

## Postprint: A Study on Influencing Factors of Older Adults' Online Health Information Seeking Behavior from a Mobile Device Perspective

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### Abstract

[Purpose/Significance] Against the backdrop of increasingly severe population aging, this study investigates the behavioral mechanisms of online health information seeking among elderly users in China, enriches theoretical research findings on information seeking behavior of elderly users, guides elderly users in effectively seeking health information, and optimizes the operations of health information service departments.

[Method/Process] Through semi-structured interviews, we collected online health information seeking experiences from 24 elderly users, employed grounded theory to extract five internal and external influencing factors of such behavior, and constructed a theoretical model of influencing factors for online health information seeking behavior among elderly users.

[Results/Conclusion] The study identifies network environmental factors, individual characteristic factors, social support factors, mobile terminal objective factors, and individual cognitive factors as key factors influencing online health information seeking behavior among elderly users, and provides an in-depth elucidation of the mechanisms through which each factor affects seeking behavior. Based on the theoretical model, feasible recommendations are proposed for health information providers including government agencies, medical institutions, and APP-based software.

## Full Text

# Research on Influencing Factors of Online Health Information Seeking Behavior Among Elderly Users from the Perspective of Mobile Terminals

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**Abstract:** [Purpose/Significance] Against the backdrop of increasingly serious population aging, this study explores the behavioral mechanisms of online health information seeking among elderly users in China, enriches current theoretical research on information seeking behavior among elderly users, guides elderly users to effectively search for health information, and optimizes the work of health information service departments. [Method/Process] Using semi-structured interviews, we collected online health information seeking experiences from 24 elderly users and applied grounded theory to extract five internal and external influencing factors, constructing a theoretical model of factors affecting elderly users' online health information seeking behavior. [Result/Conclusion] The study identifies network environmental factors, individual characteristic factors, social support factors, mobile terminal objective factors, and individual cognitive factors as key influences on elderly users' online health information seeking behavior, and elaborates on the mechanisms through which each factor interacts with seeking behavior. Based on the theoretical model, we propose feasible recommendations for health information providers including government agencies, medical institutions, and APP developers.

**Keywords:** health information; elderly users; grounded theory; user information seeking behavior

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## 1. Introduction

In February 2016, General Secretary Xi Jinping issued important instructions on strengthening aging-related work, emphasizing the need to enhance top-level design, improve major policy systems, and respond to population aging in a timely, scientific, and comprehensive manner [1]. In May of the same year, during a collective study session of the Political Bureau of the CPC Central Committee, Comrade Xi Jinping again stressed the importance of promoting comprehensive, coordinated, and sustainable development of aging-related undertakings [2]. On April 16, 2019, the General Office of the State Council's "Opinions on Promoting the Development of Elderly Care Services" further proposed the implementation of the "Internet + Elderly Care" initiative as an important strategic task [3]. The state's care and attention for the elderly population is self-evident. However, due to declining physical and cognitive functions, elderly individuals have weaker abilities to search for and obtain health information,

yet they are more concerned about medical and health issues than other age groups. Consequently, research on their health information seeking behavior has attracted widespread scholarly attention.

This study employs grounded theory to deeply and meticulously explore the relevant influencing factors of elderly users' online health information seeking behavior from the perspective of mobile terminals and constructs a theoretical model. This provides theoretical support for improving and refining online health information services for the elderly (such as those provided by government agencies, medical institutions, and APPs), continuously promoting the development of smart health and elderly care industries, and expanding the application of information technology in the field of elderly care. According to statistics, as of December 2019, China's elderly population aged 60 and above had reached 250 million, accounting for 18.1% of the total population [4]. Actively responding to population aging has become a long-term strategic task for China's stable development. This research also enriches localized findings in this field, thereby enhancing societal care for the elderly population and improving the national smart elderly care system. The logical structure of this paper is shown in Figure 1 [Figure 1: see original paper].

