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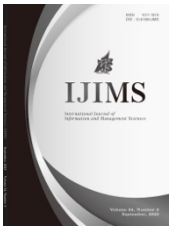

Why Chinese Adult Children Seek Health Information for their Aged Parents: Applying the Comprehensive Model of Information Seeking to Proxy Information Seeking

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Keywords

Proxy Health Information Seeking, Comprehensive Model of Information Seeking (CMIS), Aged Parents, Internet Self-Efficacy, Adult Children

Abstract

China, with the world's largest elderly population, faces rapid aging and widespread chronic health conditions, affecting over 78% of its senior citizens. The digital divide limits middle-aged and older adults from accessing online health information, making adult children's proxy health information-seeking a crucial intervention. However, research on this behavior is scarce. This study extends the Comprehensive Model of Information Seeking (CMIS) to investigate the mechanisms behind proxy health information-seeking behaviors among 490 adult children in China through an online survey. The results reveal that belief, Internet self-efficacy, and channel characteristics positively influence channel utility, while salience does not. Channel characteristics and utility significantly predict proxy information-seeking behaviors, with channel utility mediating the relationships between belief, Internet self-efficacy, and channel characteristics. These findings offer valuable insights for Chinese policymakers and health educators in designing and disseminating health information effectively, encouraging adult children to support their aging parents.

1. Introduction

Due to the efficiency and low cost of the Internet, a growing number of individuals in China, particularly young adults, turn to online platforms to seek health information. Information seeking is defined as the intentional acquisition of information from specific sources (Johnson et al., 1995). An increasing body of research highlights that online health information seeking significantly influences individuals' health management and lifestyles. Positive outcomes include engagement in cancer prevention (Ainiwaer et al., 2021; He & Li, 2021), disease treatment

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(Davison & Breckon, 2012; Deng & Liu, 2017), adherence to medical advice (Beverly & Wray, 2010; Lim et al., 2022; Samal et al., 2011), healthier eating habits (Liu et al., 2023), and increased vaccination uptake (Kim & Jung, 2017; Zhuang & Cobb, 2022). Notably, nearly half of all online health information-seeking activities are carried out on behalf of others rather than for addressing personal health concerns (Reifegerste et al., 2017). This phenomenon, known as proxy information seeking, involves acquiring information for others, such as children, parents, grandparents, friends, neighbors, or other relatives or non-relatives (Kubb & Foran, 2020).

Health information is crucial for helping older adults maintain their physical and mental well-being, as well as enhancing self-education on personal care and disease prevention (Chang & Im, 2014). China, which has the largest elderly population in the world and the fastest aging rate, is projected to have 310 million people aged 60 and above by the end of 2024, making up 22.0% of its total population (National Bureau of Statistics of China, 2025). Additionally, more than 78% of older adults in China are living with at least one chronic disease (Su, 2023). Older adults use the Internet to learn about disease diagnoses, treatment options, health management strategies—including exercise, diet, and mental health—and to seek medical advice (Zhang et al., 2019). However, many face challenges due to limited Internet skills, making it difficult to locate, understand, and utilize health information online (Zhang & Liu, 2023). The proxy health information-seeking behavior of adult children offers a promising solution to bridging this digital divide. As frequent Internet users with high health literacy and digital proficiency, adult children are well-equipped to locate and utilize health information. Research suggests that proxy behaviors not only influence the information-seeking process but also affect how health information shapes surrogates' health behaviors and decisions (Bao et al., 2017).

In China, cultural values rooted in Confucian traditions, such as filial piety, loyalty, and benevolence, strongly emphasize children's responsibilities toward their parents, reinforced by extended family structures (Qi, 2016). For adult children, seeking health information for aged parents represents caregiving behavior rooted in family obligations and Confucian cultural norms (Dutta et al., 2018). A systematic review suggests that proxy information seeking enhances the proxy seeker's medical knowledge, improves health management, alleviates anxiety, and fosters healthier behaviors (Zhang & Liu, 2023). Nevertheless, most research on proxy information seeking focuses on marginalized populations or patients with severe health conditions. While older adults constitute a substantial group requiring such support (Song et al., 2019), studies more often focus on other patterns, such as parents seeking information for children (Jung et al., 2013; Kilicarslan-Toruner & Akgun-Citak, 2013; Thomson et al., 2012), informal caregivers for children and adolescents (Park et al., 2016), husbands for pregnant wives (Ageng, 2023), and caregivers for patients (AlSaadi, 2012; Oh, 2015; Skranes et al., 2014). Reifegerste et al. (2020) emphasize that the relational tie between seekers and recipients is a key factor shaping proxy information behaviors, suggesting that antecedents may vary across caregiving contexts. In this sense, the antecedents vary across different proxy information-seeking patterns. Thus, insights from prior work may not readily translate to adult children supporting elderly parents.

Given the cultural salience and growing importance of this behavior in aging societies, a more systematic approach is needed to explain why and how adult children in China engage in proxy health information seeking. The Comprehensive Model of Information Seeking (CMIS;

Johnson & Meischke, 1993) provides a useful lens, positing that salience and belief influence information-seeking behavior through perceptions of channel characteristics and utility. Although originally designed to account for individuals seeking information for themselves, CMIS has been increasingly extended to proxy contexts (Ma & Chen, 2023; Oh, 2015; Reifegerste et al., 2020). Yet, applying the model to adult children's behaviors in China reveals several shortcomings: existing studies largely emphasize self-seekers rather than intergenerational caregiving, focus on disease-specific information instead of general health topics, and often investigate intentions rather than actual practices (Lu et al., 2021).

Against this backdrop, this study applies the CMIS to identify the determinants influencing adult children's proxy health-information seeking behaviors and to expand the model's explanatory power in this context. Collectively, it advances understanding of proxy information seeking, addresses critical gaps in the literature, and offers insights for strengthening family-based health management in rapidly aging societies.

