extent. High-quality health information reflects the professionalism and attentiveness of the physician, not only in the delivery of "good" information, but also in meeting the expectations of the questioner [18], as well as enthusiasm, competence, and sincerity. The amount of information available on the Internet is changing people's health and life, and many doctors are active both online and offline, actively interacting with patients and answering their questions, and patients are also able to seek information to learn more about medical knowledge and their own health, and they are no longer unfamiliar with the disease. We therefore hypothesize that

H2: Perceived information quality negatively affects information asymmetry.

With the development of Internet +, the deep integration of medical institutions, doctors and the Internet, the sense of distance between the patient and the doctor is drawn closer, and the evaluation of doctors will change. First of all, as information asymmetry is improved, patients and doctors will be relatively easy to communicate. Patients will soon understand the diagnosis and treatment of diseases and regression, and know the dangers of surgery, so they will not keep asking questions because they do not understand, and they will not think that the doctor is not active enough to be enthusiastic; secondly, although patients have mastered and understood a certain amount of medical knowledge, compared with professional doctors, patients still do not have as comprehensive and profound knowledge of test results, diagnosis and treatment plans, etc., as professional doctors, and patients will be able to appreciate the gap and think that doctors are capable of doing so. ; At the same time the smaller the information gap, mastering a certain degree of medical knowledge, such as being able to understand a certain degree of diagnosis, treatment, medication knowledge,

may be a relatively professional level to the doctor to put forward their own opinions, suggestions or joint discussion of treatment options, the doctor's opportunism will be reduced. Therefore, it is predicted that the reduction of information asymmetry can improve patients' evaluation of medical care, and has a mediating role between perceived information quality and evaluation of medical care. And the hypothesis is formulated:

H3: Perceived information quality positively influences physician enthusiasm, competence, and ethical evaluations, and information asymmetry mediates the relationship between perceived information quality and evaluations of physicians.

2.3 The Moderating Role of Health Information Pathways

It is undeniable that the public may question the hospital doctors after they have certain medical knowledge, and the information on some unreliable websites may contradict the doctor's advice [19], especially at present, China's online information pathway is extensive and not a single one, the pathway is mixed, and it is difficult to distinguish between truth and falsehood is the fact that exists at present and confusion. A large part of foreign research on the credibility of online health information and information quality research areas have intersection, credibility and information quality concepts are fundamentally different, domestic research is easy to confuse [20]. A web page with high credibility is a combination of high authenticity and high professionalism. It is a source of information that has goodwill or is ethical, truthful and fair. Professionalism refers to being rich in knowledge, having a good reputation and being loyal to their duties [21-22]. Therefore, the credibility of the information pathway focuses more on the reliability of the source and the means of dissemination of the information, whether it is professional or has a good reputation [23], and is objective and verified information. As mentioned earlier, information quality is more concerned with the intrinsic value and utility of information, and perceived information quality for users is subjective, judgment is not necessarily accurate, and the perception of high-quality information may come from different ways.

Among the many pathways, the official websites of administrative organs or medical institutions are recognized as authoritative and professional; health communities and health APPs also have enhanced credibility due to the support of authoritative institutions or organizations [24]. In contrast, social media is of poor quality due to its gray information [25-26]. According to the characteristics of information pathways in the above study, social media information is cluttered and widely forwarded, and the medical knowledge it conveys may not be professional and may cause information overload [27], which makes people confused, and therefore cannot effectively improve information asymmetry, whereas the official website+health community/APP may be the opposite. Therefore, it is proposed that

H4: Social Media Pathways Weakening the Impact of Perceived Information Quality on Information Asymmetry. The hypothetical model is shown in Figure 1.

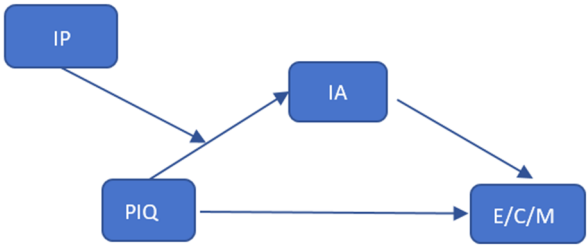

Fig. 1. Hypothetical model of the effect of perceived information quality on physicians' enthusiasm, competence, and morality evaluation. Note: E=enthusiasm, C=competence, M=morality

3 Research Methods

3.1 Subjects

The platform got 324 valid questionnaires, with a recovery rate of 98.18%. Age = 42.43+-10.40. 31 provinces, autonomous regions and municipalities directly under the central government were involved, and various industries were distributed. (See Table 1).

