

Multichannel information-seeking intentions in the context of public health crises



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ABSTRACT

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This study addresses the challenges of meeting the Chinese public's information needs and effectively communicating risks during recurring large-scale public health crises. Drawing on a revised Risk Information Seeking and Processing (RISP) model, this study examines multichannel information-seeking behaviors. Data were collected via an online survey of 2,604 valid responses from diverse regions and genders across China. Seven hypotheses were tested using structural equation modeling. Results show that negative emotions significantly influence public responses to health crises. As perceived risk increases, negative emotions intensify while positive emotions decline. Negative emotions are linked to stronger feelings of information insufficiency, whereas positive emotions reduce such perceptions. Social expectations further heighten the sense of information inadequacy, prompting individuals to seek information through multiple channels, including interpersonal sources, traditional media, search engines, and social media. Emotions and social pressures play critical roles in shaping information-seeking behavior during public health crises, emphasizing the need for nuanced, multichannel communication strategies. This framework offers valuable insights for policymakers, health professionals, and crisis communicators aiming to design effective risk communication strategies tailored to diverse information needs and emotional responses.

Contribution/ Originality: This empirical study makes three key contributions: first, it offers a clear trajectory for the further development of the RISP model, enhancing the effectiveness of risk communication strategies; second, it provides practical guidance on operational strategies aimed at reducing risks and influencing public perception and behavior positively; third, implications for health communication and promotion were explored.

1. INTRODUCTION

With the advancement of information technology, the emergence of digital media and the subsequent evolution of traditional media have altered people's information consumption patterns (Fuentes Lara, Moreno Fernández, & Navarro, 2020; Park & Kim, 2024). Despite the growing prevalence of digital platforms, there remains a strong reliance on traditional media, particularly for breaking news (Quest Mobile, 2019). Individuals are no longer confined to a single media source but engage in what is known as channel plurality, wherein they demonstrate a

preference for accessing news and information through multiple media channels to gain comprehensive insights (Park & Kim, 2024; Yu & Yang, 2020).

The occurrence of large-scale public health crises poses a significant challenge to the population (Zhang et al., 2023). When individuals experience a marked deficiency in crisis-related information and have an urgent need for updates, their intentions to seek information from diverse sources become evident (CSM Media Research (CSM), 2020; Huang & Yang, 2020). To understand crisis-related content, individuals began to seek and process information from different sources, such as health professionals, academic institutions, interpersonal communication (e.g., family and friends), the Internet, search engines, social media, mobile health applications to inform their crisis response strategies (CSM Media Research (CSM), 2020; Huang & Yang, 2020; Zhang, Qin, & Li, 2020). Likewise, empirical research demonstrated that information availability from multiple sources and health information expansion significantly influence information-seeking behaviors (Zhang et al., 2020).

Previous research has suggested that lacking information during critical situations compels individuals to seek in-depth information from multiple channels (Griffin, Dunwoody, & Neuwirth, 1999). However, most existing studies on risk communication focus on general information-seeking behaviors without thoroughly examining the differences in public information-seeking practices within today's dynamic media environment (Ford, Douglas, & Barrett, 2023; Jin & Lane, 2022; Yang & Zhuang, 2020). Few studies have explored the role of various media channels in the process of obtaining risk-related information (Hwang & Jeong, 2020; Yang et al., 2011). However, much of these existing literature has been limited to analyzing information-seeking behavior within a single medium rather than investigating the use of multiple media sources in an evolving media landscape (Huang & Yang, 2020; Yang, Aloe, & Feeley, 2014).

Although multichannel information-seeking behavior is widely recognized, there remains a lack of exploration regarding how individuals seek information through multiple channels, especially during health crises. Guided by the risk information seeking and processing (RISP) model, this study develops a multivariate model to investigate factors influencing information-seeking intentions in the context of the health crisis in China.

2. THEORETICAL FRAMEWORK

The risk information seeking and processing (RISP) model is a prominent framework designed to unravel the intricate interplay of social, psychological, and communicative factors that shape individuals' quests for risk information. This model provides a structured approach to understanding the fundamental determinants predisposing individuals to engage systematically or deliberately with relevant risk-related information (Griffin et al., 1999; Griffin, Dunwoody, & Yang, 2013). The RISP model enhances our understanding of how individuals perceive and react to information about risks by integrating insights from previous studies and introducing innovative elements. Scholars frequently adopt this theoretical framework to analyze public behavior and underlying mechanisms in response to contentious or controversial events (Griffin et al., 1999; Griffin et al., 2013; Yang, Dong, & Liu, 2022; Yang & Liu, 2021; Yang, Paudel, Wen, Sun, & Wang, 2020; Yang, et al., 2014).