This study attempts to address the following questions: 1. What are the influencing factors and behavioral mechanisms of elderly users' online health information seeking behavior? 2. What should health information providers such as government agencies, medical institutions, mobile APPs, and community service centers do, and how should they do it to enhance elderly users' online health information seeking behavior?

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## 2. Related Research

Health information broadly refers to all information related to medical care, health preservation, and personal physical and mental well-being, encompassing medical knowledge and patient health services [5-6]. Health information seeking behavior, also known as health information query behavior or health information search behavior, refers to individuals' actions of seeking information about health, risks, diseases, and health protection in specific events or contexts [7-8]. Research on health information seeking behavior can be traced back to the late 1970s. A search of the Web of Science Core Collection for academic papers related to health information seeking behavior published between 1978 and 2019, using "Health Information Seeking" and "Health Information Seeking Behavior" as keywords, yielded 695 papers. This demonstrates that health information seeking behavior has become a widely discussed topic internationally, with scholars from information science, medicine, nursing, and communication conducting rich and specific research on motivations, patterns, sources, influencing factors, content preferences, cognitive differences, and health information seeking behaviors in different contexts and among different groups, including

college students, elderly individuals, ethnic minorities, women, rural residents, adolescents, and immigrants.

According to the World Health Organization's definition, individuals aged 60 and above are identified as elderly, and China's "Law on the Protection of the Rights and Interests of the Elderly" also defines the starting age for elderly people as 60 [9]. Research on health information seeking behavior among the elderly population has mainly focused on three areas:

First, difficulties and obstacles faced by elderly individuals in health information seeking behavior: E.H. Manafò et al. [5] interviewed 20 elderly people in a Toronto community in Canada, finding that information overload caused confusion and seriously hindered their health information seeking behavior. S.H. Kim et al. [10] used the elderly health information seeking behavior scale developed by J. Ende [11] in 1989 for medication treatment, conducting questionnaire surveys and concluding that health information literacy is a potential obstacle to elderly health information seeking behavior.

Second, sources of health information seeking among the elderly: S. Chaudhuri et al. [12] adapted items from the U.S. Health Information National Trends Survey to interview elderly people about trusted health information sources, with results ranking from highest to lowest as: professional healthcare providers, pharmacists, relatives, community workers, newspapers, the Internet, television, and radio. E.M. Ortiz et al. [13] studied health information seeking behavior among elderly individuals from gender and immigration perspectives, conducting in-depth interviews with 14 Mexican-American males aged 65-80, finding that women, professional healthcare providers, and the Internet were their main sources for seeking health information.

Third, needs and influencing factors of elderly health information seeking behavior: S. Theis et al. [14] conducted questionnaire surveys on health information needs among 551 elderly people in Germany, finding that education level primarily affected their health information needs. S.J. Chang et al. [15] used the Technology Acceptance Model as a theoretical basis to explore influencing factors of elderly health information seeking behavior, concluding that experience and usage intention have direct positive effects. B. Tennant et al. [16] used telephone surveys to discover that demographic characteristics (gender, age, education, etc.), social determinants, e-health literacy, and device usage degree affect elderly health information seeking behavior. C.K. Magsamen et al. [17] found through interviews that family members' technical proficiency and health information literacy affect elderly individuals' self-efficacy, thereby influencing their health information seeking behavior.

Domestically, Li Yuelin et al. [6] reviewed foreign literature on health information seeking behavior and summarized the motivations and dilemmas of elderly health information seeking behavior. Zhu Shupeí et al. [18] identified four main influencing factors of elderly online health information seeking behavior: personal psychological factors, personal implementation costs, information factors,

and social factors. Zhao Dongxiang et al. [19] adopted a phenomenological perspective and found that elderly health information seeking patterns can be divided into two types: proactive and forward-looking.