Table 1. Sample composition.

variability		frequency	percentage
Igenders	male	141	43.52%
	female	183	56.48%
IIage	19--25	24	7.41%
	26--35	53	16.36%
	36--45	109	33.64%
	46--55	100	30.86%
	56--66	38	11.73%
IIIqualifications	Middle school and below	4	
	senior high school	23	1.23%
	Secondary or post-secondary	71	21.91%
	undergraduate	179	55.25%
	Master's degree and above	47	14.51%
IVMonthly income of the family	Less than 10,000	7	2.16%
	10-30 thousand	14	4.32%
	30-80 thousand	26	8.02%
	80-150 thousand	79	24.38%
	150-300 thousand	144	44.44%
	300-1 million	53	16.36%
	1-5 million	1	0.03%
VCommon Channels for Health Infor-search	Search engines (e.g. Baidu, Sogou, 360), etc.	247	76.5%

mation	Official websites of administrative organs or medical institutions (e.g. official websites of health commissions at all levels, official websites of hospitals at all levels, etc.)	164	50.8%
	Online health communities or health APPs (e.g. Good Doctor Online, Dr. Chunyu, Weimedicine, etc.)	247	76.5%
	SMplatforms (e.g., Weibo, WeChat, forums, etc.)	255	78.9%

3.2 Research Tools

3.2.1 Information Asymmetry.

Drawing on Pavlou [28], Laugesen [17] and other information asymmetry categorization viewpoints, adopting the typical topics of the information asymmetry questionnaire between doctors and patients by Ji Nan [29] and Tian Dongjie [30], which are centered on medical issues with a certain degree of interlocking between the categories. Together with the tutor, we analyzed them item by item, and temporarily divided them into 3 dimensions: medical knowledge, medical situation, and health status. Refer to articles such as Wen Zhang et al [31] and Hui Wang et al [32] for dimensional analysis of information asymmetry.

Exploratory Factor Analysis

Bartlett's test of sphericity (chi-square value=1180.29, degrees of freedom (df)=36, $P<0.001$), KMO=0.87, suitable for exploratory factor analysis. Using principal component analysis and maximum variance method, extracted according to the number of three fixed factors, the two entries formed two dimensions independently, so they were temporarily excluded first; re-exploratory factor analysis, the final questionnaire retained a total of seven questions and distributed on two factors, such as: I do not know the extent to which the doctor's prescription of medication or checklist is necessary. The cumulative contribution of the two factors was 69.46%.

Validation Factor Analysis

The total reliability of the information asymmetry questionnaire and the internal consistency coefficients of the factors (medical condition, health status) were high, respectively 0.89, 0,86, 0,75, greater than 0.7. The combined reliability was 0.87, 0.75. The standardized loadings of the factors were high, between 0.70 and 0.82. Comparing the different factor models, the two-factor model fits better than the other factor models with better discriminant validity, indicating that the two-factor model is more advantageous in describing the internal structure of information asymmetry (Table 2).

Table 2. Comparison of model fit indicators for different factorsof the information asymmetry scale (n=324).

model	χ^2	df	χ^2/df	CFI	TLI	SRMR	Standardized Load Minimum	AVE Min.
single factor	83.31	14	5.95	0.94	0.90	0.05	0.65	0.53
Three- factor	44.05	11	4.00	0.97	0.94	0.04	0.72	0.58
two-factor	32.91	12	2.74	0.98	0.97	0.04	0.70	0.58

3.2.2 Perceived Information Quality.

The Perceived Information Quality Scale (PIQS) developed by Feng Tassel and Zhang Ruiyun [33] and integrated by Zuo Yuting [34] was adopted by Bhattacherjee (2006), which consists of five questions, such as I believe that the health information I have received is truthful and trustworthy. The scale was scored on a 5-point Likert scale, with 1 indicating "completely disagree" and 5 indicating "strongly agree". The mean score of all the questions was calculated, and the higher the score, the better the perceived quality, and the scale showed good reliability and validity in previous studies [34]. The alpha coefficient of the scale was 0.78 in the actual test.

