ABSTRACT

Background and Purpose. Catastrophic crises such as floods have resulted in millions of fatalities and tens of billions of dollars in direct economic losses annually worldwide throughout the twentieth century (Merz et al., 2021). Crises can create severe and widespread disruption, but successful communication may also act as a catalyst for constructive change in the post-crisis stage, as it fosters a shared understanding of the situation and provides protective action taking instructions (Liu et al., 2016; Sellnow & Seeger, 2021). The role of crisis communication in the post-crisis stage is insufficiently examined (Liu & Viens, 2020) despite the fact that many communities have the greatest need for support when the media spotlight and widespread public attention disappears. This dissertation emphasizes the notion of learning from crises in the post-crisis stage (Huber, 1991; Moynihan, 2009; Renå & Christensen, 2018) by examining individuals' coping and their perceived community resilience in the post-crisis stage within a collectivistic and non-democratic context (i.e., mainland China).

Theoretical Frameworks. To understand how individuals adapt to emotionally charged situations like floods, this dissertation draws insights from the integrated crisis mapping model (i.e., ICM; Jin et al., 2012; Jin et al., 2016), the infectious disease threat appraisal model (i.e., IDT; Jin et al., 2020; Jin et al., 2021), emotional contagion theory (Barsade, 2002; Barsade et al., 2018), social appraisal theory (Manstead & Fischer, 2001; Parkinson, 2011; 2021), and identity-based emotions research (Mackie et al., 2008; Smith & Mackie, 2015; Tajfel & Turner, 1979; Turner et al., 1987) to explore how individuals' appraisal of a crisis, susceptibility to emotional contagion (Doherty, 1997; Jin et al., 2020), and identification with their local communities influence individuals' coping and perceived community resilience (the communities advancing

resilience toolkit (CART) assessment; Kim et al., 2023; Pfefferbaum et al., 2013; Pfefferbaum et al., 2015).

Methods. As a country prone to flooding, China's flood damage constitutes a significant portion of global flood losses (Ding et al., 2022; Guo et al., 2023; Qazlbash et al., 2021). Yet, no found crisis communication research provides evidence-based scientific guidance for individuals and social groups in flood-prone areas of China to recover and rebound. Thus, this dissertation explores how individuals cope and cultivate community resilience in the post-disaster recovery phase in the Lukou District, Zhuzhou City, Hunan Province of China. This dissertation deploys a self-report survey utilizing systematic cluster sampling to test the proposed model. Because the flood season in Hunan historically is from April to the beginning of September (Du et al., 2019; Hu et al., 2021; Zeng et al., 2021), the data collection started in mid-September 2022 and was completed by mid-October 2022 to capture residents' post-flooding experiences. A total of 1,000 complete responses were collected. Because this dissertation's proposed model includes latent factors, a two-phase modeling process (i.e., measurement and structural; Muller & Hancock, 2019) with maximal likelihood with robust standard error (MLR) estimation is adopted for analysis.

Results. The overarching idea delivered in this dissertation's findings is that individual coping mechanisms (e.g., perceptions, affective experiences, and behavioral intentions) as adaptive and socially functional coping, further contribute to individuals' perceived local community resilience.

Focusing on the adaptive perspective of individuals' coping, this dissertation's findings show that vulnerable individuals (e.g., those who perceive greater incurred damage and resource constraints) are more likely to experience negative emotions and less likely to engage in

information seeking behaviors or take protective measures to recover from damage and prevent future threats in the post-crisis stage. This dissertation's findings on the relationships between individuals' crisis appraisals (e.g., perceived crisis predictability, controllability, and responsibility) and individuals' affective experiences of emotions and behavioral intentions differ from previous research that focuses on the pre-crisis and crisis stages in Western contexts (e.g., Austin et al., 2021; Jin, 2010; Jin et al., 2020). Furthermore, this dissertation's findings reveal that negative and positive emotions' influences on individuals' information seeking intentions, passive protective action taking intentions, and active protective action taking intentions are largely muted in the post-crisis stage within a collectivistic and non-democratic context.

Focusing on the socially functional perspective of individuals' coping, this dissertation reveals that individuals' perceived social support, feature-driven emotional contagion, meaning-driven emotional contagion, and ingroup identification influence individuals' affective experiences of negative and positive emotions, information seeking intentions, passive protective action taking intentions, and active protective action taking intentions. Specifically, findings on perceived social support show that participants who perceived higher levels of social support are less likely to experience negative emotions about floods and more likely to have passive protective action taking intentions. Findings on feature-driven emotional contagion in public emergencies show that participants with higher tendencies of unconsciously capturing others' emotional expressions are more likely to experience negative emotions about floods and have passive protective action taking intentions. Findings on meaning-driven emotional contagion in public emergencies show that participants with higher tendencies to capture others' emotional expression by cognitively interpreting the crises are more likely to experience positive emotions

about floods and have active protective action taking intentions. Findings on ingroup identifications show that participants' identification with the local community contributes to their information seeking intentions, passive protective action taking intentions, and active protective action taking intentions.

For individuals' perceived community resilience, this dissertation's findings show that participants with higher information-seeking intentions and active protective action taking intentions were more likely to perceive greater community resilience. Whereas there is no found statistically significant relationship between participants' passive protective action taking intentions and perceived community resilience.

Theoretical and Practical Implications. This dissertation's findings contribute to crisis communication research and practices. This dissertation contributes to crisis communication research by examining individuals' coping in the post-crisis stage, extending existing crisis communication literature on emotion by integrating group-level factors (e.g., feature-driven emotional contagion, meaning-driven emotional contagion, and ingroup identification) and broadening previous crisis communication literature by studying a collectivistic and non-democratic context. This dissertation also advances crisis communication research on community resilience by tripling the explained variance of perceived community resilience (from 21% to 65%) and paving the way for future crisis communication research by providing measurement instructions with high reliability scores.

This dissertation also offers valuable insights for crisis communicators, enabling them to comprehend the intricate mechanisms of individuals' coping and community resilience in a collectivistic and non-democratic context. This dissertation's findings can assist crisis communicators in devising culturally sensitive messaging and recovery-focused intervention

programs that cater to the needs of vulnerable groups while bolstering the community's overall capacity to rebound in the crisis recovery phase.

EVERY CLOUD HAS A SILVER LINING: HOW RESIDENTS IN FLOOD-PRONE AREAS IN CHINA COPE AND CULTIVATE COMMUNITY RESILIENCE IN THE POST-CRISIS STAGE

by

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Table of Contents

Chapter 1. Introduction

Section 1.1 Research Problem

Crises like floods are a vital part of the human experience, comprising the interplay of physical events and social interactions (Quarantelli, 1982). Devastating crises have the potential to rapidly restructure populations, disrupt ecosystems, weaken economic stability, reconstitute institutions, and alter widely held beliefs (Heath et al., 2021; Quarantelli et al., 2007). For instance, according to the State Council of the People's Republic of China (Yu, 2022), the 2021 Henan floods resulted in 398 deaths or missing individuals and impacted nearly 14 million people, with direct economic losses totaling 120.06 billion yuan (equivalent to approximately 16.5 billion USD). Crises like the Henan floods can create severe and widespread disruption but may also act as a catalyst for constructive change and development through effective crisis communication and management (Ulmer et al., 2017). Under the drastic influences of crises, social units such as individuals, families, organizations, and communities grapple with disasters (e.g., coping; Jin et al., 2021) and possibly cultivate networked adaptive capacities (e.g., community resilience; Norris et al., 2008) that can allow individuals to recover and communities to rebound in the aftermath of disasters, where crisis communication plays a vital role (Houston et al., 2018; Sellnow & Seeger, 2021).

Crisis communication refers to gathering, processing, and disseminating information to address an emergent and hazardous situation (Sellnow & Seeger, 2021). Because most harm and direct damage to individuals and organizations happens in the acute crisis stage (i.e., crisis event; Coombs, 2021), the acute crisis stage captures the most scholarly attention; little is known about the crisis recovery phase (First et al., 2020; Liu & Viens, 2020; Spialek & Houston, 2018). Communication in the recovery phase (i.e., post-crisis communication) involves assessing the

crisis management efforts and providing follow-up crisis messages as needed (Sellnow & Seeger, 2021). Learning is a vital aspect of post-crisis communication and management (Sellnow & Seeger, 2021). Specifically, susceptibility to harm (i.e., vulnerability) that is associated with individual characteristics and social system features can be revealed when confronting crises (Morsut et al., 2021; Turner, 1976). When pre-existing personal and environmental conditions cause the occurrence of crises or escalate crisis damage, crisis communication and management in the post-crisis stage should not be limited to restoring predisposing conditions but striving for improvement (Morsut et al., 2021).

Effective post-crisis communication can convert devastating disasters into forces for social changes because ongoing communication can advance crisis understanding; meanwhile, revised rules or procedures can mitigate negative consequences of crises and prevent future disruptions (Reynolds & Seeger, 2005). Individuals and their social groups are fundamental for implementing crisis communication and management practices (Cox & Perry, 2011). Understanding individuals' coping and their perceptions of their groups' adaptive capacities in the post-crisis stage is vital for advancing crisis communication and management practices.

This dissertation emphasizes the notion of learning from crises in the post-crisis stage (Huber, 1991; Moynihan, 2009; Renå & Christensen, 2018) and contributes to the limited knowledge on post-crisis communication by examining how residents in flood-prone areas of south-central mainland China cope and cultivate community resilience in the crisis recovery phase. The following sections in Chapter 1 summarize research gaps in existing crisis communication literature, emphasize this dissertation's significance in advancing practice and research, and preview this dissertation's overall structure and the adopted method for answering the proposed research questions.

Section 1.2 Research Gaps in Crisis Communication

Budding Research Topic: How Individuals Cope and Cultivate Community Resilience in the Post-Crisis Stage. The post-crisis stage begins when uncertainty about crises diminishes, and certain social functioning is gradually restored (Coombs, 2021; Reynolds & Seeger, 2005). Scholars studying this crisis period in Western contexts (e.g., Carr & Jensen, 2015; Sellnow & Seeger, 2021) have assumed that the post-crisis stage is often accompanied by the acceptance of incurred loss, the recognition of recovery efforts, as well as the emergence of positive emotions (Guo, 2017; Xu, 2018). The majority of existing crisis communication research on the post-crisis stage focuses on improving organizational management following crises (e.g., organizational learning; Larsson, 2010; Popper & Lipshitz, 2000; Sitkin et al., 2011; Veil & Sellnow, 2008) or on organizational crisis responses within a limited time frame (e.g., the discourse of renewal; Du Plessis, 2018; Xu, 2018).

