



# Misinformation and Government Crisis Management in South Korea: Understanding Active Publics' Belief in Misinformation about the Yemeni Refugee Issue and Its Effect on Active Communication Behaviors

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## ABSTRACT

This study aims to investigate how situationally motivated publics respond to misinformation in the context of the Yemeni refugee issue in South Korea. In particular, this study examined how situational motivation in problem-solving on the issue is associated with belief in misinformation and active communication behaviors in the framework of situation theory of problem-solving (STOPS). The results of this study showed that individuals with a high level of situational motivation are more likely to believe misinformation on a given issue. In addition, the result found that belief in misinformation mediates between situational motivation in problem-solving and information forwarding. The results of this study contribute to government crisis management dealing with refugee issues.

**KEYWORDS:** misinformation, Yemeni refugee issue, active communication behaviors, government crisis management, and situational theory of problem-solving (STOPS)

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In 2018, the unexpected appearance at Jeju Island of 500 Yemeni refugees using the visa-free entry system sparked national fear and triggered intense debate about whether to accept refugees in South Korea. Although South Korea is the first country in Asia to adopt a refugee law (i.e., the Refugee Convention) and has a lot of foreign workers in the labor market, the sudden arrival of the Yemenis caused domestic concerns over Muslim refugees (Kwon, 2019). In this situation, a lot of inaccurate information about the issue spread widely, polarizing the arguments of each group (S. N. Park, 2018). Public opinion was extremely divided among those who wanted to support the refugees and those who were against allowing them to enter (Kwon, 2019). In addition, the Korean government and citizens were faced with misinformation that could negatively influence national discourse and have an impact on refugee policy (Suzuki, 2018).

The rise of misinformation, defined as “false information that is spread, regardless of whether there is intent to mislead” (Misinformation, n.d.), has become a critical social issue from the view of government crisis management. From the viewpoint of public affairs dealing with refugee policy and publics influenced by the policy, the Yemeni refugee issue was an important government agenda (Toth, 2006). It is especially critical for public officers to understand publics and their communicative behaviors to address a specific issue of public concern (Buchholz, 1988; Heath, 1997). While previous research has investigated misinformation on social media and its harmful effects on society (e.g., Allcott et al., 2019; Bowyer & Kahne, 2019; Hameleers, 2020), little is known about how situationally motivated publics engage in communicative behaviors to take, select, and forward misinformation in the context of the refugee issue.

According to the situational theory of problem-solving (STOPS), highly motivated publics (i.e., active publics) tend to spread their perceptions and solutions to solve a given issue, influencing other publics (Kim & Grunig, 2011; Ni & Kim, 2009). It will be interesting to explore how active publics about the refugee issue engage in communicative behaviors and their responses when they are exposed to misinformation.

This study aims to examine how individuals' situational motivation in problem-solving affects their belief in misinformation and leads to active communication behaviors of information seeking, information forefending, and information forwarding in the context of misinformation. The context for this study is the 2018 Yemeni refugee issue in South Korea, which has been a very critical social issue associated with misinformation including rumors in Korean society (Haas, 2018; S. N. Park, 2018). Few countries have comprehensive strategies to address refugee issues, and furthermore, this event was the first time that the issue was publicly dealt with in South Korea (Olatubosun, 2017). The findings of this study will provide a foundation to better understand misinformation by identifying who is motivated to believe in misinformation and further engage in forwarding information about an issue.

## Literature Review

### **Misinformation and Active Publics in Government Crisis Management**

Governments in democratic societies play an important role in managing national issues to protect publics. Unlike organizations in the private sector that focus on reputation management to protect image and profits, governments attempt to serve the public good (Broom & Sha, 2013; Liu & Horsley, 2007). Recently, government crisis management has focused on the challenges of misinformation in the digitally networked environment. That is, it is critical for communicators in government to understand how active publics (i.e., active citizens) respond to misinformation in crisis management.

Although false information is not a new phenomenon, misinformation and fake news have become more prevalent since the rise of social media (Ha et al., 2019). When it comes to one's motivation or purpose to develop and share information, misinformation and disinformation can be differently defined (Kim & Gil de Zúñiga, 2021). While misinformation means generally false information regardless of the sender's intention to mislead receivers (e.g., audiences), disinformation refers to false messages intentionally created to misinform others (Ha et al., 2019; Kim & Gil

de Zúñiga, 2021). Fake news or rumor are examples of disinformation because the messages are created to intentionally mislead or misinform publics about a given issue. Based on previous studies' arguments (e.g., Bode & Vraga, 2015), this study conceptualizes misinformation as false information that includes both malicious (i.e., fake news and disinformation) and unintentional messages.

Although some misinformation is simply innocent mistakes, intentional and malicious messages (i.e., fake news or disinformation) can result in confusion about basic facts (Bessi & Ferrara, 2016; Pew Research Center, 2016). The confusion caused by misinformation can also mislead individuals' personal and societal decision-making (Sangalang et al., 2019). Further, recognizing that social media outlets provide fertile grounds for the spread of misinformation, scholars have begun to expand the topics of misinformation to social issues in the social media environment (e.g., Brummette et al., 2018; Castillo et al., 2011). For example, two-thirds of U.S. adults use social media as their news sources (Pew Research, 2018), and individuals in the social media environment are more likely to be exposed to misinformation due to easy access and fast dissemination (Shu et al., 2019). Misinformation is more widely circulated on social networking sites such as Facebook than the most popular mainstream news stories (Allcott & Gentzkow, 2017). When misinformation is publicized on social media such as Twitter, it is more problematic because it can be disseminated very rapidly without distinction, discussion, or correction of whether it is true or false (Shin et al., 2018; Swire & Ecker, 2018). In South Korea, the government declared war on misinformation including fake news because it can negatively impact democracy (Choe, 2018). As nearly 9 out of 10 (87%) Korean adults use social media, misinformation is easily diffused (Yonhap News Agency, 2020). According to a report by Gallup, South Korea government's general trust is ranked as 22 out of 36 Organization for Economic Co-operation and Development (OECD) countries (OECD, 2019). Thus, government communicators in the digitally networked and relatively lower level of government trust environment should understand the communicative behaviors of publics that are situationally motivated regarding a given issue.

