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Getting emotional: An emotion-cognition dual-factor model of crisis communication

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A B S T R A C T

The effect of emotional experience on cognitive processes is an under-explored phenomenon in crisis communication research, despite indications of the increasing importance of emotion-based communication in the digital era. Emerging evidence indicates that the emotional experiences of publics play a critical role during organizational crises and determine the degree to which organizations are able to successfully devise communications that help them deal with such crises. Yet no comprehensive, theoretically sound model exists for analyzing how emotions influence the cognitive processing of crisis information. Our study proposes just such a model, capable of describing how cognition and emotion, separately or interactively, influence the publics' processing of crisis information and consequently their attitudes and behaviors. Our model describes how emotional variables determine whether the publics take a cognition-oriented approach or an emotion-oriented approach to information processing and subsequent formation of interpretations, evaluations, and judgments directed toward organizations. Moreover, our model explains how an emotion-to-cognition assessment of publics' attitudes is possible and makes a case for how it is critical for predicting and influencing the publics' behavior during organizational crises. The hope is that this model will aid practitioners and academics in understanding why the publics' emotions matter during crisis communication as well as how to craft more effective communication strategies as a result. Finally, several avenues for future research are suggested in order to test the validity of our conceptual model in different contexts.

1. Introduction

While previous studies of crisis communication have considered the role played by emotion (e.g., Coombs & Holladay, 2005, 2007; Jeong, 2010; Jin, Pang, & Cameron, 2007, 2012; Kim & Cameron, 2011; Kim & Niederdeppe, 2013; van der Meer & Verhoeven, 2014), relatively little scholarship in this area has emphasized the effect of emotion on cognitive processes related to receiving and evaluating crisis information. Previous approaches are based on theories conceptually designed to capture "rational" powers of cognition, whether they explore the effect of crisis emotions on organizational reputation (Coombs & Holladay, 2007; van der Meer & Verhoeven, 2014) or on behavioral intentions (Botha, 2014; Coombs & Holladay, 2007; Jin, Fraustino, & Liu, 2016). Crisis communication scholars tend to ignore the possibility that emotion plays as strong a role as rationality in cognition. Therefore few studies explore the influence of crisis emotions on the publics' perception and evaluation during organizational crises; even fewer consider the variables that determine whether the publics follow cognition-oriented or emotion-oriented patterns in order to process crisis information. The neglect of an emotion-to-cognition approach is partly due to theoretical presuppositions and partly due to the

difficulty of observing, targeting, controlling, and measuring crisis emotions. Although Kim and Cameron (2011) emphasized the active role played by emotions in crisis communication, other features of emotional experience as it relates to crisis communication remain unexplored.

Crisis communication scholars and practitioners now face a rapidly changing digital environment, which increasingly foregrounds emotional forms of expression. This phenomenon should direct more scholarly attention to the role played by emotion in crisis communication. For instance, expressions of empathy or support may contribute to building and maintaining positive relationships on social network sites. Similarly, online criticism can help negative emotions spread whenever people review films or products online, share perceptions of organizational reputation, or interact by discussing current events. Further, empirical studies have indicated that emotions can trigger online viral sharing (Botha, 2014; Guadagno, Rempala, Murphy, & Okdie, 2013). By further exploring the effects of emotional experiences on crisis outcomes, crisis communication research can help determine whether and precisely how the digital environment activates the publics' emotional involvement in the context of organizational crises.

As a response to both the theoretical gap in crisis communication research pertaining to emotion and the changes wrought by a digital media environment, this study conceptualizes an emotion-cognition dual-factor model of crisis information processing. This model (1) argues that the publics may follow both cognition-oriented and emotion-oriented patterns when coping with organizational crises, depending on certain emotional variables; and (2) articulates how crisis-induced negative emotions may influence the publics' crisis information processing. Given the dearth of research addressing these issues through an emotion-oriented perspective, our model's conceptualization draws from both crisis communication theories (e.g., Situational Crisis Communication Theory, Integrated Crisis Mapping model) and psychological theories (e.g., emotional contagion, cognitive appraisal theory, and appraisal-tendency theory).

2. Background

2.1. Situational crisis communication theory

Coombs and Holladay (2005) cited two rationales in support of integrating Situational Crisis Communication Theory (SCCT) with an account of emotional cognition. First, the theoretical basis of SCCT is Weiner's (1986, 1995) attribution theory, which states that emotions arise from interpretations of events. Crisis responsibility, the core concept of SCCT, determines the most effective post-crisis communication strategy for protecting an organization's reputation (Coombs & Holladay, 2007). The publics assess crisis responsibility based on their judgement of crisis type, crisis history, and prior organizational reputation. Moreover, SCCT consists of a clear cognition-to-emotion approach that can account for how the publics' perceptions of crisis responsibility shape crisis emotions. Coombs and Holladay (2005) found that attributions of crisis responsibility are positively or negatively related to different emotions (e.g., anger, schadenfreude, sympathy). Following this cognition-to-emotion approach, some researchers expanded the findings of SCCT through examinations of how different crisis response strategies and the attribution of crisis responsibility influence crisis emotions (Choi & Lin, 2009; Jeong, 2010; Kim & Niederdeppe, 2013).