The RISP model was initially conceived to elucidate the cognitive and socio-psychological factors influencing how individuals seek and process information about specific health or environmental risks, such as consuming fish from the contaminated Great Lakes (Griffin, Neuwirth, Dunwoody, & Giese, 2004) damaging river flooding in the Milwaukee area Griffin et al. (2008) and considering participation in a cancer clinical trial (Yang et al., 2010). Since 2010, numerous researchers have focused on the RISP model, thereby facilitating its development, refinement of variables, and application across different risk scenarios and cultural contexts (Liu, Yang, & Feeley, 2022; Yang, Aloe, et al., 2014). For example, in the wake of the Chinese children's vaccine scandal, Yang and Liu (2021) uncovered intriguing insights into how emotions influence information-seeking behavior. They noted that positive emotions were unexpectedly associated with a decreased likelihood of seeking information. Meanwhile, Jin and Lane (2022) examined online information-seeking behaviors during the COVID-19 pandemic. They stated that

Americans' information-seeking behavior was influenced by their personal experiences with risk and their perceptions of social norms regarding information.

Moreover, scholars revealed that the original RISP model includes a dimension focused on multichannel information seeking (Griffin et al., 1999) noting that empirical research examining this aspect remains limited. Calls have been made to emphasize information-seeking behaviors when applying the RISP framework (Yang, Rickard, Harrison, & Seo, 2014). Recent developments in the field suggest a shift from analyzing specific communication channels to investigating broader, more comprehensive information needs (Yang & Kahlor, 2013). Future research would benefit from examining how individuals gather information across various sources (Jin & Lane, 2022). As such, revising the RISP model to incorporate a more nuanced understanding of contemporary multichannel information-seeking practices would be valuable.

3. CONCEPTUAL MODEL AND HYPOTHESIS DEVELOPMENT

3.1. *The Relationship between Risk Perception and Affective Responses*

Risk perception is the dominant factor in shaping affective responses (perceived severity $\times$ perceived susceptibility). It pertains to how individuals evaluate the seriousness and likelihood of potential risks. (Yang, et al., 2014). Affective responses refer to individuals' general affective reactions—both positive affective reactions and negative reactions—toward a given risk (Slovic, Peters, Finucane, & MacGregor, 2005). Negative affective responses, including fear, anger, sadness, and anxiety, are frequently experienced in the face of risks, particularly during crises such as epidemics (Jin & Lane, 2022; Yang et al., 2014). Due to its serious implications, the coronavirus pandemic led to elevated perceptions of risk and strong emotional reactions, such as fear and anger (Liu et al., 2022). Perceived risk is a powerful driver of negative emotional states—including worry, fear, and anger—and strongly correlates with them (Chen, Gao, Zou, & Lin, 2020; Griffin et al., 2008). For example, individuals' perception of risk related to the coronavirus pandemic is closely associated with intensified negative emotions (Li & Zheng, 2022). Effective risk communication is crucial for epidemic control (Zhang et al., 2020). Studies suggest positive emotions, like hope and optimism, also emerge in risky situations, potentially influencing the RISP framework (Yang et al., 2014). For instance, research on antibiotic-related risks has identified an inverse association between the perceived severity and susceptibility of risk and the experience of positive emotional reactions (Zhou, Acevedo Callejas, & MacGeorge, 2020). Drawing upon evidence from public health emergencies, which provoke both positive and negative emotional responses (Ford et al., 2023; Griffin et al., 2008; Jin & Lane, 2022). Based on these insights, this research puts forward the following hypotheses:

H_{1a}: Risk perception positively influences negative affective responses.

H_{1b}: Risk perception negatively influences positive affective responses.