While understanding organizational crisis management and communication is undoubtedly crucial, affected individuals and their socially significant others (e.g., family members and friends) are the first-line responders to detrimental crises like disasters before organizations intervene (Sellnow & Seeger, 2021). Organizations' crisis management and communication efforts can be useless without individuals' responses, "like a fish out of water" (Cox & Perry, 2011, p. 395). Therefore, this dissertation argues that more scholarly attention is needed in exploring how individuals cope and cultivate adaptive capacities in the post-crisis stage.

Western Biases in Crisis Communication. Existing crisis communication research mainly focuses on the Western context, whereas different cultural contexts can influence both crisis communication research and applications (Heath et al., 2021). Crises are hard to predict

(Coombs, 2021), where uncertainties can trigger individuals' desire to comprehend threat and harm, as well as their control mechanisms that lessen crises' negative consequences (Liu et al., 2016). Knowledge serves as a tool for coping with uncertainty, but knowledge is culturally dependent (Heath et al., 2021). Simply put, the guidance crisis communication research can provide to practice depends on crisis communication research's compatibility with cultural contexts.

One of the underlying reasons that culture must be central to crisis communication is that individuals' cognitive processes vary across physical and epistemic systems (Nisbett & Miyamoto, 2005). For instance, de Oliveira and Nisbett (2017) suggested that Westerners use more analytical thinking, attending to the object and categorizing its behavior using rules. In analytical thinking, change tends to be assumed as a linear process that involves the expectation of stasis. Whereas East Asians use more holistic and dialectic thinking, attending to the entire system and relationships (Nisbett & Miyamoto, 2005). In holistic and dialectic thinking, change is viewed as a nonlinear and circular process that influences units in a networked system; furthermore, change may not have a termination but is viewed as a constant state of flux where negative events can become positive and vice versa (Nisbett et al., 2001).

Different cognitive processes in Eastern and Western cultures can lead to individuals perceiving and responding differently to dynamic and constantly changing events like crises. For instance, through the holistic and dialectical lens (de Oliveira & Nisbett, 2017), East Asians and their social group's vulnerability (Morsut et al., 2021) and networked adaptive capacities (i.e., community resilience; Norris et al., 2008; Pfefferbaum et al., 2015) in crises can coexist and be mutually interdependent, exemplifying crises as complex phenomena (Morsut et al., 2021). Also, holistic and dialectical thinking emphasizes context and relationships, which means units are

seen as part of a networked system rather than independent entities (Nisbett et al., 2001). In crises, East Asians with holistic and dialectical thinking may be more susceptible to the influence of their interpersonal relationships and social groups (e.g., family, organizations, and local community groups; Norris et al., 2008), resulting in a range of crisis responses. Acknowledging the potential differences in Eastern Asians' and Westerners' crisis responses, this dissertation argues that concentrating predominately on the Western context or adopting pre-existing theoretical frameworks developed in the Western context without modifications may render issues when practicing crisis communication beyond the Western context (Huang, 2001; Huang et al., 2018). Also, this dissertation suggests that understanding how individuals respond to crises in a variety of cultural contexts is vital for advancing crisis communication research and practice.

The Chinese symbol for crisis, Weī Jī (危机), describes a dangerous scenario fraught with changes and possibilities, already demonstrating how empirical research in the Eastern context should proceed (Ulmer et al., 2017). This definition of crisis in an Eastern culture places emphasis on opportunities embedded in uncertain situations, which echoes the learning and recovery goals of post-crisis communication (Sellnow & Seeger, 2021) as well as research on holistic and dialectical thinking (e.g., de Oliveira & Nisbett, 2017; Nisbett & Miyamoto, 2005). Therefore, this dissertation defines crisis as a fluid and cyclical process. Meanwhile, this dissertation suggests that examining the role of communication in transforming adverse events into developmental opportunities, such as enhancing community resilience in the post-crisis stage, can be beneficial for extending crisis communication beyond the Western realm.

Crisis Communication Research in a Non-Democratic and Eastern Context. Mainland China has garnered growing research attention from the crisis communication discipline as the world's second-largest economy with a non-democratic and collectivist cultural

context (Cheng & Lee, 2019). The majority of Chinese crisis communication research focuses on government crisis communication (Huang et al., 2016; Wu et al., 2016), specifically on what, when, and how government agencies or corporations communicate with individuals during crises (e.g., Hu & Pang, 2018; Mak & Song, 2019; Zhang et al., 2020; Zhao, 2018).

Though undeniably valuable for understanding how the Chinese government communicates to preserve legitimacy (e.g., Cheng et al., 2020; Hu & Pang, 2018; Veil & Yang, 2012), the roles of Chinese individuals' interpersonal communication and connections in their crisis responses have been rarely examined. Individuals and their socially significant others (e.g., family members and friends) are vital in responding to large-scale crises like disasters (Quarantelli et al., 2007; Sellnow & Seeger, 2021). In line with research on holistic and dialectical thinking (de Oliveira & Nisbett, 2017; Nisbett & Miyamoto, 2005) that indicates that East Asians tend to view units as components of a networked system, the collectivistic culture in China means individuals value group connections (e.g., Oyserman et al., 2002) and indicates that interpersonal interactions can be essential for Chinese individuals' post-crisis recovery, though to date these relationships have not been examined in the crisis literature.

Additionally, the time constraints in crisis responses and the non-democratic system in China may render the term "publics" inapplicable to describing affected Chinese citizens in disasters (Hou, 2011). Therefore, compared to the term "publics," this dissertation argues that the concept of "community" can be a feasible theoretical foundation (Hallahan, 2004) for developing crisis communication theories and practice in an Eastern cultural context like China. Furthermore, this dissertation argues that the demanded recovery efforts of large-scale crises like disasters are way beyond a single individual's capacity Accordingly, this dissertation examines the influences of individuals' group connections and interpersonal interactions on individuals'

responses to disasters. This dissertation suggests that understanding how to cultivate community resilience (Norris et al., 2008) in disasters is essential for advancing crisis communication research and practice, especially in non-democratic and non-Western contexts.

Emerging Crisis Communication Research on Community Resilience. A community consists of a complex interplay of natural and sociocultural components (Norris et al., 2008), which can be a viable concept for describing individuals who share a common fate at the post-crisis stage in a non-democratic collectivistic culture. Community resilience is collective in nature and defined as networked adaptive capacities that contribute to societal functioning following disasters (Boin & McConnell, 2007; Kendra & Wachtendorf, 2007). Although community resilience is critical for crisis coping and recovery, similar to the research status for post-crisis communication, crisis communication research on community resilience from the individual perspective is still at a nascent stage. Current crisis communication studies that have empirically examined community resilience have focused on how individuals' communicative behaviors regarding disasters associate with their perceptions of community resilience (e.g., Houston et al., 2017; Spialek et al., 2016; Spialek & Houston, 2018), where only around 21% of the variance in individuals' perceived community resilience has been explained (see Spialek & Houston, 2018).

This dissertation notes the following reasons that possibly impede the development of community resilience research and practice. First, the theoretical framework for assessing community resilience in crisis communication research (e.g., the communities advancing resilience toolkit; Kim et al., 2023; Pfefferbaum et al., 2013; Pfefferbaum et al., 2015) has been developed and mainly applied in the Western individualistic context; its reliability and validity in other cultural contexts are unknown. Second, except for individuals' disaster communication,

influential factors for community resilience have not been systematically specified (e.g., Spialek & Houston, 2018; Spialek et al., 2019).

Recognizing these gaps in crisis communication research on community resilience, this dissertation examines how individuals' perceptions of community resilience associate with individuals' crisis appraisals, identification with the local community, susceptibility to emotional contagion, emotional responses, and intentions to take communicative and protective actions in the aftermath of floods in a nondemocratic and non-Western cultural context: mainland China. By systematically assessing how individuals' cognitive and emotional responses as well as behavioral intentions influence individuals' perceived community resilience, this dissertation is the first in crisis communication research to test the validity and reliability of the communities advancing resilience toolkit (Kim et al., 2023; Pfefferbaum et al., 2013; Pfefferbaum et al., 2015) in the context of mainland China. Also, this dissertation is the first crisis communication research that assesses how crisis emotions influence individuals' perceived community resilience and the first to theorize group-level crisis emotions.

Individuals' Responses to Crises are Adaptive and Socially Functional. Appraisal theory (Lazarus, 1991; Lazarus & Folkman, 1984) is one of the most frequently applied theories that explains individuals' cognitive, emotional, and behavioral responses to stressful events. Stressful events like crises are fraught with uncertainties and can trigger individuals' coping mechanisms (Lazarus, 1991; Jin et al., 2012). Emotions are individuals' adaptive responses to the environment they find themselves in (Lazarus, 2006). Emotions are adaptive because they are shaped by individuals' judgments of achieving specific goals in a situation (i.e., appraisals; Folkman & Lazarus, 1988; Roseman & Smith, 2001) and can influence individuals' behavioral intentions such as information seeking and protective action taking intentions (Austin et al.,

2023; Guo, 2017; Jin et al., 2016; Jin et al., 2020; Jin et al., 2021). Emotions are socially functional because the significance of emotional events varies according to individuals' interpersonal relationships, group identities, and sociocultural environments (Lazarus, 2006; Van Kleef, 2009). Meanwhile, experienced and expressed emotions can influence individuals' interactions and guide communities to meet shared goals (Frijda & Mesquita, 1994; Keltner & Haidt, 1999). Emotions' adaptive and socially functional nature indicates that a comprehensive understanding of individuals' emotions can help communicators better support individuals and communities in recovering from adverse situations like crises (Fischer & Manstead, 2008; Jin et al., 2007, 2010, 2012; Lazarus, 1991; Levenson, 1999).

Existing crisis communication studies on emotions are primarily rooted in appraisal theory (Lazarus, 1991; Lazarus & Folkman, 1984) and have focused on how individuals' evaluations of crises influence their emotional and behavioral responses to the crisis at the pre-crisis and crisis stages (e.g., Brummette & Sisco, 2015; Jin et al., 2020; Lim et al., 2019; Liu et al., 2020b). Though obviously fruitful, the current crisis communication literature on emotions has largely neglected that crises and individuals' corresponding responses occur in a social system (Heath, 2018a, 2018b; Pulido, 2012). In other words, the potentially influential factors at the interpersonal, group, and cultural levels have been largely neglected. For instance, the impacts of individuals' interpersonal interactions and group identities on their emotional responses and subsequent behavioral intentions have not been adequately explored in crisis communication research.

Therefore, this dissertation suggests that a more comprehensive understanding of emotions from adaptive and socially functional perspectives is needed to advance crisis communication research and practice. This dissertation draws insights from emotional contagion

theory (Barsade, 2002; Barsade et al., 2018; Hatfield et al., 1993) and identity-based emotions research (Mackie et al., 2008; Smith & Mackie, 2015; Tajfel & Turner, 1979; Turner et al., 1987) to explore how individuals' susceptibility to emotional contagion (Doherty, 1997; Jin et al., 2020) and identification with their local communities may influence individuals' post-disaster coping and perceived community resilience. This dissertation is the first crisis communication research study that examines crisis emotions at the group level.