Second, Coombs and Holladay (2005, 2007) recognized the importance of emotional effects on organizational reputation during crises. Emotions felt by the publics during organizational crises may influence their attitudes and behaviors toward the organization in crisis. Coombs and Holladay (2007) explored the impact of stakeholder emotions on behavioral intentions and proposed the idea of a negative communication dynamic based on feelings of anger and resentment. Following this emotion-effect approach, some researchers further examined the effects of emotions on organizational reputation and behavioral intentions (Botha, 2014; Jin et al., 2016).

2.2. Integrated crisis mapping model

Jin et al. (2007, 2012) developed a new conceptual framework called the Integrated Crisis Mapping model (ICM). Based on Lazarus' (1991) cognitive appraisal theory, this model identified diverse emotions experienced by key stakeholders in crisis situations. Specifically, two continua – organizational engagement and publics' coping strategy – map four discrete crisis emotions (i.e., anger, fright, anxiety, and sadness). Organizational engagement measures the extent to which crisis-bearing organizations devote resources and energy to dealing with crises. The continuum ranges from low to high levels of expended resources and energy (Jin et al., 2007). Coping strategy measures the continuum that runs from the publics' choice of strictly problem-focused coping to strictly cognitive-focused coping during organizational crises (Jin et al., 2007). Therefore, the ICM concerns how the publics' emotional responses to different organizational crises are shaped by their appraisal of organizational engagement and choice of coping strategy. Following the cognition-to-emotion approach, some researchers further tested the validity and reliability of ICM (e.g., Brummette & Sisco, 2015; Guo, 2017; Jin et al., 2016).

2.3. Research gap: Interaction between cognition and emotion

Both the SCCT and ICM share a similar theoretical perspective, which results in the same theoretical limitations. Kim and Cameron (2011) pointed out that "the ICM and SCCT both emphasize the public's emotions are shaped by crisis type and crisis situations" (p. 829). Further, our study argues that the SCCT and ICM narrowly define the cognition-to-emotion approach, identifying it as focused solely on how the publics' crisis emotions are shaped by a cognitive process in which the publics rationally evaluate crisis type, crisis responsibility, organizational engagement, and coping resources.

Related to this narrow definition, the cognition-to-emotion approach is also limited by a lack of discussions related to how emotion-to-cognition processes might complement it. Two explanations exist for this theoretical gap in the literature on SCCT and ICM. First, attribution theory and cognitive appraisal theory, the theoretical foundations of SCCT and ICM respectively, both state that an individual's emotions are triggered by cognitive processes. But cognition-to-emotion is just one approach that explains how emotions are shaped. Other scholars working on the relationship between cognition and emotion have emphasized the significance of emotions occurring prior to succeeding thoughts while also recognizing that emotions are responses to prior meaning (Lazarus, 1999). Further, previous studies have demonstrated that decision making can be influenced by both emotional and logical pathways (Gordon & Arian, 2001). Given the empirically supported interaction between cognition and emotion, we claim that further studies should account for the ways in which emotion influences the cognitive process in crisis communication.

Moreover, accounts of the cognitive process in SCCT and ICM tend to be oversimplified and unitary. This view diminishes the possibility of fully accounting for the interaction between emotion and cognition. In organizational crises, the publics may receive crisis information at multiple stages rather than grasping the whole picture immediately. The classical view of crisis management supports this position. Some scholars viewed organizational crisis as developing processes (Coombs, 2007b; Fink, 1986; Mitroff, 1994; Smith, 1990). This means that cognitive processing is considered as a multistage process and that each stage of the crisis lifecycle is treated as though it contains different information. Quattrone's (1982) anchor adjustment model posited that people form an initial judgment based on partial information, which may be corrected later to account for additional information. This structural feature of cognitive processing means that the public's cognitive appraisal of initial crisis information may induce an emotional response that interacts with subsequent cognitive processes.

In sum, our study argues that crisis emotions experienced by the publics can influence their cognitive processes during crisis situations according to a multi-stage structure of crisis-information processing. Based on the rationales of SCCT and ICM, our study proposes that the publics may follow cognition-oriented and emotion-oriented patterns in order to process crisis information, form attitudes, and take actions with respect to organizations. Our conceptual framework (see Fig. 1) and theoretical propositions are discussed below.

3. Conceptual framework

3.1. Phase one: The generation of emotions during organizational crises

Our conceptual framework (see Fig. 1) begins with what we call *initial crisis information*. The publics' cognitive appraisal of this initial crisis information gives rise to discrete crisis emotions, which we define as *initial crisis emotions*.