Recently, concerns about misinformation have expanded to various issues including global health matters such as COVID-19, Ebola, and Zika virus (Hornik et al., 2021; Seymour et al., 2015; Vraga & Bode, 2018), foreign policy (Lewandowsky et al., 2012), the environment, and political topics (Valenzuela et al., 2019). Scholars in multiple contexts have strived to understand misinformation in terms of its sources, reasons why people believe in it, and the dissemination process (Kim & Gil de Zúñiga, 2021). Political communication scholars have paid attention to the effects of political misinformation and misperceptions on public opinion and voting decisions of publics since recent events like the 2016 presidential election in the United States (Kucharski, 2016; Lewandowsky et al., 2017; Weeks & Gil de Zúñiga, 2019). Health communication is another academic area in which misinformation is relevant. Regarding many health-related topics, lay-publics are more likely to be susceptible to misinformation when they don't have enough knowledge (Ha et al., 2019). For example, individuals may be exposed to misinformation about public health crises (Seltzer et al., 2017), vaccination (Shelby & Ernst, 2013), and abortion (Bryant & Levi, 2012).

The current prevalence of misinformation and its adverse effects have been discussed related to changing internet and social media environments (Bessi & Ferrara, 2016; Bode & Vraga, 2015; Swire & Ecker, 2018). An increasing number of scholars posit that the propagation of misinformation has been exacerbated in the digital environment, where individuals can easily access, create, and disseminate information due to the lack of gatekeepers (Fernandez & Alani, 2018; Shu et al., 2019; Vraga & Bode, 2018). When misinformation is widely disseminated on social media and online, it could undermine evidence-based information, mislead audiences, and foster confusion and mistrust in communities (Bessi & Ferrara, 2016; Tan et al., 2015).

In the public relations scholarship, public(s) are defined as those who face a similar problem or issue (J. E. Grunig, 1997; J. E. Grunig & Kim, 2017). An active public is a group of people who can influence other publics related to an issue because an active public is highly committed to solving the issue (J. E. Grunig & Kim, 2017). Prior research has suggested that active publics are key

publics because they disseminate information and create a sense of community regarding a problem (Chon, 2019; J. E. Grunig & Kim, 2017; L. Grunig et al., 2002; Heath, 2006). In addition, while active publics in public-initiated public relations problems (e.g., organizational crisis situations) are key publics for organizations, non-publics in organization-initiated public relations problems (e.g., public health information campaigns) are key publics for organizations (Kim & Ni, 2013). When active publics are engaged in a certain problem, they are more likely to take, select, and transmit information to solve the problem (J. E. Grunig & Kim, 2017).

Internet-based technologies allow publics to be more exposed to news and engaged in social issues, and publics who are committed to a certain social issue are more likely to amplify the issue in the digitally networked environment (e.g., social media). Considering that active publics also have a great potential to amplify social problems by diffusing misinformation to other users (J. E. Grunig & Kim, 2017; Kim & Gil de Zúñiga, 2021; Krishna, 2017), their behaviors based on erroneous assessments of misinformed messages may cause serious threats to the community. To better understand the role of active publics in the context of misinformation, it is crucial to examine how active publics respond to misinformed messages and what communicative actions they take in response.

### **Conceptualizing Situational Motivation of Publics and Their Active Communication Behaviors Based on STOPS**

This study aims to understand how situationally motivated active publics on the Yemeni refugee issue in South Korea are associated with misinformation and active communication behaviors. In doing so, this study conceptualizes publics' situational motivation related to active publics' characteristics as well as three active communication behaviors: information seeking, forefending, and forwarding from STOPS (Kim & Grunig, 2011).