3.2. *The Relationship Between Risk Perception and Information Subjective Norms (ISN)*

Information subjective norms (ISN) explain how individuals perceive the social expectations surrounding particular risks, especially the belief that important others (e.g., family, friends, and colleagues) expect them to stay informed about the nature and severity of those risks (Hwang & Jeong, 2016). In the context of a public health crisis, information subjective norms reflect the pressure individuals experience from their social circles, including family and peers, to recognize or address the risks posed by the crisis. Risk perception can affect how people conform to social expectations of relevant public health information. When people perceive a public health crisis as a significant risk and see strong community support for actions like vaccination, they are more likely to feel pressure to comply (Moore, Mansfield, Onsomu, & Caviness-Ashe, 2022). Research has identified a positive association between risk perception and informational subjective norms, indicating that individuals who view vaccine risks as higher tend to experience more social pressure to remain informed about vaccine-relevant issues (Yang & Liu, 2021). Building on these insights, the following hypothesis is proposed:

H₂: Risk perception positively influences ISN.

3.3. The Relationship between Affective Response and Information Insufficiency

Information insufficiency is a central element of the RISP model, rooted in the sufficiency principle of the Heuristic-Systematic Model (HSM), which asserts that people aim to attain a sufficient level of confidence in achieving their processing goals (Eagly, 1993). This principle suggests that people's information-seeking and processing efforts are influenced by both accuracy and defense motivations. These motivations lead to heightened information needs, which in turn foster a sense of information insufficiency. Thus, information insufficiency reflects an individual's epistemic motivation or their drive for knowledge (Yang et al., 2022; Yang et al., 2011). As a result, individuals will continue to seek and process information until they are confident in the reliability of their conclusions (Yang, et al., 2014).

Research have shown a consistent positive correlation between negative affect and the perceived lack of risk information (Griffin et al., 2008; Yang et al., 2011). Positive emotions contribute to information insufficiency by increasing the personal relevance of the issue or drawing attention to new information (Griffin et al., 2013; Huang & Yang, 2020; Yang et al., 2011). For instance, negative feelings about COVID-19 intensify the need for sufficient information (Li & Zheng, 2022) with stronger negative emotions correlating to a greater sense of information insufficiency. However, Chen et al. (2020) found that negative emotions did not significantly affect information insufficiency or seeking during the COVID-19 pandemic. Therefore, heightened negative emotions in such crises may not increase information-seeking behaviors and could even hinder the processing of risk information. As a result, communicators should manage the public's emotional responses, carefully moderate risk information, and avoid overwhelming them with excessive details. Furthermore, most researchers have not investigated the relationship between positive affective responses and information insufficiency. Therefore, considering the affective responses triggered by the public health crisis, this study formed the following hypotheses.

H_{3a}: Negative affective responses positively influence information insufficiency.

H_{3b}: Positive affective responses negatively influence information insufficiency.

3.4. The Relationship between Information Subjective Norms and Information Insufficiency

Individuals tend to seek more information when they perceive higher social pressure to stay informed about risks. ISN influences how people perceive information deficiency (Griffin et al., 1999). Stronger subjective norms for information can prompt greater information-seeking behavior (Griffin et al., 2013; Griffin et al., 2008). As a result, people who experience social pressure to be knowledgeable about a particular risk may realize that their understanding is insufficient, which in turn motivates them to seek out additional information in order to bridge the gap in their knowledge (Li & Zheng, 2022). Scholars have highlighted a positive correlation between ISN and the perception of information insufficiency (Chen et al., 2020). Conversely, subjective norms regarding information about the COVID-19 pandemic have been found to have a negative relationship with information sufficiency (Park, Ju, Ohs, Hinsley, & Muzumdar, 2023). For instance, when the COVID-19 outbreak occurred, increased interactions with family and friends amplified the subjective norms surrounding information, further influencing how individuals perceived their knowledge (Li & Zheng, 2022). Based on these findings, this study proposes the following hypothesis.

H₄: ISN positively influences information insufficiency.

3.5. The Relationship between Information Insufficiency and Intent for Multichannel Information Seeking

Researchers reveal the concept of multichannel information seeking and argue that when individuals perceive a lack of sufficient information, it serves as a strong motivator for them to actively seek out more details (Griffin et al., 1999). They consistently demonstrated that the perception of insufficient information is a central factor

influencing information-seeking behaviors, encouraging individuals to search for additional knowledge (Griffin et al., 2008; Yang, et al., 2014). This sense of inadequacy in their current understanding further amplifies the desire to gather more information (Huang & Yang, 2020). Moreover, the perception of information insufficiency has been found to have a direct positive relationship with proactive information-seeking actions (Griffin et al., 2004) as a key driver for individuals' efforts to acquire information, particularly when it relates to understanding risks.

