ORIGINAL RESEARCH

Information-Seeking and Risk Perception to Explain Infection-Prevention Behaviors: Conditional Analysis on Trust in Media and Government as Moderator

Myonghwa Park [ID][1], Keunyeob Oh [ID][2], Hyungjun Kim [ID][3], Jongkun Jun [ID][4], Jooyoung Kim [ID][5], Thi-Thanh-Tinh Giap [ID][6], Rhayun Song [ID][1]

[1]College of Nursing, Chungnam National University, Daejeon, Republic of Korea; [2]College of Economics and Management, Chungnam National University, Daejeon, Republic of Korea; [3]School of Business, Chungnam National University, Daejeon, Republic of Korea; [4]Division of Global Business and Technology, Hankuk University of Foreign Studies, Yongin, Republic of Korea; [5]School of Business and Technology Management, College of Business, Korea Advanced Institute of Science and Technology, Daejeon, Republic of Korea; [6]College of Health Science, VinUniversity, Hanoi, Vietnam

Correspondence: Rhayun Song, College of Nursing, Chungnam National University, Munwha-ro 266, Jung-Gu, Daejeon, 35015, Republic of Korea, Tel +82-10-3069-2214, Fax +82-42-580-8309, Email songry@cnu.ac.kr

Purpose: This study aims to explore how the relationship between information-seeking and infection-prevention behaviors through risk perception changes according to the level of trust in the media and government.

Methods: The study is a secondary data analysis of data from a cross-sectional national survey of 700 adults living in the community, representing different age groups, genders, and geographic regions. A validated questionnaire was used to assess information-seeking behaviors, trust in media and government, and risk perception to explain infection-prevention behaviors in response to the COVID-19 pandemic. A conditional analysis was conducted using SPSS and PROCESS macro (Model 7) to identify the effect of moderated mediation.

Results: The participants were fairly balanced by gender and age group. Most participants learned about COVID-19 through major broadcasts and television (56.7%) followed by internet media (21.7%). Information-seeking and risk perception together explained 17% of the variance in infection-prevention behaviors (F=63.95, p<0.01). The standardized indirect effect (β=0.04, BootCI 0.02, 0.06) was significant at 95% CI. The moderated mediation index (M=−0.04, CI −0.05, −0.01) indicates that trust in media and government influences the effect of information-seeking on risk perception and infection-prevention behavior even after controlling for age and gender.

Conclusion: Information-seeking behaviors affect infection-prevention behaviors directly and indirectly through risk perception. Trust in media and government modulates this relationship, emphasizing the importance of establishing trust to promote effective risk communication and long-term public compliance with infection-prevention practices. Health authorities should focus on building trust through transparent risk communication and integrating diverse media perspectives. Further research is needed to explore the psychological and social mechanisms underlying trust in media and government through qualitative, cross-cultural comparisons.

Keywords: conditional analysis, information-seeking, risk perception, protective behaviors, trust in media and government

Introduction

As of May 5, 2023, the World Health Organization (WHO) declared Coronavirus disease (COVID-19) no longer an international public health emergency while advising the need for long-term pandemic management.[1] The vaccine reduces the risk of severe illness and hospitalization caused by COVID-19, but there is still a risk of infection as vaccination compliance gradually declines. In the WHO COVID-19 epidemiological update, the number of new cases increased by 4% between December 2023 and January 2024, exceeding 1.1 million.[2] Therefore, adherence to behavioral guidelines and public awareness remains crucial to containing COVID-19 spread and preventing its recurrence. Health

professionals and policymakers need to understand the factors influencing individuals' compliance with prevention practices to develop effective long-term strategies.

In the event of the emergence of a new contagious disease, timely and accurate information is necessary to prevent its spread by influencing adherence to protective behaviors.[3] Several factors have been considered, including public health messaging, trust in information sources, and the clarity and consistency of the information provided, particularly during a pandemic.[4] Competent health authorities play a crucial role in imparting knowledge and essential skills to help people cope with the pandemic. However, transitioning from information to action is a multifaceted process, susceptible to many influencing factors, including perceived risk and severity as individual motivation factors,[5] social norms or support as community and social factors, and public health messaging or government policies as systemic factors.[5,6]

Protection Motivation Theory (PMT) was introduced to explain the impact of persuasive communication on infection-prevention behaviors with an emphasis on threat appraisals and coping appraisals, leading to the adoption of recommended behaviors.[7] According to PMT, individuals process risk and coping appraisals after receiving or seeking information through various sources, including the media and government authorities, affecting their decision to engage in infection-prevention behaviors. Perceived risk and severity are the main cognitive and emotional responses to an infectious disease, such as the COVID-19 pandemic crisis. The cross-sectional survey with 20,205 participants found that infection cues positively predicted the performance of preventive behaviors mediated by risk perception and negative emotions.[8] Pandemics are characterized by high levels of uncertainty due to their complex nature, with new data and insights emerging continuously, consequently most decisions during pandemics are based on imperfect or uncertain information.[9] Risk communication could help manage this uncertainty by providing up-to-date information, explaining what is known, what is being done to find out more, and how plans may change in response to new information.[10] Effective risk communication based on reliable information can mitigate risk perception and negative emotional reactions by providing reassurance and practical advice on coping mechanisms in the event of a pandemic.[11]