3.2.3 Evaluation of Doctors' Enthusiasm, Competence, and Morality.

Six topics were used from Jian Guan and Ja-Ting Cheng's [35] Stereotype Content Model Scale, such as Doctors are treating people warmly. The scoring was the same as before. The higher the mean score, the more positive the evaluation. In the actual test, the overall alpha coefficient of the three dimensions of the scale was 0.81. The alpha coefficient of enthusiasm was 0.78, the alpha coefficient of competence was 0.56, and the alpha coefficient of morality was 0.64. Validated factor analysis showed that the three-factor model fit was better than the one-factor and two-factor, and the discriminant validity of the variables was verified (see Table 3).

Table 3. Comparison of model fit indicators for different factors of the stereotype scale (n=324).

model	χ^2	df	χ^2/df	CFI	TLI	SRMR	RMSEA
single factor	61.19	9	6.80	0.91	0.85	0.03	0.13
Three- factor	44.42	8	5.56	0.94	0.88	0.03	0.12
two-factor	17.52	6	2.92	0.98	0.95	0.02	0.08

3.2.4 Health Information Seeking Channels.

The Utilization Preference Scale for Online Health Information Search Channels [27] was used as a multiple choice question to develop categorical moderator variables. Channel 0 was reference = official website + health community/APP, 1 = all selected (official website + community/APP + social media), 2 = social media, and only 5

cases selected only search engine, which was not categorized for the time being as a means and in a very small number.

To test the correlation between moderating variables and independent variables, one-way ANOVA was performed using SPSS version 25 statistical software, and the mean of official website+health community/APP, all-selected, and social media pathways were 3.97, 3.83, and 3.74, respectively, with the number of cases of 66, 219, and 34, and the standard deviation of 0.54, 0.54, and 0.61, respectively. ANOVA chi-square test was performed, and P= 0.79,greater than 0.05, indicating that the data were not statistically different and could be analyzed by ANOVA. The LSD method was used to compare the differences between the data of each group, F value = 1.88, significant between groups P = 0.13, greater than 0.05, the difference between the groups is not significant, indicating that there is no significant correlation between the individual information pathways and the quality of perceived information.

4 Analysis of Resuits

4.1 Common Method Bias

The Harman one-way method was used to test for common method bias: there were 4 factors with eigenvalues greater than 1, and the maximum factor variance explained was 37.08%, which was less than the 40% critical criterion, so there was no serious common method bias in the data of this study.

4.2 Descriptive Statistics and Correlation Analysis

In this study, perceived information quality was significantly and positively correlated with enthusiasm, competence, and ethics ratings ($r = 0.48$, $p < 0.001$; $r = 0.43$, $p < 0.001$; $r = 0.46$, $p < 0.001$); perceived information quality was significantly and negatively correlated with information asymmetry $r = - 0.46$, $p < 0.001$; and information asymmetry was significantly and negatively correlated with enthusiasm, competence, and ethics ($r = -0.42$, $p < 0.001$; $r = -0.41$, $p < 0.001$; $r =- 0.45$, $p < 0.001$). The correlation coefficients for each correlation ranged from 0.40 to 0.62, and the trait could be categorized into different variables for measurement. The correlation matrix, mean, and standard deviation for each variable are shown in Table 4.

Table 4. Means, standard deviations and correlation coefficients of variables (N=324).

variables	average value	standard deviation	1	2	3	4	5
1.Perceived quality of information	3.85	0.55					
2.information asymmetry	2.61	0.80	-0.46***				
3.warmly	3.61	0.77	0.48***	-0.42***			
4.competencies	4.15	0.55	0.43***	-0.41***	0.40***		
5.morality	3.93	0.63	0.46***	-0.45***	0.62***	0.52***	

Note: *p < 0.05, ** p < 0.01, *** p < 0.001. Same below.