Empirical studies have confirmed the positive link between information insufficiency and risk information seeking in health-related contexts (Hovick, Liang, & Kahlor, 2014). For instance, during an outbreak of a public health crisis, the individual's limited knowledge due to the novelty of the virus often leads to the perception of knowledge gaps, motivating people to seek more information. Lee, Kim, and Chock (2020) identified the lack of information as the primary driver for the public's search for virus-related updates. While some studies have examined multichannel information-seeking and included it as a variable (Yang et al., 2011) most have focused solely on general information-seeking behavior without addressing how individuals utilize various information channels for their search.

Given the current media landscape, understanding how individuals interact with various information channels has become increasingly important. Numerous researchers have highlighted the necessity of exploring multiple media platforms for information collection, especially during public health emergencies (Fuentes Lara et al., 2020; L. Zhang et al., 2020). In light of this, the present study puts forward the following hypothesis.

H₁: Information insufficiency positively influences multichannel risk information-seeking intentions.

The hypothesized framework (i.e., the RISP in the current research) is presented in Figure 1.

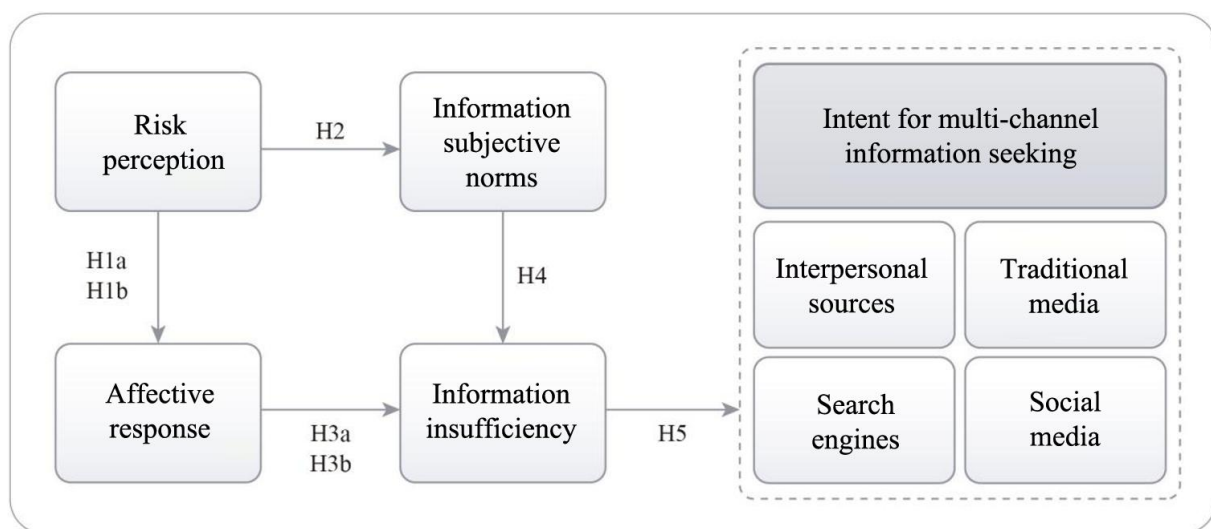


Figure 1. The hypothesized model.

4. METHOD

This study utilized a nationwide online cross-sectional survey in China, employing a multi-stage stratified sampling method. First, the target population included 31 mainland provinces, autonomous regions, and municipalities, excluding Hong Kong, Macao, Taiwan, and military personnel. Second, China was categorized into four regions—eastern, central, western, and northeastern—following the China National Bureau of Statistic (2021) classification. Third, these regions were further divided into provinces, municipalities, or autonomous regions based on statistical data. Finally, participants were randomly selected from each region.

This research population included Chinese residents aged 18 and above with household registration, per Chinese law, which grants individuals of this age group civil capacity to exercise rights and obligations (China Court, 2020). The gender ratio of the sample was reflected in the China Statistical Yearbook, with men constituting 51.24% and women 48.76%. Data collection was conducted by a professional survey company, which is recognized

for its credibility in China (<https://www.wjx.cn/>). The researcher developed the questionnaire based on the research framework, translating it from English to Chinese. Data were collected from May 26, 2023, to June 12, 2023, and after excluding invalid responses, 2,604 valid surveys were retained. The respondents, aged between 18 and 70, represented diverse professional backgrounds, with the majority holding higher education degrees—73% from universities, 13.1% from colleges, and 7.6% at the graduate level or above. Participants were distributed across 31 regions in China. The sample encompassed various income levels, with an average monthly salary of 9,012.70 RMB.