Information dissemination via media is one of the most important methods for health intervention, but its impact can vary depending on the type of media.[12] Trust in media significantly influences health behaviors, especially during social crises when people turn to mass media for authoritative information. Trust in official media helps individuals filter out misinformation, reduce panic, and promote adherence to credible guidelines from government or health experts.[13] In the same vein, trust in the government or health care system has been proposed as a significant determinant of compliance with national public health policies concerning infectious diseases.[14] Developing a good relationship with the population is essential for establishing rapport and trust. The level of trust in the public health authorities and the government can positively influence compliance with preventive behaviors in the community.[15] It is possible that misinformation or conflicting messages can spread rapidly through social media, posing challenges to the effectiveness of official risk communication efforts and influencing the public perception of risk based on the trustworthiness of the sources. Trust plays a central role in shaping public perception of risk and determining compliance during pandemics.[16,17] Studies have shown that higher trust in government and media sources lowers public risk perception,[18] as individuals feel more confident in the information and are more likely to engage in preventive behaviors.[19,20] Increased levels of risk communication and trust in governmental organizations encourage the adoption of preventive actions, and this trust helps align public perceptions with actual risks rather than exaggerated fears.[21] Trust thus moderates the relationship between information-seeking and risk perception, ensuring a more accurate public understanding of the situation.

Based on the Protection Motivation Theory and the evidence from previous studies, we hypothesized that information-seeking behavior would affect individuals' risk perception, leading to the adoption of infection-prevention behaviors. In this model, trust in media and government was hypothesized as a moderator in the relationship between information-seeking and risk perception. Therefore, this study aims to explore how the relationship between information-seeking and infection-prevention behaviors through risk perception changes according to the level of trust in media and government with the following objectives (Figure 1):

1) To assess the direct and indirect effects of information-seeking on infection-prevention behaviors with the mediation role of risk perception (H_1, H_2 & H_4)

2) To determine the moderating effect of trust in media and government in the relationship between information-seeking and risk perception (H_1 & H_3)

3) To examine the moderated mediation effect to explain infection-prevention behaviors by including information-seeking, risk perception, and trust in media and government in the model (H_1, H_2, H_3, and H_4).
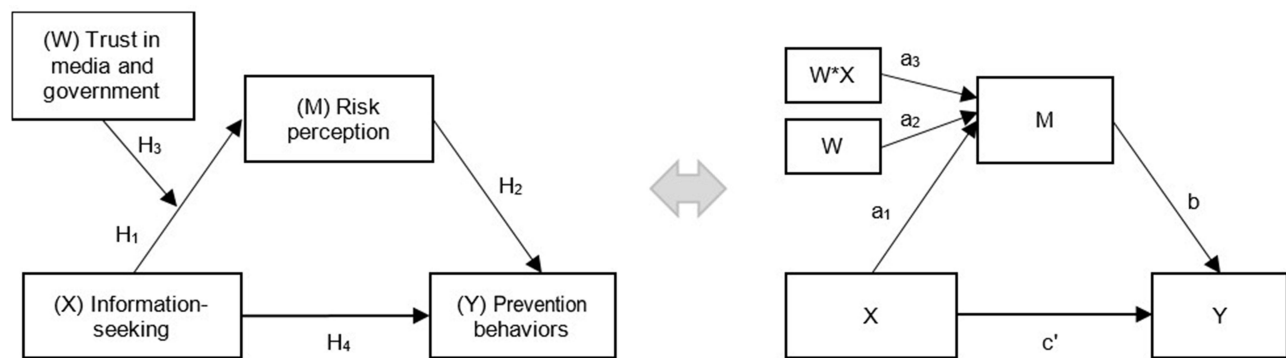
Figure 1 The theoretical and statistical model of the study. Regression: $Y = c'*X + b*(a_1*X + a_2*W + a_3*W*X) + e$.
Note: M, mediator; W, moderator; W*X, interaction effect.

Methods

Design

This study is a secondary data analysis based on the data from a cross-sectional national survey involving 700 adults residing in the community, ensuring representation across different age groups, genders, and geographical regions.[5]

Participants

Participants for the original study were selected based on specific criteria, including residence in various community settings such as large cities, small or medium-sized cities, and urban and rural areas, encompassing both genders and individuals aged from their 10s to 80s. The survey was conducted online (70%) and face-to-face interviews (30%) to cover a variety of age groups from both urban and rural areas. The online survey had a response rate of approximately 40%. To ensure adequate participation by older adults, trained researchers were dispatched to each region to conduct in-person interviews. Excluded from the study were individuals who had been hospitalized or living in nursing homes, those whose independent daily activities were restricted due to physical or situational constraints, or individuals who declined to participate in the questionnaire. The sampling process was described in more detail in a previous publication.[5] To ensure statistical robustness for the secondary analysis, a Monte Carlo Power analysis was performed for indirect effects using complex mediation models involving two intervening variables, as outlined by Schoemann and others.[22] According to this analysis, a minimum of 600 participants was needed to achieve a power level of 0.8, and the current dataset meets that requirement.