Overall, current domestic and international research on elderly health information seeking behavior mainly focuses on motivations, sources, difficulties, needs, influencing factors, and behavioral patterns, with broad and relatively comprehensive coverage. However, several issues remain: First, there is a lack of localized research. Although elderly health information seeking behavior has received widespread international attention, only a few papers address this topic in CNKI, and systematic research by domestic scholars needs strengthening. Second, existing research is limited to exploring influencing factors of elderly health information seeking behavior in traditional Internet environments. However, given the current reality of smartphone penetration, traditional online search methods are no longer applicable, and elderly individuals increasingly rely on mobile terminals for health information seeking. Third, research methods are mostly quantitative surveys using questionnaires, which present problems of superficiality, passivity, and forced-choice responses. Grounded theory, as a frontier qualitative research approach, emphasizes phenomenon description through comprehensive and direct observation and interviews, delving into respondents' thought processes to interpret their specific behavioral patterns. This study employs grounded theory to focus on exploring influencing factors and behavioral mechanisms of online health information seeking among elderly users in China, providing support for building localized theoretical systems in this field.

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### 3. Research Methods and Data Collection

**3.1 Grounded Theory** This study adopts the classic grounded theory proposed by A. Strauss and B. Glaser in the 1960s, which emphasizes that research questions and theory formation emerge naturally rather than through excessive proceduralization, making the final theoretical framework more convincing and scientific. Classic grounded theory advocates starting directly from actual observations, systematically analyzing empirical data and qualitative materials from the bottom up, extracting concepts, building theories, and thereby interpreting social phenomena. This method is not disturbed by preconceived viewpoints and helps discover factors overlooked by existing theories [20]. To deeply explore the internal mechanisms of elderly users' online health information seeking behavior, this study uses grounded theory's three-level coding approach to ensure research reliability and validity. Concepts and categories are extracted from original interview data, continuously excavated, analyzed, summarized, and integrated to form core categories and build path relationships between categories, thereby revealing the formation mechanisms and conceptual models of elderly users' online health information seeking behavior.

**3.2 Data Collection** The study employed face-to-face, one-on-one semi-structured in-depth interviews with elderly users aged 60 and above. Each interview lasted approximately 45 minutes to one hour. Following the principle of theoretical saturation, 24 elderly users with appropriate cognitive and communication abilities were selected for interviews (aged 60-81), including 7 males and 17 females, with occupations involving teachers, government employees, and enterprise staff. The distribution of respondents' education level, income, and personal health status was also considered to ensure sample comprehensiveness. Basic information about the interviewed elderly users is shown in Table 1 .

The interview outline was designed to meet basic requirements of qualitative research, drawing on some user information behavior research achievements. Main questions included: (1) Do you usually use smartphones, tablets, or other mobile terminals to search for health information? (2) How frequently do you use mobile phones or tablets to search for health information? (3) What health information content do you search for, and what categories does it belong to? (4) What channels do you typically use to search for health information? (5) What are the main obstacles you encounter when searching for health information, and how do you resolve them? (6) Do you trust health information on the Internet? (7) What are the advantages of using mobile terminals compared with traditional search methods (computer terminals) and newspapers, television, and radio? (8) Are you influenced by people around you when searching for health information?

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## 4. Influencing Factors of Elderly Users' Online Health Information Seeking Behavior

**4.1 Open Coding** Open coding, as the initial stage of grounded theory coding, involves first coding, labeling, and entering original interview data verbatim, then conducting comparative analysis to discover initial concepts and categories and naming these categories [21]. Researchers are required to be free from the constraints of existing concepts and remain faithful to the original data, constructing a concise and precise preliminary coding system [22]. To ensure research rigor and standardization, two-thirds (16) of the interview records were randomly selected for coding, with the remaining one-third (8) used for theoretical saturation testing. More than 20,000 words of interview data were obtained, with some unclear original statements appropriately adjusted to maintain their original state as much as possible. Through multiple rounds of analysis and organization of the original materials, while deleting ambiguous or contradictory concepts, 51 initial concepts were ultimately obtained, each supported by representative original statements. Specific coding results are shown in Table 2 .