3.1.1. Cognitive-appraisal theory

Appraisal theory addresses the shaping of discrete emotions. Appraisal theorists (e.g., Frijda, 1986; Lazarus, 1991; Roseman, 1984; Scherer, Schorr, & Johnstone, 2001) examined the process by which an individual's emotions are triggered through their own subjective interpretation or evaluation of important events or situations. Although appraisal relationships are complex, Lazarus (1991) asserted that each emotion is associated with and predicted by a "core relational theme" that defines the interpersonal and
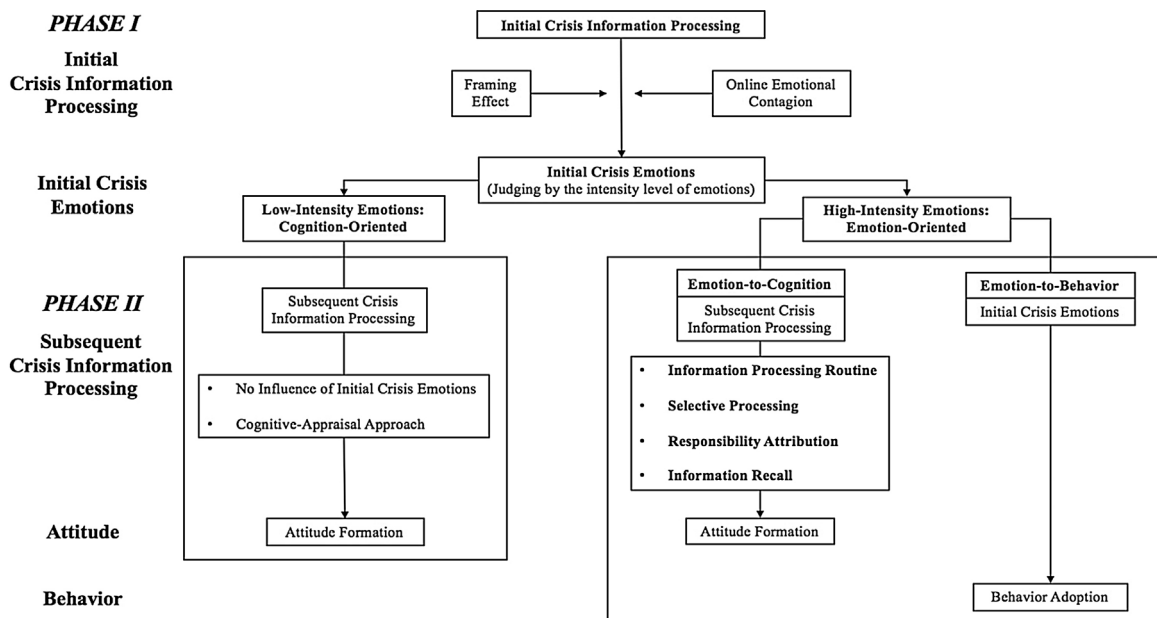

Fig. 1. Emotion-Cognition Dual-Factor Model of Crisis Communication.

intrapersonal harms and benefits inherent in each person-environment relationship. In fact, Lazarus (1991) described six main negative emotions – anger, fright, anxiety, guilt, shame, and sadness – arising from crisis situations based on the publics' appraisal of information. These six emotions are further grouped under different core relational themes.

At the initial stage of an organizational crisis event, the publics receive incomplete crisis information. They therefore lack sufficient information to support a cognitive process in a systematic and deliberative way. Further, crisis events usually strike the publics immediately and unexpectedly, triggering a quick emotional response. In this context, systematic and deliberative appraisals of information may not be possible. Instead, the publics' emotional responses are mainly based on limited crisis information and other constrained processing resources (e.g., time pressure, distraction). We argue instead that the publics' emotional experiences are often influenced by the framing effects of initial crisis information rather than by systematic appraisal.

3.1.2. Framing effects of crisis information

As cognitive appraisal theories revealed, information appraisal influences the publics' emotional experiences during organizational crises. Situational factors, such as the framing of an organizational crisis, can also influence the emotional experience of publics. When organizational crises occur, the publics may not immediately perceive the objective facts of the event, basing their reactions instead on messages released by the organization in crisis or the media (Cho & Gower, 2006). Message framing is critical during crises because it influences "the public's evaluation of organizational responsibility for the crisis event" (Cho & Gower, 2006, p. 420). Nabi (2003) asserted that message framing can promote particular emotional responses as well as cognitive responses. When messages are framed to highlight associations with "core relational themes" of discrete emotions, message-relevant emotions may be triggered. Two kinds of message framing, rational framing and emotional framing, may have different levels of influence on the publics' emotional experiences.

3.1.2.1. Rational framing.
During organizational crises, crisis information that the publics receive can be framed in a rational manner by organizations or media. Crisis information with rational framing appeals to the rationality of publics by presenting crisis information in an objective and straightforward manner (Claeys & Cauberghe, 2014; McKay-Nesbitt, Manchanda, Smith, & Huhmann, 2011). Rational framing provides "factual and concrete information on the crisis event itself and describes the steps the organization is taking to manage the crisis situation" (Moon & Rhee, 2012, p. 681). This type of framing displays crisis information without any emotion or dramatization of the basic information. By using rational framing techniques, organizations and media focus the publics' attention on the content of the message (Claeys & Cauberghe, 2014). If the publics receive rationally framed crisis information from organizations or media, their crisis emotions are induced mainly by their cognitive appraisal of crisis information.