2. Hypotheses Development

Salience and Channel Utility

In this study, salience is defined as an individual's perception of the threat posed by their parents' illness (Johnson et al., 1995). Empirical research demonstrates that salience is a key factor influencing an individual's perceived channel utility (Lee & Kim, 2015; Liu et al., 2024). For example, a study found that mothers who perceive infectious diseases as highly serious are more likely to consider certain sources (e.g., pocket book and Internet) useful and beneficial (Lee & Kim, 2015). In this study's context, adult children who perceive their parents as vulnerable to age-related illnesses may recognize greater potential benefits from the Internet. Therefore, we hypothesize:

H1: Salience is positively associated with channel utility.

Belief, Internet Self-Efficacy and Channel Utility

In CMIS literature, belief refers to an individual's confidence in their ability to adopt healthy behaviors (Chang et al., 2024), their perceived ability to seek health information (Oh, 2015; Selsky et al., 2013), or judgments about the effectiveness of health behaviors and confidence in seeking health information (Kim et al., 2017; Sun & Jiang, 2021; Xiao et al., 2020). The mixed findings in prior studies can be attributed to the different conceptualizations and operationalizations of belief. Follow the third definition of belief, this study reduces ambiguity by dividing the composite variable into two distinct constructs: belief and Internet self-efficacy.

In the proxy-seeking context, belief is conceptualized as adult children's perceptions of whether their parents' age-related illnesses can be prevented or reduced through appropriate health behaviors. When individuals perceive health outcomes as controllable through proper actions, they are more likely to perceive the usefulness of informational channels (Jin, 2023; Van Stee & Yang, 2018). In proxy-seeking context, adult children with strong health beliefs may transfer such efficacy expectations to the digital environment, perceiving the Internet as a reliable and empowering space that enables them to support their parents' well-being (Zhang & Liu, 2023). This belief-driven attribution enhances the perceived utility of online channels, as

the Internet is viewed not merely as a source of data but also as a means of fulfilling filial and preventive health responsibilities. Conversely, when belief in disease prevention is weak, individuals may downplay the relevance of online resources, thereby diminishing their perceived utility.

Internet self-efficacy is the level of trust an individual has in their skills to effectively use the Internet for finding and evaluating health-related information (Cao et al., 2016). For example, research has shown that Peruvian women with greater confidence in obtaining advice or information about reproductive health are more likely to perceive the Internet as a useful channel for such information (Garcia Cosavalente, 2022). In the context of proxy information seeking, proxy seekers with a high belief in finding information have a high opinion of the effectiveness of the Internet in managing their parents' health (Reifegerste et al., 2020). Hence, we hypothesize that adult children who are confident in their ability to search for health information, and who hold strong beliefs in the effectiveness of preventive behaviors, are more inclined to perceive the Internet as a useful health information channel for supporting their parents. Based on this reasoning, we propose the following hypotheses:

H2: Belief is positively associated with channel utility.

H3: Internet self-efficacy is positively associated with channel utility.

Channel characteristics, Channel utility and proxy health information-seeking behavior

Information carrier factors are core components of the CMIS framework and include characteristics and utility. Channel characteristics reflect adult children's perceptions of the Internet as a health information platform, specifically its perceived quality, clarity, and trustworthiness (Huang et al., 2024). Channel utility refers to individuals' evaluations of the usefulness of an information carrier rather than the utility of specific information content (Chang et al., 2024). Proxy health information-seeking behavior refers to adult children actively searching for and gathering health-related information from online sources for the benefit of their parents (Ma & Chen, 2023).

A large body of CMIS studies revealed that perception of channel characteristics and utility strongly predict online health information-seeking behavior (Liu et al., 2024). Likewise, several studies have identified a positive association between information carrier factors and proxy health information-seeking behaviors. Specifically, adult children's evaluations of the credibility, clarity, and reliability of Internet platforms affect their likelihood of seeking age-related health information on behalf of their parents (Ma & Chen, 2023). When online health information platforms—such as websites, social media, and mobile apps—are perceived as trustworthy, user-friendly, and high-quality, they are more likely to be considered useful (Fung et al., 2022). In this study, channel utility specifically refers to the perceived Internet's usefulness as a health information platform, including websites, social media platforms, and mobile apps, rather than offline or general information channels. We hypothesize that the higher the characteristics and utility of health information on the Internet, the more likely adult children are to seek health information for their parents. Based on this discussion, we propose the following hypotheses:

H4: Channel characteristics are positively associated with channel utility.

H5: Channel characteristics are positively associated with proxy health information-seeking behavior.

H6: Channel utility is positively associated with proxy health information-seeking behavior.

00Mediating effect of Channel utility

Empirical studies have demonstrated the mediating role of channel utility in the relationship between antecedent factors and health information-seeking behavior (Chang et al., 2024; Liu et al., 2024). However, this relationship has been rarely examined in the context of proxy information seeking. Understanding the mediating role of channel utility between antecedent factors and proxy health information-seeking behavior is essential, as it provides deeper insights into the mechanisms underlying this behavior and contributes to theory development (Yang et al., 2017). Although research is limited, extant studies suggest that the mediating mechanism of channel utility is also applicable to proxy information-seeking behaviors (Ma & Chen, 2023; Reifegerste et al., 2020). Extending this line of research, it is plausible that adult children's perceptions of their parents' health risks, combined with their confidence in searching for health information online, perceptions of Internet platform characteristics, influence proxy health information-seeking behavior through channel utility. Based on the reasoning, the following research question is proposed:

Q1: Does channel utility mediate the relationship between antecedent factors (as specified in H1 to H4) and proxy health information-seeking behavior?

Additionally, the age of the respondents and their parents, education level, and income were included as demographic factors and used as control variables in this study.