Data Collection Procedure

After receiving approval from the Institutional Review Board (IRB), an original national survey was conducted from November 2021 to March 2022.[5] A structured questionnaire was used to recruit 700 participants from local communities, ensuring representation across genders, ages, and regions. The online survey typically took around 20 minutes, gathering data from younger and middle-aged individuals, including some in their 50s. A trained interviewer visited apartment complexes, senior centers, shopping malls, and transportation hubs to ensure older participants were included, taking approximately 30–40 minutes. Online and offline survey data were entered into Excel and exported to SPSS for analysis.

Outcome Measures

Heydari et al developed and validated a questionnaire to assess risk communication (information-seeking and trust in media and government) and risk perception to explain infection-prevention behaviors in response to the COVID-19 pandemic.[23] After obtaining permission from the authors, the scales were adapted to reflect the social and political landscape of South Korea through a standard translation-reverse translation process. The terms used in the questionnaire for government, health policy agencies, and news media were replaced with terms suited to the Korean context. Quarantine guidelines have also been updated to reflect the terminology currently used in Korea. This modification

has been reviewed by a panel of seven experts from different fields, including nursing (3 members), social science (3 members), and medicine (1 member). The experts possessed extensive knowledge and experience in academic and research areas, particularly those related to health crises and pandemics. Also, they were proficient in both English and Korean. The committee conducted a rigorous round-trip translation, transitioning between the English and Korean versions, and conducted discussions to ensure that they were in line with the latest quarantine guidelines set forth by the Korean government. Prior to the main survey, the final Korean versions of information-seeking, trust in media and government, and risk perception were tested on three selected individuals in various age groups to confirm readability. The questionnaire is detailed in Appendix 1.

Information-Seeking
The subscales of news media exposure (2 items) and information-gathering abilities (3 items) developed by Heydari et al[23] were used to assess information-seeking behaviors. On this scale, individuals are asked how frequently they actively pursue information about COVID-19 through traditional media and the internet (responding from 1'never' to 4'very often') and how confident they are in locating and comprehending that information over the past month (responding from 1'complete disagreement' to 5'complete agreement'). Higher scores indicate that the individual is proactive in seeking and understanding relevant information. Cronbach's alpha for this scale was 0.73–0.79 in the validation study,[23] and 0.70–0.84 in the present study.

Trust in Media and Government
Using the six-item scale developed by Heydari,[23] we assessed trust in news media and government policies regarding COVID-19 on a 5-point Likert scale ranging from 1'strongly disagree' to 5'strongly agree'. This scale consisted of three items on trust in the government, asking about their confidence in the government's capability of protecting citizens from COVID-19 infection, as well as three items on trust in the news media, which focused on the accuracy of news outlets' coverage of COVID-19. Higher scores indicate a higher level of trust. Cronbach's alphas of 0.85 (government) and 0.88 (media) were reported in the validation study.[23] In the present study, Cronbach's alpha for the combined scale was 0.8.

Risk Perception
Based on the 4-item subscale of risk perception,[23] we measured individuals' risk perception associated with COVID-19 on a 5-point Likert scale (ranging from 1'strongly disagree' to 5'strongly agree'. A higher score indicates a greater perception of the risk associated with COVID-19. A Cronbach's alpha of 0.90 was reported in the validation study for this subscale,[23] and 0.77 was reported in this study.

Infection-Prevention Behaviors
A scale for assessing infection-prevention behaviors was developed and validated in the original national survey[5] based on the social distancing guideline recommended by the Korean Centers for Disease Control and Prevention in 2020. A 25-item Infection-prevention Behavior Performance Scale (IPBP-25) consists of six subscales (social distancing, symptom management, environmental management, stress management, healthy living, and guidelines) on a Likert scale ranging from 1'never' to 4'always'. The content validity of IPBP-25 was confirmed by an expert panel during the original national survey. In addition, concurrent validity was supported by moderate correlations with cognitive motivational variables (from 0.40 for perceived threats to 0.73 for self-efficacy), as well as reliability, with a Cronbach alpha of 0.92.[5]

Statistical Analysis
Descriptive statistics were used to analyze the study variables and demographic characteristics of the participants. ANOVA, correlational analysis, and t-tests were used to analyze the association between these study variables to identify covariates. The conditional analysis was performed to examine the moderated mediation effect using SPSS and PROCESS macro (Model 7) as suggested by Igartua and Hayes.[24] In this analysis, we hypothesized "trust in news media and government" as a moderator and "risk perception" as a mediator in the relationship between information-seeking and infection-prevention behaviors. Bootstrapping was used for variables with non-normal distribution to

calculate robust 95% confidence intervals (CI) for each regression coefficient, where a 95% CI that does not include 0 signifies the significance of the effect.

Ethical Consideration

This study is a secondary analysis of the original study that was approved by the institutional review board at Chungnam National University (approval number 202109-SB-191-01), and conducted in accordance with the Declaration of Helsinki. Prior to participating in the survey, all participants were informed of the purpose and procedure of the study and provided either written consent forms or online consent forms.