To further aid understanding, all original interview data were processed using the BlueMc online word cloud generator to create a word cloud (see Figure 2

[Figure 2: see original paper]). A total of 40 keywords were obtained, with font size in the figure reflecting the frequency of keywords mentioned in the original interview data. Excluding relevant topic words such as smartphone, health information, and search, it is evident that autonomous search, browsing, Baidu, satisfaction, physical condition, WeChat, consultation, and sense of achievement were all high-frequency keywords mentioned by respondents.

**4.2 Axial Coding** Axial coding builds upon open coding by further excavating and refining various relationships among basic categories, discovering the intrinsic logical connections among relevant categories while maintaining rigorous and independent category relationships [23], thereby developing main categories with deeper meaning. Through integrated analysis of the 15 subcategories, five main categories were ultimately obtained: network environmental factors, individual characteristic factors, social support factors, mobile terminal objective factors, and individual cognitive factors. The connotations of these categories are shown in Table 3 .

**4.3 Selective Coding** Selective coding involves further comparative analysis of the main categories and their relationships established during axial coding to excavate a core category that can organically connect all categories [24-25], and to analyze the relationship between the core category and corresponding main categories by describing typical category relationship structures, thereby developing a new qualitative model. Based on the axial coding results, it was found that network environmental factors, individual characteristic factors, social support factors, mobile terminal objective factors, and individual cognitive factors all influence elderly users' online health information seeking behavior. Therefore, "elderly users' online health information seeking behavior" was designated as the core category. Organizational behavior theory proposes that factors influencing individual behavior consist of internal and external aspects: internal factors directly affect individual behavior, while external factors are situational conditions that affect individual behavior by acting on internal factors. In this study, individual characteristic and individual cognitive factors are internal factors that directly influence elderly users' online health information seeking behavior; network environmental factors, social support factors, and mobile terminal objective factors are external factors that play a mediating role between internal factors and elderly users' online health information seeking behavior. The action paths between main categories and the core category are shown in Table 4 .

**4.4 Theoretical Saturation Test** Theoretical saturation test serves as the criterion for researchers to stop sampling, referring to the point when no new theoretical insights can be generated from collected data and no new concepts affecting the core category can be excavated. The previously reserved one-third (8) of interview materials were re-coded, and after in-depth comparative analysis, no new concepts or categories were found, thus confirming that the model

established in this study has reached saturation.

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## **5. Mechanisms of Elderly Users' Online Health Information Seeking Behavior**

**5.1 Influencing Factors Model of Elderly Users' Online Health Information Seeking Behavior** By integrating the three-level coding analysis results, this study developed an influencing factors model of elderly users' online health information seeking behavior, as shown in Figure 3 [Figure 3: see original paper].

As shown in Figure 3, influencing factors of elderly users' online health information seeking behavior include network environmental factors, individual characteristic factors, individual cognitive factors, social support factors, and mobile terminal objective factors, among which individual characteristic factors and individual cognitive factors interact with and influence each other. The mechanisms through which these influencing factors affect elderly users' online health information seeking behavior vary in their modes of influence, which will be elaborated below.

**5.2 Network Environmental Factors** Network environmental factors are one of the external factors affecting elderly users' online health information seeking behavior. Health information on the Internet has wide coverage, diverse content forms, and is convenient to search, making it easier to obtain than traditional paper-based resources such as books. However, the network environment contains many unsafe and uncertain elements, giving rise to problems such as information overload, widespread false information, information security risks, and network delays. These issues prevent elderly users from distinguishing truth from falsehood in the vast and mixed sea of online health information, from finding needed health information in overly redundant information environments, and from worrying about personal privacy leaks endangering property safety or being unable to timely search for needed information due to network signal delays. These factors negatively impact their online health information seeking, thereby reducing such behaviors. As one respondent noted: "03 I can't distinguish whether health information online is true or false; when I really encounter problems, I still need to see a doctor"; "01 There's too much irrelevant information online, wasting time"; "05 Sometimes the network asks for personal information registration, and I'm worried about privacy leaks and safety issues, so I just simply browse online"; "12 Sometimes the network suddenly disconnects, and the health information I just found disappears." In this regard, government and relevant website technical departments should promptly clean up repetitive and invalid information, vigorously control and rectify false information, ensure long-term stability of network systems, and provide a trustworthy online environment for elderly users.