3.1.2.2. Emotional framing.
Crisis information that the publics receive can also be framed in an emotional manner by organizations or media. Emotional framing appeals to the publics' emotions through "subjective, evaluative properties and emotionally loaded adjectives" (Stafford & Day, 1995, p. 299). This type of framing also dramatizes basic information (Claeys & Cauberghe, 2014; Yoo & MacInnis, 2005).

The publics' emotional responses depend on how a policy is framed (Brewer, 2001; Gross & D'Ambrosio, 2004; Nabi, 1998; Sullivan & Masters, 1993). Kim and Cameron (2011) examined how emotional news frames affected people's emotional responses to a corporate crisis. They found anger and sadness to be the two dominant emotions in times of crisis, with instances in which sadness was the result of corporate messaging resulting in better publics' evaluations of organizational reputation. The publics that experienced anger as a dominant emotion tended to read the news less closely and thus develop more negative attitudes toward organizations in crisis. In sum, the evidence suggests that the publics' crisis emotions are partly influenced by how crisis information is framed. Therefore we propose the following:

Proposition 1. During organizational crises, the type and intensity of negative emotions that the publics experience will be influenced by how initial crisis information is framed (rational framing versus emotional framing).

3.1.3. Online emotional contagion

Our study does not intend to focus on how discrete crisis emotions are shaped by cognitive appraisal. As our review above indicates, previous studies have provided solid findings on this topic. For example, the empirically robust ICM model proposed by Jin et al. (2007, 2012) has identified four different kinds of emotions in the context of various organizational crises.

Although cognitive appraisal is traditionally conceptualized as an emotional determinant, emotions may arise in alternative ways. In fact, emotions can be triggered with minimal or possibly no mediation by high-level cognitive processes. Zajonc (1980, 1984a, 1984b) argued that the speed and automaticity of affect may be greater than cognitive processing. People can therefore have an affective reaction to a stimulus before they know what it is they are reacting to. Such a direct pathway from stimulus to emotion is supported by neurological research (LeDoux, 1996).

These findings by psychologists have implications for crisis communication research. They suggest the possibility that the publics' emotions might not be triggered by deliberative cognitive evaluation. This is particularly true when those emotions are influenced by a mechanism called "emotional contagion." The term "emotional contagion" is defined as "the tendency to automatically mimic and synchronize expressions, vocalizations, postures, and movements with those of another person's and, consequently, to converge emotionally" (Hatfield, Cacioppo, & Rapson, 1994, p. 5). Kramer, Guillory, and Hancock (2014) claimed that emotional states can be transferred to others via emotional contagion, through which people can, consciously or unconsciously, experience the emotions of others (though emotional contagion is less often described as conscious than automatic). Moreover, this study also showed that

people respond differentially to positive and negative stimuli, with negative events eliciting stronger and more rapid emotional, behavioral, and cognitive responses than neutral or positive events (Kramer et al., 2014). Thus, negative emotions are more likely to be transferred by emotional contagion than positive emotions.

Digital communications environments might activate emotional contagion more intensely. Scholars exploring online emotional contagion found that emotion can be contracted through computer-mediated communication (CMC) systems (Guillory et al., 2011; Hancock, Gee, Ciaccio, & Lin, 2008) in a similar manner to the emotional contagion traditionally observed during interpersonal interactions (Hatfield et al., 1994). In the context of many-to-many communication networks such as the social web, individuals' emotional expressions can serve as a trigger for eliciting collective emotions (Thelwalla & Kappasb, 2014). For example, negative emotions can spread on Facebook via large-scale emotional contagion, which leads to online collective outrage (Kramer, 2012).

It is inevitable given the present media context that organizational crises will receive exposure, discussion, and even escalation online. Given the strong potential for online emotional contagion to produce large-scale collective emotions, greater attention should be paid to emotional contagion in the digital environment during organizational crises. When the publics scan crisis news online, they are probably more influenced by others' online forwards and comments than by official PR statements or journalistic work. Because there is a tendency for emotional contagion to occur unconsciously and automatically, we propose the following:

Proposition 2. During organizational crises, the publics' initial crisis emotions will be triggered or intensified by a process of online emotional contagion in which the publics experience negative emotions communicated by online forwards and comments.