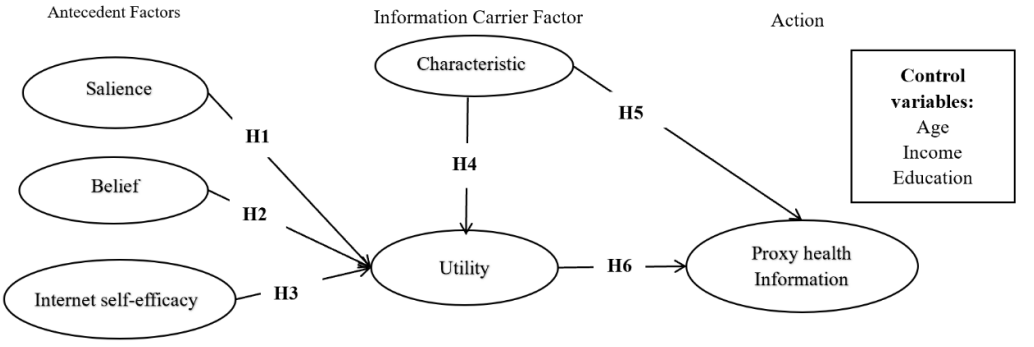

Figure 1 *The Theoretical Model*

SA = salience, BE = belief, UT = utility, ISE = internet self-efficacy, CHA = characteristics, PSE = proxy information seeking.

3. Method

3.1 Sampling and Data collection

The survey targeted Chinese adults aged 18 and above with living parents. The survey

received ethics approval from the Ethics Committee at Guangzhou Nanfang College. Data collection occurred between April 1 and April 7, 2024, through the researchers' social media accounts and WeChat groups, with participants encouraged to share the survey link. To ensure data integrity and prevent multiple submissions by the same individual, the online questionnaire was configured to allow only one response per IP address. Additionally, responses were screened during data cleaning to identify and remove any duplicates. A total of 490 valid questionnaires were retained for analysis.

3.2 Measurements

The variables of salience, belief, channel characteristics, and channel utility were measured using a 6-point Likert scale (1 = strongly disagree to 6 = strongly agree). Proxy information-seeking behavior was also assessed using the 6-piont Likert scale (1=Never to 6 = Always).

Salience refers to adult children's perception of the health threat posed by their parents, reflecting the personal relevance and seriousness of potential illnesses. It was measured with three items adapted from Chang et al. (2024), such as "I think there is a high chance that my elderly parents will suffer from diseases in the future." Belief represents adult children's views on whether their parents' age-related diseases can be prevented or alleviated. It was measured with three items adapted from Ma & Chen (2023), including "There is not much I can do to lower old people's chances of getting age-related diseases" (reverse-coded). Internet self-efficacy reflects confidence in one's ability to effectively search for, understand, and evaluate online health information for one's parents. It was assessed with four items adapted from Zhang et al. (2020), such as "I have the corresponding knowledge and ability to use the Internet to seek health information for my parents." Channel characteristics were adapted from Huang et al. (2024) and assessed using three items evaluating whether the Internet (1) is of high quality, (2) is easy to understand, and (3) is trustworthy. Channel utility reflects adult children's assessment of the Internet's usefulness as a health information platform. It was measured using three items adopted from Ma and Chen (2023), including three items: Internet, as a health information platform, (a) is useful, (b) improves parents' quality of life, and (c) is helpful in solving my parents' health problems. Proxy health information-seeking behavior captures adult children's active searching for and use of online health information on behalf of their parents. It was measured with four items adapted from Bao et al. (2017), including" I spend a lot of time on online health information for my aged parents."

The study included four demographic control variables: gender, education level, monthly income, and age of the respondents' parents. For students, monthly income referred to their average monthly living expenses. The parents' age was calculated as the average of the father's and mother's ages.

Data were analyzed using SPSS 26.0 and AMOS 24.0. Reliability and validity of the measures were assessed via Cronbach's α and confirmatory factor analysis (CFA), and structural equation modeling (SEM) was employed to test the hypothesized relationships, controlling for demographic variables.

4. Data analysis

The proportion of women (61.63%) who completed the questionnaire was higher than that of men (38.37%). The majority of respondents reported their education level as vocational or undergraduate, which together accounted for 80% of the sample. Most respondents had a monthly income between 6,000 and 9,000 CNY (Chinese yuan), representing 44.29% of the sample. Regarding parental age, the largest proportion of respondents' fathers were aged 61 to 70 years (32.24%), followed by those aged 51 to 60 years (31.63%). Similarly, the largest proportion of respondents' mothers were aged 61 to 70 years (37.14%), followed by those aged 51 to 60 years (36.94%).

Tests for normality indicated that skewness values ranged from -0.317 to -1.014, while kurtosis values ranged from 0.021 to -0.822. These results revealed that the data approximated a normal distribution, rendering it appropriate for parametric statistical analysis. A confirmatory factor analysis (CFA) was conducted using the maximum likelihood estimation method in AMOS. The results revealed a good model fit: χ^2 (155) = 345.842, $\chi^2/\mathrm{df} = 2.231$, GFI = 0.933, AGFI = 0.909, CFI = 0.982, TLI = 0.979, RMSEA = 0.050, and SRMR = 0.041. These findings confirm that the measurement model aligns closely with the dataset, meeting the established evaluation standards.

Table 1 *Descriptive data, AVE, and CR value (N = 490)*

Variables	Items	Factor loading	CR	AVE	Mean	SD	Skewness	Kurtosis
SA	SA1	0.841	0.877	0.703	4.941	0.945	-0.844	-0.415
	SA2	0.862						
	SA3	0.812						
BE	BE1	0.733	0.823	0.608	4.612	1.077	-1.011	0.021
	BE2	0.835						
	BE3	0.768						
UT	UT1	0.835	0.892	0.734	4.267	1.190	-0.586	-0.638
	UT2	0.866						
	UT3	0.869						
ISE	ISE1	0.774	0.882	0.652	4.567	1.059	-1.014	0.107
	ISE2	0.767						
	ISE3	0.843						
	ISE4	0.842						
CHA	CHA1	0.835	0.865	0.681	4.302	1.161	-0.566	-0.822
	CHA2	0.807						
	CHA3	0.834						
PSE	PSE1	0.809	0.882	0.651	3.322	1.014	-0.317	-1.135

	PSE2	0.829
	PSE3	0.823
	PSE4	0.764

Note: SA = salience, BE = belief, UT = utility, ISE = internet self-efficacy, CHA = characteristics, PSE = proxy information seeking.