**5.3 Individual Characteristic Factors** Individual characteristic factors are internal factors affecting elderly users' online health information seeking behavior, including self-efficacy, health status, learning ability, seeking habits, and resolution methods. Self-efficacy is an individual's subjective evaluation of their ability to complete a task, and the evaluation result can directly affect the individual's behavioral motivation. Therefore, self-efficacy has a direct impact on elderly users' health information seeking behavior. Among interviewed elderly users, most reported experiencing a strong sense of achievement after successfully seeking health information, which in turn fostered self-efficacy and confidence in their information retrieval abilities, enabling them to maintain positive and proactive attitudes that influence various aspects of daily life. As respondent 06 stated: "After successfully finding needed health information, I've built confidence and a sense of achievement, allowing me to keep pace with the times despite societal changes." Elderly users' seeking habits strongly influence their health information seeking behavior; elderly users with good seeking habits typically initiate online health information seeking behaviors when driven by external conditions and personal cognitive needs. As respondent 21 noted: "When I encounter health issues I don't understand, I solve them by searching on mobile Baidu." Interview results regarding elderly users' health status showed that those in good health are more enthusiastic about online health information seeking, with significantly higher frequency and duration of mobile terminal searches compared to those in average or poor health. Similarly, elderly users in good health have stronger learning abilities and prefer using multiple channels to obtain different forms of health information. In contrast, elderly users in average or poor health experience declining learning abilities with age, encountering problems such as unfamiliarity with operations that negatively affect their health information seeking behavior. As respondent 09 stated: "I'm too old and unwilling to learn. Even if I learn, I'll forget after a while, and I don't remember how to operate when searching for information, so I don't go online often."

Furthermore, when encountering difficulties in seeking health information, elderly users mostly prefer consulting friends or colleagues first, followed by relatives, with fewer choosing to solve problems independently, and a small portion indicating they give up directly when encountering obstacles without considering solutions. This suggests that elderly users tend to seek help from others to resolve problems. Compared to busy children, colleagues and friends of similar age and interests more easily become breakthrough points for elderly users to overcome obstacles. Whether difficulties encountered during online health information seeking are resolved affects their subsequent information seeking behavior.

**5.4 Social Support Factors** Social support factors are external factors affecting elderly users' online health information seeking behavior, generally referring to various forms of support from outside the individual and accompanying the existence of vulnerable groups. In this study, social support includes the influ-

ence of surrounding environment and medical environment, mainly referring to support and assistance from relatives, friends, social organizations, and medical institutions for elderly users' online health information seeking. However, interview results showed that many elderly users were never influenced or recommended by people around them to use certain search engines, medical APPs, or WeChat public accounts when seeking health information, indicating that elderly users' online health information seeking behavior lacks influence from social factors. It is therefore very important and necessary to appropriately increase popular science lectures on health information seeking methods and medical software usage functions at community service centers, universities for the elderly, or healthcare facilities where elderly people frequently gather. Additionally, as children, they should fulfill their obligation to popularize electronic information literacy among their parents and actively communicate with them to help them understand and master more health information seeking channels. According to elderly users' reports, chaotic phenomena in the medical environment such as doctors' delayed online responses, perfunctory attitudes, and opportunistic charging also cause elderly users to be reluctant to conduct online health information seeking. As respondent 14 stated: "I've consulted doctors online, but they reply slowly with poor attitudes, and they charge extra fees after a few questions, so I'd rather not bother." The author believes that elderly user groups themselves should also strive to strengthen connections with the outside world, exert subjective initiative to enhance their information literacy, and continuously try new health information seeking skills.