3.2. Emotional intensity matters: different patterns of crisis information processing

3.2.1. Intensity of initial crisis emotions

Emotional intensity refers to the strength with which individuals experience both positive and negative emotions (Larsen & Diener, 1987). Sonnemans and Frijda (1994) demonstrated six parameters of emotional intensity: (1) duration of the emotion and delay of its onset and peak; (2) perceived bodily changes and strength of felt passivity; (3) recollection and re-experience of the emotion; (4) strength and severity of action tendency, and severity of actual behavior; (5) belief changes and influence upon long-term behavior; and (6) overall felt intensity. Meanwhile, Averill (1980) pointed out that emotional episodes can range along a continuum from relatively mild to highly intense. These different levels indicate that the six parameters of emotional intensity may vary accordingly. For example, action tendencies may change as a response to a different level of emotional intensity. Damasio (1994) suggested that the intensity of an emotion can influence decision making. For example, it is found that participants with high affect-intensity engender more elaborative cognitive operations than do participants with low affect-intensity (Larsen, Diener, & Cropanzano, 1987). More importantly, Flett, Blankstein, and Obertynski (1996) found that individuals with high levels of affect-intensity were characterized by a tendency to engage in emotion-oriented coping. Emotion-oriented coping is the tendency to focus on negative affective reactions and also includes elements of wish fulfillment and self-blame (Endler and Parker, 1990a,b). Based on these previous studies, our paper argues that different levels of emotional intensity are likely to be associated with different patterns of crisis information processing. Therefore we propose the following:

Proposition 3.1. When the publics experience initial crisis emotions with low intensity, they will follow a cognitive-oriented pattern in which they follow the cognitive-appraisal approach to processing subsequent crisis information.

Proposition 3.2. When the publics experience initial crisis emotions with high intensity, they will follow an emotion-oriented pattern in which their crisis emotions not only trigger behaviors but also influence the cognitive processing of subsequent crisis information.

3.3. Phase two: two patterns of subsequent crisis information processing

The first phase of our conceptual framework (see Fig. 1) describes the influence of initial crisis information processing on crisis emotions experienced by the publics. Cognitive appraisal may itself be influenced by how crisis information is framed. To complicate the picture, crisis emotions that the publics experience may also be influenced by emotional contagion. Further, the second phase of our framework describes additional input as *subsequent crisis information*. According to this phase, the publics experience a second round of cognitive processing and generate new discrete crisis emotions called *subsequent crisis emotions*.

3.3.1. Cognition-oriented pattern

When the publics experience low emotional intensity, they may follow a cognition-oriented pattern in which rational, logical, and deliberative analysis is dominant. The cognitive-awareness process suggested by Lerner and Keltner (2000) explains why the effect of low-intensity emotion on cognition wears off and even disappears. This process assumes that appraisal tendencies will be deactivated when people are aware of their own judgment and choice processes. In other words, emotional carryover can be deactivated by realization of judgment processes. When the publics experience low emotional intensity, they are indeed aware of how the cognitive process works because they are in a relatively rational state. Such cognitive awareness further inhibits the effects of emotions on cognitive processes.

We argue that the effects of initial crisis emotions on cognitive processes are minimal whenever initial crisis emotions can be described as low intensity. In this condition, the publics are able to consciously and deliberately analyze subsequent crisis information based on the evaluation of initial crisis information. This cognition-oriented pattern is the premise of most crisis

communication studies. Specifically, the publics can form attitudes and behavioral intentions toward an organization by evaluating crisis information and person-environment relationships during crises rather than being influenced by their crisis emotions. Under the influence of this type of crisis information processing, the publics generate relatively accurate perceptions of organizations. Therefore we propose the following:

Proposition 4. When the publics experience initial crisis emotions with low intensity, their subsequent crisis information processing may be not influenced by crisis emotions. In this condition, the publics follow the cognitive-appraisal approach to processing subsequent crisis information and forming attitudes toward the crisis-bearing organization.

3.3.2. Emotion-oriented pattern

When the publics experience high emotional intensity, they may follow an emotion-oriented pattern in which the effects of the initial emotion are evident in both their behavioral intentions and their cognitive processes. Specifically, when the publics experience initial crisis emotions with high intensity, they may rapidly trigger behaviors intended to deal with the crisis. Following such behaviors, subsequent cognitive processes continue to receive guidance from initial crisis emotions due to the long-term duration of high-intensity emotions (Sonnemans & Frijda, 1994).

3.3.2.1. Emotion-to-behavior.
The idea that emotions exert a direct and powerful influence on behavior receives theoretical and empirical support from psychological research on emotions. To note just a few examples, scholars have found that changes in action readiness form the core of many emotions (Frijda, 1986); that emotions involve a compelling urge toward action called "action tendency" (Lazarus, 1991); and that one purpose of emotions is to help people make approach-avoidance distinctions (Zajonc, 1998). Recent studies support the claim that intense emotions are increasingly likely to directly trigger behaviors in digital environments. Berger and Milkman (2010) demonstrated that the increase in physiological response accompanying high-intensity emotions may facilitate a desire to share online content, while the decrease in physiological responses accompanying low-intensity emotions may fail to activate such online sharing. Botha (2014) found that the level of emotional intensity is the key determinant of whether videos get "shared" or "liked" when people use political satire in viral campaigns. Similarly, crisis communication also sheds light on the direct impact of emotion on behavioral intentions. Coombs and Holladay (2007) posited that crisis-related anger tends to generate negative word-of-mouth as well as reduced intentions to purchase products among the publics. Further, Choi and Lin (2009) found that fear and worry were associated with the boycotting of Mattel's products.