The factor loading, average variance extracted (AVE), and composite reliability (CR) values of all variables surpassed the recommended cutoff (factor loading > 0.5, AVE > 0.5, CR > 0.6), indicating strong convergent validity for the scales (Table 1). Discriminant validity was assessed using Fornell & Larcker's (1981) criterion. The square roots of AVE for each latent variable were greater than the absolute values of their correlations with other variables (Table 2). All pairs of latent variables satisfied this criterion, confirming the discriminant validity of the scales.

Table 2. *Discriminant validity Test (N = 490)*

Variables	AVE	PSE	CHA	ISE	UT	BE	SA
PSE	0.651	**0.807**					
CHA	0.681	0.655	**0.825**				
ISE	0.652	0.566	0.579	**0.807**			
UT	0.734	0.635	0.640	0.523	**0.857**		
BE	0.608	0.515	0.482	0.611	0.472	**0.780**	
SA	0.703	0.334	0.302	0.517	0.316	0.511	**0.839**

Note: PSE = proxy information seeking, CHA = characteristics, ISE = internet self-efficacy, UT = utility, BE = belief, SA = salience.

The structural model exhibited a good model fit: $\chi 2/df = 2.126$, GFI = 0.927, CFI = 0.964, TLI = 0.953, RMSEA = 0.048, and SRMR = 0.040. As illustrated in Table 3, the analysis supported 5 out of the 6 hypothesized relationships. The complete model explained 45.4% ($R^2 = 0.454$) of the variance in proxy health information-seeking behaviors. The structural equation modeling (SEM) results indicated that salience did not predict channel utility ($\beta = 0.073$, SE = 0.062, $p = 0.174$), failing to support H1. Belief was identified as a predictor of channel utility ($\beta = 0.124$, SE = 0.073, $p < 0.05$), supporting H2. Internet self-efficacy was positively related to channel utility ($\beta = 0.153$, SE = 0.08, $p < 0.05$), supporting H3. Channel characteristics significantly predicted channel utility ($\beta = 0.427$, SE = 0.06, $p < .001$), supporting H4. In addition, channel characteristics ($\beta = 0.278$, SE = 0.039, $p < 0.001$) and channel utility ($\beta = 0.253$, SE = 0.038, $p < 0.001$) were positively associated with proxy information-seeking behavior, thus supporting H5 and H6.

In the control variables, the average age of the respondents' parents exhibited a negative relation with proxy information-seeking behavior ($\beta = -0.065$, $p < 0.05$), but showed no significant association with channel utility. Education level negatively predicted both channel utility ($\beta = -0.081$, $p < 0.05$) and proxy information-seeking behavior ($\beta = -0.085$, $p < 0.01$). Income emerged as a significant predictor of channel utility ($\beta = 0.138$, $p < 0.01$) but was not significantly associated with proxy information-seeking behavior ($\beta = 0.048$, $p = 0.155$).

Table 3. *The path analysis (N= 490)*

Hypotheses	Path	Estimate	S.E.	t-value	P	Supported
H1	SA→UT	0.073	0.062	1.359	0.174	NO
H2	BE→UT	0.124	0.073	2.017	0.044	YSE
H3	ISE→UT	0.153	0.08	2.347	0.019	YSE
H4	CHA→UT	0.427	0.06	7.15	***	YSE
H5	CHA→PSE	0.278	0.039	5.731	***	YSE
H6	UT→PSE	0.253	0.038	5.391	***	YSE

Note: Path analysis of after controlling for education, age, and monthly income. SA = salience, BE = belief, ISE = internet self-efficacy, CHA = characteristics, UT = utility, PSE = proxy information seeking, *p < .05, **p < .01, ***p < .001.

Mediation analysis was conducted using Hayes' PROCESS with 5,000 bootstrap samples (See Table 4). Significance of the mediation effect was determined using 95% bias-corrected bootstrap confidence intervals (CI); an effect is considered significant if the CI does not include zero (Hayes et al., 2017). The total, direct, and indirect effects indicated that channel utility significantly mediated the relationships between antecedent factors and proxy health information-seeking behavior. Specifically, the indirect effects of salience ($\beta = 0.158$, 95% CI [0.100, 0.223]), belief ($\beta = 0.176$, 95% CI [0.128, 0.231]), Internet self-efficacy ($\beta = 0.189$, 95% CI [0.138, 0.248]), and channel characteristics ($\beta = 0.173$, 95% CI [0.119, 0.232]) via channel utility were all significant, as their CIs did not include zero. The direct effects of belief and Internet self-efficacy on proxy information-seeking behavior were smaller compared with their indirect effects, suggesting that the influence of these antecedent factors largely operates through the channel utility. These findings provide empirical support for partial mediation, indicating that antecedent factors alone are insufficient to directly drive proxy information-seeking behaviors without the mediating role of channel utility.

Table 4. *Mediation effect Analysis (N= 490)*

Path		Effect	Boot SE	Boot LLCI	Boot ULCI
SA→UT→PSE	total effect	0.309	0.047	0.217	0.400
	direct effect	0.150	0.041	0.069	0.232
	Indirect effect	0.158	0.031	0.100	0.223
BE→UT→PSE	total effect	0.412	0.038	0.337	0.487
	direct effect	0.237	0.037	0.164	0.309
	Indirect effect	0.176	0.026	0.128	0.231
ISE→UT→PSE	total effect	0.479	0.038	0.405	0.553
	direct effect	0.290	0.039	0.215	0.366
	Indirect effect	0.189	0.028	0.138	0.248
CHA→UT→PSE	total effect	0.499	0.033	0.436	0.563
	direct effect	0.326	0.037	0.254	0.399
	Indirect effect	0.173	0.029	0.119	0.232

Note: SA = salience, BE = belief, ISE = Internet self-efficacy, CHA = characteristics, UT = utility, PSE = proxy information seeking.