Results

Description of Study Participants

Table 1 provides an overview of the demographic characteristics and general health status of the 700 study participants. The participation was fairly balanced in terms of gender and age groups. Approximately 73% of the participants held a college degree or higher education, while 65% had an average or high socioeconomic status. Furthermore, 60% of the participants were employed. The majority of participants (84%) perceived their health as average or better when

Table 1 Demographic and Health-Related Information (N=700)

Variable	Categories	Freq (%)
Education	Up to high school College or higher	187 (26.7) 513 (73.3)
Gender	Female Male	353 (50.4) 347 (49.6)
Socioeconomic status	High Average Low	45 (6.4) 414 (59.2) 241 (35.4)
Perceived health compared to peers	Better Average Worse	166 (23.7) 424 (60.6) 110 (15.7)
Comorbidities	None Hypertension/Peripheral vascular disease Cardio/Cerebro vascular disease Diabetes Arthritis/Others	368 (52.6) 208 (29.7) 60 (8.6) 78 (11.1) 82 (11.7)
Where do you get your information about COVID-19?	Korean broadcasting and TV Newspapers and publications Overseas broadcasting Social networks (eg Instagram, Facebook etc.) Internet Media (Naver, Youtube etc.) Text notification	397 (56.7) 34 (4.9) 27 (3.9) 61 (8.7) 152 (21.7) 29 (4.1)
Variable (item)	**Mean (SD)**	**Range**
Age (year)	48.13 (4.39)	18–80
Information-seeking(6)	3.42 (0.64)	1.33–5.0
Risk perception(4)	3.97 (0.63)	1.25–5.0
Trust in media and government(3)	3.41 (0.70)	1.0–5.0
Infection-prevention behavior(25)	3.22 (0.48)	1.6–4.0

compared to their peers, and more than half (53%) reported being free from any diagnosed diseases. Regarding their sources of COVID-19-related information, the primary resource was Korean broadcasting and TV, utilized by 57% of participants, followed by the Internet (21%). Other sources included social networks, newspapers, publications, overseas broadcasting, and text notifications.

The item means and standard deviations of study variables are also provided in Table 1. Risk perception was high (item Mean 3.97) with a range of 1.25–5.0, while trust in media and government was moderate (item Mean 3.41) with a range of 1.0–5.0. Infection-prevention behaviors were performed often to always (item Mean 3.22) with a range of 1.6–4.0.

A preliminary analysis was conducted to assess the normality of the data and the association between sociodemographic characteristics (age, gender, education, perceived health, and comorbidities) and the outcome variable to identify potential confounding factors. Age and gender (reference=male) were included in the analysis as covariates. The normality of data of the study variables was assessed by examining skewness and kurtosis levels. The distribution of skewness for the study variables ranged from −0.79 (trust in media and government) to 0.21(information-seeking), within the absolute value of 3, and the distribution of kurtosis ranged from −0.43 (prevention behaviors) to 1.24 (trust in media and government), within the absolute value of 7. No potential multi-collinearity was suspected since the level of the variance inflation factors between predictors was 1.06 with a level of tolerance greater than 0.93.[25]

Mediation Analysis

The direct and indirect effects of information-seeking on infection-prevention behaviors with risk perception as a mediator are presented in Figure 2A. Information seeking and risk perception together explained 17% of the variance in infection-prevention behaviors (F=63.95, p<0.01). The standardized coefficient between information-seeking and infection-prevention behavior was 0.19, and decreased to 0.15 when the mediator (risk perception) was included in the model, showing a partial mediation. The standardized indirect effect was significant at 95% CI (β =0.04, BootCI 0.02,0.06).

Moderation Analysis with Trust in Media and Government

The moderating effect of trust in media and government (W) in the relationship between information-seeking (X) and risk perception (Y) was presented in Figure 2B. Information-seeking and trust in media and government together explained 8% of variance in risk perception (F=20.16, p<0.01). The interaction of information-seeking and trust in media and government (β=−.16, t=−4.20, p<0.01) explained additional 2% of variance in risk perception (F=17.64, p<0.01). Figure 3 shows a conditional relationship in that trust in media and government affects the relationship between information-seeking and risk perception. Individuals who performed more information-seeking had a higher level of risk perception only when trust in the media and government was low (t=5.76, p<0.01, solid line). Conversely, when the trust
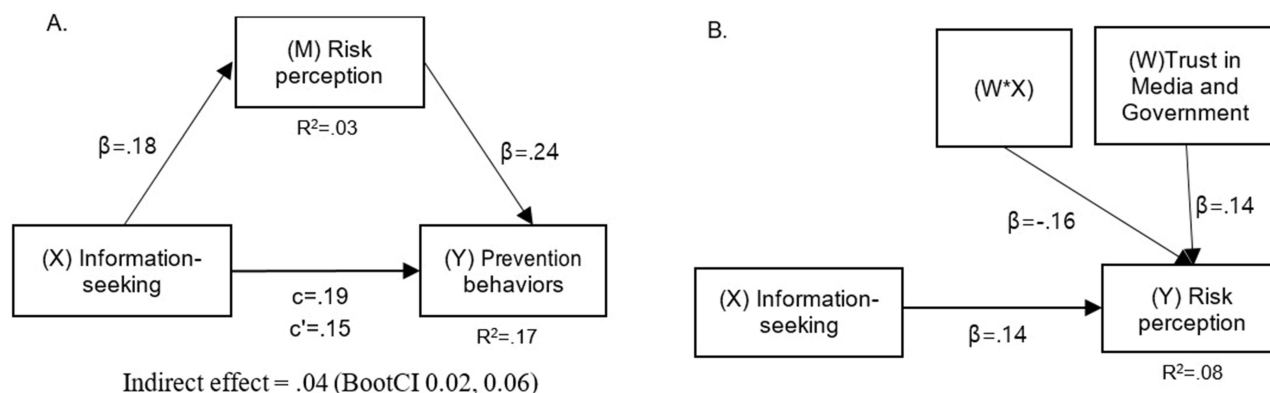