Before the formal data collection began, the survey instruments were subjected to an ethical review due to the involvement of human participants. Ethical approval was granted by the Ethics Committee for Research Involving Human Subjects (JKEUPM) at Universiti Putra Malaysia. The approval was registered under the reference number JKEUPM-2023-1197.

5. MEASURES

The survey instrument comprises five constructs, each adapted from established literature with modifications appropriate to the context of this research. Cronbach's α coefficients for these constructs ranged between 0.75 and 0.90, indicating satisfactory reliability and meeting standard thresholds.

Risk perception is a multifaceted construct comprising both perceived severity and susceptibility (Griffin et al., 1999; Yang et al., 2014). It spans various levels, including individuals and their family, their immediate community, the broader national context in China, and the global population (Yang et al., 2014). Following prior research (Yang & Kahlor, 2013; Yang et al., 2014), responses were recorded on a 6-point scale ranging from 1 (not at all) to 6 (a great deal). Participants indicated how much they felt threatened by the public health crisis. Four items measured the perceived severity, while another four assessed perceived susceptibility. The composite risk perception score (Mean = 4.89, SD = 0.85, α = 0.90) was calculated by multiplying severity by susceptibility (Griffin et al., 2008; Yang et al., 2014).

Affective response pertains to an individual's comprehensive emotional judgment of a stimulus, which may be either positive or negative in nature (Slovic et al., 2005). This research evaluated affective responses by examining both negative affect (Mean = 4.29, SD = 0.92, α = 0.81) and positive affect (Mean = 1.95, SD = 0.99, α = 0.82). Negative emotional states encompass fear, anger, sadness, and anxiety (Li & Zheng, 2022; Yang & Liu, 2021), whereas positive reactions include hope, optimism, and elevation (Liu et al., 2022; Yang & Liu, 2021). Respondents were instructed to evaluate their positive and negative emotional responses to the public health crisis using a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Aggregate scores for each type of response were computed by totaling and averaging the corresponding items.

Information subjective norms (ISN) denote individuals' perceptions of societal expectations concerning the extent to which they are expected to be informed about specific risks (Griffin et al., 2004). This study measured ISN using a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree), with a mean score of 4.8 (SD = 0.72, α = 0.84). The construct was assessed through five referents: me, my friends, most people, family members, and others (Yang, Chu, & Kahlor, 2019; Yang & Zhuang, 2020; Yang, et al., 2014). Participants indicated the extent to which they believed they ought to be informed about public health emergencies according to various reference groups. An overall index was calculated by summing and averaging the responses.

Information insufficiency is a primary driver of information-seeking intention, reflecting an individual's perceived gap in knowledge, fundamentally rooted in epistemic motivation (Yang & Zhuang, 2020; Yang et al., 2011). The measure of information insufficiency (Mean = 5.10, SD = 0.71, r = 0.75) was adapted from validated instruments used in prior research and comprised two items (Yang & Zhuang, 2020). Participants were requested to assess the degree to which they perceived a need for information regarding public health emergencies, using a 6-point scale

from 1 (strongly disagree) to 6 (strongly agree). A combined score was calculated by aggregating and averaging the item responses.

Multi-channel information seeking intention pertains to individuals extending their typical use of information sources and intentionally increasing their efforts by obtaining information through various channels (Griffin et al., 1999). In this study, multi-channel information seeking intention (Mean = 7.13, SD = 1.34) is divided into four categories: interpersonal information seeking, traditional media information seeking, search engine information seeking, and social media information seeking (Huang & Yang, 2020; Yang et al., 2011). Participants were asked to evaluate the extent of their attention to information about public health crises across various channels. Interpersonal sources encompass family members, friends, colleagues, and healthcare providers. Traditional media includes newspapers, television, magazines, and radio broadcasts. The search engine category comprises websites linked to traditional media, such as CCTV and People's Daily; news sections of major web portals like Wangyi; and specialized digital news platforms like The Paper News. Social media platforms include WeChat, microblogs, online support groups, mHealth apps, Douyin, and Kuaishou. The intent to seek information via these channels was assessed on a scale ranging from 0 (none) to 10 (a lot), with the final score derived by averaging individual responses. A higher score indicated a greater intention to obtain information through the respective channel.