5. Discussion

Given the deepening trend of population aging in China and the critical role of proxy health information-seeking in facilitating health management for middle-aged and older adults, this study extends the CMIS model to predict adult children's online health information seeking behavior on behalf of their elderly parents in the Chinese context. The findings reveal that belief and Internet self-efficacy significantly enhance adult children's online health information-seeking behavior by increasing their perceived channel characteristics and utility. These insights contribute to a deeper understanding of digital health communication dynamics and highlight the factors driving adult children's engagement in proxy information-seeking behaviors.

5.1 Major Findings

Unexpectedly, this study revealed that salience is not related to channel utility. Awareness of the likelihood, severity, or potential consequences of parents' illnesses did not lead adult children to perceive the Internet as a useful health information platform. This finding diverges from prior research on online health information seeking by both individual and proxy seekers (Reifegerste et al., 2020; Zhang et al., 2020). A possible explanation lies in the context of China. Adult children's motivation to seek information may stem more from filial obligation than from perceived illness threat, making their evaluation of the channel responsibility-driven rather than threat-driven (Feng, 2025). Especially in collectivist settings like China, caring for parents is often viewed as a routine familial duty rather than a reaction to specific health risks, which may further weaken the role of salience in shaping channel evaluation. Additionally, as this study defines channel utility as the perceived usefulness of the Internet platform rather than the health content itself, its assessment depends more on platform qualities such as credibility, clarity, and accessibility than on disease salience.

Consistent with prior studies, both belief and Internet self-efficacy were positively associated with channel utility (Oh, 2015). Adult children who strongly believed that age-related disease could be prevented, or who possessed higher levels of Internet self-efficacy—confidence in their ability to effectively seek, understand, and assess online health information—were more inclined to perceive the Internet as a useful and supportive platform for managing their parents' age-related health risks. In contrast, those with weaker belief in disease prevention or lower Internet self-efficacy tended to express skepticism toward the platform's value, as they either doubted the preventability of age-related disease or questioned their own competence in navigating online health information (Liu et al., 2024). In collectivist societies, these cognitive and behavioral mechanisms may be further shaped by sociocultural norms. Beliefs about health control and family obligation can amplify perceived channel utility, as online engagement is deeply intertwined with filial responsibility and intergenerational care (Zhang & Liu, 2023). Filial piety, a core cultural norm in China, motivates adult children to take proactive roles in managing parental well-being, and proxy information seeking can be viewed as a digital expression of filial duty (Bernhörster & Reifegerste, 2025). The collectivist emphasis on interdependence and shared family responsibility further reinforces this motivation, framing health information seeking as both a moral and relational act. These sociocultural dynamics highlight that proxy-seeking behaviors are embedded within broader family and cultural contexts. By distinguishing between belief and Internet self-efficacy, this study provides a more nuanced understanding of how both health-related convictions and digital competencies jointly shape evaluations of the Internet as a health information platform.

Aligning with past studies, channel characteristics significantly predicted channel utility (Liu et al., 2024). Adult children who perceive the Internet to deliver health information that is high in quality, easy to comprehend, and credible are more likely to evaluate the Internet as a useful and effective channel. According to the Information adoption model (IAM), characteristics such as credibility play a key role in shaping how individuals evaluate and act on communication channels (Sussman & Siegal, 2003). More, this study also found that channel characteristics and channel utility both significantly predict proxy information-seeking behavior. Interestingly, channel characteristics contributed more significantly to predicting these behaviors than utility, a finding that contrasts with previous studies (Paek et al., 2017). This divergence could stem from the study's operationalization of channel characteristics and channel utility. In this study, both channel characteristics and utility were measured in relation to the Internet as a channel for health information, whereas prior studies often defined channel characteristics and utility as content-specific evaluations (Garcia Cosavalente, 2022; Wang et al., 2023). This suggests that, in the proxy context, perceptions of channel characteristics may play a more critical role than previously acknowledged.

The present study confirmed the mediating role of channel utility in the relationships between antecedent factors—salience, belief, Internet self-efficacy, and channel characteristics—and proxy health information-seeking behavior. The mediation analysis demonstrated that while antecedent factors exhibited significant direct effects on proxy information seeking, their indirect effects through channel utility were substantial, particularly for belief and Internet self-efficacy. This indicates that these factors alone are insufficient to directly drive proxy information-seeking behaviors; rather, their influence largely operates via the perceived Internet's usefulness as a health information platform. Consistent with prior CMIS research (Liu et al., 2024; Van Stee & Yang, 2018), our findings suggest that perceived channel utility acts as a critical mechanism linking motivational and cognitive antecedents to actual information-seeking behaviors. Therefore, interventions aiming to enhance proxy health information seeking should not only focus on increasing awareness or self-efficacy but also emphasize the Internet's utility and characteristics, as these perceptions significantly amplify the effect of antecedent factors.

5.2 Implications

The findings of this study provide multiple theoretical contributions to the CMIS. First, this study applies a modified CMIS model to investigate the predictors of adult children's online health information-seeking behavior for their aged parents in China. It represents one of the few studies that extend the CMIS framework to the domain of proxy information seeking. This study's strength lies in its ability to expand the well-established CMIS framework, providing a significant contribution to the literature on proxy information seeking. Another theoretical contribution is the deconstruction of existing variables, specifically the division of belief into two distinct constructs: belief and Internet self-efficacy. By addressing ambiguities in the conceptualization and operationalization of belief, this study provides a more nuanced understanding of how these two variables influence channel utility. Finally, the study underscores the mediating role of channel utility, enhancing the understanding of the CMIS framework's core mechanisms.