Figure 2 Mediation and Moderation analysis. (**A**) Mediation analysis (Left), (**B**) Moderation analysis (Right).
Note: M, mediator; W, moderator; BootCl=bootstrapping confidence interval.
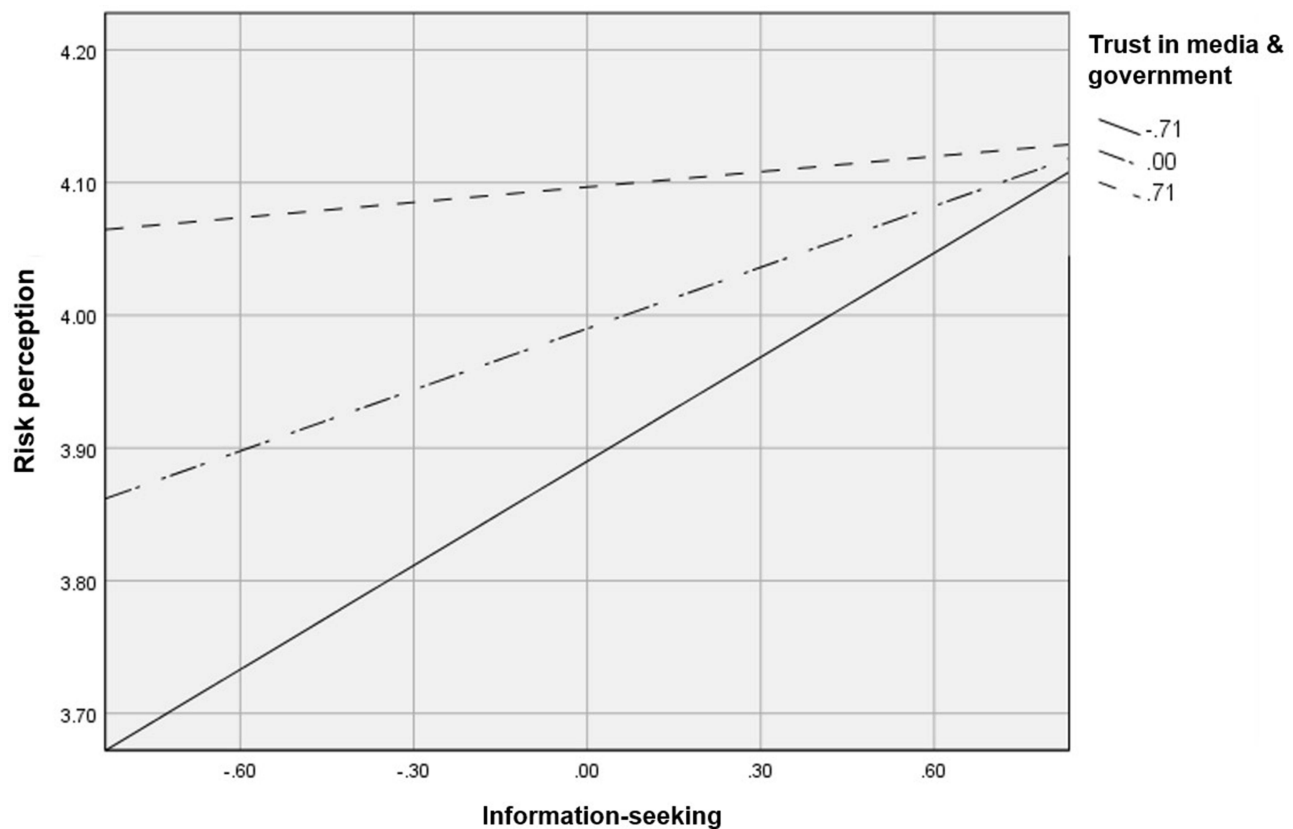
Figure 3 The moderation effects of trust in media and government between perception and risk communication.

level in media and government was high, the positive association became weak, consequently information-seeking was not associated with risk perception (t=0.57, p=0.56, dashed line).

Moderated Mediation Analysis of the Proposed Model

Among socio-demographic variables, age (r=0.20) and gender (ref=female, r=0.21) was significantly correlated with infection-prevention behaviors, consequently included as covariates for the final analysis. The moderated mediation analysis of the model with age and gender (female) as covariates was conducted by Process Macro (Model 7) and presented in Figure 4. Age and gender did not significantly affect infection-prevention behavior when included in the final model.
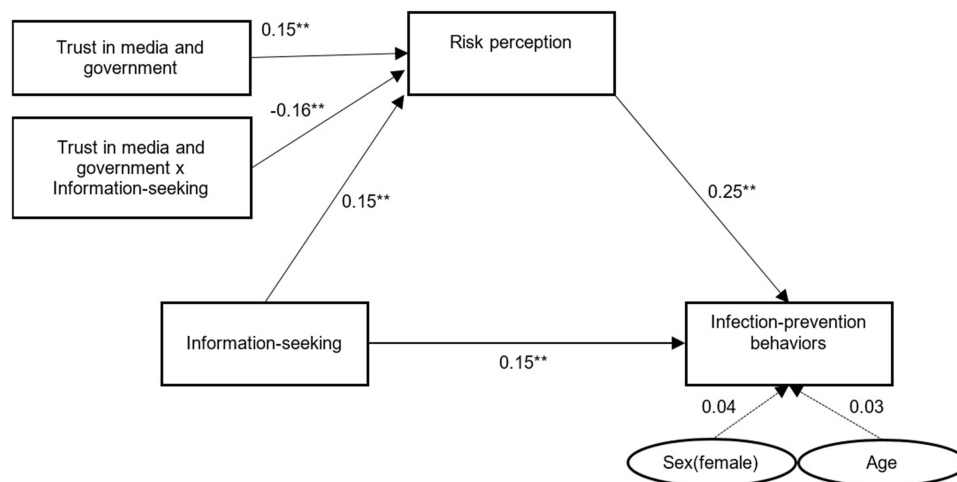