Section 1.3 Research Purposes

In response to research gaps noted in the prior section, the main purpose of this dissertation is to assess how individuals in an Eastern cultural context cope and cultivate community resilience in the aftermath of crises, integrating the impacts of individuals' interpersonal interactions and group identities. Specifically, this dissertation's context is the most frequently occurring and destructive disaster in mainland China: flooding (Kundzewicz et al., 2019). Meanwhile, this dissertation's targeted participants are the most vulnerable groups in floods: residents in flood-prone areas (Qazlbash et al., 2021). China, a flood-prone country, accounts for a considerable proportion of world flood losses (Qazlbash et al., 2021). Moreover, China has the world's most disasters, whereas most crisis communication studies focus on the US (Centre for Research on the Epidemiology of Disasters, 2020). Besides the practical value of saving property and lives, the focus of this dissertation possibly avoids reifying the Western and managerial biases in current crisis communication literature (Heath et al., 2021) through focusing on community members in an Eastern context.

Second, this dissertation uses appraisal theory (Jin et al., 2020; Lazarus, 1991) as the fundamental theoretical framework to examine how individuals in a flood-prone area perceive, feel, and intend to act about floods (i.e., appraisals, emotions, and coping). Third, this

dissertation adopts the communities advancing resilience toolkit (i.e., CART; Kim et al., 2023; Pfefferbaum et al., 2013; Pfefferbaum et al., 2015) to first assess its validity and reliability in a nondemocratic and non-Western context. This dissertation also examines how individuals' perceptions and emotions influence behavioral intentions, which further influence individuals' perceived community resilience. Fourth, this dissertation draws insights from emotional contagion theory (Barsade, 2002; Barsade et al., 2018; Hatfield et al., 1993) and identity-based emotions research (Mackie et al., 2008; Smith & Mackie, 2015; Tajfel & Turner, 1979; Turner et al., 1987) to extend crisis communication research on emotions to the group level.

Findings from this dissertation offer theoretical and applied contributions. For theoretical advancement, this dissertation contributes to crisis communication research from three main aspects. First, this dissertation is the first rigorous and empirical crisis communication research that examines individuals' responses in the post-crisis stage in the context of mainland China. Second, this dissertation contributes to crisis communication research on emotions by proposing a theoretical model that systematically assesses how influential factors at the intrapersonal, interpersonal, and group levels associate with individuals' emotional responses and behavioral intentions. Third, this dissertation advances crisis communication research on community resilience by examining the associations between individuals' protective behavioral intentions and perceived community resilience. For practice development, this dissertation's findings facilitate the Chinese local government's efforts to provide better support to community members in flood-prone areas through effective crisis communication.

Section 1.4 Dissertation Overview

Subsequent chapters in this dissertation are structured as follows.

Chapter 2 reviews crisis communication literature and adopted theories. Before delving into details on theories related to this dissertation's focal question of how individuals cope and cultivate community resilience in the post-crisis stage, an understanding of crisis and crisis communication is essential. Section 2.1 defines crisis as a fluid and cyclical process with a lifecycle when viewed in an extended timeframe, reviews crisis communication research across crisis stages (i.e., pre-crisis, crisis event, and post-crisis; Coombs, 2021; Sellnow & Seeger, 2021), highlights the critical role of post-crisis communication in transforming crises into forces for positive social change and calls for more research to examine how individuals respond in the post-crisis stage.

Acknowledging that contexts influence the application of crisis communication, but the majority of crisis communication research examines the Western context (Heath et al., 2021), section 2.2 comprehensively reviews Chinese crisis communication research in both English and simplified Chinese (i.e., the standardized Chinese writing system that was introduced by the government of the People's Republic of China in the 1950s; Spolsky, 2014), which identifies the relational-oriented feature and notes that "community" instead of "publics" is a more feasible theoretical foundation for Chinese crisis communication research. Accordingly, section 2.3 thoroughly illustrates one of this dissertation's central concepts: "community resilience" and its' five components (Pfefferbaum et al., 2015), revealing the need to systematically identify influential factors that explain the variances in individuals' perceived community resilience.

To comprehensively understand individuals' coping mechanisms and locate the influential factors for perceived community resilience in the post-crisis stage, section 2.4 presents and illustrates relevant theoretical frameworks at the intrapersonal, interpersonal, and group levels, including appraisal theory (Lazarus, 1991), the integrated crisis mapping model

(i.e., ICM; Jin et al., 2012; Jin et al., 2016), the infectious disease threat appraisal model (i.e., IDT; Jin et al., 2020; Jin et al., 2021), emotional contagion theory (Barsade, 2002; Barsade et al., 2018), social appraisal theory (Manstead & Fischer, 2001; Parkinson, 2011; 2021), and identity-based emotions research (Mackie et al., 2008; Smith & Mackie, 2015; Tajfel & Turner, 1979; Turner et al., 1987). Along with the literature review, research questions are proposed and summarized again in the last section of Chapter 2 (i.e., section 2.5).

Chapter 3 first delineates this dissertation's context: the post-flood recovery phase in Lukou District, Zhuzhou City, Hunan Province of mainland China. Then, Chapter 3 specifies the applied quantitative research method: using an in-person survey for data collection and the latent variable path analysis (i.e., LVPA) in Mplus for the data analysis. Chapter 3 provides detailed information on this dissertation's participant recruitment, sampling size, measurements, the data analysis process, and limitations.

Chapter 4 presents the answers to the research questions, and **Chapter 5** discusses the dissertation's key contributions to theory and practice in conversation with the prior crisis communication research. This dissertation advances crisis communication research and practices by identifying factors that can assist communities in recovering from future mega-disasters (i.e., large-scale, high-impact, infrequent disasters that directly or indirectly affect individuals; Liu & Boin, 2020) like floods.

Chapter 2. Literature Review

Section 2.1 Defining Crisis and Crisis Communication

Understanding crises is vital for societies and individuals because crises are influential forces that can generate more social changes than other phenomena (Carr, 1932; Sellnow & Seeger, 2021). This dissertation focuses on a distinctive kind of crisis: disasters (Coombs, 2021; Heath et al., 2021). As disasters and emergencies have increased in frequency and severity worldwide, resulting in fatalities, social disruptions, and economic losses (Huang et al., 2021), crisis communication research should provide guidance for individuals and their communities in recovering from and reducing disasters' negative impacts, including in under-researched non-Western contexts (Jiang & Tang, 2022; Zhang et al., 2020).

Disasters are abrupt events that disrupt societies' functioning and necessitate new actions (Quarantelli, 1998). In other words, devastating crises like disasters can cause widespread and systematic disruption but also can lead to renewal and resilience through effective management and communication (Ulmer et al., 2017). The primary goal of this dissertation section is to define crisis and detail the role of communication in the initiation, management, and resolution of crises.

This dissertation adopts a developmental approach (Carr, 1932; Guth, 1995; Turner, 1976) and defines crises as continuously changing events with life cycles when viewed in an extended timeframe. The developmental approach has been widely used for crisis management because it captures the dynamic nature of crises and guides crisis communication and management practices (Sellnow & Seeger, 2021). Specifically, crises' continuously changing feature means that the development of a crisis event can be nonlinear and cyclical (Morsut et al., 2021; Turner, 1986); accordingly, this dissertation argues that crisis communication should be

flexible and continuous. For instance, crisis communication efforts in the crisis recovery phase are not the endgame but lay the foundation for successfully preventing and mitigating future threats and damages. Crises' life cycle means that, though complex, crises have specific stage-related features that necessitate specific communication strategies (Sellnow & Seeger, 2021). Segmenting a crisis into stages enables crisis communication scholars and practitioners to anticipate informational needs throughout the crisis's life cycle, allowing them to propose strategic crisis responses.

To illustrate the role of crisis communication throughout crises' life cycle, this dissertation adopts the widely used three-stage models of crises (i.e., pre-crisis, crisis event, and post-crisis; Coombs, 2021; Ray, 1999; Seeger et al., 2001). Section 2.1.2 provides an integrative overview of crisis communication literature on the three stages and illustrates the importance of crisis communication in the post-disaster recovery phase to convert crises into positive forces for social changes by enhancing individuals' coping and groups' adaptive capacities (e.g., protective behavioral intentions, Liu et al., 2015; community resilience, Houston, 2021; Norris et al., 2008; Pfefferbaum et al., 2015).

Section 2.1.1 Defining Crisis: Forces for Social Changes

Definitions of crisis derived from Western literature often include words like "unpredictable" and "uncertain" to reflect the ever-changing nature of crisis' causes (e.g., Coombs, 2021, p. 3; Fink, 2013, p. 7; Institute for Public Relations, 2007). The dynamic and interdependent nature of crisis-related affairs necessitates the implementation of crisis communication and management to minimize harm. In its Eastern etymology, "crisis" refers to a pivotal point that necessitates decision-making (Seeger & Sellnow, 2016). For instance, the Chinese symbol for crisis, Weī Jī (危机), illuminates how the term is interpreted in Eastern

cultures such as China (Ulmer et al., 2017). Specifically, Weī can be translated roughly as "danger, dangerous," whereas Jī can refer to "opportunity" or "a turning point" (Mair, 2010). Thus, in Eastern cultures like China, the term "crisis" can be defined as a perilous situation embedded with changes and opportunities (Sellnow & Seeger, 2021; Ulmer et al., 2017). This dissertation highlights the learning opportunities in crises and emphasizes the vital role of post-crisis communication in establishing a new normal to prevent and mitigate future crises.

As a crucial kind of crisis, a disaster is distinct because these devastating events can sometimes be predicted and mitigated but not entirely prevented (Heath et al., 2021). Specifically, disasters are caused by destructive events such as earthquakes, severe weather (e.g., hurricanes and tornadoes), bush/forest fires, and flooding (Cheng & Lee, 2019; Lim et al., 2019; Liu, Atwell Seate, Iles & Herovic, 2020). Under the influence of climate change, the frequency and intensity of disasters have increased globally (Sapkota & Kotanko, 2023). Disasters' detrimental characteristics, as well as the increase in frequency and intensity, pose an increasing threat to social functioning and result in a growing need for research to advance the knowledge for strategically coping with disasters (Heath, 2018a, 2018b).

Though the occurrence of certain disasters may be beyond human control (e.g., earthquakes; Battistelli & Galantino, 2019; Stallings, 1995), aligning with the crisis' definition in the Eastern etymology, there are turning points in disasters. First, disasters' negative consequences on societal functioning can be mitigated through individuals' and communities' crisis communication and management efforts (Heath et al., 2021; Norris et al., 2008). Second, disasters that involve human factors, such as extreme weather related to climate change, can be reversed through individuals' and communities' actions (World Meteorological Organization, 2021). Third, with the notion of learning from crises, individuals' coping and their communities'

adaptive capacities can be improved in the aftermath of crises via crisis communication and management efforts (Morsut et al., 2021; Sellnow & Seeger, 2021).