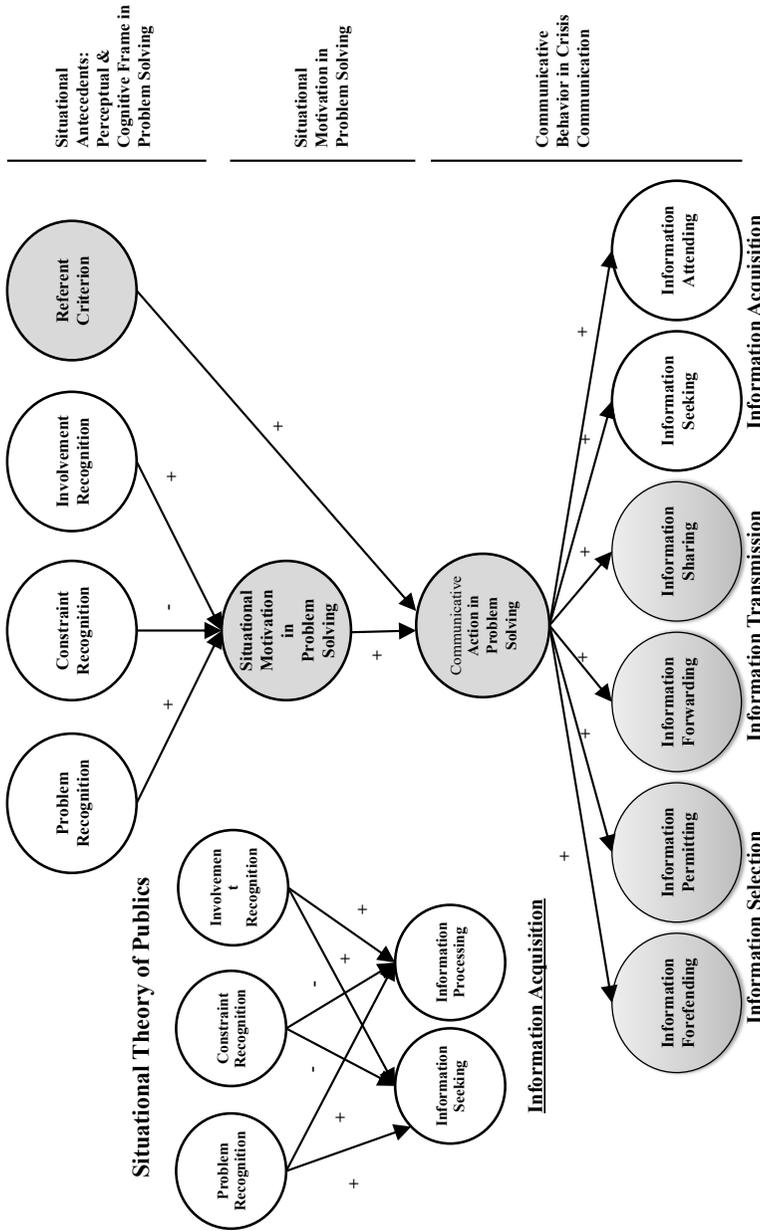
### **Theoretical Framework: STOPS**

As a communication theory, STOPS has been widely used as a framework to understand how and why individuals become

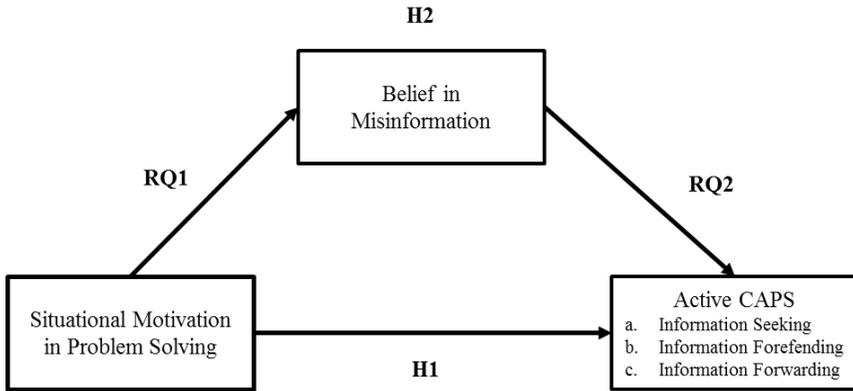
motivated to solve their problematic situations via communicative behaviors (Kim & Grunig, 2011). As an extension of the theory of situational theory of publics (hereafter STP), STOPS proposes that publics are problem solvers who purposively use communication as a tool to solve their problems (Kim & Grunig, 2011). STOPS has been developed as a generalized theory to understand publics' communicative behaviors from the perspective of problem-solving. Figure 1 outlines the STOPS framework. As shown in Figure 1, STOPS was extended from STP by adding referent criterion as an independent variable, situational motivation in problem-solving as a mediator, and additionally communication behaviors of information selection (i.e., information forefending and permitting) and information transmission (i.e., information forwarding and sharing).

Figure 1 shows that publics tend to be situationally motivated to solve a given problem through communicative behaviors when they have a high perceptual discrepancy between a problem and what they expected (i.e., problem recognition), a close perceptual connection between the problem and themselves (i.e., involvement recognition), and low perceived obstacles to their ability to do anything to solve the problem (i.e., constraint recognition) (Kim et al., 2021). Referent criterion, a cognitive variable defined as "any knowledge or subjective judgmental system that influences the way one approaches problem solving" (Kim & Grunig, 2011, p. 130), also increases publics' communicative behaviors to solve the problem. Situational motivation in problem-solving and referent criterion are positively associated with communicative action in problem-solving (CAPS), which explains publics' three communicative behaviors of information acquisition, information selection, and information transmission. CAPS has three domains of information acquisition, information selection, and information transmission with active (i.e., information seeking, information forefending, and information forwarding) and reactive information behaviors (i.e., information attending, information permitting, and information sharing) (Kim & Grunig, 2011). STOPS suggests that those who are highly motivated to solve a given problem with a high level of referent criterion are more likely to be engaged in taking, selecting, and transmitting information to solve a given problem.

# Situational Theory of Problem Solving



**FIGURE 1** The models (STP and STOPS) were adapted from Kim & Grunig (2011) article.



**FIGURE 2** The conceptual model of how situational motivation is associated with belief in misinformation and communicative behaviors.

STOPS has been applied to social science research including public segmentation, crisis communication, health communication, employee communication, and public diplomacy (Kim et al., 2021). Recently, this theory has been used to predict communicative behaviors of citizens in the public sector. For example, Chon (2019) applied STOPS to government crisis management to predict citizens’ advocacy and adversary communication behaviors toward government in the framework of STOPS. The social media activism model was conceptualized to predict publics’ participation in contentious social issues such as immigration, police use of force, and gun control in the United States (Chon & Park, 2020). In the context of a public health crisis (i.e., infectious disease), STOPS was used to explain how citizens are motivated to follow the government’s instructions (Chon & Park, 2020). Adopting the concepts of situational motivation of problem-solving and communicative behaviors in the framework of STOPS, this study attempts to investigate how situationally motivated citizens about the Yemeni refugee issue respond to misinformation.

