

An Integrative Framework for Information Behaviors on Social Issues: In the Context of South–North Korean Relations

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This study proposes and tests a theoretical framework that predicts the information behaviors of South Koreans regarding current issues in South–North Korean relations. Based on the situational theory of problem solving and risk information seeking and processing model, this study explains how cognitive, affective, and social factors influence an individual’s willingness to actively seek information about a political issue. A nationwide survey was conducted in South Korea with 1,014 adults aged 19–64 years. Considering the historical and social backgrounds of the inter-Korean issue, this study also compared the responses of young and old age groups and found generational differences between them. The theoretical and practical implications of the findings are then discussed.

Keywords: information behaviors, situational theory of problem solving, risk information seeking and processing model, South–North Korean relations, generational difference

The development of digital media has expanded the capabilities of the public to acquire the information they need. It opens up new possibilities for democratic governance, as an informed population is a prerequisite for active public involvement in major political and social issues (Bachen, Raphael, Lynn, McKee, & Philippi, 2008). Individuals are now able to seek, process, share, and reproduce information about various issues in a society. Despite technological improvements in public empowerment, such technical capabilities do not necessarily lead to actual information behaviors. While some people may seek more information on a certain issue, others may not. What, then, is it that makes individuals seek more information on a given political or policy issue and share it with others?

Several researchers have attempted to answer this question in various contexts using two major theoretical frameworks. First, the situational theory of problem solving (STOPS; Kim & Grunig, 2011) identifies the perceptual and cognitive factors that lead individuals to commit to problem resolution. This state of “situational motivation in problem solving” leads people to engage in communicative behaviors.

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The STOPS framework has been tested in various public relations contexts. Second, the risk information seeking and processing (RISP) model (Griffin, Dunwoody, & Neuwirth, 1999) lists a series of variables that influence individuals' information seeking and processing in risk communication. Owing to the nature of the model applied in risk situations, the RISP model emphasizes the role of affective, cognitive, and social factors that influence an individual's intentions to engage in further risk information behaviors. Various researchers have tested the RISP model in the context of risk, health, and environmental communication. Linking key variables from the STOPS theory and the RISP model, this study proposes and tests a comprehensive framework, information behaviors on social issues (IBSI), which explains how various factors influence an individual's willingness to actively seek and process information about a given social issue.

Specifically, this study investigates the psychological mechanism underlying South Koreans' adoption of information-seeking behaviors regarding the issue of the relations between South and North Korea. The two Koreas signed an armistice after the Korean War 70 years ago, but hostilities continue. According to Kim (2014), the constant uncertainty about the intentions of the North has desensitized most South Koreans. For them, the North is something beyond their control, and their helplessness has bred their deliberate ignorance. Michael Breen, a columnist for *The Korea Times*, stated that South Koreans' indifference to the North might be due to their preconceived notion that the North is "not in a position to start a war" (Do, 2009, para. 6). Kim (2014) claimed that as South Korea achieved rapid economic development, its people became more competitive and "lost the energy to care about things that had no bearing on their livelihoods" (para. 18). Whatever the reason, today, most South Koreans are indifferent to the South–North relations issue, and are thus unaware of relevant information (Kim, 2016). Since the election of Moon Jae-in as president of South Korea in 2017, South–North tensions have eased considerably. The world witnessed several unexpected events, including three South–North Korea summits and two U.S.–North Korea summits. Will these events break the inertia of indifference among South Koreans? Will South Koreans seek more information about the South–North Korea relations issue as their government makes breakthroughs in its long-strained relations with the North? This study aims to examine whether and how the IBSI model predicts South Koreans' intentions to seek information about the ongoing issues in South–North relations. By providing theoretical insights into the processes underlying individuals' information behaviors, the findings will also offer practical implications to promote the public's information-seeking behavior and their involvement in major political and policy issues.

The STOPS

Information seeking refers to "actively and deliberately searching for and gathering information from various sources, both mediated and non-mediated" (Shen, Xu, & Wang, 2019, p. 166). Through this purposeful process, people change the state of their knowledge on a given subject (Marchionini, 1995). Several researchers have examined the factors that influence individuals' information behaviors. STOPS (Kim & Grunig, 2011)—an extended version of the situational theory of publics, introduced by Grunig in 1966 as a theory of information seeking in economic decision making—is among the most widely applied theories in this line of research. It assumes that "most human behavior is motivated by problem solving" (Kim & Grunig, 2011, p. 123), and aims to explain how individuals become motivated to use communicative behaviors to solve problematic situations. Here, communicative behaviors include information acquisition

(i.e., seeking or processing information about a problem), information selection (i.e., filtering information purposefully or passively), and information transmission (i.e., sharing information proactively or forwarding it on request; Kim & Grunig, 2011).

According to STOPS (Kim & Grunig, 2011), three perceptual variables increase individuals' situational motivation for communicative behaviors: (1) Problem recognition refers to the perceptions of those who realize "the discrepancy between expected and experienced states in a given situation that produces an uncomfortable feeling of badness-of-fit" (Kim, Grunig, & Ni, 2010, p. 128). In the context of South–North relations, people may start to perceive this stale and wearisome issue as a problem that makes them feel uncomfortable. (2) Constraint recognition refers to individuals' perceptions of obstacles that prevent them from doing anything about the situation (Kim & Grunig, 2011). (3) Involvement recognition refers to their perceived connection between themselves and the problem. These three perceptions lead individuals to a state of "situational motivation in problem solving," defined as a "state of situation-specific cognitive and epistemic readiness to make problem-solving efforts" (Kim & Grunig, 2011, p. 132) such as communicative behaviors. In addition, STOPS proposes that one cognitive variable—the referent criterion—directly predicts individuals' communicative behaviors. This criterion refers to "prior knowledge, experience, and subjective judgmental rules that one uses to solve present problems" (Kim, Shen, & Morgan, 2011, p. 174). When human beings possess an adequate referent criterion about a given problem, they are more likely to engage in communicative behaviors to solve it.