Communication is essential for crisis consequence mitigation and future crisis prevention. Accurate, timely, and effective communication among community members, between organizations and community members, and beyond community boundaries can strengthen communities' adaptive capacities to crises (Houston, 2018; Liu & Kim, 2021; Pfefferbaum et al., 2015; Sellnow & Seeger, 2021; Stephens et al., 2023). With an emphasis on the centrality of communication in individuals' and communities' recovery from disasters, as well as the fact that communication occurs throughout crises' lifecycles (Heath et al., 2021; Houston, 2018), this dissertation section takes a developmental approach to understand the progression of crises and communities' related communication needs.

The Developmental Approach. Research conducted in the West finds that individuals involved in crises tend to perceive crises as completely novel events that lack a discernible order or pattern (Coombs, 2021). However, the patterns and structures of crises can become evident when viewed over an extended period, especially for recursive crises like disasters such as floods, hurricanes, and tornadoes (Sellnow & Seeger, 2021; Weick, 1995). Scholars have adopted the developmental approach to analyze crises, both to improve crisis understanding and facilitate crisis management (e.g., Carr, 1932; Guth, 1995). For instance, Carr (1932) defined crises like disasters as forces of social change and decomposed crises into three stages "(1) a precipitating event, (2) a dislocation of adjustment, and (3) a series of (a) individual (b) interactive), and (c) cultural readjustments working out eventually to a new level of equilibrium" (p. 214)."

Three ideas can be extracted from the developmental approach of crises. First, crises are time-sensitive phenomena that include new issues and needs arising at different crisis phases (Sellnow & Seeger, 2021; B. Turner, 1976). From a developmental perspective, a crisis includes incubation, enactment, and adjustment phases (Sellnow & Seeger, 2021). Importantly, segmenting crises into phases does not mean crises' development has to be linear but aims to facilitate crisis communication and management practices (Fink, 1986; Guth, 1995). Second, crises do not occur in a vacuum, which is the same for individuals' responses to crises. Individuals' intrapersonal reactions, interpersonal interactions, and cultural contexts may all have impacts on how individuals respond to crises (Liu & Levenshus, 2023; Liu & Viens, 2020). The complex causal relationships in a crisis can lead to crisis phases that may not have equal duration, and each phase does not need to be fully processed before entering the subsequent stage (Sellnow & Seeger, 2021). For example, a lack of effective crisis communication and management can prolong a crisis enactment phase that may intersect with other developing crises. Third, with strategic coping, crises can restructure individuals' and communities' crisis understanding, initiating profound changes such as changing widely held beliefs, reshaping institutions, influencing economic stability, resulting in demographic shifts, and altering ecosystems in the aftermath of crises (i.e., the post-crisis stage; Coombs, 2021; Huber, 1991; Moynihan, 2009; Renå & Christensen, 2020).

Integrating insights from the developmental approach (Carr, 1932; Guth, 1995; Turner, 1976), this dissertation defines crises as continuously changing events with life cycles when assessed over an extended timeframe. This dissertation suggests that a crisis' development can be fluid and cyclical, fundamentally about the nature and manifestations of social order (i.e., societal structures that build on cultural values and influence how individuals act; Bendix &

Bendix, 2017) and disorder. Also, this dissertation argues that crisis communication and management efforts in the aftermath of crises are necessary components for turning crises into opportunities by bringing a new state of social order that is more resilient to future crises.

Section 2.1.2 Three Crisis Stages and Relevant Crisis Communication Research Foci.

The developmental approach views crises as time-sensitive social phenomena involving multiple actors (e.g., individuals, families, and organizations), and actors' responses to crises are frequently interdependent (Carr, 1932; Ulmer et al., 2017). Sellnow and Seeger (2021) noted that new issues and needs arise as a crisis progresses. A crisis' incubation, enactment, and adjustment phases correspond to the three crisis stages frequently employed in crisis communication literature: pre-crisis, crisis, and post-crisis (Coombs 2021; Ray, 1999; Seeger et al., 2001; Sellnow & Seeger, 2021). The three-stage model of crisis development (i.e., pre-crisis, crisis event, and post-crisis) has been ubiquitously employed to depict the progression of crises and specify information needs in different stages of crises (e.g., Cheng, 2016; Coombs, 2021; Pan & Meng, 2016). By connecting crisis stages with communication strategies, crisis communicators can better anticipate informational needs in crises and propose communication strategies accordingly (Coombs, 2021; Fink, 1986; Guth, 1995; Pauchant & Mitroff, 1990; Sellnow & Seeger, 2021). This dissertation section describes pre-crisis, crisis, and post-crisis stages, as well as reviews the relevant crisis communication research. The following dissertation section situates the context of this dissertation: the post-disaster recovery phase.

Pre-crisis. The pre-crisis phase is the incubation period when an emerging threat has dynamic and nonlinear interactions with other system components such as human factors, technology, and infrastructure (Coombs, 2021). Crisis communication research for the pre-crisis phase overlaps with risk communication research. For instance, emerging threats can be caused

by a lack of risk awareness and crisis preparation (Sellnow & Seeger, 2021). For the corporate context, an example is the BP Deepwater Horizon oil leak. Because neither oil executives nor regulatory authorities thought such a crisis could happen, resources were inadequate to mitigate threats (Ye & Ki, 2017). For the disaster context, crisis communication scholars (e.g., Avery & Park, 2016; Liu et al., 2019) have focused on disaster preparedness and have continuously found that individuals' cognitive evaluation of crisis threats and their pertinent emotional reactions predict communicative behavioral and protective action taking intentions. In the pre-crisis stage, prevention and preparedness are key for individuals, organizations, and communities.

Crisis Event. The crisis event stage is the primary focus of existing crisis communication research (Liu & Viens, 2020). The crisis event stage begins with the trigger event and a general recognition that a crisis is occurring (Coombs, 2021). When a crisis is recognized, it is generally accompanied by intense affective experiences and overwhelming uncertainty that compromise cognitive abilities in processing events (Jin et al., 2012; Liu et al., 2016). Most harm and direct damage to publics and organizations happen in the crisis event stage (Coombs, 2021). Meanwhile, individuals, organizations, and communities may greatly reduce harm through communicative and other behavioral efforts.

For organizational crises, extensive crisis communication research has focused on organizational crisis response strategies in the crisis event stage to alleviate negative consequences on organizational goals such as maintaining positive reputations and strong operations (e.g., Claeys & Cauberghe, 2014; Coombs, 2023; Coombs & Holladay, 2008; Page, 2019, 2020). For disasters, existing crisis communication research is more public-focused and has mainly examined individuals' communicative behavioral and protective action taking intentions in fictional crisis scenarios (e.g., Jin et al., 2020; Jin et al., 2021; Liu et al., 2020b; Van

der Meer & Jin, 2020). Among these studies, emotions have also been continuously found to influence individuals' responses during the crisis event stage. For instance, in the context of infectious disease, Liu et al. (2020b) revealed that sadness elicited by different narratives could promote individuals' information seeking and protective action taking intentions.

Post-crisis. The post-crisis stage begins when uncertainty about crises subsides, and eventually, certain societal order or functioning is restored (Coombs, 2021; Reynolds & Seeger, 2005). Scholars examining Western contexts (e.g., Carr & Jensen, 2015; Sellnow & Seeger, 2021) have assumed the post-crisis stage is typically accompanied by recognizing the incurred loss and effort needed for recovery, with the emergence of some positive emotions (Guo, 2017; Xu, 2018). For instance, in the context of terrorist attacks, Guo (2017) found that interactions among online publics and a focal organization (i.e., the Boston Athletic Association) mitigated the crisis harm. This finding, in the context of the 2013 Boston Marathon bombing, reveals how organization-decentered communication can contribute to post-crisis recovery. Adopting the discourse of renewal as the theoretical framework, Xu (2018) found that instructive and prospective organizational communication can cultivate and maintain favorable relationships with publics after crises.

Though undeniably insightful for organizations' crisis communication and management, these two studies either focused on a limited time frame after the crisis event (e.g., Guo, 2017) or neglected the impacts of publics-to-publics interpersonal interactions (e.g., Xu, 2018), which reflect a general trend in the literature. In other words, the majority of existing crisis communication research related to the post-crisis stage focuses on advancing organizational management after crises (e.g., organizational learning; Larsson, 2010; Popper & Lipshitz, 2000;

Sitkin et al., 2011; Veil & Sellnow, 2008) or organizational crisis responses within a limited time frame (e.g., the discourse of renewal; Du Plessis, 2018).

Acknowledging that crises do not occur in a vacuum, nor are they typically quickly forgotten by those who experienced them, scholars (Liu & Levenshsus, 2023; Liu &Viens, 2020) suggested that crisis research should integrate insights from interpersonal communication research and broaden the analysis timeline beyond the crisis event stage to advance the discipline. Moreover, dating back to the 1980s, disaster scholar Quarantelli (1982) observed that a significant portion of disaster survivors are assisted first by family, friends, and neighbors before government agents intervene. Disaster managers and policymakers are increasingly aware that crises like disasters generate impacts locally, making individuals and their socially significant others (i.e., family members, friends, and neighbors; Kaniasty & Norris, 1993) in the local community the frontline to respond to crises and rebuild after disasters occur (Sellnow & Seeger, 2021). Thus, this dissertation suggests crisis communication in the post-disaster recovery phase can restore and advance the social order by enhancing individuals' coping and their social groups' adaptive capacities (e.g., protective behavioral intentions, Liu et al., 2015; community resilience, Houston, 2021; Norris et al., 2008; Pfefferbaum et al., 2015). To advance crisis communication from theoretical and practical perspectives, it is crucial for crisis communication scholars to examine how individuals cope and cultivate community resilience in the post-crisis stage.

Summary. To sum, this dissertation section notes two research gaps in existing crisis communication research. First, communicative contexts influence crisis communication, but the majority of crisis communication research examines the Western context (Heath et al., 2021). In crises, uncertainty elicits a need to comprehend threat, harm, and the control mechanisms that

mitigate negative impacts of crises (Liu et al., 2016). In this way, knowledge serves as a means to manage uncertainty, but knowledge is culturally sensitive (Heath et al., 2021). Solely focusing on the Western context or applying existing theoretical frameworks derived from the Western context without adapting to communicative context may hinder crisis communications' practical applications beyond the Western realm. Meanwhile, the Chinese symbol for crisis, Weī Jī (危机): a dangerous situation embedded with changes and opportunities, already provides a direction for how empirical studies can proceed in the Eastern context (Ulmer et al., 2017).