**Application of STOPS to the Yemeni Refugee Issue**

Following the assumption of STOPS, this study suggests that citizens as problem solvers use communication purposively to solve a given issue or problem. In this case, when Korean citizens are motivated to solve the Yemeni refugee issue, they are more likely

to take, select, and transform related information (See Figure 1). Given the assumption and prediction of STOPS, this study adopts situational motivation in problem-solving and three active-communication behaviors (i.e., information seeking, information forefending, and information forwarding) rather than testing the whole model because this study aims to examine how situationally motivated publics (i.e., active publics) engage in active-communication behaviors (i.e., active CAPS) and the underlying mechanism of belief in misinformation when they are exposed to misinformation related to the Yemeni refugee issue.

This study adopted the concept of situational motivation from STOPS to define active publics. Situational motivation in problem-solving is defined as “a state of situation-specific cognitive and epistemic readiness to make problem-solving efforts—that is, to decrease the perceived discrepancy between the expected and experiential states” (Kim & Grunig, 2011, p. 132). In the framework of STOPS, situational motivation in problem-solving is used to connect perceptual-situational variables (i.e., problem recognition, involvement recognition, and constraint recognition), which have been widely used to categorize four types of publics: active, aware, latent, and nonpublic (J. E. Grunig, 1997).

According to the public segmentation method using three variables, the active public, who perceive no immediately applicable solution to an issue (high problem recognition), a close connection between the issue and themselves (high involvement recognition), and few obstacles to their ability to do something about the issue (low constraint recognition), is the most important group in organizational crisis situations because they are able to influence other publics' perception and decision-making (J. E. Grunig & Kim, 2017; Kim, 2011). For example, when an organizational crisis occurs, public relations managers aim to target an active public as a key public to cool down their negative perceptions via communication (Kim & Ni, 2013).

Situational motivation in problem-solving is highly related to the activeness of publics on a given issue because the motivation concept is a useful proxy variable to summarize joint effects from problem recognition, involvement recognition, and constraint recognition (Kim & Grunig, 2011). Practically, it is possible to predict

the activeness of publics on a given issue by using fewer measures (one variable vs. three variables). More importantly, in the framework of STOPS, situational motivation in problem-solving is not only used to connect perceptual-situational variables (i.e., problem recognition, involvement recognition, and constraint recognition) but also to predict individual's communicative action in problem-solving (CAPS). Those who have a high willingness to solve the problematic situation related to the issue are motivated to take, select, and transmit information (e.g., Kim & Krishna, 2014; Ni & Kim, 2009).

Moreover, this study adopted three active communicative behaviors from CAPS in STOPS: information seeking, information forefending, and information forwarding. When one is motivated to solve a problem, one seeks information as a first step in problem-solving (J. E. Grunig, 1997). Information forefending refers to "the extent to which a communicator fends off certain information in advance by judging its value and relevance for a given problem-solving task" (Kim & Grunig, 2011, p. 126). Information forwarding is planned and self-propelled information-giving behavior (Kim & Grunig, 2011). It is distinguished from information sharing, which is giving information when others request it as opposed to sharing information without being asked.

Problem-solving processes can evolve from an internal search of one's memory related to a given problematic situation or an external search to investigate a solution for the problem (i.e., inquiring stage; Kim & Ni, 2013). While a problem solver attempts to explore a solution via information-seeking behavior in the inquiring phase, their focus will shift from information seeking to information forefending and forwarding in the effectuating phase (Kim & Ni, 2013). When individuals are committed to problem resolution, their communicative activeness to forward information is also increased.

### **Situational Motivation in Problem-Solving and Active Communication Behaviors**

STOPS explains that a successful problem solver becomes an information consumer and an information supplier (Kim & Grunig, 2011). A problem solver's efforts are more isolated in the

earlier effectuating stage, but later become collective (Kim & Ni, 2013). Active publics and activist publics can be differentiated by whether their efforts to solve a problem are individual or collective (Chon & Park, 2020; Kim, 2011; Kim & Ni, 2013). In light of previous studies that have demonstrated a positive relationship between individuals' situational motivation and their communicative behaviors (e.g., Chang & Kim, 2019; Chon & Park, 2020; K. Park & Rim, 2020), the following hypothesis is proposed:

**H1:** Situational motivation in problem-solving is positively associated with information seeking (H1a), information forefending (H1b), and information forwarding (H1c).

### **Situational Motivation in Problem-Solving and Belief in Misinformation**

Although previous studies have demonstrated that individuals are active in communication behaviors when they are situationally motivated for problem-solving in various contexts such as genetically modified organisms (GMOs) or vaccines (e.g., Chang & Kim, 2019; Krishna, 2017; K. Park & Rim, 2020), there is little research about how publics with a high level of situational motivation process information in the context of misinformation. The setting for this study is a situation in which 500 Yemenis applied for refugee status in South Korea in 2018. At that time, there was a national debate over accepting refugees and misinformation about Yemenis (Ghani, 2018). This study is interested in active publics' communicative behaviors when they face misinformation regarding the Yemeni refugee issue in South Korea.