**5.5 Mobile Terminal Objective Factors** The influence of mobile terminal objective factors on elderly users' online health information seeking behavior is mainly reflected in terminal advantages that distinguish them from traditional online health information acquisition methods (such as PC terminals), featuring immediacy, fragmentation, ease of operation, easy storage, large information volume, fast query speed, high security, and low price. Elderly users can search for online health information anytime and anywhere through mobile terminals, whereas in the traditional PC-centered information seeking era, elderly users were restricted to environments with computers. Immediacy, convenience, and speed are prominent characteristics of elderly users' online health information seeking using mobile terminals. Moreover, with continuous development of information processing technology, mobile terminals now have enormous storage and computing capabilities, and security and encryption technologies previously implemented on PCs can also be realized on mobile terminals. In addition to searching for and obtaining online health information, mobile terminals can also easily achieve information interaction through application forwarding and sharing functions. With technological progress and productivity development, various mobile terminal devices have become affordable and popularized, with relatively low prices reducing the cost of online health information seeking and making network connectivity more convenient. These terminal advantages, distinct from traditional network information seeking, significantly influence el-

derly users' online health information seeking behavior. As respondents noted: "20 Using mobile phones to search for health information provides a good experience, fast speed, is not limited by location, and the price is not expensive"; "08 Fast search speed, easy to store and bookmark, convenient to forward useful health information to relatives and friends, and easy to find later"; "10 Much more convenient than computers, simpler to use than computers, and I go online more often than before."

**5.6 Individual Cognitive Factors** Individual cognitive factors are mainly reflected in elderly users' subjective evaluation of health information accuracy and reliability and their inner satisfaction with search results. Information accuracy refers to the factual nature of information; information that does not conform to facts has no value [26]. Information reliability is the foundation of information value; useful information must be reliable. In this study, subjective evaluation of health information accuracy and reliability refers to elderly users' perception of the benefits that online health information brings to themselves. This benefit directly and positively influences elderly users' seeking behavior, meaning that the frequency and amount of health information seeking increase with their perceived benefits. Moreover, numerous existing studies have shown that information accuracy and reliability can influence individual perceived usefulness, thereby promoting users' information seeking behavior. The vast majority of interviewed elderly users held positive attitudes toward the accuracy and reliability of health information, with generally high satisfaction. As respondents stated: "18 The health information found basically conforms to actual conditions"; "11 Going online more often is somewhat useful"; "05 Searching for health information on mobile phones basically meets requirements." These statements indicate that elderly user groups have relatively high satisfaction with health information seeking results, and using mobile terminals to search for health information can basically meet their health needs.

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## 6. Conclusions and Recommendations

In summary, this study reveals that network environmental factors, individual characteristic factors, social support factors, mobile terminal objective factors, and individual cognitive factors are key factors influencing elderly users' online health information seeking behavior. Based on reflections on the relationships between these factors and seeking behavior, the author proposes several feasible countermeasures and suggestions for health information providers including government agencies, medical institutions, community service centers, libraries, mobile APP software developers, and elderly users themselves:

1. Currently, the online information environment is chaotic and complex. Although the "Regulations on Internet Information Search Services" have been formulated, requiring online information search service providers to establish sound public complaint, reporting, and user rights protection

systems, the situation remains concerning for elderly users at the downstream of the information society. Government departments still need to vigorously strengthen supervision and control of online health information, promote the dissemination of health information, create a trustworthy acquisition and usage environment for elderly users, and advance the construction of the national smart elderly care system.