Apart from the variables specified in the framework, demographic factors comprising gender, age, salary, educational qualification (China National Bureau of Statistics, 2021), occupation (China National Bureau of Statistics, 2021), and province were incorporated as covariates in the analysis. All variables, except for age and salary, were measured nominally.

6. RESULTS

This research employed a Structural Equation Model (SEM) utilizing the maximum likelihood estimation (MLE) method to test the proposed hypotheses. The analysis was conducted using AMOS software (version 23). The study examined the relationships among the variables by assessing the standardized coefficient (β) for each pathway. The structural model, derived from the conceptual framework, illustrated the causal links between both exogenous and endogenous variables while controlling for demographic variables. A summary of the path coefficients and the status of hypothesis testing is provided in Table 1 and depicted in Figure 2. Furthermore, the results are explained in a detailed, path-by-path analysis.

The results of this study revealed that risk perception positively influences negative affective responses ($\beta = .49$, $p < 0.001$). Specifically, the analysis revealed that individuals who perceived a higher level of risk during a public health crisis were more likely to experience intensified negative emotions. The pathway analysis further demonstrated that risk perception accounted for 26% of the variance in negative affective responses ($R^2 = .26$), suggesting a small effect size (Cohen, 1992). Therefore, H1a was confirmed.

Additionally, the results of the analysis indicated that risk perception negatively affects positive affective responses ($\beta = -.20$, $p < 0.001$). The findings suggested that, during a public health crisis, higher perceived risk is associated with a decrease in positive emotions. Furthermore, the pathway analysis indicated that risk perception explained 5% of the variance ($R^2 = .05$) in positive affective responses during the crisis, indicating a negligible effect size (Cohen, 1992). Consequently, H1b was supported.

Moreover, the test results showed that risk perception has a positive effect on information subjective norms ($\beta = .38$, $p < 0.001$). Specifically, the findings revealed that individuals' perceived risk of a public health crisis increased, and so did their social expectations for understanding the crisis. Furthermore, the variance effect size for the risk perception of a public health crisis to ISN was 16% ($R^2 = .16$), which was considered small (Cohen, 1992). Thus, H2 was supported.

As illustrated in Figure 2, the study found that negative affective responses positively affect information insufficiency ($\beta = .21$, $p < 0.001$). The results indicated that as participants' negative emotions toward a public

health crisis increased, their sense of information insufficiency also heightened, thereby supporting H3a. Additionally, the variance explained by the three variables—negative affective response, positive affective response, and ISN—on information insufficiency was 39% ($R^2 = .39$), indicating a moderate effect size (Cohen, 1992).

The study also reported that positive affective responses negatively affect information insufficiency ($\beta = -.13$, $p < 0.001$). The findings revealed that participants with stronger positive emotions toward the public health crisis were less likely to perceive a lack of information, which supports H3b.

Furthermore, the test results indicated that ISN positively influences information insufficiency ($\beta = .52$, $p < 0.001$). The findings revealed that as participants' social expectations for understanding the public health crisis increased, their perception of information insufficiency also heightened, supporting H4.

The SEM results, as illustrated in Figure 2, indicated that information insufficiency has a positive effect on the intent to engage in multichannel information seeking ($\beta = .38$, $p < 0.001$). The findings suggested that the greater the participants' sense of information insufficiency regarding the public health crisis, the more likely they were to seek relevant information through multiple channels. Information insufficiency accounted for 16.0% of the variance in the outcome variable, the intent for multichannel information seeking ($R^2 = .16$), indicating a small effect size (Cohen, 1992). Therefore, Hypothesis 5 was supported.