Figure 4 The moderated mediation effects on infection-prevention behaviors. **p<0.001.

Table 2 Moderated-Mediation Analysis of the Model with Covariates

Dependent variables	Label	Independent variables	Coeff	SE	t	LLCI	ULCI
Risk perception[a]	A_1	IS	0.15	0.04	4.05	0.08	0.23
	A_2	Trust	0.15	0.04	3.75	0.07	0.22
	A_3	IS xTrust	−0.16	0.05	−3.23	−0.26	−0.06
Infection-prevention behaviors[b]	B	Risk perception	0.25	0.03	8.31	0.19	0.30
	C'	IS	0.15	0.03	5.50	0.09	0.20
	Covariates	Age	0.03	0.02	1.55	−0.01	0.08
		Female	0.04	0.03	1.09	−0.03	0.10
Moderated mediation index	a_3*b		−0.04	0.01		−0.07	−0.02

Note: IS, information-seeking; Trust, Trust in media and government. [a]R^2=0.09, F=8.28, p<0.01; [b]R^2=0.18, F=35.18, p<0.01.

Table 3 Conditional Indirect Effect of Information-Seeking on Infection-Prevention Behaviors Through Risk Perception According to Trust in Media and Government

Trust in media and government*	Effect	SE	t	LLCI	ULCI
−0.71 (low)	0.27	0.05	4.83	0.18	0.36
0.00 (mean)	0.16	0.04	4.05	0.08	0.23
0.71 (high)	0.04	0.05	0.85	−0.05	0.13

Note: *The variable was centered with grand mean; $(a_1+a_3*W)*b$.

The findings supported the proposed hypothesis in this study even after controlling for age and gender (Table 2). With risk perception as a dependent variable, information-seeking (β =0.15), trust in media and government (β =0.15), and the interaction effect (β = −0.16) were significant, supporting H_1 and H_3. With infection-prevention behaviors as a dependent variable, risk perception (β =0.25) and information-seeking (β =0.15) were significant, supporting H_2 and H_4. The moderated mediation effect of information-seeking on infection-prevention behavior through risk perception was examined according to the low-mean-high levels of trust in media and government (Table 3). The moderated mediation index was significant (M= −0.04, BootCI −0.07, −0.02), indicating that trust in media and government influences the effect of information-seeking on risk perception and infection-prevention behavior even after controlling for age and gender.

Discussion

This study explored the impact of information-seeking and trust in information sources on adopting infection-prevention behaviors during the COVID-19 pandemic. According to the Protection Motivation Theory,[7] infection-prevention behaviors are influenced by how individuals process risk appraisals after receiving or seeking information from various sources, including the media and government. The findings revealed that information-seeking and risk perception strongly influenced infection-prevention behaviors. Information-seeking directly and indirectly influences these behaviors through risk perception, which aligns with previous research.

The mediating role of risk perception between information-seeking and infection-prevention behaviors has been well-established in previous studies. A national survey in China found that infection cues positively predicted protective behaviors through risk perception and negative emotions.[8] Similarly, 13 consecutive surveys conducted in Germany during the influenza pandemic showed that low vaccination coverage was associated with low-risk perception and mistrust of the vaccine. In their study, most participants (78%) felt sufficiently informed to make vaccination decisions, underscoring the importance of perceived adequacy of information.[26]

Trust in information sources has also been linked to infection-prevention behaviors. A study using a nationally representative US sample demonstrated that prevention behaviors were positively influenced when information was verified through trusted channels.[27] Another online survey found that trust in traditional media was associated with reduced vaccine hesitancy and increased vaccination intention.[12]

Our moderated mediation analysis indicated that trust in media and government influences the relationship between information-seeking and risk perception, affecting infection-prevention behaviors. When public trust in media and government is low, risk perception plays a crucial role in motivating protective behaviors. A cross-sectional study supported this finding, showing that seeking infection-related information increased risk perception, leading to protective behaviors.[28] This finding raises the issue of self-seeking negative information since the public pays more attention to negative information, which can increase risk perception.[28] It is essential for authorities to ensure that proactive information-seeking is directed toward reliable sources to prevent misinformation and maintain social and health services stability.[29]