2. Doctors in medical institutions are frequently chosen as information consultation subjects by elderly users during health information seeking, and their attitude toward elderly users is a crucial factor determining whether elderly users will continue consulting. Medical institutions should reasonably supervise doctors who answer elderly users' questions, regularly 抽查 their online medical response behaviors, ensure they earnestly fulfill their duties, always handle online consultations with modest and patient attitudes, and eliminate improper attitudes such as deliberate perfunctoriness, obscure response language, and opportunistic overcharging.
3. Community service centers, universities for the elderly, and libraries, as local educational, scientific, and cultural institutions, have the obligation to provide modern information education and should fully perform their functions of disseminating knowledge and improving citizens' information literacy. They should strengthen the popularization of health information seeking tools and techniques for elderly users, regularly conduct publicity lectures and practical operation training courses to help them effectively search for and obtain health information. Additionally, libraries can leverage their advantages in acquiring, processing, and storing information to establish health information service columns on WeChat public accounts or APP platforms, providing convenient health information services for elderly users.
4. The usage rate of APP software among interviewed elderly users is extremely low because elderly users' learning abilities have declined, they develop fear of difficulties when facing emerging new things, and they are unwilling to continue in-depth exploration due to mental inertia. However, third-party medical software (such as Chunyu Doctor, Ping An Good Doctor, etc.) should not abandon this large user group of elderly people. They need to understand the information retrieval and browsing interfaces that elderly people are willing to accept through rich field research, focus on improving software usability and operability, and can provide functional services such as check-in, searching for health information knowledge, and receiving red packets based on elderly users' interest needs. Emotional expression should also be considered, as humanistic care is more touching to elderly users than mechanical information presentation.
5. Of course, as the main subjects of information seeking behavior, elderly users themselves should continuously improve their learning abilities and enhance their information literacy levels. They should give full play to subjective initiative, actively explore, consult experienced people around

them about things they don't understand, maintain a childlike heart, and demonstrate the unique elegance of elderly people in the modern information society.

**6.1 Conclusion** This study helps enhance understanding of the relationships between internal and external influencing factors and mechanisms of elderly users' online health information seeking behavior. Compared with existing domestic and international research on elderly users' online health information seeking behavior, this study has an expanding and extending effect. Considering the continuous development of domestic information technology and elderly users' information seeking habits, the author focuses on mobile terminals such as smartphones and tablets. Based on semi-structured interviews and grounded theory, the study creatively proposes influencing factors unique to mobile terminals for elderly users' online health information seeking behavior, constructs a more comprehensive model, and clarifies important factors affecting elderly users' online health information seeking behavior from the root. This provides new service ideas for government agencies, medical institutions, and health information service providers, and constitutes a beneficial supplement to the existing theoretical system of elderly users' health information behavior.

However, the study still has certain limitations: First, the sample size and type are relatively small, and the interview method can only obtain limited data, making the universality and representativeness of research results not high, and the data analysis is relatively subjective. Future research can adopt quantitative methods such as experiments and big data to obtain more accurate data. Second, during the research process, phenomena of incidental information encountering and interaction were involved, but this paper only focused on seeking behavior as the research emphasis. Future research can pay more attention to incidental encountering and interaction phenomena in elderly users' online health information seeking and the key roles played by social media such as Weibo and WeChat, to obtain more accurate and comprehensive conclusions.

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### Author Contributions

Liu Yan: Paper writing and revision;  
Zhang Haitao: Paper structure and framework design;  
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### Research on Influencing Factors of Online Health Information Seeking Behaviors of Elderly Users from the Perspective of Mobile Terminals

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**Abstract:** [Purpose/significance] Combined with the current social background of increasingly serious population aging, this paper explores the behavioral mechanism of online health information seeking of elderly users in China from the perspective of mobile terminals, enriches the current research results of information seeking behavior theory of elderly users, guides elderly users to effectively search for health information, and optimizes the work of health information service departments. [Method/process] This paper uses the semi-structured interview method to collect the online health information seeking experiences of 24 elderly users, and uses grounded theory to extract five influencing factors of online health information seeking behavior of elderly users, and constructs a theoretical model of influencing factors of online health information seeking behavior of elderly users. [Result/conclusion] Finally, it is found that network environment factors, individual characteristic factors, social support factors, mobile terminal objective factors and individual cognitive factors are the key factors affecting the online health information seeking behavior of elderly users, and the influencing mechanism among these factors is explained in depth. Based on the theoretical model, this paper also puts forward some feasible suggestions to the government, medical institutions, APP software and other health information providers.

**Keywords:** health information; elderly users; grounded theory; user information seeking behavior

*Note: Figure translations are in progress. See original paper for figures.*

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