Many researchers have applied STOPS in various communication contexts, including organizational crises (Poroli & Huang, 2018), natural disasters (Liu, Xu, Lim, & Egnoto, 2019), prosocial campaigns (McKeever, McKeever, Pressgrove, & Overton, 2019), and public health crises (Chon & Park, 2019). Kim and Grunig (2011) originally proposed STOPS to predict the communicative behaviors of college students about public issues (e.g., the Iraq War, organ sales, and brain death). Thus, a few studies have applied this theory in the context of social issues, such as sex crimes (Shin & Han, 2016) and international trade conflicts (Kim, Ni, Kim, & Kim, 2012). Based on the literature, this study expects that the three perceptual variables would influence individuals' situational motivation, which, in turn, would influence their information behaviors regarding the South–North Korea relations issue. We also expect that individuals' referent criteria to directly influence their information behaviors, as validated by the STOPS literature. Among the six communicative behaviors suggested by STOPS, this study focuses on the information-seeking behavior that indicates individuals' active engagements with a given issue. Thus, we propose the following hypotheses:

- H1: Individuals' problem recognition positively influences their situational motivation for engaging with the South–North Korea relations issue.*
- H2: Individuals' involvement recognition positively influences their situational motivation for engaging with the South–North Korea relations issue.*
- H3: Individuals' constraint recognition negatively influences their situational motivation for engaging with the South–North Korea relations issue.*

H4: Individuals' situational motivation for the South–North Korea relations issue positively influences their information-seeking intention about the issue.

H5: Individuals' referent criterion for the South–North Korea relations issue positively influences their information-seeking intention about the issue.

Recently, a few researchers attempted to extend this theory by adding the role of emotions to the original model. For example, Chon and Park (2019) examined the mediating role of fear between situational motivation and communicative action in the context of infectious disease outbreaks. Similarly, Shin and Han (2016) tested the role of negative emotion in the STOPS model, which predicts the public's information behaviors regarding a sex crime issue. These studies are meaningful in extending the theoretical scope of STOPS, which is "largely based on the amount of cognitive efforts made to solve a given problematic situation" (Shin & Han, 2016, p. 88). However, the studies are limited as they added only a single variable to the model. Examining the relevant variables functioning together around the emotional factor would provide a more systematic understanding in predicting individuals' information behaviors. Thus, this study aims to extend previous research by integrating STOPS with another theoretical framework—RISP—which emphasizes the role of risk perceptions, emotions, and social expectations in predicting information behaviors in the context of risk communication.

The RISP Model

The RISP model proposed by Griffin and colleagues (1999) lists various social and psychological factors that influence individuals' intentions to seek out risk information in routine and nonroutine channels (i.e., active seeking versus information avoidance), and process that risk information (i.e., systematic processing versus heuristic processing). According to the RISP model, the critical factors that can predict a person's information behaviors include: (1) risk judgment, (2) negative affects, (3) informational subjective norms, and (4) information insufficiency. Here, an informational subjective norm, adapted from the theory of planned behavior (Ajzen, 1988), refers to "individuals' perceived social expectations about how much they should know about certain risks" (Yang, Rickard, Harrison, & Seo, 2014, p. 303). Information insufficiency refers to the perceived gap between what one needs to know and what one actually knows about a given issue (Hwang & Jeong, 2016). This concept of information insufficiency, central to the RISP model, was derived from the heuristic–systematic model, which posits that "people will exert whatever effort is required to attain a sufficient degree of confidence that they have accomplished their processing goals" (Eagly & Chaiken, 1993, p. 330). Lower "judgmental confidence" in one's information about a risk, called "information sufficiency" in the RISP model (Griffin et al., 1999), would motivate expending more effort in information seeking and processing.

Risk judgment, formally considered to be among the set of "perceived hazard characteristics" in the RISP model, refers to the "subjective evaluation of the probability and severity of potential harm" (Yang, Aloe, & Feeley, 2014, p. 25), which is similar to the variables of problem recognition and involvement recognition in STOPS. The RISP model posits that negative affects impacted by risk judgment and informational subjective norms would increase information insufficiency, which augments active information behaviors (ter Huurne, Griffin, & Gutteling, 2009). In other words, when individuals evaluate a certain risk

issue as probable and severe, experience negative affects about it, or perceive informational subjective norms about the issue, they are more likely to feel that they lack sufficient information about it. This perception of information insufficiency leads them to actively search for information and systematically process the acquired information.