Crisis communication scholars have recognized the importance of emotion-to-behavior patterns in recent organizational crises. This is largely because the negative influence of organizational crises may be dramatically expanded through viral forwards and online negative comments that trigger high levels of emotional intensity among the publics. In such situations, if an organization does not take emotions into consideration when communicating with its publics, it may fail to alleviate crisis severity or even evaluate it properly. This error in judgment may ultimately cause a failure of crisis communication strategies. More importantly, from an organizational perspective, methods for coping with the uncontrollability of such intense emotions and related behaviors are seldom addressed in the literature. Some scholars claimed that adjusting information is essential for helping the publics cope psychologically with organizational crises (Coombs, 2007b; Sturges, 1994). But those studies fall short of more comprehensive recommendations for dealing with intense negative emotions and related behaviors demonstrated by the publics during modern-day crises. Given the influence of crisis emotions on the publics' behaviors during organizational crises, we argue that high-intensity crisis emotions are likely to trigger behavioral intentions. Therefore we propose the following:

Proposition 5. When the publics experience initial crisis emotions with high intensity, they may exhibit behaviors intended to deal with the organizational crisis prior to processing subsequent crisis information.

3.3.2.2. Emotion-to-cognition.
Exhibited behaviors in crisis situations can be understood as forms of emotional release. Such release causes a relative decrease in emotional intensity. Although the intensity of initial crisis emotions can be lowered through emotional release, emotional intensity at a level high enough to require such behavior will remain relatively high compared with low-intensity emotional states, even post-catharsis. This is because high-intensity emotions have a long-term duration (Sonnemans & Frijda, 1994). Thus, when initial crisis emotions experienced by the publics are relatively intense, they may continue to influence how the publics process subsequent crisis information whether or not mitigating behaviors are exhibited.

Some scholars have supported the emotion-to-cognition approach. Although Lazarus's (1991) main argument is about how emotions are shaped by cognitive appraisal, she recognized that cognitive activity can succeed emotions in the flow of psychological events. In this account, subsequent cognitive activity is also influenced by initial emotional states. Similarly, functional emotion theories claim that emotions can trigger perceptual responses that enable people to cope quickly with problems or opportunities they encounter (Frijda, 1986; Roseman, Wiest, & Swartz, 1994; Scherer, 1984). Nabi's (1999) Cognitive Functional Model (CFM) argued that "discrete, message-induced negative emotions may direct information processing and subsequent attitude change and information recall, particularly when the emotion aroused is substantively linked to a message's focal topic" (p. 293). Further, the Appraisal-Tendency Framework (ATF) proposed by Lerner and Keltner (2000, 2001) assumed that discrete emotions exert different impacts on judgment and decision making. Numerous other empirical studies have supported the theoretical assumption that emotion influences cognition (Blanchette & Richards, 2010; Lerner & Tiedens, 2006). As Forgas (2006) claimed, emotions "appear to influence what we notice, what we learn, what we remember, and ultimately the kinds of judgments and decisions we make" (p. 273). Combining these psychological findings with research on organizational crisis communication, our study examines the role played by

crisis emotions in four key aspects of cognitive processing: information processing routine, selective processing, information recall, and attribution.

3.3.2.2.1. Information processing routine. Information processing routine refers to the extent to which emotions trigger deep or shallow thoughts. Scholars have distinguished between a cognitive process that is thorough, detailed, careful, and reliant on analysis and one that is spontaneous, quick, and reliant on general knowledge structures (Chaiken & Trope, 1999; Eagly & Chaiken, 1993; Petty & Cacioppo, 1986). The former kind of processing is typically called central or "systematic," while the latter is called "heuristic."

Emotions often accompany feelings of certainty or uncertainty that may trigger different information processing routines. Tiedens and Linton (2001) essentially confirmed what Bodenhausen, Sheppard, and Kramer (1994) found. High-certainty emotions (e.g., anger, happiness) make individuals feel confident about the outcomes of subsequent situations and promote heuristic processing; however, low-certainty emotions (e.g., sadness, fear, hope) promote systematic processing. In crisis communication research, Kim and Cameron (2011) found that discrete emotions elicited by different news frames can also influence individuals' information processing routines.

Why do different information processing routines matter for the publics' crisis perceptions? The answer lies in variations found in the depth of information processing subsequent to emotional experience. Such differences in information processing can lead to changes in attitudes or judgments. Small and Lerner (2008) found that the differences in the depth of information processing based on whether a prior emotional experience was defined by sadness or anger resulted in different policy preferences. These variations indicate that the publics' interpretations and evaluations of subsequent crisis information may change based on whether the emotions elicited by the crisis are accompanied by feelings of more or less certainty. For example, the publics that evince intense anger are likely to follow heuristic information processing, which predicts that they will form judgments that rely on information or opinions from credible sources, such as opinion leaders, experts, and professional media. On the other hand, the publics experiencing intense fear during a crisis may form judgments based on less authoritative sources of information.