Second, in the post-crisis stage, disasters can be converted into forces for social changes because ongoing communication can advance crisis understanding; meanwhile, revised rules or procedures can mitigate a crisis' negative consequences and prevent future crises (Reynolds & Seeger, 2005; Sellnow & Seeger, 2021; Turner, 1976). Publics and organizations' involvement matters in the post-crisis stage, but existing crisis communication studies have focused on the organizational perspective. Specifically, individuals and their socially significant others in the local community are the frontlines for disasters. However, the impacts of publics' interpersonal interactions and group connections in their crisis responses have been rarely examined (Liu & Levenshus, 2023; Liu & Viens, 2020). This dissertation fills these two gaps by analyzing Chinese individuals' cognitive, emotional, and behavioral responses in the post-crisis stage with the consideration of impacts from individuals' social environments. A more detailed discussion is developed in the following sections (i.e., sections 2.2, 2.3, and 2.4).

Section 2.2 Contextualizing Crisis Communication Research

Crisis communication scholars have acknowledged the importance of cultural contexts for more than a decade (e.g., Falkheimer & Heide, 2006). Culture can refer to a political regime and a media system that underpin individuals' comprehension of events (Zhao et al., 2017). Also,

culture can refer to a shared sense or shared meaning system and a historical-cultural memory that can be articulated through norms, symbols, and traditions (Zhang et al., 2020). In crises, political and media characteristics influence individuals' and organizations' crisis responses (Cheng & Lee, 2019; Huang et al., 2016); meanwhile, how social meanings are constructed can influence crisis management and communication practices (Gaither & Curtin, 2007).

Mainland China has attracted extensive scholarly attention from the crisis communication discipline as the world's second-largest economy with a non-democratic and collectivist cultural context (Cheng & Lee, 2019). The majority of Chinese crisis communication research focuses on government crisis communication (Huang et al., 2016; Wu et al., 2016), especially on what, when, and how government agencies convey information to individuals during crisis events (e.g., Cao et al., 2022; Chen, 2009; Hu & Pang, 2018; Li et al., 2021). Existing Chinese research has provided valuable insights into influential contextual factors for Chinese crisis communication such as political systems, media features, economic development, and collectivist values (Huang et al., 2023; Huang et al., 2016; Meadows et al., 2022; Wu et al., 2016).

Despite the abundant insights into how the Chinese government communicates to preserve legitimacy (e.g., Cheng et al., 2020; Hu & Pang, 2018; Veil & Yang, 2012), individuals' crisis responses have received less attention in Chinese crisis communication studies (e.g., Seo et al., 2012; Zhang et al., 2020), reifying the "managerial bias" (Heath, 2010, p. 7) in crisis communication. Furthermore, for highly disruptive crises like disasters, Chinese crisis communication studies have concentrated on limited types, including earthquakes (e.g., Peng, 2017; Seo et al., 2012; Zhang et al., 2020) and infectious diseases (e.g., Chen et al., 2020; Feng & Tong, 2022; Wu & Yang, 2017). Rapidly developing technology expands communication channels and increases individuals' connectedness (Liu et al., 2019), potentially enabling

government agents and individuals to collaborate to improve communities' adaptive capacities to disasters (He et al., 2022; Sellnow & Seeger, 2021). With reliable and first-hand information collected within the affected groups, individuals have the potential to respond more rapidly to crises than government agencies (Peng, 2017). Furthermore, individuals' responses to disasters may result in changes in contexts (e.g., revising operation processes and policies; Sellnow & Seeger, 2021).

Communicating Disasters in Non-Democratic and Collectivist Contexts. Like the 2021 Henan Floods in China (Yeung, 2022), disasters commonly attract extensive media attention and thus are highly visible to audiences nationally and worldwide (Yan & Bissell, 2018; Zhang et al., 2020). Meanwhile, disasters raise substantial demands on crisis communication and management: protecting individuals' physical and psychological well-being (Coombs, 2021; Sellnow & Seeger, 2021). High visibility and substantial demands can reveal the hidden features in social systems (Kang, 2015), resulting in unique opportunities for crisis communication scholars to observe how government agencies and individuals respond to disasters in a non-democratic and collectivist context.

This dissertation section synthesizes research on Chinese crisis communication in the context of disasters. This dissertation section first specifies how disasters can result in unique opportunities to advance crisis communication research in non-Western contexts. Then, this dissertation section reviews Chinese crisis communication studies in English and simplified Chinese, revealing that English and simplified Chinese literature have assessed government crisis communication from distinct perspectives, but both have neglected how individuals cope with crises. This dissertation points out the necessity of examining how individuals respond to disasters and emphasizes that individuals can play a vital role in reducing disasters and pertinent

damage through enacting and posting coping behaviors and cultivating community resilience. Meanwhile, this dissertation proposes three suggestions for Chinese crisis communication research. First, examine the impacts of individuals' interpersonal interactions and connections in their responses to disasters. Second, realize that the concept of "publics" may not be applicable to describe Chinese citizens in disasters. Third, incorporate theoretical frameworks and empirical research to provide evidence-based guidance for crisis communication and management.

Section 2.2.1 Reviewing Chinese Crisis Communication Research in English

Adopting theories proposed and tested in the Western context, such as image repair theory (Benoit, 1995), situational crisis communication theory (Coombs, 2007), and the social-mediated crisis communication model (Liu et al., 2011), existing Chinese crisis communication research in English has emphasized examining organizational crisis communication response strategies and identifying vital contextual factors, such as the non-democratic system and collectivist values (Chen et al., 2023; Cheng & Lee, 2019; Huang et al., 2016; Li et al., 2022; Meadows et al., 2022; Wu et al., 2016; Zhao, 2018).

Non-democratic System. Scholars commonly use the term authoritarianism to criticize how the Chinese government censors information to suppress uncertainty (Huang et al., 2016; Zhao et al., 2017; Zheng, 2023). For instance, in the 2003 severe acute respiratory syndrome (SARS) crisis, the 2008 Wenchuan earthquake, and the 2015 Tianjin explosions, scholars found local government agencies used "a covering up strategy" (Cheng & Lee, 2019, p. 5) to hide real fatality numbers at the beginning of the crises (e.g., Bondes & Schucher, 2014; Cairns & Carlson, 2016). Huang et al. (2016) explained the underlying reason: crisis severity is a criterion the Chinese central government uses to evaluate the Chinese local government's performance, resulting in the tendency for local government agencies to conceal facts in response to the central

government, which reveals the vital role of regulatory mechanisms and intra-governmental communication for effective disaster communication and management. More recent discussion about authoritarianism has focused on government communication on social media (Cheng & Lee, 2019). Since 2012, Chinese government agencies have started using social media and strengthening control in the Chinese online sphere (King et al., 2013). Scholars (e.g., Cheng, 2020; Zeng et al., 2017) have expressed concern that social media has become a tool that aids governments' information censorship and manipulation of media coverage to influence public opinion during crises.

Without denying that Chinese mass media and social media platforms must obey the Chinese Communist Party's policies and support its legitimacy (Cheng, 2020; Cheng & Lee, 2019; Zheng, 2023), social media can aid efficient communication in life-threatening situations like disasters. For government crisis communication, an announcement from the Ministry of Emergency Management in China (2020) shows that, by the end of 2019, 343 social media accounts were operated by provincial-level units and above (i.e., the top level of the government; Kang, 2015) throughout the government system to disseminate information about crises as well as directly respond to public opinion, which may streamline disaster communication and management in China. For communication among Chinese citizens, through a content analysis, Zhang et al. (2020) observed that Chinese citizens' online participation provided alternative views and viewpoints about crises. Specifically, focusing on three national crises as the contexts (i.e., the 2010 Yushu earthquake, the 2015 Tianjin explosions, and the 2018 vaccine scandal), Zhang et al. (2020) found that Chinese citizens tended to use social issue and blaming frames, while the government and organizations favored informing and corrective action frames. Chinese citizens' posts on social media can create a net of meaning that provokes revisions and

advancements for Chinese crisis communication and management (Cheng, 2020; Shao & Wang, 2017).

To sum, while acknowledging the importance of examining government crisis communication strategies and assessing the impacts of censorship, crisis communication scholars should not neglect that protecting individuals' physical and psychological well-being is the top priority (Coombs, 2021; Sellnow & Seeger, 2021). Along with the increasing importance of social media in government agents' and individuals' communication in disasters, more scholarly attention should focus on how individuals respond to government crisis communication and how individuals interact with one another to preserve well-being in disasters, especially for a collectivistic cultural context like China. Collectivism means valuing in-group interests and emphasizing harmonious relationships (Cheng, 2020; Cheng & Lee, 2019), which possibly influences how Chinese individuals react to crises. The following paragraphs detail the impacts of collectivism on crisis communication in China.

Collectivism. Collectivism refers to the degree to which individuals value their in-group duties (Oyserman et al., 2002). Scholars have identified unique characteristics such as face-saving/giving as well as an emphasis on harmony and group interests (e.g., Cheng, 2020; Hu & Pang, 2018; Huang et al., 2016; Wu et al., 2016). Though these studies specify indigenous governmental crisis response strategies, there are two notable deficiencies. First, these studies predominantly used case study and content analysis as the research methods (e.g., Hu & Pang, 2018; Ye & Pang, 2011; Yu & Wen, 2003), which may not be ideal for identifying and proving collectivism as the determinant that predicts organizations' and individuals' crisis responses. Second, collectivism means high interdependence among individuals (Bedford et al., 2021), whereas existing Chinese crisis communication literature rarely examines the influences of

individuals' interpersonal interactions and connections on their coping to crises, despite that individuals' crisis responses can reflect the dynamics in a cultural context and become an integral part of the culture (Sellnow & Seeger, 2021).

More recently, by emphasizing the core element of collectivism is "groups bind and mutually obligate individuals" (Oyserman et al., 2002, p. 5), Huang et al. (2018) proposed a relational orientation framework to better capture collectivism's impacts on individuals' behaviors. Though the relational framework's measurements (Bedford et al., 2021) have not been tested in the disaster context, these measurements reveal the vital roles of interpersonal communication and relationships in individuals' behavioral responses. Also, preliminary attempts explored the vital role of interpersonal interactions in individuals' responses to crises. For instance, through a survey, Seo et al. (2012) found that perceived social trust and other relational resources contributed to individuals' prosocial behavioral intentions after the 2008 Wenchuan earthquake. Peng (2017) conducted a case study and noted the emergence of volunteer crisis crowdsourcing for crisis coping among Chinese citizens after the 2008 Wenchuan, 2010 Yushu, and 2013 Lushan earthquakes. Thus, to advance Chinese crisis communication research and management, a potentially fruitful avenue is examining the impact of interpersonal interactions and relationships on individuals' coping with disasters.