4.3 Intermediation and Moderating Role Test

Using the Process plug-in in SPSS version 25.0, model 7 was selected, Bootstrap method was used to test the mediating and moderating effects with 5000 samples at 95% confidence interval.

Enthusiasm, competence, and morality were tested for the moderating role of the information pathway as dependent variables, respectively: perceived information quality significantly and positively predicted enthusiasm (B = 0.51, p < 0.001), competence (B = 0.31, p < 0.001), and morality (B = 0.38, p < 0.001).

Perceived information quality significantly negatively predicted information asymmetry (B = -0.88, p < 0.001), and perceived information quality and social media interaction terms significantly positively predicted information asymmetry (B = 0.61, p = 0.02). See Table 5, and its simple slope plot is shown in Figure 2, where perceived information quality significantly reduced information asymmetry when individuals primarily accessed information through the official website + health community app, simple slope = -0.88, t = -5.40, p < 0.001; when individuals accessed information through all pathways, simple slope = -0.66, t = -7.41 , p < 0.001; when individuals accessed information through the social media route, simple slope = -0.27, t = -1.34, p 0.18; information asymmetry also significantly and negatively affects enthusiasm, competence, and ethical evaluations of physicians. 5,000 bootstrap results indicate that information asymmetry in the perception of official website+health community/APP and full selection when the The mediating effect between information quality and enthusiasm, competence, and ethical evaluation was significant, and the mediating effect of social media pathway was not significant. The mediation effect values of information asymmetry and their 95% Bootstrap confidence intervals at the official website + health community/APP, full selection, and social media pathway levels are shown in Tables 6, 7, and 8.

Table 5. Regression analysis of the moderating effect of enthusiasm as a dependent variable.

regression equation		Overall fit index			Significance of regression coefficients				
outcome variable	predictor variable	R	R2	F	B	P-value	Bootstrap lower limit	Bootstrap cap	t-value
information asymmetry	PIQ	0.48	0.23	13.50	-0.88***	< 0.001	-1.20	-0.56	-5.40
	A-S				-0.01	0.98	-0.20	0.20	-0.02
	SM				0.25	0.10	-0.05	0.56	1.66
	PIQ*A-S				0.22	0.25	-0.15	0.58	1.16
	PIQ*SM				0.61*	0.02	0.10	1.12	2.36
warmly	PIQ	0.53	0.28	63.41	0.51***	< 0.001	0.36	0.66	6.87
	IA				-0.25***	< 0.001	-0.35	0.15	-4.82
competencies	PIQ	0.49	0.24	52.03	0.31***	< 0.001	0.20	0.42	5.67
	IA				-0.19***	< 0.001	-0.26	0.11	-4.97
morality	PIQ	0.53	0.28	63.50	0.38***	< 0.001	0.26	0.50	6.15
	IA				-0.23***	< 0.001	-0.32	-0.15	-5.61

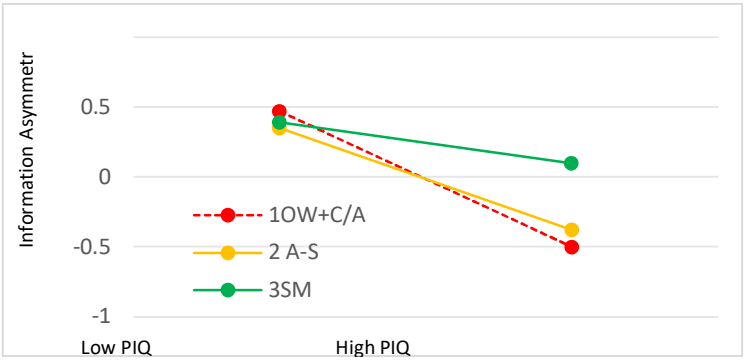

Fig. 2. Map of the moderating effect of information pathways on perceived information quality and information asymmetry

Table 6. At different information pathways Direct effect of perceived information quality on enthusiasm evaluation and mediating effect of information asymmetry.