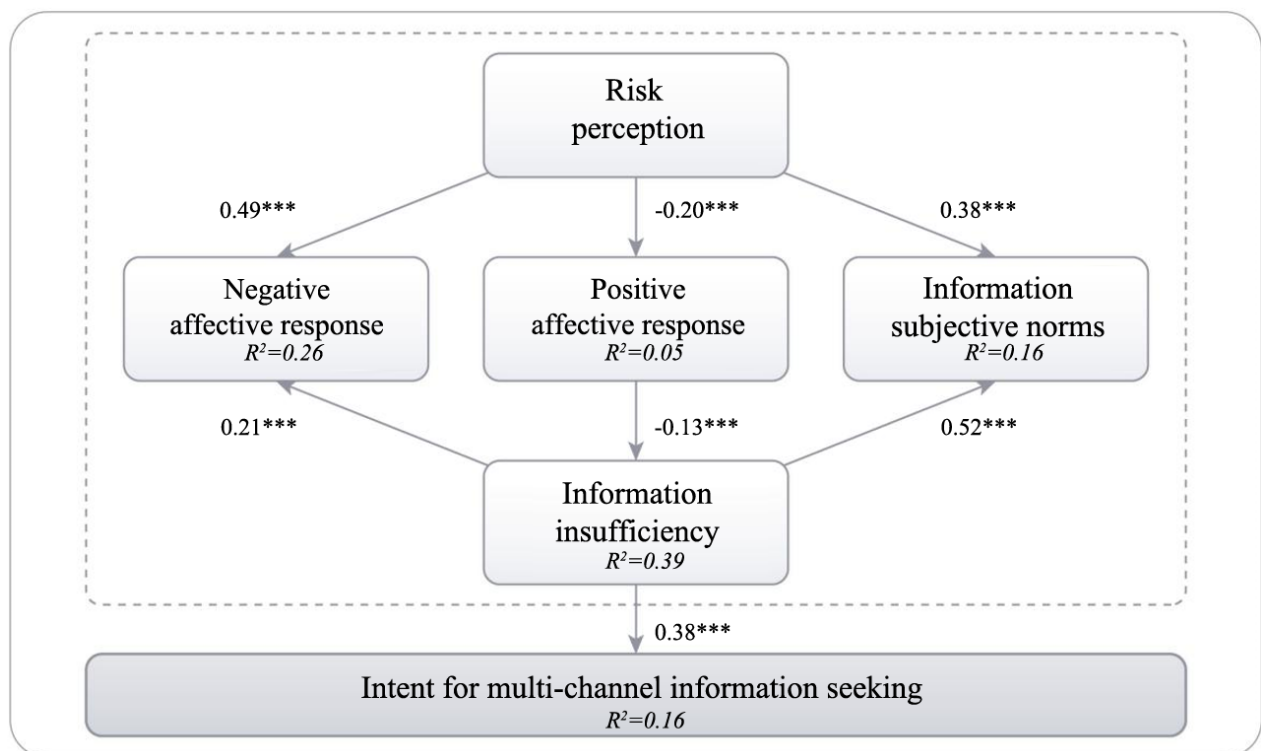


Figure 2. Simplified diagram of the SEM of RISP (N = 2,604).

Note: *** $p < 0.001$ (N = 2,604) and R^2 = Squared multiple correlations.

Table 1. Hypothesis test summary.

Hypothesis	Pathway	Standardized coefficient (β)	P value	Supported?
H1a	RP $\rightarrow$ NAR	0.49	<0.001	Yes
H1b	RP $\rightarrow$ PAR	-0.20	<0.001	Yes
H2	RP $\rightarrow$ ISN	0.38	<0.001	Yes
H3a	NAR $\rightarrow$ INSUFFI	0.21	<0.001	Yes
H3b	PAR $\rightarrow$ INSUFFI	-0.13	<0.001	Yes
H4	ISN $\rightarrow$ INSUFFI	0.52	<0.001	Yes
H5	INSUFFI $\rightarrow$ MUS	0.38	<0.001	Yes

Note: RP = Risk perception, NAR = Negative affective response, PAR = Positive affective response, ISN = Information subjective norms, INSUFFI = Information insufficiency, and MUS = Intent for multichannel information seeking.

7. DISCUSSION

With the advancement of information technology, individuals increasingly adopt a complementary approach to seeking information through various channels. Although multichannel information-seeking behavior is widely recognized, there remains a lack of clarity regarding how Chinese people seek information through multiple channels, especially during public health crisis situations. Guided by the risk information seeking and processing (RISP) model, this study develops a multivariate model to investigate factors influencing information-seeking intentions in the context of public health crisis in China. In particular, this study identifies channel usage patterns and explores factors affecting risk information seeking.