Researchers have applied the RISP model to various contexts of risk communication, including epidemic outbreaks (Yang, 2019), local environmental problems, such as water and air quality (Watson, Riffe, Smithson-Stanley, & Ogilvie, 2013), industrial chemicals (ter Huurne et al., 2009), and natural disasters, such as floods (Griffin et al., 2008) and tsunamis (Sutton, Woods, & Vos, 2018). According to a study that meta-analyzes the existing RISP literature (Yang et al., 2014), the RISP model offers a framework to describe the key factors that influence individuals to seek and process risk information more systematically and thoughtfully. This model has demonstrated reliable explanatory power in predicting individuals' information behaviors regarding various crisis topics. Two of the most significant variables in the RISP model are the perceptions of the current level of knowledge and informational subjective norms (Yang et al., 2014). In addition, researchers have investigated how several moderating variables work within the RISP framework. These variables are the perceived information-gathering capacity (PIGC; i.e., perceptions about one's ability to seek and control information), the relevant channel beliefs (i.e., perceptions that a certain communication channel would provide the necessary information), and the attitudes toward information seeking (i.e., perceptions that information seeking would be actually beneficial), along with several individual characteristics (e.g., relevant hazard experience, need for cognition, sociodemographic variables, etc.; Yang et al., 2014). Specifically, the PIGC variable is based on the concept of self-efficacy (Bandura, 1982) or perceived behavioral control (Ajzen, 1988). According to Griffin, Dunwoody, and Yang (2013), it should reflect a person's perceived ability to perform the information behaviors necessary for their desired outcome, especially when the outcome requires more effortful cognitive resources. Researchers found that this efficacy perception was a significant predictor of information behaviors; that is, the more potential seekers feel they will be efficacious, the more willing they are to seek information (Yang, Kahlor, & Li, 2013) or to process it systematically (Griffin et al., 2008).

While the majority of the RISP literature examined individuals' information behaviors regarding natural disasters and health risk issues, a few studies applied the RISP model to social issues that involve public risk perceptions. These social issues comprise climate change mitigation policy (Yang et al., 2014), nanotechnology in food products (Kuttschreuter & Hilverda, 2019), sexual aggression (Pokrywczynski, Griffin, & Calhoun, 2019), and nuclear energy policy (Kim, 2019). Recently, Yang, Haoran, and Kahlor (2018) tested the RISP model during the 2016 U.S. presidential election to examine public information behaviors regarding the election and climate change. The results of two national surveys showed that political ideology was a significant factor in predicting individuals' motivation for information processing about both issues. This finding suggests the potential of applying the RISP model to the wider context of social issues "beyond environmental and health risk issues" (Yang et al., 2019, p. 742). Among the four information behaviors studied in the realm of RISP, this study focuses on information-seeking intentions regarding the South-North Korea relations issue. Based on the literature, this study expects that individuals' negative effects and informational subjective norms about the inter-Korean relations issue would influence their perceptions of information insufficiency, which would influence their information-seeking intentions regarding the issue.

We also expect that individuals' information efficacy would directly influence their information-seeking intention, as found in the literature (Kahlor, 2010). Thus, we propose the following hypotheses:

- H6: Individuals' negative affects positively influence their information insufficiency perceptions of the South–North Korea relations issue.*
- H7: Individuals' informational subjective norms positively influence their information insufficiency perceptions of the South–North Korea relations issue.*
- H8: Individuals' information insufficiency perceptions positively influence their information-seeking intention about the South–North Korea relations issue.*
- H9: Individuals' information efficacy positively influences their information-seeking intention about the South–North Korea relations issue.*

In this attempt to extend the RISP model to the broader scope of public issues, the emphasis on affects and social expectations seems more dominant than that on cognitive factors in the extant RISP literature. It may be because the RISP model has mainly been applied to the context of urgent and emotional risk situations. Therefore, to expand the applicability of the model to more long-term public issues in a society, how the RISP variables function when integrated with several cognitive variables, such as those suggested by STOPS, should also be examined. Thus, this study posits a theoretical framework, IBSI, which integrates the main variables of the RISP and STOPS models (see Figure 1). The first aim of this effort is to depict a comprehensive framework of individual-level variables that would influence individuals' information behaviors about a public issue across social contexts. The second aim is to test the relationships among the variables in the IBSI model in the context of the recent South–North Korea relations issue. In the integrated framework in Figure 1, we propose two hypotheses that bridge the variables between the two models. First, we expect that those who perceive more constraints and obstacles against any of their efforts concerning the South–North Korea relations issue will become more frustrated and discontented about it. This discontentment may lead them to feel negative affects about the issue; that is, as South Korea has confronted North Korea for the last seven decades, people would feel negatively toward the issue because of the perceived obstacles against this wearisome problem, rather than toward the risk itself. Next, we also expect that those who perceive information insufficiency about the South–North Korea relations issue will become motivated to engage in further information behaviors; that is, the more people feel that they do not possess adequate information to deal with a given issue, the more they will enter a state of situational motivation to acquire more information about it. Thus, we propose the following hypotheses:

- H10: Individuals' constraint recognition positively influences their negative affects toward the South–North Korea relations issue.*
- H11: Individuals' information insufficiency positively influences their situational motivation for the South–North Korea relations issue.*

In sum, this study tests an integrative model that describes a set of relationships regarding individuals' information-seeking intention in the context of the South–North Korea relations issue. The structural equation model (summarized in Figure 1) proposes that the three cognitive variables, adapted from the STOPS model, and the affective and social pressure variables, adapted from the RISP model, influence information-seeking intention through information insufficiency and situational motivation. This IBSI model also proposes that individuals' confidence in their background knowledge (i.e., referent criterion from STOPS) and their own ability to control relevant information (i.e., information efficacy from RISP) directly influence their information-seeking intention regarding the given issue.