Conversely, risk perception was not a significant determinant of infection-prevention behaviors for individuals with high trust in media and government. Instead, their compliance with preventive measures was consistent regardless of risk perception as long as they trusted the information sources.[30] During pandemic outbreaks and crisis situations, risk communication from public health authorities, including WHO, is primarily focused on the potential risk of infection.[11] As the risk of infection decreases, individuals may not be motivated to adopt protective behaviors solely based on risk perception. If they perceive the government and major news media as reliable, they are more likely to comply with infection-prevention behaviors. A web-based cross-sectional study confirmed that trust in COVID-19 information increased the likelihood of practicing infection-prevention behaviors.[30]

Several limitations should be considered when interpreting these results. Risk perception, the key concept of this study, is based on self-reported scores from participants at the time of data collection. Since the COVID-19 situation is continuously evolving, changes in circumstances and socio-cultural context may limit the generalizability of the study's findings. Additionally, trust in media and trust in government were closely correlated in this study, leading to their integration as a combined concept reflecting trust in authority. While age and gender, included as covariates, were not significant in our study, sociodemographic characteristics are typically sample-specific and should be considered potential confounding factors in different socio-cultural contexts.

Further studies are warranted to explore the underlying psychological and social mechanisms of trust in media and government organizations through qualitative and quantitative research with the cross-cultural comparisons. Understanding these mechanisms can help develop more effective risk communication strategies that resonate with diverse populations. A longitudinal approach is also necessary to understand how changes in public trust in information sources and government impact long-term adherence to infection-prevention behaviors over time, particularly as the COVID-19 situation evolves from pandemic to endemic.

Maintaining infection-prevention behaviors remains critical as the COVID-19 crisis shifts into an endemic phase. Health authorities should develop new motivational strategies beyond emphasizing risk perception to encourage adherence to preventive measures. In an era where information is readily accessible through the internet, building trust in media and government relies on transparent communication and presenting information from diverse perspectives. If major media sources can objectively integrate conflicting viewpoints, it can enhance public trust in the government and media, reducing reliance on unreliable sources. The goal of long-term crisis management through effective risk communication is to provide the public with reliable information and foster trust, thereby creating a supportive environment that encourages adherence to protective behaviors.[11] Given the ongoing uncertainty of the current endemic situation related to COVID-19, this approach is crucial for managing current and future public health crises.

Conclusion

Information-seeking behaviors influence infection-prevention behaviors both directly and indirectly through risk perception. Trust in media and government modulates this relationship, highlighting the importance of establishing trust to promote effective risk communication and long-term public compliance with infection-prevention practices. Health authorities should prioritize strategies to build trust in the government and healthcare organizations by providing

transparent risk communication and integrating diverse media perspectives. Further research is needed to explore the psychological and social mechanisms underlying trust in media and government organizations through qualitative, cross-cultural comparisons.

Ethical Approval and Informed Consent

This study is a secondary analysis of the original study that was approved by the institutional review board at Chungnam National University (approval number 202109-SB-191-01), and conducted in accordance with the Declaration of Helsinki. Prior to participating in the survey, all participants were informed of the purpose and procedure of the study and provided either written consent forms or online consent forms.

Funding

Disclosure

The authors report no conflicts of interest in this work.