This study demonstrates that Chinese residents dedicate significant effort to improving their search for information about public health crises during outbreaks. This search extends across various channels, encompassing interpersonal communication, traditional media, search engines, and social media platforms. Moreover, the study reveals a complementary relationship among these channels, underscoring their interconnected use in the context of information-seeking behavior during public health crises. This finding aligns with the work of [Tian and Robinson \(2014\)](#) which confirmed that individuals when focused on a specific issue, tend to engage with multiple available media channels in order to acquire the information they deem necessary. The use of diverse media platforms reflects a strategic approach to ensure comprehensive access to critical information, particularly in times of crisis. It highlights the multifaceted nature of modern information-seeking behavior.

While addressing the limitations identified in existing research on the RISP model ([Liu et al., 2022](#); [Yang, et al., 2014](#)) and evaluating the theoretical applicability of the modified RISP model within this public health crisis context, the findings revealed that the surveyed respondents rated their perceived susceptibility and severity as exceptionally high, which reflects a strong sense of risk during a crisis. These findings are consistent with current research in the field of risk communication, which reinforces the consistency of the observed perceptions with broader scholarly work ([Jin & Lane, 2022](#); [Yang et al., 2020](#)).

Chinese people demonstrated complex affective responses after recognizing the severity of the public health crisis. The onset of the public health crisis triggered a range of negative emotions among individuals. These emotional reactions included fear of the severity of the public health crisis outbreak, anger toward its multifaceted impacts, sadness over the damage inflicted by the crisis, anxiety about the uncertainties surrounding the public health crisis, and disgust at the prolonged nature of the outbreak. However, positive affective responses emerged in parallel. Chinese individuals displayed a sense of numbness toward the public health crisis and reported gradual positive changes in their outlook as they worked to overcome it. These responses included hope that the crisis would resolve soon, confidence in the public's eventual triumph over the health crisis, compassion for those affected, and optimism about a resolution. The findings of this study align with documented emotional states observed during public health crises. These findings confirm those of earlier studies that similarly identified a dual-layered affective response during crises ([Kim, Kreps, & Shin, 2020](#); [Yang et al., 2020](#)).

The affective responses of Chinese residents, combined with information subjective norms (ISN), contribute to their perceived insufficiency of public health-related information. The perceived information gap drives them to seek public health-related information from multiple channels. This observation aligns with current studies, which have indicated the role of perceived information insufficiency in information-seeking behaviors ([Park et al., 2023](#); [Yang et al., 2011](#)). This study confirms the hypothesized and tested applicability of the modified RISP model within the context of the public health crisis among the Chinese population. The findings demonstrated that the modified RISP model effectively explains information-seeking behavior during public health crisis outbreaks in China.

8. CONCLUSION

Drawing upon the Risk Information Seeking and Processing (RISP) model, this study investigates the various predictive factors that influence information-seeking behavior during public health crises in China. Through

innovative, multi-dimensional modifications to the RISP model, this research presents a revised version that was empirically tested for its robustness. The findings from these tests provide valuable insights into the dynamics of information-seeking behavior during crises, contributing to the theoretical development of the field.

Specifically, this study verifies key hypotheses related to the factors that drive information-seeking behavior, offering fresh avenues for both theoretical inquiry and practical interventions in the realm of crisis communication. The modified version of the RISP model developed in this study introduces a comprehensive process map highlighting the multichannel nature of information-seeking intentions. This process concerns the critical role of perceived information insufficiency, which acts as the primary catalyst for seeking information during a crisis. As the public becomes aware of an emerging crisis, a two-way affective response is triggered, which is influenced by the expectation of receiving adequate information through various channels.

Crucially, the perceived inadequacy of information during a crisis is the primary force that propels individuals to actively seek out information across multiple channels. This study underscores the significant impact of individuals' perceptions of information insufficiency on their intent to engage in information-seeking behavior, especially in the context of a rapidly evolving public health emergency.

Ultimately, the framework proposed in this research provides a foundation for future studies on public health crisis communication and offers actionable insights for policymakers, public health practitioners, and crisis communicators. By enhancing our understanding of the psychological, social, and communication factors that shape information-seeking behavior, this study lays the groundwork for more effective public health risk management strategies in future crises.

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Institutional Review Board Statement: The Ethical Committee of the Universiti Putra Malaysia, Malaysia has granted approval for this study on 17 November 2023 (Ref. No. JKEUPM-2023-1197).

Transparency: The authors state that the manuscript is honest, truthful, and transparent, that no key aspects of the investigation have been omitted, and that any differences from the study as planned have been clarified. This study followed all writing ethics.

Competing Interests: The authors declare that they have no competing interests.

Authors' Contributions: All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

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