information pathway	efficiency value		Bootstrap lower limit	Bootstrap cap
OW+C/A	indirect effect	0.22	0.11	0.37
A-S	indirect effect	0.16	0.08	0.26
SM	indirect effect	0.07	-0.06	0.19

Table 7. Mediating effects of information asymmetry between perceived information quality and competence at different information pathways.

information pathway	efficiency value		Bootstrap lower limit	Bootstrap cap
OW+C/A	indirect effect	0.16	0.08	0.28
A-S	indirect effect	0.12	0.07	0.19
SM	indirect effect	0.05	-0.05	0.16

Table 8. Direct effect and mediating effect of information asymmetry between perceived information quality and ethical evaluations at different information pathways

information pathway	efficiency value		Bootstrap lower limit	Bootstrap cap
OW+C/A	indirect effect	0.21	0.11	0.35
A-S	indirect effect	0.16	0.09	0.24
SM	indirect effect	0.06	-0.06	0.18

To summarize the data, the mediating effect of information asymmetry exists, H1 and H2 are valid; perceived information quality positively predicts the evaluation of medical enthusiasm, competence, and morality, H3 is valid; the first half of the mediating effect is moderated by the information pathway, H4 is valid, i.e., when the moderating effect is analyzed using the official website+healthy community/APP as the reference item, the social media weakened the impact of perceived information quality on information asymmetry; the all-option also weakens the effect of perceived information quality on information asymmetry, but the moderating effect is not significant.

5 Discussion

5.1 Theoretical Implications

In the Internet era, the interaction between doctors and patients increases, sustainability is enhanced, and the target group is targeted more precisely, which makes it easy to establish and promote a harmonious and stable doctor-patient relationship, which in turn generates positive evaluations of doctors; through quantitative analysis of information asymmetry, it is found that the information problems in terms of medical knowledge that patients are concerned about and concerned about can be significantly improved; due to the understanding of the necessity of checkups and medications, knowing that the doctor has already made all the notifications, and having mastered As patients understand the necessity of examination and medication, know that doctors have made all the information, and have certain knowledge of medical and surgical risks, information asymmetry can be improved, and they will also have a positive evaluation of doctors, which indicates that the mediating effect of information asymmetry exists. This is consistent with Langer's study that "greater health education provided to patients over the Internet reduces the asymmetric distribution of information" [36]. In ensuring the quality of information, individuals can be encouraged to seek health information and share health-related knowledge through mass media such as the Internet [37].

Social media weaken the effect of perceived information quality on information asymmetry compared to official website + health community/app. Social media has changed the way people communicate with each other, and information is exchanged frequently without time and space constraints. However, it is easy to cause information overload [27], and the information in social media is filtered and forwarded one level at a time, and there is no lack of personal experience insights shared, and the professionalism is disturbed and questioned, thus weakening the effect of perceived information quality on information asymmetry. The above analysis suggests that the moderating effect of information pathways exists.

5.2 Practical Implications

Medical knowledge has its complexities, but it is not insurmountable. Health-conscious consumers are increasingly going online for health information [38]. High-quality health information can enhance the public's knowledge of diseases and their mastery of medical conditions, which can effectively improve the evaluation of medical treatment. The specific quantification of information asymmetry and the stereotype model's figurative evaluation of medicine make part of the research for improving doctor-patient conflicts and building a harmonious doctor-patient relationship. The information pathway presents a moderating effect, indicating that there are differences in the authenticity and professionalism of each pathway, and that some websites are not able to fully satisfy the public's demand for health information. Therefore, providing users with precise information customization and positioning target consumers become the competitive advantage of the platform [39-40].

5.3 Limitations and Future Research Directions

Firstly, the sample of this study comes from 31 provinces and autonomous regions in China, and the age restriction is made, but whether it can be universally applied needs to be further tested. Second, due to the specificity and complexity of the doctor-patient relationship, the problem of multifaceted and multilevel information asymmetry needs to be further examined and quantified. Finally, the rigor of the research design on the credibility of the information platform needs to be further improved.

6 Conclusions

(1) perceived information quality had a significant positive predictive effect on the effects of physician enthusiasm, competence, and ethical evaluation; (2) perceived information quality had a significant negative predictive effect on the effects of information asymmetry, and indirectly predicted the effects on physician enthusiasm, competence, and ethical evaluation through the mediating effect of information asymmetry; and (3) compared with the official web site+health community/APP, social media weakened the effects of perceived information quality on information asymmetry.