Given this situation, the blanket claim that crisis responsibility attributions are based on deliberative analyses of crisis type, crisis history, and prior reputation (Coombs, 2007a), a claim prevalent in studies that deploy SCCT, appears to have diminished relevance. Such evaluation-inconsistency with respect to attributions of crisis responsibility poses a challenge to organizations wishing to develop effective communication strategies. Therefore we propose the following:

Proposition 6.1. When the publics experience initial crisis emotions with high intensity, the intense initial crisis emotions may promote systematic processing or heuristic processing of subsequent crisis information. When publics' crisis emotions promote systematic processing, their attitudes toward the crisis-bearing organization may be influenced by their deliberative evaluation of crisis information. When publics' crisis emotions promote heuristic processing, their attitudes toward the crisis-bearing organization may be influenced by credible secondary sources.

3.3.2.2.2. Selective processing. Related to emotional effects on cognition, selective processing has been found to diminish the accuracy of perceptions and beliefs. Evidence indicates that emotions tend to distort people's perceptions and beliefs, creating a filter that prevents the assimilation of crucial information (Isen, Shalker, Clark, & Karp, 1978; Mayer, Gaschke, Braverman, & Evans, 1992).

Research on selective processing began with the pioneering work of Bower and his colleagues on "mood-congruent processing" (Bower, 1981, 1991; Bower and Forgas, 2000; Bower et al., 1981; Forgas & Bower, 1987). Similarly, Lerner and Tiedens (2006) used the term "attention effects" to describe "a cluster of effects in which people selectively attend to and recall stimuli that have content or themes similar to the emotion they were experiencing prior to stimuli exposure" (p. 125). Nabi (2003) developed the concept of "the emotion-as-frame perspective" (p. 230), which describes the phenomenon whereby "discrete, context-relevant emotions selectively affect information processing, recall, and judgment" (p. 228). The selectivity bias of emotions in information processing is empirically supported in other ways as well. Scholars found that anxiety leads to the selective processing of information associated with schemata of personal danger (Mathews and MacLeod, 1985, 1994); depression induced by negative events triggers selective interpretation of subsequent events (Abramson, Metalsky, & Alloy, 1989); and individuals experiencing increased levels of depression or anxiety disproportionately identify or detect emotionally negative stimulus words (Foa & McNally, 1986; Powell & Hemsley, 1984).

The selectivity bias of crisis emotions truly matters during organizational crises because this bias may lead to extremity or polarization of publics' attitudes toward an organization. the publics with high-intensity initial crisis emotions may search for information that supports their emotional experience (Pham, Cohen, Pracejus, & Hughes, 2001; Yeung & Wyer, 2004). This confirmation bias increases the subjective coherence of judgments based on emotions (Pham, 2004), leading to inaccurate evaluations of an organizational crisis due to emotion-incongruent crisis information being selectively filtered. Therefore we propose the following:

Proposition 6.2. When the publics experience initial crisis emotions with high intensity, the intense initial crisis emotions may promote selective processing of emotion-congruent crisis information. Such selective processing may strengthen and even polarize publics' attitudes toward the crisis-bearing organization.

3.3.2.2.3. Information recall. As mentioned above, the initial crisis emotions that the publics experience can influence how the publics process subsequent crisis information. A person's emotional state can influence associative processes as well as the salience of congruent emotional material (Bower, 1981). This means that emotion-congruent information is more readily recalled from memory. For example, people experiencing anger generate angry associations from past experience, tell hostile stories, and are prone to find fault with others.

The effects of crisis emotions on crisis information imply that negative initial emotions related to a crisis may negatively influence the publics' retroactive assessments of both crisis history and the prior reputation of the organization in question. As Coombs and

Holladay (2007) revealed, the publics' perceptions of crisis history and pre-crisis organizational reputation can directly influence their attributions of crisis responsibility. Considering the power of negative emotions, however, memories associated with crisis history and the prior reputation of an organization may be recalled in an emotionally congruent manner. Thus, the relationship between an organization's crisis history and prior reputation and its level of attributed crisis responsibility may be influenced by the publics' initial crisis emotions. Therefore we propose the following:

Proposition 6.3. When the publics experience initial crisis emotions with high intensity, the intense initial crisis emotions may promote emotion-congruent recall of crisis memories concerning the crisis-bearing organization. Such negative aspects of crisis history and prior organizational reputation induced by publics' crisis emotions may influence publics' attitudes toward the crisis-bearing organization.

3.3.2.2.4. Responsibility attribution. Some studies have demonstrated the influence of discrete emotions on attributions of crisis responsibility. For example, Keltner, Ellsworth, and Edwards (1993) showed that sad participants perceived negative situational events to occur at a higher frequency than did angry participants; nevertheless, angry participants tended to attribute blame to other individuals at a higher frequency. On the other hand, Small, Lerner, and Fischhoff (2006) found that anger evoked more attributional thought than sadness, while both emotional states more commonly resulted in dispositional attributions than in situational attributions. The differences between these studies may be explained in two ways. First, Keltner et al. (1993) examined incidental emotions, while Small et al. (2006) examined integral emotions. Second, the former study used hypothetical events, while the latter provided its subjects with complex real-world stimuli.