References

1. Organization WH. Considerations for implementing and adjusting public health and social measures in the context of COVID-19. 2023. Availabe from: file:///C:/Users/user/Dropbox/PC%20(5)/Downloads/WHO-2019-nCoV-Adjusting-PH-measures-2023.1-eng.pdf. Accessed October 8, 2024
2. World Health Organization. COVID-19 epidemiological update. 2024. Availabe from: https://www.who.int/publications/m/item/covid-19-epidemiological-update—19-january-2024. Accessed October 8, 2024
3. Tumpey AJ, Daigle D, Nowak G. The CDC Field Epidemiology Manual. Communicating During an Outbreak or Public Health Investigation. Oxford University Press; 2019.
4. Kalichman SC, Shkembi B, Kalichman MO, Eaton LA. Trust in health information sources and its associations with COVID-19 disruptions to social relationships and health services among people living with HIV. *BMC Public Health*. 2021;21(1):817. doi:10.1186/s12889-021-10856-z
5. Park M, Oh K, Kim H, Fan X, Giap TT, Song R. Cognitive and Emotional Motivation to Explain Infection-Prevention Behaviors with Social Support as a Mediator During the COVID-19 Pandemic: a Nationwide Cross-Sectional Study in Korea. *Patient Prefer Adherence*. 2023;17:1063–1073. doi:10.2147/PPA.S404310
6. Schumpe BM, Van Lissa CJ, Belanger JJ, et al. Predictors of adherence to public health behaviors for fighting COVID-19 derived from longitudinal data. *Sci Rep*. 2022;12(1):3824. doi:10.1038/s41598-021-04703-9
7. Marikyan M, Papagiannidis S. Protection Motivation Theory: A Review. TheoryHub; 2023.
8. Meng G, Li Q, Yuan X, et al. The roles of risk perception, negative emotions and perceived efficacy in the association between COVID-19 infection cues and preventive behaviors: a moderated mediation model. *BMC Public Health*. 2023;23(1):109. doi:10.1186/s12889-022-14870-7
9. Rutter H, Wolpert M, Greenhalgh T. Managing uncertainty in the covid-19 era. *BMJ*. 2020;370:m3349. doi:10.1136/bmj.m3349
10. Bavel JJV, Baicker K, Boggio PS, et al. Using social and behavioural science to support COVID-19 pandemic response. *Nat Hum Behav*. 2020;4 (5):460–471. doi:10.1038/s41562-020-0884-z
11. Dickmann P, Abraham T, Sarkar S, et al. Risk communication as a core public health competence in infectious disease management: development of the ECDC training curriculum and programme. *Euro Surveill*. 2016;21(14). doi:10.2807/1560-7917.ES.2016.21.14.30188
12. Li Z, Sun X. Analysis of the Impact of Media Trust on the Public's Motivation to Receive Future Vaccinations for COVID-19 Based on Protection Motivation Theory. *Vaccines*. 2021;9(12). doi:10.3390/vaccines9121401
13. Melki J, Tamim H, Hadid D, Makki M, El Amine J, Hitti E. Mitigating infodemics: the relationship between news exposure and trust and belief in COVID-19 fake news and social media spreading. *PLoS One*. 2021;16(6):e0252830. doi:10.1371/journal.pone.0252830
14. Yu Y, Lau MMC, Lau JTF. Application of the protection motivation theory to understand determinants of compliance with the measure of banning gathering size >4 in all public areas for controlling COVID-19 in a Hong Kong Chinese adult general population. *PLoS One*. 2022;17(5):e0268336. doi:10.1371/journal.pone.0268336
15. Scholz J, Wetzker W, Licht A, et al. The role of risk communication in public health interventions. An analysis of risk communication for a community quarantine in Germany to curb the SARS-CoV-2 pandemic. *PLoS One*. 2021;16(8):e0256113. doi:10.1371/journal.pone.0256113
16. Mohammadi MR, Zarafshan H, Khayam Bashi S, Mohammadi F, Khaleghi A. The Role of Public Trust and Media in the Psychological and Behavioral Responses to the COVID-19 Pandemic. *Iran J Psychiatry*. 2020;15(3):189–204. doi:10.18502/ijps.v15i3.3811
17. Siegrist M, Bearth A. Worldviews, trust, and risk perceptions shape public acceptance of COVID-19 public health measures. *Proc Natl Acad Sci U S A*. 2021;118(24). doi:10.1073/pnas.2100411118
18. Siegrist M, Luchsinger L, Bearth A. The Impact of Trust and Risk Perception on the Acceptance of Measures to Reduce COVID-19 Cases. *Risk Anal*. 2021;41(5):787–800. doi:10.1111/risa.13675
19. Media XT. Trust in Government, and Risk Perception of COVID-19 in the Early Stage of Epidemic: an Analysis Based on Moderating Effect. *Healthcare*. 2021;9(11). doi:10.3390/healthcare9111597
20. Gu J, He R, Wu X, Tao J, Ye W, Wu C. Analyzing Risk Communication, Trust, Risk Perception, Negative Emotions, and Behavioral Coping Strategies During the COVID-19 Pandemic in China Using a Structural Equation Model. *Front Public Health*. 2022;10:843787. doi:10.3389/fpubh.2022.843787
21. Siegrist M. Trust and Risk Perception: a Critical Review of the Literature. *Risk Anal*. 2021;41(3):480–490. doi:10.1111/risa.13325

22. Schoemann AM, Boulton AJ, Short SD. Determining Power and Sample Size for Simple and Complex Mediation Models. *Social Psych Pers Scie*. 2017;8(4):379–386. doi:10.1177/1948550617715068

23. Heydari ST, Zarei L, Sadati AK, et al. The effect of risk communication on preventive and protective Behaviours during the COVID-19 outbreak: mediating role of risk perception. *BMC Public Health*. 2021;21(1):54. doi:10.1186/s12889-020-10125-5

24. Igartua JJ, Hayes AF. Mediation, Moderation, and Conditional Process Analysis: concepts, Computations, and Some Common Confusions. *Span J Psychol*. 2021;24:e49. doi:10.1017/SJP.2021.46

25. Field A. Discovering Statistics Using IBM SPSS Statistics. 5th ed ed. SAGE Publications Ltd; 2018.

26. Walter D, Bohmer M, Reiter S, Krause G, Wichmann O. Risk perception and information-seeking behaviour during the 2009/10 influenza A(H1N1) pdm09 pandemic in Germany. *Euro Surveill*. 2012;17(13).

27. Zhao X, Tsang SJ. Self-protection by fact-checking: how pandemic information seeking and verifying affect preventive behaviours. *Jun*. 2022;30 (2):171–184. doi:10.1111/1468-5973.12372

28. Shen Z, Zhong Z, Xie J, Zhang Q, Li S. The Effects of Information-Seeking Behaviors on Risk Perception During the COVID-19 Pandemic: a Cross-Sectional Correlational Survey. *Psychol Res Behav Manag*. 2022;15:1707–1719. doi:10.2147/PRBM.S368537

29. Chapman E, Pantoja T, Kuchenmüller T, Sharma T, Terry RF. Assessing the impact of knowledge communication and dissemination strategies targeted at health policy-makers and managers: an overview of systematic reviews. *Health Res Policy Syst*. 2021;19(1):140. doi:10.1186/s12961-021-00780-4

30. Tetteh EK, Combs T, Geng EH, McKay VR. Public Health Information Seeking, Trust, and COVID-19 Prevention Behaviors: cross-sectional Study. *J Med Internet Res*. 2022;24(9):e37846. doi:10.2196/37846