As several studies have begun to pay attention to the phenomenon of misinformation spread on social media, scholars have attempted to identify what types of people believe in misinformation including rumor or social media hoaxes (e.g., Lee et al., 2020; K. Park & Rim, 2020). Recently, K. Park and Rim found that people with a high level of issue involvement on GMO labeling are more likely to accept a social media hoax (i.e., a deceptive message) about the issue when they lack knowledge. In STOPS, the concept of high involvement, combined with high problem recognition and low constraint recognition, has been recognized

as a central component that leads to greater information gain (J. E. Grunig, 1997; Hallahan, 2000; Kim & Grunig, 2011). Perceptual and situational variables increase situational motivation in problem-solving (Kim & Grunig, 2011). However, there have not been studies specifically on how individuals' situational motivation affects their perceptions of misinformation. In this study, we will suggest a misinformation message related to the Yemeni refugee issue to examine how people who are situationally motivated on the issue (i.e., active publics) perceive misinformation as a credible message. This study defines *belief in misinformation* as the extent to which publics perceive misinformation to be credible (e.g., trustworthy, accurate, and unbiased). The following research question, thus, is proposed:

**RQ1:** How is situational motivation in problem-solving associated with belief misinformation?

### **The Effect of Belief in Misinformation on Active CAPS**

The propagation of misinformation on social media has been discussed due to its adverse effects on individuals' perceptions and its real-world implications. Once people encounter information which is inaccurate, it is challenging to correct it in the fast-paced cycle of the information environment; even immediate correction or rebuttal of earlier statements has little effect on an individual's perception or judgment (Lewandowsky et al., 2012). In fact, attempts to correct information may reinforce individuals' initially formed misperceptions toward information rather than weaken those misperceptions (Nyhan & Reifler, 2010; Thorson, 2016).

More importantly, individuals' belief in misinformation can adversely impact their decision-making, and the continuous influence of misinformation can have substantial effects across disparate areas such as health, politics, and the economy (Swire & Ecker, 2018). For example, when people perceive a misinformed message to be accurate, they tend to share it with others (Chen, 2016). Similarly, several studies have indicated that individuals' beliefs about a rumor influence their rumor-sharing practices (Pezzo & Beckstead, 2006; Wang et al., 2018). That is, when they tend to believe a rumor to be true or when a rumor is consistent with their beliefs,

they are more likely to transmit or share it with others (Pezzo & Beckstead, 2006; Wang et al., 2018). However, K. Park and Rim (2020) demonstrated that individuals' level of belief in hoaxes on the GMO issue was negatively associated with their willingness to engage in active communicative behaviors (e.g., information seeking, forefending, and forwarding) about the issue. Considering that people with a high level of situational motivation are active publics who can affect other publics' understanding of issues and are able to amplify social problems by spreading information to others (Krishna, 2017), it is important to examine how situationally motivated people respond to a misinformed message.

Given that one's communicative behaviors induced by erroneous judgment or assessment of information, such as selecting only a specific source which is consistent with one's belief (e.g., information forefending) or voluntarily spreading information to others (e.g., information forwarding), can reinforce one's misperception and confuse others' understanding of issues, it is crucial to examine how individuals process misinformation and associate it with their active communicative behaviors. In light of previous studies that have addressed a perceived quality of information including credibility or accuracy as a vital factor of individuals' behaviors (e.g., Chen, 2016; K. Park & Rim, 2020; Wang et al., 2018), this study expects that individuals' belief in misinformation may play a role as a predisposing factor to induce their willingness to engage in communicative actions. Therefore, this study suggests the following research question:

**RQ2:** How is individuals' belief in misinformation associated with active communicative behaviors: information seeking (RQ2a), information forefending (RQ2b), and information forwarding (RQ2c)?

In addition, this study investigates how belief in misinformation on a given issue mediates the relationship between situational motivation in problem-solving and active communication behaviors. The interest of this study is to examine situationally motivated people's active communication behaviors when they see misinformation on a given issue. According to STOPS, individuals are active in communicative action when they are situationally

motivated to solve a given problem (H1). In particular, an active public is more likely to be engaged in communicative action such as information acquisition, information selection, and information transmission to influence other publics (i.e., aware public, latent public, and nonpublic; Grunig & Kim, 2017). Although perceptual variables (i.e., problem recognition, involvement recognition, and constraint recognition) have been used to segment an active public, it seems that there is a missing part between the activeness of publics and their communicative action. A high level of belief in misinformation, generated by active publics' high motivation to understand and solve an issue, may affect their active communicative behaviors such as information seeking, forefending, and forwarding about the issue. Therefore, with the expectation of a mediating role of belief in misinformation in the relationship between situational motivation and communicative actions, the following hypothesis is proposed:

**H2:** Belief in misinformation mediates the relationship between situational motivation in problem-solving and information seeking (H2a), information forefending (H2b), and information forwarding (H2c).

## Method

### Sampling and Procedure

After this study was approved by the Institutional Review Board (IRB), an online survey was conducted through a research company, *Macromill Embrain* (<http://www.embrain.com>), which has approximately 1.2 million nationwide panel members in South Korea. Questions were translated from English to Korean to collect data from South Korean participants. To compare the wording of items between two languages, two bilingual professors (i.e., Korean Americans) conducted the translation process. Responding to the IRB's ethics committee's request that the consent form and survey questionnaire be written in Korean, a principal investigator submitted an attestation letter from an expert in strategic communication. The data for this study were collected from August 1, 2018, to August 6, 2018. A total of 275 adults living in South Korea were selected for the final sample, consisting of 50.5% females ( $n = 139$ )

and 49.5% males ( $n = 136$ ) with a mean age of 40 ( $SD = 11.01$ ). A large portion of the participants ( $n = 199$ , 72.4%) had at least a bachelor's degree, and 43.9% ( $n = 121$ ) had approximately \$50,000 annual household income.

When participants were connected to the online survey web page, they read brief instructions and consent terms for the study on the first page. Once participants indicated their agreement to participate in the online survey, a screening question asked whether the participants use social media (i.e., Facebook and Twitter, etc.). After passing the screening question, participants answered a series of questions about social media usage, political ideology, and issue-related involvement. They were then guided to read a misinformation message related to the Yemeni refugee issue:

More than 500 Yemen have recently entered Jeju Island and applied for refugee status. The number of refugee applicants in Korea has been increasing dramatically every year, and the government subsidizes 1.38 million won per month for each refugee applicant.