To sum, more empirical studies on how individuals' interpersonal interactions and relationships influence their responses to disasters are essential for understanding the Chinese cultural context and advancing Chinese crisis communication research. Given the relational-oriented feature (Bedford et al., 2021; Huang et al., 2018), this dissertation addresses this research gap by examining Chinese individuals' cognitive, emotional, and behavioral responses in the post-crisis stage, including the impacts from individuals' interpersonal interactions (i.e.,

emotional contagion or the sharing of emotions; see section 2.4.3) and group memberships (i.e., identification with a community; see section 2.4.4)

Section 2.2.2 Reviewing Chinese Crisis Communication Research in simplified Chinese

Compared to Chinese crisis communication research in English, Chinese crisis communication research in simplified Chinese (henceforth: indigenous crisis communication research) is developing rapidly but is still in its infancy, with apparent deficiencies such as less use of theoretical frameworks to guide research and a heavy reliance on quantitative content analysis (e.g., Chen & Cai, 2022; Zhang & Shi, 2022) that may oversimplify crises and pertinent responses (Krippendoff, 2018).

The focal research topic in indigenous crisis communication research is the same as Chinese crisis communication research in English: government crisis communication (e.g., Cheng, 2010; Li & Xu, 2021; Peng, 2014; Song et al., 2022). However, besides criticizing censorship, the indigenous crisis communication research has provided insights on government crisis communication from a different perspective. First, this research has specified the impact of local governments' hierarchy (e.g., provincial, city/prefecture, county, and township; Kang, 2015) on crisis communication with a focus on low-level government officials. Second, this research has emphasized the importance of intra-governmental communication in facilitating decision-making and resource mobilization in disasters (Zhao, 2016). Meanwhile, though scant scholarly attention has focused on individuals' disaster responses (e.g., Liu et al., 2021), the indigenous crisis communication research has noted Chinese citizens are not equal to "publics" in democratic systems and claimed civic engagement is not a panacea when individuals are not equipped with risk awareness and coping capacities (e.g., Hou, 2011).

Local Governments' Crisis Communication. The indigenous crisis communication research (e.g., Zhao, 2016) has specified the local governments' hierarchy (e.g., provincial, city/prefecture, county, and township; Kang, 2015) and noted that political systems are staffed with individuals who make choices that possibly lead to deviations from original goals of crisis communication and management. In the aftermath of disasters, individuals' and the media's attention has primarily focused on top-level government decisions, frequently neglecting the fact that low-level government officials are closest to disaster-affected regions and are responsible for articulating state policy and communicating protective instructions to affected individuals (Du, 2012; Pan, 2019). Therefore, indigenous crisis communication studies (Hou, 2011; Zhao, 2016) have called for improvements on the local governments' information disclosure, emergency reaction, and relationship-building with grassroots volunteers to better protect affected individuals. Yet, there has been no found empirical research with valid theoretical frameworks to provide evidence to support these recommendations or guide implementations of these recommendations to practice.

Intra-governmental Communication. During both the SARS and the COVID-19 pandemic outbreaks, the Chinese government's hierarchical structure showed its drawback in communication efficiency, such as the initial official denial and inaction from low-level government officials because only provincial-level units and above have the authority to release crisis information (Song et al., 2020; Tu & Gong, 2008). Accordingly, indigenous crisis communication studies (Cao, 2020; Zhao, 2016) have emphasized improving intra-governmental communication across government sectors at different levels to form effective decision-making and resource-mobilizing synergies in response to disasters. Unfortunately, there has been no

found empirical crisis communication study with credible theoretical frameworks to provide evidence-based guidance.

Civic Engagement. In a democratic system, publics refers to self-organizing individuals who aim to solve issues (Botan & Hazleton, 2006; Botan & Taylor, 2004; Kennedy & Sommerfeldt, 2018). However, both the time pressure created by disasters and the non-democratic system may cause the term "publics" to not be applicable to how Chinese citizens are affected by disasters. This dissertation argues that the concept of "community" is compatible with Chinese crisis communication research, and civic engagement is more appropriate to define Chinese individuals' participation in crisis management, and more details are provided in the following dissertation section on community resilience (i.e., section 2.3). Additionally, one-sided advocacy for civic engagement without considering strategic crisis communication and management, as well as the characteristics of individuals, can be problematic.

Civic engagement refers to citizens' participation in voluntary associations, groups, or unions with or without political or policy goals (Fukuyama, 2001; Kennedy & Sommerfeldt, 2018; Putnam, 2000). Hou (2011) noted, without the necessary understanding of disasters, civic engagement demands time-consuming negotiation and can be unrealistic in disasters. Disaster management researchers (Deng & Zhou, 2018; Li & Wang, 2020) summarized current Chinese citizens' characteristics in disasters as follows: a vast percentage of Chinese citizens passively follow governmental instructions, whereas Chinese citizens who actively participate are mainly motivated by emotions, commonly lack essential capacities in disaster coping, and frequently quit action taking at the disaster recovery stage.

Regardless of the crucial roles of local governments' interactions with individuals and intra-governmental communication, as well as the features of Chinese citizens' responses in the

aftermath of disasters, to date, no found Chinese crisis communication research in simplified Chinese has tested these claims through empirical research or addressed the fundamental question of how crisis communication can be employed to facilitate adaptation in the aftermath of disasters. Crisis communication and management must be grounded in scientific empirical research, not personal experience or preference (Coombs, 2007; Rousseau, 2006). Thus, this dissertation argues that incorporating theoretical frameworks and empirical research is essential for providing evidence-based guidance for Chinese crisis communication and management.

Summary. In conclusion, this dissertation section reviews and synthesizes Chinese crisis communication research in the context of disasters. This dissertation identifies that Chinese crisis communication research in English and simplified Chinese has explored government crisis communication from diverse perspectives but has overlooked individuals' coping. This dissertation also notes the importance of examining the impacts of interpersonal interactions on individuals' responses to disasters, as well as acknowledges that both the time constraints in crisis responses and the non-democratic system may render the term "publics" inapplicable to describe affected Chinese citizens in disasters (Hou, 2011). This dissertation fills these noted gaps by adopting the appraisal theory as the theoretical framework and employing the concept of "community" to assess Chinese individuals' perceptions of disasters and their community, emotional responses, and intentions to take communicative and protective actions in the post-disaster recovery phase. More details are provided in the following sections (i.e., sections 2.3; 2.4).

Section 2.3 Defining Community Resilience: Networked Adaptive Capacities

Disaster managers, communicators, and policymakers are increasingly realizing that disasters can be transformed into forces for social change through strengthening communities'

adaptive capacities, resulting in accelerated recovery and risk reduction (Ayyub, 2014; Morsut et al., 2021; Nohrstedt et al., 2022; Sellnow & Seeger, 2021; Wannewitz & Garschagen, 2023). Along with this trend in crisis communication research, there has been growing interest in examining community members' adaptive capacities to "bounce forward" from adversities (Houston, 2015, p. 176), with a concentration on the term "community resilience" (e.g., Houston & Buzzanell, 2020; Houston et al., 2018; Spialek & Houston, 2018).

The term "resilience" has been used in various disciplines, from ecology and infrastructure systems to child psychology and psychiatry (Sellnow & Seeger, 2021). Through a systematic review of resilience' definitions, in the context of disasters, Ayyub (2014, p. 343) noted resilience can refer to "the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from disruptions." Community resilience is collective in nature and defined as networked adaptive capacities that contribute to a positive trajectory of societal functioning and adaptation following disasters (Boin & McConnell, 2007; Kendra & Wachtendorf, 2007; Norris et al., 2008). Compared to individual and organizational resilience, community resilience is the concept frequently used for research that examines large-scale incidents like disasters (Sellnow & Seeger, 2021). Applying "community resilience" to hazards and disasters is a logical step because disaster recovery demands coordinated efforts (Azad & Pritchard, 2023; Norris et al., 2008; Wannewitz & Garschagen, 2023). Also, individuals' perceptions of community resilience may contribute to individuals' collaborative intentions and facilitate crisis management (Ayyub, 2014; Pfefferbaum et al., 2008).

Crisis communication can influence community resilience at multiple levels, but scholars are just beginning to theorize about the intersections of crisis communication and community resilience (Morsut et al., 2021; Robertson & Stephens, 2022; Sellnow & Seeger, 2021).

Specifically, Houston et al. (2018) theorized that a resilient community includes both top-down (e.g., government agencies communicate emergency information to individuals) and bottom-up (e.g., family members and neighbors collaborate to recover following a disaster) communication and interactions. This dissertation focuses on the latter, as the first responders and fundamental communities' constitutions, individuals and other community members (e.g., family members, friends, and neighbors) are the centralities for post-crisis recovery and cultivating community resilience (Azad & Pritchard, 2023; Heath, 2018a, 2018b; Sellnow & Seeger, 2021). Disasters can strain psychological, economic, and social resources, whereas the elicited stress always starts at the individual level (Pfefferbaum et al., 2013). Meanwhile, a significant proportion of disaster survivors receive aid first from family, friends, and neighbors and then ultimately from governments and nonprofits (Quarantelli, 1982; Ann & Bae, 2022).

For instance, in the context of a tornado in the U.S., Houston et al. (2017) found that individuals' media use and individuals' interpersonal communication regarding disasters positively associated with individuals' positive perceptions of community resilience. However, in this study (Houston et al., 2017), individuals' communicative actions only explained 10% of the variance in individuals' perceptions of community resilience. More research is needed to explore the characteristics, processes, and experiences influencing individual perceptions of community resilience (Houston et al., 2017; Houston et al., 2018; Kim et al., 2023). To bring the needed clarity in understanding community resilience and advancing crisis communication practice, this dissertation takes a bottom-up approach: assessing individuals' perceptions of community resilience, along with measuring their disaster perceptions, emotional responses, and intentions of taking communicative and protective actions in the post-disaster recovery phase.

Centering the bottom-up approach and focusing on individuals' perceptions of community resilience, this dissertation next reviews the definition of "resilience" and identifies community resilience as the concept most aligned with this dissertation's context: a disaster (i.e., flood). Then, the discussion expands to the definitions of "community" and further illustrates the concept of "community resilience." Lastly, this dissertation section reviews a critical theoretical framework that assesses individuals' perceptions and guides communities in fostering resilience: the communities advancing resilience toolkit (i.e., CART; Kim et al., 2023; Pfefferbaum et al., 2013; Pfefferbaum et al., 2015).