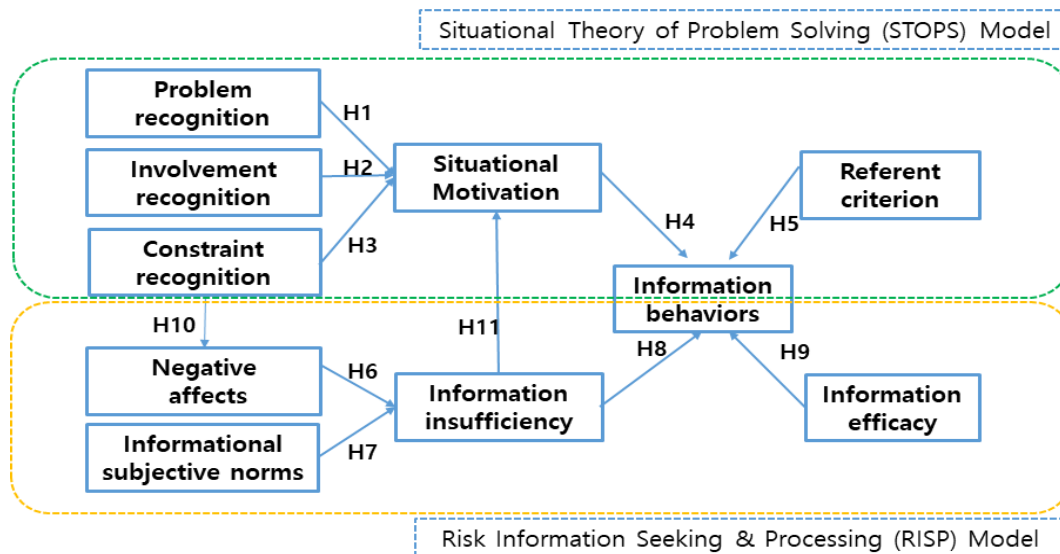


Figure 1. Proposed model and hypotheses.

Finally, this study also determines how the IBSI model applies to different age groups. Although most South Koreans consider relations with North Korea a stale and enervating issue, this indifference is more evident among the younger generation (Lee, Park, & Lee, 2020). Compared with the older generation, who may have a more vivid memory of the Korean War and would have received anticomunism education, the youth have grown up in a safe and affluent environment, enjoying economic security and personal skill development, without any concerns about war or state ideology (Hong & Kang, 2017). According to the survey conducted by the Seoul National University Institute for Peace and Unification Studies (2016), only 8.2% of those in their 20s considered reunification extremely necessary. This number is much lower than the percentage for other age groups, and less than half of the 19.5% average. Another survey conducted by the Ministry of the Interior and Safety showed that 86.1% of young respondents were unaware of the current government policy regarding North Korea, and 52.7% did not even know in which year the Korean War had erupted (Lee, 2013). Thus, it is expected that the older generation would have a higher level of recognition regarding the inter-Korean issue. Furthermore, how the relationships among the other variables in the IBSI model would differ across the young and old age groups is unclear. Therefore, this study poses the following research question, and tests all the proposed hypotheses in each of the two age groups.

RQ1: What is the difference between the young group and the old group in the IBSI model that explains their information-seeking intention about the South–North Korea relations issue?

Method

Data

A nationwide survey was conducted by a professional online survey firm for a period of 10 days in October 2018. A nonprobability quota sampling method was used to retain regional, age, and gender balances. E-mail solicitations were sent out to 4,000 potential participants, and 1,014 people finally participated in the survey. The respondents spent an average of 10–15 minutes completing the survey. Of the participants, 49.2 % were male. The respondents' ages ranged from 19 to 64 years ($M = 43.11$, $SD = 11.92$).

Measurement

Problem recognition was measured by asking participants to indicate their level of agreement with three statements adapted from the STOPS literature (Chen, Hung-Baesecke, & Kim, 2017; Kim & Grunig, 2011): "I think the South–North Korea relations issue is an important problem," "I often think about the problem regarding South–North Korea relations," and "I think social attention toward inter-Korean relations is needed." The items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The index was found to be reliable (Cronbach's $\alpha = .84$, $M = 3.54$, $SD = 0.79$).

Involvement recognition was measured on a five-point Likert scale based on participants' level of agreement with three statements adapted from the STOPS literature (Chen et al., 2017; Kim & Grunig, 2011): "The problem of South–North Korea relations can affect my life at some point," "I see a close connection between myself and the South–North Korea relations issue," and "The inter-Korean relations problem is deeply related to my close others" (Cronbach's $\alpha = .85$, $M = 3.25$, $SD = 0.87$).

Constraint recognition was measured on a five-point Likert scale based on participants' level of agreement with two statements adapted from the STOPS literature (Chen et al., 2017; Kim & Grunig, 2011): "The problem of South–North Korea relations can be improved by the efforts of citizens" (reverse coded) and "The government and relevant agencies will fully consider the opinions of citizens like me in the matter of inter-Korean relations" (reverse coded; Cronbach's $\alpha = .77$, $M = 3.33$, $SD = 0.87$).

Referent criterion was measured on a five-point Likert scale based on participants' level of agreement with two statements adapted from the STOPS literature (Chen et al., 2017; Kim & Grunig, 2011): "I have a clear idea and direction on inter-Korean relations" and "I have a specific standard of expectation on the issue of inter-Korean relations" (Cronbach's $\alpha = .82$, $M = 3.33$, $SD = 0.87$).