In fact, this message is not correct because the amount of the government subsidy was incorrect (JTBC, 2018). After exposure to the misinformation, participants responded to questions assessing their belief in misinformation and their intention to seek and forward issue-related information to others. This misinformation source was adapted from JTBC, a news channel, News' fact-check program in South Korea (JTBC, 2018). Before exiting the survey, participants were informed that the statement they had been exposed to in the survey included misinformation.

## Measurement

The questionnaire, which was originally developed in English, was translated into Korean by two bilingual Korean researchers. To ensure translation equivalence, the researchers used a back-translation method (Douglas & Craig, 2007). Measurements of STOPS have been applied in previous studies in Asian countries including South Korea (e.g., Chen et al., 2017; Kim et al., 2012). A 7-point Likert scale ranging from 1 (= strongly disagree) to 7 (= strongly agree) was used to measure all items. In addition,

each item was revised for this study in the context of the Yemeni refugee issue. Table 1 summarizes the mean, standard deviation, and Cronbach's alpha of each variable.

Situational motivation in problem-solving was measured with three items which were adopted from Kim and Grunig (2011). Sample items include "I would like to better understand the issue" and "I am curious about this problem" ( $M = 4.69$ ,  $SD = 1.46$ ,  $\alpha = .87$ ).

To measure individuals' belief in the misinformation (i.e., credibility) presented in the survey (i.e., a stimulus), the study adopted six items from previous literature (Appelman & Sundar, 2016; Flanagan & Metzger, 2007). Sample items include "This information is believable," "This information is trustworthy," and "This information is accurate" ( $M = 4.16$ ,  $SD = 1.25$ ,  $\alpha = .91$ ).

Active communicative behaviors were measured with three subcategories: information seeking ( $M = 4.20$ ,  $SD = 1.67$ ,  $\alpha = .80$ ), information forefending ( $M = 3.41$ ,  $SD = 1.12$ ,  $\alpha = .66$ ), and information forwarding ( $M = 2.55$ ,  $SD = 1.23$ ,  $\alpha = .63$ ). Each category was measured with three items adopted from previous studies (Kim & Grunig, 2011; Kim et al., 2010). Sample items include the following: "I search for information about this problem on the internet" (information seeking), "I have a selection of trusted sources that I check for updates on this problem" (information forefending), and "I have posted my opinion of and experience with this problem on the internet" (information forwarding).

Following previous studies (e.g., Chon & Park, 2020; Krishna, 2017; K. Park & Rim, 2020), the current study identified and controlled several variables which may affect individuals' communicative behaviors on social media. Specifically, social media usage, political ideology, and knowledge level were used as control variables in addition to demographic variables. For social media usage ( $M = 29.12$ ,  $SD = 50.17$ ), respondents were asked how many minutes per week they spent on average on social media. For political ideology ( $M = 2.85$ ,  $SD = .69$ ), respondents were asked to rate their political orientation from 1 (= strongly liberal) to 5 (= strongly conservative). For individuals' knowledge level ( $M = 2.95$ ,  $SD = 1.05$ ), the study provided five statements about the Yemeni refugee issue, including correct and incorrect information, and asked respondents to identify whether each statement is true or false.

Respondents received a score of 1 for each item they answered correctly on the knowledge test and a score of 0 for incorrect answers. The highest total score was 5 and the lowest was 0.

**TABLE 1** Variable Means, Standard Deviations, Scale Reliabilities, and Correlations.

	M (SD)	$\alpha$	2	3	4	5
1. Situational motivation	4.69 (1.46)	0.87	0.250**	0.587**	0.506**	0.455**
2. Belief in misinformation	4.16 (1.25)	0.91		0.196**	0.133*	0.228**
3. Information seeking	4.20 (1.67)	0.80			0.517**	0.527**
4. Information forefending	3.41 (1.12)	0.66				0.550**
5. Information forwarding	2.55 (1.23)	0.63				

Note. \*  $p < .05$ , \*\*  $p < .01$

## Analysis

In order to examine the direct and indirect effects of situational motivation on publics' active communicative behaviors, this study tested the model in Figure 1 using a path analysis with PROCESS Model 4 (Hayes, 2013), with 5000 bootstrap samples for percentile confidence intervals. Results are shown in Table 2 and Table 3.

## Results

Regarding H1, this study examined whether situational motivation in problem-solving toward an issue has a positive association with active CAPS such as information seeking (H1a), information forefending (H1b), and information forwarding (H1c). The analysis shows that situational motivation in problem-solving was positively related to publics' active communicative behaviors: information seeking ( $b = .654$ ,  $se = .060$ ,  $p < .001$ ), information forefending ( $b = .394$ ,  $se = .043$ ,  $p < .001$ ), and information forwarding ( $b = .368$ ,  $se = .048$ ,  $p < .001$ ). Thus, H1a, H1b, and H1c were supported.