Although previous studies come at the point from different angles, it is safe to conclude that discrete emotions influence the attributional process. Small et al. (2006) study used integral emotions and real-world stimuli, rendering their findings more suitable for crisis communication research. In the context of crisis communication, the different effects of crisis emotions on attribution challenge the rationality that is often taken for granted when scholars consider the publics' evaluations of organizational crisis responsibility. For example, intensely angry publics might attribute more crisis responsibility to organizations. However, the publics experiencing overwhelming feelings of sadness may perceive an organization's crisis responsibility within a broader situational context. Under such conditions, the organization is not regarded as the sole target of blame. The impact of intense initial emotions may have a stronger influence on attributions of crisis responsibility than rational evaluations of crisis type, controllability, and accountability. Therefore we propose the following:

Proposition 6.4. When the publics experience initial crisis emotions with high intensity, the intense initial crisis emotions may influence publics' attributions of crisis responsibility (more or less) and attribution approach (situational or dispositional). The publics' attitudes toward the crisis-bearing organization are influenced by their attribution level (more or less). Moreover, when the publics' crisis emotions promote situational attributions of crisis responsibility, their attitudes toward the crisis-bearing organization may be influenced by their evaluation of situations external to the crisis. When the publics' crisis emotions promote dispositional attributions of crisis responsibility, their attitudes toward the crisis-bearing organization may be influenced by their evaluations of the crisis-bearing organization's internal failures.

4. Conclusion

Emotion has drawn a great amount of interest from crisis communication scholars. Empirical crisis communication research on emotion has increased in the past decade and has demonstrated the critical role played by emotions during organizational crises. But existing crisis communication research concerned with emotional experience relies predominately on cognition-to-emotion approaches for defining crisis emotions and determining their induction processes. Cognition-to-emotion approaches, with their presupposition of rational information-evaluation processes and structural tendency to account for the impact of such rational processes on emotions, largely downplay the direct effects of emotional experiences on cognition, information processing, and attributions of organizational responsibility and reputation. While these same studies rely upon an emotion-effect approach in order to examine whether crisis emotions influence organizational reputation and the publics' behaviors, rational processes are uncritically seen to underlie all emotion formation, thereby rendering indirect any possible emotional influence on the effectiveness of crisis communication. This is primarily because previous studies have failed to consider an emotion-to-cognition approach, which provides a robust explanation for how crisis emotions can directly influence the publics' interpretations, evaluations, and judgments toward organizations. Similarly, previous studies largely fail to consider whether and how the publics deploy emotional patterns of information processing as opposed to rational ones. The conceptual work that is necessary to bridge these research gaps has so far been limited; therefore our literature review attempts to theoretically define the problem.

Our work offers a conceptual model that takes into account crisis communication theories and psychological theories. In doing so, our paper contributes to crisis communication scholarship in three ways. First, our model is based on the assumption that the publics process crisis information in multiple stages rather than in a straightforward, unitary way. We define two phases of crisis information processing based on crisis emotions and rational cognitive processes, allowing for the possible interaction of both. This brings us to the second contribution of our model: we propose how the publics' interpretations, evaluations, and judgments of organizations in crisis can be driven by both cognition-oriented patterns and emotion-oriented patterns based on the intensity of the initial crisis emotions. The publics experience initial crisis emotions that are determined not only by cognitive appraisal but also by the framing effects of crisis information and the mechanism of emotional contagion. Finally, our model explains how an emotion-to-cognition approach is possible and critical for understanding the publics' evaluations of organizational crises. Initial crisis emotions with high

intensity may influence the crisis information processing of publics along four possible routes: information processing routine, selective processing, information recall, and responsibility attribution.

As our model is only conceptual, it requires empirical tests for validation. The purpose of our study is to expand the research scope of the crisis communication field with respect to our understanding of the role played by emotion in crisis situations. Subsequent studies could follow one of several directions. First, scholars could undertake valuable explorations of the effects of online emotional contagion. Emotions likely play a strong role in online viral sharing processes, and this new trend in online behavior remains relatively unexplored in crisis communication research. Second, the relationship between emotion-to-behavior and emotion-to-cognition remains to be further explored. Although the assumption of emotional release can explain how emotion-to-cognition functions after emotion-to-behavior mechanism happens, there probably exists parallel relationship in which both two mechanisms may happen simultaneously. Third, subsequent studies can focus on and elaborate the emotion-to-cognition approach outlined in this study. Experiments capable of examining the effects of four crisis emotions (i.e., anxiety, anger, sadness, and fright) on depth of information processing, selective processing, information recall, and responsibility attribution hold great promise for empirically validating our model. Finally, extension and elaboration of the overall theoretical framework is necessary. In other words, our model attempts to incorporate more variables that are critical in crisis communication research. For example, the specific relational characteristics of organization-public relationships such as trust and commitment (Huang, 2015; Huang & Zhang, 2013) and publics' coping strategy in organizational crises (Jin et al., 2007, 2012) are worthy of examination. In sum, effective tests of this model will be carried out mainly through future experiments with real-crisis stimuli that will, in addition, hopefully provide grounds for further theoretical suppositions.

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