Situational motivation in problem solving was measured on a five-point Likert scale based on the participants' level of agreement with three statements from the STOPS literature (Chen et al., 2017; Kim & Grunig, 2011): "I am curious about the South–North Korea relations issue," "I would like to better

understand the South–North Korea relations issue,” and “I would like to know about the inter-Korean relations issue in more detail” (Cronbach’s $\alpha = .92$, $M = 3.33$, $SD = 0.87$).

Negative affects were measured by asking the participants to rate the extent of their negative feelings about the South–North Korea relations issue, based on the previous literature on RISP (Yang et al., 2013) and emotions (Damasio, 2004; $M = 3.33$, $SD = 0.87$).

Subjective norms perception was measured based on the participants’ level of agreement with three statements from the RISP literature (Yang et al., 2014; Yang et al., 2013): “People in my life think I should know about the inter-Korean relations issue well,” “My family expects me to know much about South–North Korea relations,” and “My close others think I should look for a lot of information about inter-Korean relations” (Cronbach’s $\alpha = .91$, $M = 3.33$, $SD = 0.87$).

Information efficacy was measured based on the participants’ level of agreement with two statements from the RISP literature (Yang et al., 2013, 2014): “I can quickly understand the point of the news regarding South–North Korea relations” and “When it comes to information regarding South–North Korea relations, I can understand the causes and consequences of the problems surrounding the issue” (Cronbach’s $\alpha = .83$, $M = 3.26$, $SD = 0.76$).

Information insufficiency perception was measured by asking the participants to indicate how much more information they thought they would need in addition to their current knowledge of inter-Korean relations, on an 11-point scale ranging from 0 (“I know everything about the South–North Korea relations issue, and there is nothing more to know”) to 10 (“I have a lot to know about the South–North Korea relations issue”; Seo, 2016; $M = 7.66$, $SD = 1.91$).

Information-seeking intention was measured using two statements adapted from the STOPS (Chen et al., 2017) and RISP literature (Yang et al., 2014): “I intend to seek information or news about South–North Korea relations in the near future” and “When it comes to South–North Korea relations, I will try to find more information about that issue” (Cronbach’s $\alpha = .88$, $M = 3.37$, $SD = 0.79$).

Results

Model Fit

To test the proposed model, a structural equation modeling (SEM) analysis was conducted using AMOS 25. Missing values were treated using the method of full information maximum likelihood estimates. The proposed model did not produce relatively satisfying goodness-of-fit values in the early stage of analysis. Therefore, a modification process was applied by adding a path linking information efficacy to the referent criterion, as suggested by the modification indices. Consequently, the modified model produced the following goodness-of-fit values: $\chi^2(35, N = 1,126) = 164.80$, $p > .05$; normative fit index = 0.97; comparative fit index = .98; root mean square error = .06; and standardized root mean square residual = .04.

Testing Hypotheses and the Research Question

We tested the proposed hypotheses and research question using a multigroup SEM analysis. Figure 2 shows the standardized path coefficients for both groups.

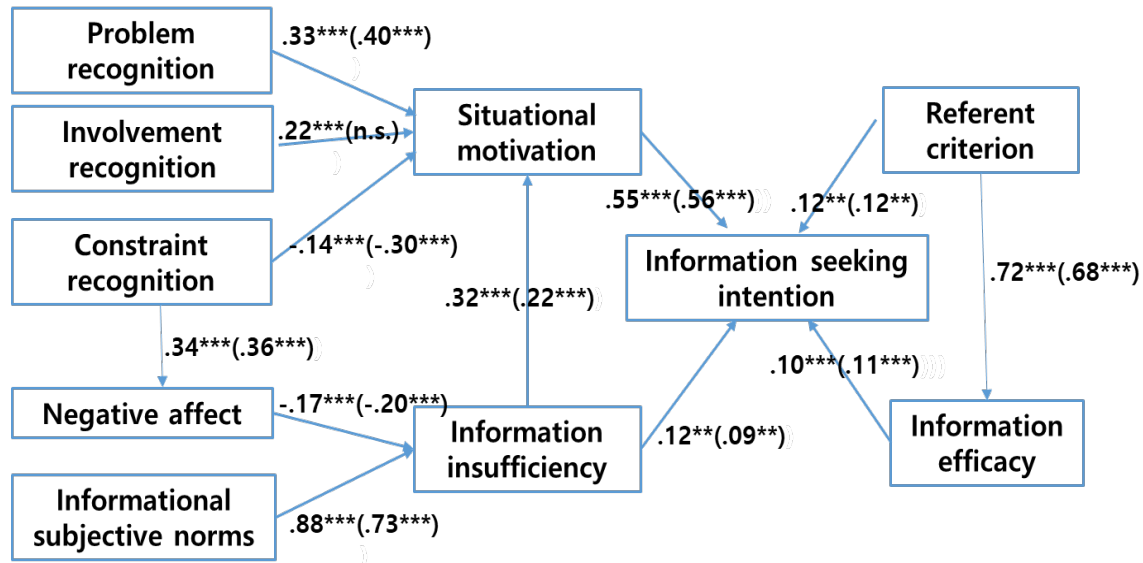


Figure 2. Model comparisons of predictors of information-seeking intentions. Standardized solutions for significant paths in the SEM analysis are reported ($*p < .05$; $p < .01$; $***p < .001$). Coefficients of the young group are indicated in parentheses.**