Section 2.3.1 Defining Resilience: Multi-level, Socially Constructed, and Situational Resilience. Resilience is multi-level and socially constructed concept that can be influenced by situational factors, which has garnered substantial interest across disciplines, including psychology, management, sociology, and communication (e.g., Afifi, 2018; Ayyub, 2014; Houston & Buzzanell, 2018, 2020; Norris et al., 2008; Theiss, 2018; Williams et al., 2017). Resilience is conceptualized as multi-level because it can refer to the adaptive capacities of individuals (e.g., Afifi, 2018; Bridges et al., 2021; Luo et al., 2022), organizations (e.g., Barasa et al., 2018; Conz et al., 2023; Duchek, 2020; Hassan et al., 2022), and communities (e.g., Houston et al., 2017; Johnson et al., 2023; Sonn & Fisher, 1998) to recover from adversities. Resilience is socially constructed and under the influence of situational factors. Sellnow and Seeger (2021) noted that resilience is determined by system (or resource) and event (or stress) characteristics. The system characteristics include a system's (e.g., a town or city) availability, mobilization, and robustness, as well as the preparation's depth and breadth (Norris et al., 2008; Sellnow & Seeger, 2021). Event characteristics include the event's severity, predictability, and duration (Norris et al., 2008; Sellnow & Seeger, 2021). A more detailed discussion on the event

characteristics is developed later in this dissertation (i.e., sections 2.4.1 and 2.4.2). The following paragraphs specify the characteristics for research on individual, organizational, and community resilience, as well as point out how community resilience most aligns with this dissertation's context: a disaster (i.e., a flood).

At the first level, according to the American Psychological Association (APA), individual resilience is the process of successfully responding to trauma, tragedy, and threats (APA, 2020). Research on individual resilience concentrates on comprehending individuals' psychological and social adjustments to adversities (Afifi, 2018; Troy et al., 2023). Much of the research has focused on children living in conflict and other adverse situations (e.g., wars, poverty, and severe disease) and has mainly examined individual dispositions such as optimism, altruism, support structures, and resources (e.g., Huang et al., 2023; Popham et al., 2022; Sippel et al., 2015). One important insight that lends light for research in the context of disasters is that individuals' social connections are the most pivotal factor that determines individuals' recovery from adversities (Sellnow & Seeger, 2021). In other words, resilience can be constructed through social interactions and rooted in individuals' social networks.

The second level of resilience, organizational resilience, focuses on system-level features (Sellnow & Seeger, 2021). Similar to individual resilience, organizational resilience is defined as the ability to recover from shocks and disruptions (Barasa et al., 2018; Weick & Sutcliffe, 2007). A systematic review of the literature on organizational resilience (Barasa et al., 2018) summarized contributing factors to organizational resilience, including organizational culture, leadership practices, governance practices, and information management. Though contributing factors have been mainly examined in the organizational setting, these factors demonstrate that communication and relationships are critical for nurturing resilience in a complex social system.

A third level, community resilience, refers to the networked capacities for rebounding or adjusting after a crisis (Boin & McConnell, 2007; Kendra & Wachtendorf, 2007; Norris et al., 2008). A community encompasses both organizations and individuals (Heath, 2018a, 2018b), aligning with disasters' characteristics such as large-scale and localized impacts (Sellnow & Seeger, 2021). Accordingly, research on community resilience typically focuses on highly disruptive disasters such as floods, hurricanes, tornadoes, and earthquakes (Norris et al., 2008; Houston et al., 2018; Sellnow & Seeger, 2021; Spialek & Houston, 2018). Because community resilience is the concept that best fits the study's context: a disaster (i.e., a flood), the following subsection further illustrates "community" and "community resilience."

Section 2.3.2 Defining Community and Community Resilience

Community. Community resilience is complicated by the meaning of "community" (Kimhi & Shamai, 2004; Norris et al., 2008; Pfefferbaum et al., 2015). From the conceptual aspect, unlike the concept of "public," which carries the Western democratic ideal, Hallahan (2004, p. 250) noted that community is a more "versatile construct" that contributes to public relations theory development and practice. From the crisis management aspect, large-scale crises like disasters pose threats to individuals and their belonged social groups (e.g., family and organizations; Norris et al., 2008). A community includes both organizations and individuals (Heath, 2018a, 2018b). Thus, compared to "publics," "community" can be a preferable concept for this dissertation to describe individuals who share a common fate in the aftermath of disasters in Eastern cultures.

For the definition of "community," a community consists of a complex interplay of natural and sociocultural components (Norris et al., 2008). Based on physical borders, a community can be a geographically defined entity where members share common interests

(Hallahan, 2004; Pfefferbaum et al., 2013). Referred to as the sociocultural perspective, a community can also be comprised of individuals who have a shared history and language, common norms and values, and a sense of membership (i.e., group identity; Jewkes & Murcott, 1996, 1998). With the development of social media, a community can also be a group of people who share access to and expertise with technology (Kent & Saffer, 2014; Valentini et al., 2012). Because disasters tend to generate influences locally and may demand collective recovery efforts (Pfefferbaum et al., 2008; Quarantelli, 1982; Sellnow & Seeger, 2021), integrating community's geographic and cultural definitions, this dissertation argues that a resilient community in disasters is constituted by group members who prioritize their own well-being, support others' adaptation, and preserve a community's functioning.

Community Resilience. In the context of disasters, community resilience is best defined as "a process linking a set of networked adaptive capacities to a positive trajectory of functioning and adaptation in constituent populations after a disturbance" (Norris et al., 2008; p. 131). Two core themes of community resilience's definition are "networked" and "a process and adaptive capacities." These two themes reveal the importance of relationships and communication in fostering community resilience and the dynamic nature of community resilience.

"Networked" means that though resilient individuals, families, and organizations are crucial to form a resilient community, the robust interconnections within and between each of those levels are necessary for cultivating community resilience (Madrigano et al., 2017). Disaster management research on community resilience frequently emphasizes that the entity is greater than the sum of its parts (e.g., Norris et al., 2008; Pfefferbaum et al., 2015). In other words, a resilient community is not simply a collection of resilient individuals or organizations; instead, it is a collection of people and groups that can successfully interact to support the community's

adaptation (Houston et al., 2018). The emphasis on collection indicates the critical roles of communication and relationships in cultivating community resilience (Houston, 2015) because communication and relationships are essential for disseminating instructive information and building interconnections within and across different levels of a community (Houston, 2015; Sellnow & Seeger, 2021; Spialek & Houston, 2018).

"A process and adaptive capacities" mean that community resilience is not a stagnant end but instead is continuously changing (Houston & Buzzanell, 2018; Luthar et al., 2000; Rutter, 1993; Waller, 2001). A thought-provoking statement made by Norris et al. (2008) is: "No community is always vulnerable, for how would it survive, and no community is always resilient" (p. 146). To better aid individuals to recover from disasters and facilitate communities to restore social order, a thorough understanding of adaptive capacities that contribute to community resilience is essential.

Existing models of community resilience have identified various adaptive capacities. For instance, derived from psychological perspectives (Benight et al., 2006; Lazarus & Folkman, 1984), Norris et al. (2008) developed a comprehensive resilience model that includes four adaptive capacities: social capital, economic development, community competence, and information and communication capacities. Central to this model is how the interaction between stressors and resources influences the mitigation and prevention of disaster disturbances. If the stressors are too severe and/or the resources are insufficient, a community will face some degree of disruption during the adjustment process (Sellnow & Seeger, 2021). Adapted from Norris et al.'s (2008) community resilience model, the communities advancing resilience toolkit (i.e., CART; Kim et al., 2023; Pfefferbaum et al., 2013; Pfefferbaum et al., 2015) includes five

domains that connect to the adaptive capacities: connection and caring, resources, transformative potential, disaster management, as well as information and communication.

CART has been recognized as a critical theory-driven tool for assisting communities in enhancing resilience and providing reliable and valid measurements (Kim et al., 2023; Spialek & Houston, 2018). The CART assessment survey has been empirically applied and found to be valid and reliable in crisis communication research (e.g., Houston et al., 2017; Spialek et al., 2016; Spialek & Houston, 2018). Moreover, the CART assessment survey collects data on individuals' perceptions of community resilience, which can aid crisis communication scholars and practitioners in obtaining information on a community's strengths and weaknesses after a disaster (Pfefferbaum et al., 2015). Considering the theoretical value and practical implementations, this dissertation adopts CART and provides details in the following subsection.

Section 2.3.3 Reviewing the Communities Advancing Resilience Toolkit (i.e., CART)

Despite abundant attention to the importance of community resilience in disaster management, relatively few interventions exist to assess and improve community resilience (Chandra et al., 2013; Pfefferbaum et al., 2008). The communities advancing resilience toolkit (i.e., CART; Kim et al., 2023; Pfefferbaum et al., 2013; Pfefferbaum et al., 2015) is a publicly available, community-focused intervention that includes a strategic planning process for cultivating community resilience to disasters. There are five domains included in the most recent CART assessment survey: connection and caring, resources, transformative potential, disaster management, as well as information and communication. The assessed components in these five domains are interconnected and mutually contribute to each other (Pfefferbaum et al., 2013). The following paragraphs outline CART's five domains to explore potential means for advancing crisis communication research on community resilience.

Connection and Caring. This domain assesses individuals' perceptions of their community's support systems, connectedness, participation, and equity (Kim et al., 2023; Pfefferbaum et al., 2015; Pfefferbaum et al., 2008). For the rationale of including these components, Pfefferbaum et al. (2013) noted that individuals' perceptions that community affiliation promotes their personal well-being and could foster a commitment to the community. Furthermore, individuals' participation in community activities can contribute to their perceived connectedness with the community. Communities that actively encourage community members' participation can better identify and manage threats through collaborative and civic engagement. In this way, communities can better satisfy different individuals' diverse needs in a disaster (Pfefferbaum et al., 2013).

Resources. This domain includes individuals' perceptions of the community's infrastructural, informational, human, and social resources (Pfefferbaum et al., 2015). A resilient community must acquire, invest in, allocate, and utilize resources effectively to benefit community members (Pfefferbaum et al., 2013). According to Norris et al. (2008), resources as a community adaptive capacity must be accompanied by dynamic properties such as robustness, redundancy, and rapidity. Robustness refers to a system's inherent strength and resistance to failures, damage, and loss of functionality (Sellnow & Seeger, 2021). Redundancy refers to a system's ability to utilize alternative approaches for attaining goals, and backup systems, underutilized resources, or substitutions may involve (Norris et al., 2008). Rapidity relates to the speed of response and recovery; in general, faster response reduces the damage (Pfefferbaum et al., 2008). In disasters, a community's resources should be sufficiently diverse and redundant to allow for the continuation of essential community operations and the solutions for unforeseen vulnerabilities efficiently (Sellnow & Seeger, 2021).