**TABLE 2** Regression Results for Belief in Misinformation and Communicative Behaviors

	Belief in Misinformation	Information Seeking b(se)	Information Forefending	Information Forwarding
Constant	2.469 (.551)***	1.085 (.689)	1.195 (.495)***	.242 (.558)
Situational motivation	<b>.129 (.049)**</b>	<b>.654 (.060)***</b>	<b>.394 (.043)***</b>	<b>.368 (.048)***</b>
Belief in misinformation	–	.034 (.074)	.018 (.053)	<b>.157 (.060)**</b>
Social media usage	-.028 (.086)	-.041 (.103)	.060 (.074)	.067 (.084)
Knowledge	<b>.451 (.067)***</b>	.149 (.087)	.008 (.062)	-.079 (.070)
Political ideology	.053 (.099)	-.084 (.119)	.060 (.086)	.070 (.097)
Age	<b>-.130 (.064)*</b>	-.021 (.078)	.032 (.056)	.021 (.063)
Gender	.257 (.140)	-.259 (.169)	-.194 (.122)	-.135 (.137)
Education	<b>-.151 (.073)*</b>	.021 (.088)	.074 (.064)	.063 (.072)
Income	.003 (.025)	.018 (.030)	.009 (.022)	-.018 (.025)
Total R <sup>2</sup> (%)	22.4	36.5	27.3	23.5
Note. Entries are unstandardized regression coefficients. * $p < .05$ , ** $p < .01$ , *** $p < .001$				

RQ1 asked how situational motivation in problem-solving is associated with belief in misinformation (i.e., credibility about misinformation). The results of the analysis in this study show that situational motivation was positively related to belief in misinformation ( $b = .129, se = .049, p = .009$ ). When individuals were more motivated to solve an issue, they were more likely to believe in misinformation about the issue.

RQ2 asked how individuals’ belief in misinformation about the Yemeni refugee issue is related to their active CAPS. The results show that belief in misinformation had a positive effect on publics’ information forwarding behaviors ( $b = .157, se = .060, p = .009$ ). However, no significant relationships were found in terms of information seeking and forefending behaviors. That is, when individuals were more likely to believe in misinformation on a specific issue, they were more likely to actively engage in forwarding issue-related information to others rather than seeking or forefending issue-related information by themselves.

**TABLE 3 Results of Mediating Effect of Belief in Misinformation on Communicative Behaviors**

	Effect	SE	LL 95% CI	UL 95% CI
<b>Total effect</b>				
Situational motivation → Belief in misinformation → Information seeking	0.654	0.060	0.536	0.771
Situational motivation → Belief in misinformation → Information forefending	0.398	0.004	0.314	0.481
Situational motivation → Belief in misinformation → Information forwarding	0.388	0.049	0.292	0.483
<b>Direct effect</b>				
Situational motivation → Information seeking	0.650	0.060	0.533	0.768
Situational motivation → Information forefending	0.394	0.043	0.309	0.479
Situational motivation → Information forwarding	0.368	0.048	0.272	0.463
	Effect	Boot SE	Boot LL 95% CI	Boot UL 95% CI
<b>Indirect effect</b>				
Situational motivation → Belief in misinformation → Information seeking	0.004	0.012	-.0150	0.034
Situational motivation → Belief in misinformation → Information forefending	0.002	0.008	-0.011	0.022
<b>Situational motivation → Belief in misinformation → Information forwarding</b>	0.020	0.012	0.004	0.053
<i>Note.</i> For control variables, social media usage, political ideology, knowledge level, and demographic variables are used. The results of control variables are indicated in Table 2.				

Lastly, in regard to H<sub>2</sub>, this study expected that situational motivation in problem-solving toward an issue would have indirect effects on communicative behaviors, mediated through belief in misinformation. Situational motivation was found to have an indirect effect only on information forwarding, mediated through

belief in misinformation ( $b = .020$ , Boot  $SE = .012$ , 95% 5000 Bootstrap  $CI = [.004, .053]$ ; see Table 3). In other words, one's belief in misinformation *partially* mediated the relationship between situational motivation and information forwarding. That is, publics' willingness to understand and solve an issue increased their extent to believe in misinformation about the issue, which ultimately led to their information forwarding behavior. Therefore, H2c is supported; however, H2a and H2b are not supported.

## Discussion

Using the 2018 Yemeni refugee issue in South Korea as a context, this study investigated how active publics who are situationally motivated in problem-solving engage in active CAPS such as information seeking, information forefending, and information forwarding in the theoretical framework of STOPS. In addition, this study examined how situational motivation in problem-solving is associated with belief in misinformation and active CAPS. Further, this study examined the mediating effect of the belief in misinformation between situational motivation in problem-solving and active CAPS. Particularly, this study found that those who are motivated to understand and solve the Yemeni refugee issue are more likely to seek, forefend, and forward information related to the issue. Next, active publics are more likely to believe misinformation about the issue. Finally, this study found that belief in misinformation partially mediates the relationship between situational motivation in problem-solving and information forwarding on the Yemeni refugee issue. The findings from this study have several theoretical and practical implications for government crisis management as follows.

First, this study contributes to the extension of STOPS to show how active publics are committed to engaging in active-communication behaviors. In fact, scholars have applied STOPS and its framework to many different research topics including health communication (e.g., Kim & Lee, 2014; Krishna, 2017), risk communication (e.g., Chon & Park, 2020), crisis communication (e.g., Kim et al., 2016), government public relations (e.g., Chon, 2019), and social media activism (e.g., Chon & Park, 2020; K. Park & Rim, 2020).

Specifically, by applying the theoretical framework of STOPS to the Yemeni refugee issue, this study expands the theoretical impact of STOPS in government crisis management.

More importantly, this study contributes to understanding how to effectively apply STOPS to understand the communicative behaviors of publics toward a social problem by adopting the concepts of situational motivation in problem-solving and active CAPS from the STOPS model. Although the full model of STOPS has four independent variables, a mediator, and six dependent variables, this study simply showed how active publics in the Yemeni refugee issue are actively engaged in information seeking, information forefending, and information forwarding (i.e., active CAPS). Thus, the model of this study can be used to concisely predict active CAPS in a given problem. According to Kim and Grunig (2011), situational motivation in problem-solving is a joint effect that predict problem recognition, involvement recognition, constraint recognition which is used to identify an active public. Hence, situational motivation can be used to predict active publics.