References

1. Sun, Lianrong & Wang, Pei. (2019). Psychological Mechanisms of Harmonious Doctor-Patient Relationship and Its Promoting Techniques. Advances in Psychological Science (06), 951-964.
2. Zhang, W. J., Hao, Y. H., Wu, Q. H., Liang, L. B., Li, Q. J., Han, S. H. & Zhang, J. Jing. (2014). Causes and countermeasures of tension between doctors and patients in China. Medicine and Society (04), 44-46.
3. Huang, B.. (2010). Research on doctor-patient relationship under the perspective of new medical reform (Master's thesis). Guangxi Medical University.
4. Arrow. K., 1963, Uncertainty and the welfare economics of medical care. American Economic Review 53, 941-973.
5. Cheng, Ja-Ting Cheng, Bin Zhang & Xin Xin Wang. (2015). Morality: A new dimension of stereotype content. Psychological Inquiry (05), 442-447.
6. Bloom, G., Standing, H., & Lloyd, R. (2008). Markets, information asymmetry and health care: Towards new social contracts. Social Science & Medicine, 66(10), 2076–2087.
7. Evans, R. G. (1974). Supplier-Induced Demand: Some Empirical Evidence and Implications (pp. 162–173). Palgrave Macmillan UK. https://doi.org/10.1007/978-1-349-63660-0_10
8. Dranove, D., & Jin, G. Z. (2010). Quality disclosure and certification: theory and practice. Journal of Economic Literature, 48(4), 935–963.
9. Rochaix, L. (1989). information asymmetry and search in the market for physicians' services. Journal of Health Economics, 8(1).53-84.

10. Stvilia, B., Gasser, L., Twidale, M. B., & Smith, L. C. (2007). A framework for information quality assessment. Journal of the American Society for Information Science and Technology, 58(12), 1720–1733.
11. Eppler, M. (2003). Managing information quality: Increasing the value of information in knowledge-intensive products and processes. Berlin, Germany: Springer-Verlag
12. Bovee M, Srivastava RP, & Mak B.（2003). A conceptual framework and belieffunction approach to assessing overall information quality. Int J Intell Syst. ;18(1):51–74.
13. Sellitto, C., & Burgess, S. (2005). Towards a weighted average framework for evaluating the quality of web-located health information. Journal of Information Science, 31(4), 260–272.
14. Stvilia, B., Mon, L., & Yi, Y. J. (2009). A model for online consumer health information quality. Journal of the American Society for Information Science and Technology, 60(9), 1781–1791. https://doi.org/10.1002/asi.21115
15. Bhattacherjee, A., & Hikmet, N. (2007). Physicians' resistance toward healthcare information technology: a theoretical model and empirical test. European Journal of Information Systems, 16(6), 725–737.
16. Chen, Jiaxing. (2022). Research on Factors Influencing the Perceived Quality of Information in Online Medical Q&A Communities (Master's thesis). Hebei University.
17. Laugesen, J., Hassanein, K., & Yuan, Y. (2015). The Impact of Internet Health Information on Patient Compliance: A Research Model and an Empirical Study. Journal of Medical Internet Research, 17(6), e143.
18. Choi, E., & Shah, C. (2016). Asking for more than an answer: What do askers expect in online Q&A services? Journal of Information Science, 43(3), 424–435.
19. Barnoy, S., Melnikov, S., & Bar-Tal, Y. (2018). The effect of e-health information on nurse-patient encounters: Mutual feelings and perceptions. Current Psychology, 39(4), 1416–1422.
20. Hou Lu. (2018). Research on credibility assessment of online health information (Master's thesis). Zhengzhou University.
21. Fogg, B., Swani, P., Treinen, M., Marshall, J., Osipovich, A., Varma, C., Laraki, O., Fang, N., Paul, J., Rangnekar, A., & Shon, J. (2000). Elements that affect web credibility. CHI '00 Extended Abstracts on Human Factors in Computing Systems - CHI '00.
22. Fogg, B. J., T. Kameda, J. Boyd, J. Marshall, R. Sethi, M. Sockol, and T. Trowbrdige. 2002a. Stanford-Makovsky Web credibility study 2002: Investing what makes Web sites credible today. Palo Alto, CA: Stanford Persuasive Technology Laboratory, Stanford University.
23. Zhang, Hui-Hui, Jing-Dong Ma, Chun-Hong Jiang, Yun Zhou & Jin-Ping Di. (2013). A study on assessing the information quality of health websites. Journal of Medical Informatics (07), 2-6.
24. Gao Qin. (2010). Evaluation of Chinese health information websites. Chinese Journal of Medical Library and Information (02), 40-44.
25. Song, L., Zhang, Q. & Qi, Na. (2014). Analysis of information quality problems of medical and health websites in China. Chinese Journal of Medical Library and Intelligence (09), 1-6.
26. Zhang, D., J.S. Gu & R.S. Shao. (2015). Cluster analysis of health information access channels:active access versus passive exposure. International Journalism (05), 81-93. doi:10.13495/j.cnki.cjjc.2015.05.006.
27. Zhang, Pei. (2021). A study on the influence of online health information searching behavior on patients' medical decision-making styles (Master's thesis). Huazhong University of Science and Technology).