This study provides actionable insights for enhancing family-based health management and digital health communication in aging societies. Health information platforms should ensure content credibility, clarity, and usability, offering medically accurate, easy-to-understand information with clear professional attribution, user-friendly design, and personalized recommendations. Policymakers and public health authorities can leverage adult children's intermediary role through digital literacy programs, physician-led online Q&A, and targeted health education, bridging the generational digital divide and enabling effective evaluation and application of health information. Healthcare providers and educators can develop "family-centered" digital portals and training modules that enhance belief and Internet self-efficacy, reinforcing the perceived utility of Internet. Together, these measures can integrate proxy health information seeking into China's elderly care and digital health systems, improving care quality, fostering intergenerational well-being, and promoting a more health-literate society.

5.3 Limitations

The online survey using convenience and snowball sampling primarily attracted respondents with a relatively high level of education, potentially limiting the generalizability of the findings. Future studies should aim to include participants with more diverse educational backgrounds to enhance the broader applicability of the results. Additionally, this study did not account for certain antecedents, such as cohabitation with parents or respondents' health literacy levels. Incorporating these variables in future research could provide a more comprehensive understanding of the factors influencing proxy information-seeking behavior. Moreover, this study focused exclusively on the perspective of the proxy seeker. Future research could extend this by examining both the substitute's perspective and the interactive information behaviors between parents and adult children, offering deeper insights into proxy information exchange dynamics. Finally, while this study examined online health information in general, future investigations could categorize information into specific domains, such as chronic disease management or daily health practices, to achieve a more nuanced understanding of how different types of health information are sought and utilized.

5.4 Conclusion

This study extends the CMIS framework to the context of proxy health information seeking among adult children in China, providing a deeper understanding of the cognitive and motivational factors that drive such behavior. The results highlight that belief and Internet self-efficacy shape perceptions of channel characteristics and utility, which in turn facilitate proxy health information seeking. Theoretically, the study contributes by refining the CMIS framework, clarifying the roles of belief and self-efficacy, and demonstrating the mediating function of channel utility in a proxy-seeking context. Practically, the findings offer actionable insights for online health platforms, policymakers, and health educators, emphasizing the importance of enhancing the credibility and perceived usefulness of online platform to better support adult children in managing their parents' health. Compared with prior studies on self-directed information seeking, this research confirms that channel utility is particularly influential in motivating proxy information-seeking behavior in a digital environment.

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References

Ageng, K. (2023). Online Information Seeking and Searching Behavior of First Time Southeast Asian Fathers. *Proceedings of the 2023 Conference on Human Information Interaction and Retrieval*, 486–489. https://doi.org/10.1145/3576840.3578318

Ainiwaer, A., Zhang, S., Ainiwaer, X., & Ma, F. (2021). Effects of Message Framing on Cancer Prevention and Detection Behaviors, Intentions, and Attitudes: Systematic Review and Meta-analysis. *Journal of Medical Internet Research*, *23*(9), e27634. https://doi.org/10.2196/27634

AlSaadi, M. M. (2012). Evaluation of internet use for health information by parents of asthmatic children attending pediatric clinics in Riyadh, Saudi Arabia. *Annals of Saudi Medicine*, *32*(6), 630–636. https://doi.org/10.5144/0256-4947.2012.630

Bao, Y., Hoque, R., & Wang, S. (2017). Investigating the determinants of Chinese adult children's intention to use online health information for their aged parents. *International Journal of Medical Informatics*, *102*, 12–20. https://doi.org/10.1016/j.ijmedinf.2017.01.003

Bernhörster, L., & Reifegerste, D. (2025). More Help from Friends and Family? Trends in Determinants of Surrogate Health Information-Seeking. *Health Communication*, 1–12. https://doi.org/10.1080/10410236.2025.2502195

Beverly, E. A., & Wray, L. A. (2010). The role of collective efficacy in exercise adherence: A qualitative study of spousal support and Type 2 diabetes management. *Health Education Research*, *25*(2), 211–223. https://doi.org/10.1093/her/cyn032

Cao, W., Zhang, X., Xu, K., & Wang, Y. (2016). Modeling Online Health Information-Seeking Behavior in China: The Roles of Source Characteristics, Reward Assessment, and Internet Self-Efficacy. *Health Communication*, *31*(9), 1105–1114. https://doi.org/10.1080/10410236.2015.1045236

Chang, L., Fung, T. K., Leung, H. M., & Lai, P. Y. (2024). Generational differences in health information behaviors during the COVID-19 crisis: A Hong Kong study. *Global Media and China*, *0*(0), 1–22. https://doi.org/10.1177/20594364241238635

Chang, S. J., & Im, E.-O. (2014). A path analysis of Internet health information seeking behaviors among older adults. *Geriatric Nursing*, *35*(2), 137–141. https://doi.org/10.1016/j.gerinurse.2013.11.005

Davison, B. J., & Breckon, E. N. (2012). Impact of Health Information-Seeking Behavior and Personal Factors on Preferred Role in Treatment Decision Making in Men with Newly Diagnosed Prostate Cancer. *Cancer Nursing*, *35*(6), 411–418. https://doi.org/10.1097/NCC.0b013e318236565a

Deng, Z., & Liu, S. (2017). Understanding consumer health information-seeking behavior from the perspective of the risk perception attitude framework and social support in mobile social media websites. *International Journal of Medical Informatics*, *105*, 98–109. https://doi.org/10.1016/j.ijmedinf.2017.05.014

Dutta, M. J., Kaur, S., Luk, P., Lin, J., & Lee, S. T. (2018). Health Information Seeking Among Singaporeans: Roles and Collective Contexts. *Health Communication*, *33*(4), 433–442. https://doi.org/10.1080/10410236.2016.1278493

Feng, Y. (2025). For Myself or for Others? The Influence of Family Communication Patterns on Family Health History Communication and Online Health Information Seeking. *Journal of Health Communication*, 1–10. https://doi.org/10.1080/10810730.2025.2450617