Hypotheses 1 to 5 focused on the variables derived from STOPS. H1 predicted a positive association between problem recognition and situational motivation for the inter-Korean relations issue. H1 was supported in both the young ($\beta = .40$, $p < .001$) and the old groups ($\beta = .33$, $p < .001$). H2 posited a positive association between involvement recognition and situational motivation. H2 was supported in the old group ($\beta = .22$, $p < .001$) but not in the young group ($p > .05$). H3 anticipated a negative association between constraint recognition and situational motivation. H3 was supported in both the young ($\beta = -.30$, $p < .001$) and the old groups ($\beta = -.14$, $p < .001$). H4 predicted a positive association between situational motivation and information-seeking intention. H4 was supported in both the young ($\beta = .56$, $p < .001$) and the old groups ($\beta = .55$, $p < .001$). H5 predicted a positive association between the referent criterion and information-seeking intention. H5 was supported in both the young ($\beta = .12$, $p < .01$) and the old groups ($\beta = .12$, $p < .01$).

Hypotheses 6 to 9 tested the associations between the variables derived from the RISP model. H6 predicted a positive association between the negative affect and information insufficiency perception for the inter-Korean relations issue. H6 was not supported in either the young or the old groups. Rather, the results showed a statistically significant negative association between affect and information insufficiency perception in both the young ($\beta = -.20$, $p < .001$) and the old groups ($\beta = -.17$, $p < .001$); that is, the

greater the level of negative affect people feel about the issue, the less likely they are to feel the need to seek more information about it. H7 posited a positive association between informational subjective norms and information insufficiency perception. H7 was supported in both the young ($\beta = .73, p < .001$) and the old groups ($\beta = .88, p < .001$). H8 predicted a positive association between information insufficiency perception and information-seeking intention. H8 was supported in both the young ($\beta = .09, p < .01$) and the old groups ($\beta = .12, p < .01$). H9 predicted a positive association between information efficacy and information-seeking intention. H9 was supported in both the young ($\beta = .11, p < .001$) and the old groups ($\beta = .10, p < .001$).

Hypotheses 10 and 11 tested the associations linking the variables derived from the STOPS and RISP models. H10 predicted a positive association between constraint recognition and negative affect regarding the inter-Korean relations issue. H10 was supported in both the young ($\beta = .36, p < .001$) and the old groups ($\beta = .34, p < .001$). H11 posited a positive association between informational insufficiency perception and situational motivation for the inter-Korean relations issue. H11 was supported in both the young ($\beta = .22, p < .001$) and old groups ($\beta = .32, p < .001$). Additionally, the association between information efficacy and the referent criterion was tested as suggested by the modification indices. The results showed that positive association was statistically significant in both the young ($\beta = .68, p < .001$) and the old groups ($\beta = .72, p < .001$).

Finally, RQ1 examined the difference between the young and old groups in the IBSI model, explaining their information-seeking intention about the inter-Korean relations issue. To test the equivalence of the structural model across the different age groups, a cross-group equality constraints analysis was performed. The unconstrained default model was compared with the constrained model, where all structural weights on the paths were constrained to be equal between the young and old age groups (Hair et al., 2010). The results of the χ^2 test showed that the difference in χ^2 values between the models was statistically significant ($\Delta \chi^2 (12) = 35.904, p < .001$), thus demonstrating that the young and the old age groups differ significantly at the model level that predicts their information-seeking intention. Thereafter, we conducted path-by-path comparisons by checking the χ^2 difference for each path. The results of the path comparison of the young and the old age groups showed that only two paths were significantly different across the age groups: (a) involvement recognition to situational motivation ($\Delta \chi^2 (1) = 14.98, p < .001$), and (b) constraint recognition to situational motivation ($\Delta \chi^2 (12) = 10.38, p < .01$). Except these two paths, no paths were statistically different across the age groups (see Figure 2).

Discussion

By integrating the key variables derived from the STOPS and RISP models, this study proposed a comprehensive framework that explains and predicts individuals' information-seeking intention about an ongoing social issue. The results demonstrated the utility of the IBSI framework in elucidating individuals' willingness to actively seek information in the context of the South-North Korea relations issue, which has been a burning concern since the election of President Moon Jae-in in South Korea. Our results suggest that individuals' information seeking is largely a function of cognitive, affective, and social factors. First, regarding cognitive factors, individuals are more likely to search for information about inter-Korean relations when they perceive it as a problem that makes them feel uncomfortable (i.e., problem recognition), see the

connection between the problem and themselves (i.e., involvement recognition), and feel that there are few obstacles keeping them from doing something about the situation (i.e., constraint recognition). These three perceptions lead people to a state of cognitive readiness for problem solving (i.e., situational motivation), which in turn leads them to actively seek further information about the issue.

Second, the results also demonstrated the role of an affective factor in individuals' information seeking. Specifically, the more people feel negatively about inter-Korean relations, the more likely they are to feel that they have enough information about the issue (i.e., information sufficiency), and are thus less likely to seek further information about it. It is notable that individuals' constraint recognition influences their negative affect about the issue—the higher the perception of obstacles about the situation, the more likely people are to feel negative about it, which leads to the reduced likelihood of information seeking. This finding extends the scope of STOPS by adding an affective factor to the cognitive perceptions-oriented framework.