28. Pavlou, Liang, & Xue. (2007). Understanding and Mitigating Uncertainty in Online Exchange Relationships: A Principal-Agent Perspective. MIS Quarterly, 31(1), 105.
29. Ji Nan. (2016). Research on Service Design for Doctor-Patient Information Asymmetry Problem (Master's thesis). Jiangnan University.
30. Tian, D. J.. (2020). A Study on Doctor-Patient Information Asymmetry Based on the Theory of Hospital Customer Relationship Management (HCRM) (Master's Thesis). People's Liberation Army Naval Medical University.
31. Zhang Wen, Pan Chao, Yao Shiming, Zhu Jiajia, Ling Dong, Yang Hanchun... & Mu Yan. (2024). Individual psychological connotations and characterization dimensions of the "involution" phenomenon in Chinese society. Journal of Psychology (01), 107-123.
32. Wang, F., Wu, Chao-Yan, Zhang, Y. & Chen, Zhao-Quan. (2008). Identification and measurement of dimensions of leadership empowerment behaviors. Journal of Psychology (12), 1297-1305.
33. Feng, Ying & Zhang, Ruiyun. (2014). A study of microblog information quality assessment based on user experience. Research in Librarianship (09), 62-67+101. doi:10.15941/j.cnki.issn1001-0424.2014.09.004.
34. Zuo Yuting. (2022). Research on the Influencing Factors of Users' Online Interpersonal Health Information Seeking Based on the Cognitive-Emotional-Intentional Model (Master's thesis). Huazhong University of Science and Technology.
35. Guan, Jian & Cheng, Ja-Ting. (2011). Confirmation, Measurement, and Effects of Involvement in Stereotype Content Modeling. Chinese Journal of Clinical Psychology (02), 184-188+191. doi:10.16128/j.cnki.1005-3611.2011.02.008.
36. Langer, A., Schröder-Bäck, P., Brink, A., & Eurich, J. (2008). The agency problem and medical acting: an example of applying economic theory to medical morality. Medicine Health Care and Philosophy, 12(1), 99–108.
37. Zhang, R., Lu, X., Wu, W., & Shang, X. (2019). Why do patients follow physicians' advice? The influence of patients' regulatory focus on adherence: an empirical study in China. Bmc Health Services Research, 19(1).
38. Alasmari, A., & Zhou, L. (2019). What Health Information Are Consumers Seeking? A Comparison Between Two Types of Online Q&A Sites (pp. 79–89). Springer International Publishing
39. Pian, W., Lin, L., Li, B., Qin, C., & Lin, H. (2022). How users make judgements about the quality of online health information: a cross-sectional survey study. Bmc Public Health, 22(1).
40. Liu, L. (2022). Medical information seeking behavior of urban patients in Zhejiang Province, China: a cross-sectional study. Bmc Public Health, 22(1).