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39. https://doi.org/10.2307/3151312

Fung, T. K. F., Lai, P. Y., Chang, L., & Leung, H. M. (2022). Applying the comprehensive model of information seeking to understand chronic illness information scanning: Hong Kong evidence. *World Medical & Health Policy*, 1–31. https://doi.org/10.1002/wmh3.515

Garcia Cosavalente, H. P. (2022). Reproductive health information-seeking: Predictors and perceived barriers among young Peruvian women. *World Medical & Health Policy*, *14*(2), 343–365. https://doi.org/10.1002/wmh3.517

Hayes, A. F., Montoya, A. K., & Rockwood, N. J. (2017). The Analysis of Mechanisms and Their Contingencies: PROCESS versus Structural Equation Modeling. *Australasian Marketing Journal*, *25*(1), 76–81. https://doi.org/10.1016/j.ausmj.2017.02.001

He, R., & Li, Y. (2021). Media Exposure, Cancer Beliefs, and Cancer-Related Information-Seeking or Avoidance Behavior Patterns in China. *International Journal of Environmental Research and Public Health*, *18*(6), 3130. https://doi.org/10.3390/ijerph18063130

Huang, X., Chen, K., Zhe, S., & Yu, J. (2024). A study on the factors influencing college students' alternative search behavior for online health information. *The Journal of Medicine, Humanity and Media*, *2*(1).

Jin, X. (2023). Political ideology and differences in seeking COVID-19 information on the internet: Examining the comprehensive model of information seeking. *Online Information Review*, *47*(7), 1280–1301. https://doi.org/10.1108/OIR-08-2022-0436

Johnson, J. D., Donohue, W. A., Atkin, C. K., & Johnson, S. (1995). A Comprehensive Model of Information Seeking: Tests Focusing on a Technical Organization. *Science Communication*, *16*(3), 274–303. https://doi.org/10.1177/1075547095016003003

Johnson, J. D., & Meischke, H. (1993). A Comprehensive Model of Cancer-Related Information Seeking Applied to Magazines. *Human Communication Research*, *19*(3), 343–367. https://doi.org/10.1111/j.1468-2958.1993.tb00305.x

Jung, M., Lin, L., & Viswanath, K. (2013). Associations between health communication behaviors, neighborhood social capital, vaccine knowledge, and parents' H1N1 vaccination of their children. *Vaccine*, *31*(42), 4860–4866. https://doi.org/10.1016/j.vaccine.2013.07.068

Kilicarslan-Toruner, E., & Akgun-Citak, E. (2013). Information-seeking behaviours and decision-making process of parents of children with cancer. *European Journal of Oncology Nursing*, *17*(2), 176–183. https://doi.org/10.1016/j.ejon.2012.03.001

Kim, H., Paige Powell, M., & Bhuyan, S. S. (2017). Seeking Medical Information Using Mobile Apps and the Internet: Are Family Caregivers Different from the General Public? *Journal of Medical Systems*, *41*(38). https://doi.org/10.1007/s10916-017-0684-9

Kim, J., & Jung, M. (2017). Associations between media use and health information-seeking behavior on vaccinations in South Korea. *BMC Public Health*, *17*(1), 700. https://doi.org/10.1186/s12889-017-4721-x

Kubb, C., & Foran, H. M. (2020). Online Health Information Seeking by Parents for Their Children: Systematic Review and Agenda for Further Research. *Journal of Medical Internet Research*, *22*(8), e19985. https://doi.org/10.2196/19985

Lee, H. O., & Kim, S. (2015). Linking Health Information Seeking to Behavioral Outcomes: Antecedents and Outcomes of Childhood Vaccination Information Seeking in South Korea. *Journal of Health Communication*, *20*(3), 285–296. https://doi.org/10.1080/10810730.2014.927035

Lim, H. M., Dunn, A. G., Lim, J. R., Abdullah, A., & Ng, C. J. (2022). Association between online health information-seeking and medication adherence: A systematic review and meta-analysis. *Digital Health*, *8*. https://doi.org/10.1177/20552076221097784

Liu, P. L., Chang, A., Liu, M. T., Ye, J. F., Jiao, W., Ao, H. S., Hu, W., Xu, K., & Zhao, X. (2023). Effect of information encounter on concerns over healthy eating– mediated through body comparison and moderated by body mass index or body satisfaction. *BMC Public Health*, *23*(1), 254. https://doi.org/10.1186/s12889-023-15069-0

Liu, R., Huang, Y.-H. C., & Sun, J. (2024). The Media-Mediated Model of Information Seeking Behavior: A Proposed Framework in the Chinese Culture During the COVID Pandemic. *Health Communication*, 1–12. https://doi.org/10.1080/10410236.2024.2327878

Lu, X., Lu, J., Zhang, L., Mei, K., Guan, B., & Lu, Y. (2021). Gap between willingness and behavior in the vaccination against influenza, pneumonia, and herpes zoster among Chinese aged 50–69 years. *Expert Review of Vaccines*, *20*(9), 1147–1152. https://doi.org/10.1080/14760584.2021.1954910

Ma, X., & Chen, L. (2023). Seeking Online Health Information for Aged Parents in China: A Multigroup Comparison of the Comprehensive Model of Information Seeking Based on eHealth Literacy Levels. *International Journal of Communication*, *17*, 2326–2347.