Moreover, an inverse association was found between negative affect and information insufficiency. This result differs from the RISP literature, according to which negative affect increases individuals' information insufficiency perception. This discrepancy could be attributed to the current research context, which might have elicited different kinds of "negative affects" than those in previous RISP studies. In the context of general risk communications, such as on natural disasters and epidemics, the dominant emotions that people experience might be anxiety and fear, which lead them to feel that they need more information to deal with the uncertainty of the situation. However, in the current context of the inter-Korean relations issue, the dominant negative affects felt by South Koreans might not be anxiety and fear, but mental fatigue and annoyance, which would make them conclude that there is no need for more information. This result is aligned to the appraisal-tendency framework (Lerner & Keltner, 2001), which addresses how specific emotions influence the following cognitive processing. For instance, Tiedens and Linton (2001) found that high-certainty emotions (e.g., anger, happiness) make people feel certain about subsequent situations and lead to heuristic processing, whereas low-certainty emotions (e.g., fear, sadness) result in systematic processing. Similarly, Small and Lerner (2008) compared the effects of sadness and anger on welfare policy preferences, finding different depths of processing in the case of high- versus low-certainty emotions. Applying these findings to our study, it is plausible that the negative affects respondents feel about the South-North Korea relations issue might slant to certainty emotions, such as anger and annoyance: The more certain they are about the issue, the more likely they feel that they do not need more information to deal with the situation. Future research should investigate how distinct emotions elicited from different social issues could influence individuals' information seeking about these issues, based on the high- versus low-certainty emotions framework.

Third, the results of this study demonstrated the role of a social factor in individuals' information seeking. The more individuals believe that others close to them expect their deep understanding and active information seeking regarding a given issue, the more likely they are to feel that they do not have sufficient information about it. The strong influence of informational subjective norms on information insufficiency perceptions in our model is noteworthy. This result is aligned to the findings of Yang and colleagues' (2014) meta-analysis that informational subjective norms is one of the two strongest predictors, alongside individuals' knowledge level, of information behaviors in the RISP framework. Furthermore, some

researchers claim that the role of subjective norms would be even stronger in the East Asian context, where cultures are predominantly collectivistic in nature (Kim, 2019; Yang et al., 2014). For instance, Yang and her colleagues (2014) validated the RISP model for the climate change issue among college students in the United States and China, thereby finding that subjective norms had stronger impacts on Chinese students' information behaviors than on those of American students. The strong role of subjective norms found in this study may be due to the collectivistic tendency in the Korean culture, as well as the nature of the issue, which puts all residents of the Korean peninsula in the same boat.

Regarding information subjective norms, future studies may need to further investigate the influence of social norms on information behaviors with an expanded conceptualization of "social norms." For instance, Cialdini and Goldstein (2004) conceptualized social norms by differentiating injunctive and descriptive norms. Injunctive norms refer to perceptions of whether one's significant others would approve or disapprove of a certain behavior. Individuals are more likely to engage in a behavior if they think their significant others will approve of it. Descriptive norms refer to one's perception of what is typical or normal among others (Saeri, Ogilvie, la Macchia, Smit, & Louis, 2014). When individuals think that other people will typically engage in a certain behavior, they are more likely to perform that behavior. The application of Cialdini and Goldstein's (2004) findings to the current context shows that injunctive norms would be similar to the information subjective norms measured in this study, as both signify what is expected and approved by important referents (Fishbein & Ajzen, 2011). However, how individuals' descriptive norms influence their information seeking remains uncertain regarding the inter-Korean relations issue. Examining the role of descriptive norms on information behaviors, and its relation with injunctive norms, would constitute another important step in understanding the psychological mechanism underlying information behaviors regarding political and policy issues, and advancing the IBSI framework.

Another interesting finding of this study pertains to the information insufficiency perception, a key factor regarding information behaviors in the RISP model. In this study, information insufficiency was found to indirectly influence information-seeking intention through situational motivation. Interestingly, its indirect influence through situational motivation was found to be even bigger than the direct influence suggested by the original RISP model. This result suggests that information insufficiency perception would not necessarily lead one directly to seek information about a given social issue. Rather, this information insufficiency perception would first motivate individuals to make problem-solving efforts about the issue (i.e., situational motivation), which would lead them to seek further information. This finding also demonstrates the integration of the STOPS and the RISP models in this study, and its examination of the interplay among the key variables of the two theoretical frameworks. As such, the study did not merely technically mix the two sets of variables. Rather, this approach advanced our knowledge of the utility of the two theories in explaining peoples' information-seeking intentions regarding given issues in a society.

This study provides a few practical implications for specialists in public affairs and government public relations practitioners who would like to promote public information behaviors regarding major political and policy issues. In the context of the inter-Korean relations issue, if the goal of a public relations program or public campaign is to encourage citizens to get actively informed about and involved in the issue, communication/campaign materials could emphasize inter-Korean relations as an important problem to be solved and clarify that the status quo is not the solution (i.e., problem recognition). This

approach would highlight the fact that the issue can be connected to individuals and their daily lives (i.e., involvement recognition) and that citizens can make a difference in this important issue through their active participation (i.e., constraint recognition). Practitioners may need to note that the more obstacles people perceive about the issue, the more likely they are to feel negatively about it and to refuse to stay informed on it. To bring about a stronger and more informed citizens' voice on the South–North Korea relations issue, citizens should be convinced that the current obstacles could be removed through their participation in this public issue. It would also be important to foster a feeling of confidence in citizens' ability to manage information through issue literacy (i.e., referent criterion) and media literacy (i.e., information efficacy) programs. For example, communication materials, such as a simple overview of the specific issue and backgrounders using infographic fact sheets, would be useful in promoting public empowerment regarding the issue. Most importantly, it would be critical to emphasize the expectations of others close to the target audience (e.g., family and friends), as informational subjective norms were found to be strongly associated with information insufficiency perceptions. This perspective would motivate individuals to solve the problem and actively seek information about it.