Active communication behaviors among the six CAPS variables are also useful to predict publics' active information behaviors related to a social issue. The findings of this study are consistent with those of previous studies and offer a significant implication to understand how citizens are active in communication behaviors regarding the Yemeni refugee issue in South Korea. Individuals who are highly motivated to address this issue tend to seek, forefend, and forward related information. In terms of misinformation in the networked society, the findings of this study illustrate that situational motivation is a critical factor to predict publics' active communication behaviors about the Yemeni refugee issue.

Another theoretical implication of this study is the application of the STOPS framework to misinformation with specific attention to the role of belief in misinformation. Although individuals' beliefs can affect their communication behaviors (e.g., K. Park & Rim, 2020; Pezzo & Beckstead, 2006), few studies have attempted to understand what factors make people believe in misinformation about an issue. In this study, we applied the STOPS framework and revealed that individuals' situational motivation in problem-solving is a crucial antecedent that makes them more likely to

believe in misinformation. A particularly noteworthy finding is that citizens who are highly motivated to solve the Yemeni refugee issue tend to believe misinformation related to the issue regardless of their knowledge level and ideological position. While knowledge deficiency on a given issue has been used to predict active publics who have negative attitudes toward the issue (e.g., Krishna, 2017), this study suggests that active publics are more likely to believe misinformation than other publics. In addition, regardless of their knowledge deficiency, this study found that when people believe in misinformation, they are more likely to forward it, whereas there was no significant relationship between belief in misinformation and information seeking and forefending.

From the perspective of government crisis management and practical implications, this study explains how communication practitioners in the public sector understand the role of belief in misinformation. The results of this study suggest that belief in misinformation partially mediates the relationship between situational motivation in problem-solving and information forwarding in terms of the Yemeni refugee issue. In other words, situationally motivated publics on a given issue are more likely to believe in misinformation, which leads them to forward the misinformation. This finding can explicate why active publics who are exposed to misinformation can spread it via information forwarding behavior. Why do highly motivated people spread misinformation on a certain issue by forwarding it? This study indicates that their dissemination of information results from their perception that misinformation is accurate and trustworthy.

This finding also helps researchers and communication practitioners in the public sector understand the importance of information forwarding in misinformation research. In the digital age, this finding is very interesting because situationally motivated people are more likely to forward information rather than seek or select information to better understand a given problematic situation. According to STOPS, information forwarding is an active and voluntary communicative action, and information forwarders are eager to “disseminate his or her problem perception and preferred way of problem solving to other communicators” (Kim & Grunig, 2011, p. 127). When given information is not correct,

the spread of misinformation confuses receivers and hinders their appropriate decision-making (Bessi & Ferrara, 2016), reinforcing senders' belief in the misinformation. It is even more problematic that active publics who believe misinformation are more likely to spread and amplify it via their digital networks (Lewandowsky et al., 2012). Considering that the respondents of the current study were all social media users, the findings provide a significant theoretical implication to better understand how active publics' belief in misinformation about an issue causes them to spread it on social media.

When it comes to managing a contentious issue that has ignited national discussion and generated misinformation, it is important for communication practitioners in the public sector to understand when and why publics actively seek, forefend, and forward information about the issue. Using situational motivation in problem-solving and belief in misinformation as variables, this study predicts how active publics believe in misinformation and engage in active communication behaviors. Especially in the field of government crisis management, it is imperative for communication practitioners to understand how misinformation related to social or political issues is amplified in the digital age. The findings of this study suggest that situationally motivated people are more likely to seek, forefend, and forward information regardless of whether it is true or just in general.

Furthermore, they are more likely to believe misinformation, which leads them to disseminate it to others. Accordingly, practitioners must understand active publics and their communicative action. For example, although South Korea has become a multicultural society, citizens still perceive racial or ethnic homogeneity. In the Korean culture context, Korea's Confucian traditions which emphasize respect for seniority are hidden cultural factors that influence people's attitude and behaviors (Cho & Mor Barak, 2008). South Korea is also known as a collectivistic society which stresses the importance of group membership and identity (Hofstede, 1980). Koreans' experience with the Yemeni refugee issue in 2018 caused serious social confusion and debate between acceptance and opposition, leading to concern about Muslim refugees in Korea. In light of the widespread misinformation about

the Yemeni refugee situation in South Korea, it was significant to provide objective information that would help citizens to make rational decisions about social problems. Thus, government officials can prevent potential issues from becoming crises by providing objective information and communicating with active publics who seem to be the most influential actors who affect others' perceptions by spreading information related to the issue.

### **Limitations and Future Research**

Despite its significant implications, there are several limitations to this study that should be addressed in future research. First, it is difficult to generalize the results of this study because it only focused on a single issue in a single country to test the hypotheses. Future researchers should examine the suggested hypotheses in the context of other issues in different countries. Second, the sample of this study was collected from an online panel in South Korea, which limits the generalizability of the results because respondents to an online survey are self-selected and do not represent the whole population of South Korea. Third, participants were only exposed to one misinformation message during the survey. In the same way that addressing more than one issue in a study would make the results more generalizable, providing more than one misinformation message to participants would strengthen this study's argument in terms of the relationship between situational motivation and belief in misinformation. Lastly, although this study focused on individuals' situational motivation as a critical factor to predict their belief in misinformation and showed meaningful results, controlling several key variables such as ideology and issue knowledge, it would be very interesting if future researchers consider other factors (e.g., media source credibility, pre-existing attitudes, issue interest, and negative emotions) that motivate people to believe in misinformation.

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