National Bureau of Statistics of China. (2025, January 17). *The decline in the total population has narrowed, and the quality of the population continues to improve.* https://www.stats.gov.cn/sj/sjjd/202501/t20250117_1958337.html

Oh, Y. S. (2015). Predictors of Self and Surrogate Online Health Information Seeking in Family Caregivers to Cancer Survivors. *Social Work in Health Care*, *54*(10), 939–953. https://doi.org/10.1080/00981389.2015.1070780

Paek, H.-J., Choi, M., & Hove, T. (2017). Intention to View Health TV Programs in South Korea: An Application of the Comprehensive Model of Information Seeking. *Journalism & Mass Communication Quarterly*, *94*(2), 526–551. https://doi.org/10.1177/1077699016689466

Park, E., Kim, H., & Steinhoff, A. (2016). Health-Related Internet Use by Informal Caregivers of Children and Adolescents: An Integrative Literature Review. *Journal of Medical Internet Research*, *18*(3), e57. https://doi.org/10.2196/jmir.4124

Qi, X. (2016). Family bond and family obligation: Continuity and transformation. *Journal of Sociology*, *52*(1), 39–52. https://doi.org/10.1177/1440783315587796

Reifegerste, D., Bachl, M., & Baumann, E. (2017). Surrogate health information seeking in Europe: Influence of source type and social network variables. *International Journal of Medical Informatics*, *103*, 7–14. https://doi.org/10.1016/j.ijmedinf.2017.04.006

Reifegerste, D., Blech, S., & Dechant, P. (2020). Understanding Information Seeking about the Health of Others: Applying the Comprehensive Model of Information Seeking to Proxy Online Health Information Seeking. *Journal of Health Communication*, *25*(2), 126–135. https://doi.org/10.1080/10810730.2020.1716280

Samal, L., Saha, S., Chander, G., Korthuis, P. T., Sharma, R. K., Sharp, V., Cohn, J., Moore, R. D., & Beach, M. C. (2011). Internet Health Information Seeking Behavior and Antiretroviral Adherence in Persons Living with HIV/AIDS. *AIDS Patient Care and STDs*, *25*(7), 445–449. https://doi.org/10.1089/apc.2011.0027

Selsky, C., Luta, G., Noone, A.-M., Huerta, E. E., & Mandelblatt, J. S. (2013). Internet Access and Online Cancer Information Seeking Among Latino Immigrants From Safety Net Clinics. *Journal of Health Communication*, *18*(1), 58–70. https://doi.org/10.1080/10810730.2012.688248

Skranes, L. P., Løhaugen, G. C. C., Botngård, A., & Skranes, J. (2014). Internet use among mothers of young children in Norway—A survey of Internet habits and perceived parental competence when caring for a sick child. *Journal of Public Health*, *22*(5), 423–431. https://doi.org/10.1007/s10389-014-0631-x

Song, X., Song, S., Chen, S., Zhao, Y., & Zhu, Q. (2019). Factors Influencing Proxy Internet Health Information Seeking Among the Elderly in Rural China: A Grounded Theory Study. *Human Aspects of IT for the Aged Population. Design for the Elderly and Technology Acceptance*, *11592*, 332–343. https://doi.org/10.1007/978-3-030-22012-9_24

Su, B. (2023). Chronic Disease in China: Geographic and Socioeconomic Determinants Among Persons Aged 60 and Older. *JAMDA*, *24*, 206–212. https://doi.org/10.1016/j.jamda.2022.10.002

Sun, M., & Jiang, L. C. (2021). Interpersonal influences on self-management in the eHealth era: Predicting the uses of eHealth tools for self-care in America. *Health & Social Care in the Community*, *29*(2), 464–475. https://doi.org/10.1111/hsc.13107

Sussman, S. W., & Siegal, W. S. (2003). Informational Influence in Organizations: An Integrated Approach to Knowledge Adoption. *Information Systems Research*, *14*(1), 47–65. https://doi.org/10.1287/isre.14.1.47.14767

Thomson, C. E., White, K. M., & Hamilton, K. (2012). Investigating mothers' decisions about their child's sun-protective behaviour using the Theory of Planned Behaviour. *Journal of Health Psychology*, *17*(7), 1001–1010. https://doi.org/10.1177/1359105311433905

Van Stee, S. K., & Yang, Q. (2018). Online Cancer Information Seeking: Applying and Extending the Comprehensive Model of Information Seeking. *Health Communication*, *33*(12), 1583–1592. https://doi.org/10.1080/10410236.2017.1384350

Wang, X., Zheng, H., & Huang, C. Y.-H. (2023). Examining the Pathways from Information Acquisition to Preventive Behaviors: The Information-Response Model. *Science Communication*, *45*(6), 724–750. https://doi.org/10.1177/10755470231204317

Xiao, Z., Lee, J., Zeng, L., & Ni, L. (2020). Information seeking in the context of cigarette smoking: Predictors from the Comprehensive Model of Information Seeking (CMIS). *Psychology, Health & Medicine*, *25*(10), 1228–1246. https://doi.org/10.1080/13548506.2020.1728348

Yang, Q., Chen, Y., & Wendorf Muhamad, J. (2017). Social Support, Trust in Health Information, and Health Information-Seeking Behaviors (HISBs): A Study Using the 2012 Annenberg National Health Communication Survey (ANHCS). *Health Communication*, *32*(9), 1142–1150. https://doi.org/10.1080/10410236.2016.1214220

Zhang, L., Jung, E. H., & Chen, Z. (2019). Modeling the Pathway Linking Health Information Seeking to Psychological Well-Being on WeChat. *Health Communication*, *35*(9), 1101–1112. https://doi.org/10.1080/10410236.2019.1613479

Zhang, X., Foo, S., Majid, S., Chang, Y.-K., Dumaual, H. T. J., & Suri, V. R. (2020). Self-Care and Health-Information-Seeking Behaviours of Diabetic Patients in Singapore. *Health Communication*, *35*(8), 994–1003. https://doi.org/10.1080/10410236.2019.1606134

Zhang, Y., & Liu, J. (2023). Deconstructing proxy health information-seeking behavior: A systematic review. *Library & Information Science Research*, *45*(3), 101250. https://doi.org/10.1016/j.lisr.2023.101250

Zhuang, J., & Cobb, C. (2022). COVID-19 Vaccine-related Information Seeking and Scanning: A Test of Mediators between Information Acquisition and Vaccination Intention among Unvaccinated Black Americans. *Journal of Health Communication*, 1–9. https://doi.org/10.1080/10810730.2022.2107739

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