The results of comparing the young and the old age groups in the IBSI framework also provide important implications for practitioners who develop communication programs. The influences of two variables (i.e., involvement recognition and constraint recognition) on situational motivation regarding the inter-Korean relations issue differed between the young and the old age groups. For the older generation, a high level of involvement recognition tends to lead to a high level of situational motivation about the issue. However, for younger citizens, involvement recognition was not associated with situational motivation. This may be because the young people's level of involvement recognition about the South–North Korea relations issue ($M = 3.18$, $SD = 0.88$) was relatively lower than that of their older counterparts ($M = 3.33$, $SD = 0.85$; $t(1012) = 2.61$, $p < .01$). Furthermore, constraint recognition was found to be more strongly associated with situational motivation for the younger rather than the older participants. These results suggest that practitioners should strategically develop an in-depth understanding of their target audience and tailor their messages accordingly. For instance, to engage young citizens, practitioners should consider the important role of constraint recognition in increasing or decreasing the engagement of youth on this issue. Practitioners may need to emphasize that young citizens' active participation can help solve this important and unavoidable national problem, considering that their perceptions of constraints can frustrate them emotionally and make them indifferent to the issue.

Limitations

This study has a few limitations. First, it aimed to propose and test a comprehensive framework, including many variables that explain individuals' information behaviors, and to compare young and old groups in the framework. Thus, due to paucity of space and for the sake of clarity, this study focused on only one information behavior (i.e., information-seeking intention) as a key dependent variable. As such, it did not fully investigate the information behaviors suggested in the STOPS and RISP literature. As briefly reviewed earlier, the RISP model includes another information behavior (i.e., information processing) apart from information seeking. STOPS also suggests a broader scope of communicative behaviors, including information acquisition, information transmission, and information selection (Kim & Grunig, 2011; Shen et al., 2019). Considering previous findings that effortful information seeking is positively related with effortful

information processing and sharing (e.g., Griffin et al., 2013; Yang et al., 2014), the results of this study shed light on other information behaviors, such as information processing and sharing. Future research should extend these findings about information seeking to other information behaviors regarding a significant social issue, and examine how the roles of the variables in the IBSI framework would change depending on the type of information behavior in question. Specifically, for important but desensitized chronic issues, investigating the factors on information transmission in STOPS (e.g., active information forwarding) would provide a useful theoretical proxy. It would indirectly imply how members of the "active public," who are more motivated to solve a given problem (Kim & Grunig, 2011, p. 122), influence sparking the interest of their communicative neighbors through online and offline channels.

Second, the interactions between the independent variables were not considered, based on the scope of the current research. However, the original RISP model proposed that the impact of information insufficiency on information behaviors would be moderated by PIGC (i.e., information efficacy perception) and relevant channel belief (i.e., one's belief about the outcomes of using different channels of information to achieve one's processing goals). Although a few research projects have empirically tested these moderating effects under the RISP framework (Hwang & Jeong, 2020), Griffin and associates (2013) called for future research to test the interactions between the components of the RISP model. Future research may need to further investigate the interactions among the variables suggested in the IBSI framework (e.g., interaction between information insufficiency and information efficacy on information behaviors) and any moderating effects of the additional variables adopted from the RISP literature (e.g., relevant channel beliefs).

Third, owing to the practicalities of integrating two theoretical frameworks, the IBSI model had to simplify the broad propositions of each framework. For instance, the role of individual characteristics (e.g., demographics, past experience, political philosophy) studied in the RISP literature and public segmentation (e.g., active/activist public, aware public, latent public, and nonpublic) in STOPS could not be considered in the IBSI framework. Our findings constitute a preliminary step in extending the knowledge of public information behaviors and providing a foundation to be expanded with the relevant literature on RISP and STOPS, respectively. Depending on the characteristics of a given social issue, future researchers should focus on a set of—if not all—key variables suggested in the frameworks. The possible relations of the RISP and STOPS variables not covered in this study would also merit further investigation. For example, examining how individuals' past experience (i.e., formally termed "relevant hazard experience" in the RISP model) influences their referent criterion would be an interesting extension of our findings.

Fourth, future research could improve the measures for some key variables used in the current study. More comprehensive multi-item measures will better serve the IBSI framework's variables, such as constraint recognition, referent criterion, and information efficacy. Additionally, future studies should consider measuring information insufficiency with more goal-related wording. While the current study asked the respondents how much more information they thought they would need in addition to their current knowledge, the original RISP model emphasized assessing "a judgement of the amount of information the respondent feels he or she needs *to cope with the risk*" (Griffin et al., 1999, p. 236). The measurement of information insufficiency that addresses a goal for information seeking (e.g., sufficient to protect oneself from the risk, or sufficient to have accurate knowledge about a social issue) would help clarify the

operationalization of the variable and strengthen the relationship between information insufficiency and information behaviors.

Finally, it should be acknowledged that this study employed only the South–North Korea relations issue, which limits the generalizability of its findings. More public communication contexts involving various political, social, and policy issues that need public engagement and information behaviors should be examined to extend our findings and to validate the integration framework proposed in this study.

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