Transformative Potential. This domain includes individuals' perceptions of the community's abilities to identify and frame collective experiences, assess overall performance, and engage in critical analysis (Pfefferbaum et al., 2013). Components in the transformative potential domain reflect the abilities of community leaders to formulate objectives, make decisions, and implement policies, when paired with skill development at the individual and family level, providing essential social change mechanisms (Pfefferbaum et al., 2008). Norris et al. (2008) claimed that, in the aftermath of disasters, endangered communities need to educate themselves about disasters and collaborate flexibly to solve problems.

Disaster Management. This domain relates to individuals' perceptions of the community's recovery and prevention efforts for disasters, including preventing or resolving crises and mitigating damage to individuals' well-being and property (Pfefferbaum et al., 2015). Pfefferbaum et al. (2013) emphasized that disaster management is essential for disaster survivors to rebuild and recover after disasters.

Information and Communication. This domain includes individuals' perceptions of the extent to which the community provides disaster information, creates shared meaning, and offers opportunities for members to articulate needs (Goodman et al., 2017; Pfefferbaum et al., 2015). Comfort (1994) claimed information and communication are the fundamental resources that enable adaptive performance in systems. In CART, communication is a core domain that cuts across the other domains (Houston et al., 2018; Houston, 2015). For instance, communication can foster connection and caring; meanwhile, information and communication channels can contribute to a community's resource mobilization (Houston, 2015; Spialek & Houston, 2018).

Summary. To sum, CART's interconnected five domains are essential for fostering a resilient community. Across all five domains, the underlying assumptions are individuals'

participation and communication regarding disasters as well as their identification and connectedness to the community contribute to community resilience. Individuals are central to post-crisis recovery and cultivating community resilience since they are the first responders and fundamental community constitutions (Heath, 2018a, 2018b; Sellnow & Seeger, 2021).

However, similar to the research status for the post-crisis stage (see section 2.1), research on community resilience and CART in crisis communication from the individual perspective is at the nascent stage. Current crisis communication studies that have empirically tested CART have focused on how individuals' communicative behaviors regarding disasters associate with their perceptions of community resilience (e.g., Houston et al., 2017; Spialek et al., 2016; Spialek & Houston, 2018). This prior nascent research is limited by several factors. First, communication as a domain of CART may reinforce other domains/adaptive capacities. However, contributing factors beyond the interconnections within CART have not been specified. Second, only a small portion of the variance in individuals' perceived community resilience has been explained by individuals' communicative actions. Third, CART has been developed and mainly applied in the Western context. One recent study (Kim et al., 2023) that applied CART in the context of South Korea only confirmed the correlations among these five dimensions and the reliability of each dimension without identifying factors accounting for the variance of community resilience, resulting in an incomplete understanding of the underlying mechanisms shaping community resilience in other cultural contexts.

Acknowledging gaps in crisis communication research on community resilience, to identify influential factors that explain variances in individuals' perceived community resilience, this dissertation adopts appraisal theory (Lazarus, 1991) as the overarching theoretical framework. Reasons behind are, first, appraisal theory's validity and reliability in explaining

individuals' crisis responses have been continuously proved (e.g., Jin, 2010; Jin et al., 2020; Jin et al., 2021; Tang et al., 2021). Second, existing crisis communication research on community resilience has revealed the positive association between individuals' communicative behaviors or behavioral intentions and their perceived community resilience (e.g., Spialek & Houston, 2018; Spialek et al., 2019), and communicative behavioral intentions are categorized as cognitive coping from the lens of appraisal theory (e.g., Austin et al., 2023; Jin et al., 2016; Jin et al., 2020; Jin et al., 2021). The compatibility of community resilience and appraisal theory supports this dissertation to examine how individuals' communicative and protective behavioral intentions (i.e., cognitive and conative copings; Jin et al., 2012) influence individuals' perceived community resilience in the post-disaster recovery phase in a non-Western and collectivistic cultural context: China.

Another reason for employing appraisal theory (Lazarus, 1991) is that crises like disasters are emotionally charged events (e.g., Lim et al., 2019), and appraisal theory (Lazarus, 1991) focuses on emotions and depicts individuals' adaptive mechanisms. The following dissertation sections center around the appraisal theory (Lazarus, 1991) and provide a systematic review of how emotions functions at the intrapersonal, interpersonal, and group levels and how collectivistic cultural context possibly influence individuals' reactions, exploring how crises' characteristics and social surroundings conjointly influence individuals' cognitive, emotional, and behavioral responses (i.e., appraisals, emotions, and coping; Lazarus, 1991) in crisis events.

Section 2.4 Emotions as Adaptive and Socially Functional Reactions toward Crises

Emotions are the adaptive reactions individuals have towards the environment they find themselves in (Lazarus, 1991; 2006). Decomposing this definition, first, emotions are adaptive because emotions are determined by individuals' expectations of achieving specific goals in a

situation (i.e., appraisals; Folkman & Lazarus, 1988; Lazarus, 1991; Roseman & Smith, 2001) and can influence individuals' subsequent coping strategies, including communicative and protective action taking intentions (Austin et al., 2023; Guo, 2017; Jin et al., 2016; Jin et al., 2020; Jin et al., 2021). Second, emotions are socially functional because an emotional event's significance for each individual relates to their interpersonal relationships, group identities, and sociocultural contexts (Lazarus, 2006; Van Kleef, 2009). Meanwhile, experienced and displayed emotions can organize individuals' interactions and guide their communities to meet shared goals (Frijda & Mesquita, 1994; Keltner & Haidt, 1999). The adaptive and socially functional nature means emotions play crucial roles for individuals and communities recovering from adverse situations like crises (Fischer & Manstead, 2008; Jin et al., 2007, 2010, 2012; Lazarus, 1991, Levenson, 1999).

This dissertation argues that a thorough understanding of emotions enables crisis communicators to better support publics' well-being and possibly result in long-term improvements in community resilience. Existing crisis communication studies on emotions are primarily rooted in appraisal theory (Lazarus, 1991; Lazarus & Folkman, 1984) and have focused on individuals' evaluations of crises influence their emotional and behavioral responses to the crisis at the pre-crisis and crisis stages (e.g., Austin et al., 2023; Brummette & Sisco, 2015; Jin et al., 2020; Lim et al., 2019; Liu et al., 2020b). Though obviously fruitful, existing crisis communication literature on emotions has largely neglected that crises and individuals' corresponding responses occur in a social system (Heath, 2018a, 2018b; Pulido, 2012).

First, crises can generate direct and indirect impacts when considering individuals as socially connected units. Detrimental and large-scale crises like disasters put individuals and their families, neighborhoods, and communities in danger (Chu & Yang, 2020; Gallego &

Tejero, 2023; Spialek & Houston, 2018). Besides disasters' direct impacts on individuals' well-being, individuals' connections with their socially significant others and identification with their communities can serve as sources for individuals' cognitive, emotional, and behavioral responses in disasters (Mackie et al., 2008; Smith & Mackie, 2015; Van Kleef, 2009; Van Kleef & Fischer, 2016). For instance, individuals who are not directly affected by disasters may have emotional and behavioral responses if disasters harm their socially significant others or self-identified groups (Mackie & Smith, 2016; Parkinson, 2020, 2021; Smith & Mackie, 2015).

Second, humans are social animals whose responses in crises are intertwined (Averill, 1992; Fischer & Manstead, 2008; Lazarus, 2006). Individuals' displayed responses such as emotional expressions can influence how others react (Barsade & Gibson, 2012; Bruder et al., 2014; Lazarus, 1991; Mesquita, 2001; Parkinson, 2011, 2020, 2021; Smith & Mackie, 2015). Moreover, scholars have noted that individuals in a non-Western and collectivistic culture are inclined to presuppose the presence of others and value relationship maintenance, influencing how individuals respond to events (e.g., Markus & Kitayama, 1991; Mesquita, 2003).

Therefore, this dissertation argues that more scholarly attention should be paid to emotions' socially functional perspective (Keltner & Haidt, 1999). For crisis communication research specifically, the impacts of individuals' social surroundings (e.g., interpersonal interactions, group memberships, and cultural contexts) on individuals' responses to crises should be considered. Using the appraisal theory (Lazarus, 1991; Lazarus & Folkman, 1984) as the overarching theoretical foundation, this dissertation extends the current crisis communication literature by assessing how individuals' judgments of crises (e.g., appraisals; Jin et al., 2020; Lazarus, 1991) and social surroundings (e.g., interpersonal interactions and group memberships;

Barsade et al., 2018; Drury et al., 2016; Tajfel & Turner, 1986) conjointly influence their responses in the post-crisis stage in a non-Western and collectivistic cultural context.

The following dissertation sections include four parts. The first part (i.e., section 2.4.1) reviews the appraisal theory (Lazarus, 1991, 2006; Lazarus & Folkman, 1984) to provide a guiding idea of how individuals evaluate and interpret events (i.e., appraisal) and how individuals adapt to stressful events like crises (i.e., coping).

The second part (i.e., section 2.4.2) expands to crisis communication research on emotions. This part reviews the dominant theoretical model for emotions in crisis communication research: the integrated crisis mapping model (i.e., ICM; Jin et al., 2012). That section also includes an emerging crisis emotions model: the infectious disease threat appraisal model (i.e., IDT; Jin et al., 2020; Jin et al., 2021) to locate influential factors for individuals' responses (e.g., crisis emotions and coping strategies) in the post-disaster recovery phase. Furthermore, that section outlines research gaps in existing crisis communication literature in the context of disasters and how these research gaps are addressed in this dissertation.

The third part (i.e., section 2.4.3) centers on how emotions function at the interpersonal level. The critical idea is how others' emotional expressions (i.e., emotional contagion or the sharing of emotions; Barsade et al., 2018) influence individuals' responses to crises. This section discusses the subconscious (i.e., primitive emotional contagion theory; Barsade, 2002; Barsade et al., 2018; Hatfield et al., 1993) and the conscious (i.e., social appraisal theory; Manstead & Fischer, 2001; Parkinson, 2011, 2021) pathways for emotional contagion. Also, this section explains how others' expressed emotions can function as the social information that influences how individuals respond to crises (Van Kleef, 2009; Van Kleef & Fischer, 2016).

The fourth part (i.e., section 2.4.4) focuses on how emotions function at the group level. The central idea is how individuals' group membership influences individuals' responses to crises. This section delves into identity-based emotions (e.g., Mackie et al., 2008; Smith & Mackie, 2015) and focuses on ingroup identification (Tajfel, 1978;Turner, 1981, 1982;Turner et al., 1987). Specifically, this section discusses how individuals' identification with their community can emerge or become more apparent in the post-disaster recovery phase and illustrates how individuals' identification with their community can influence individuals' cognitive, emotional, and behavioral responses.

Section 2.4.1 Appraisal theory and its Key Components

Appraisal theory (Lazarus, 1991) is one of the most prominent research streams on emotions and is widely applied in crisis communication research (e.g., Brummette & Sisco, 2015; Jin, 2009; Jin et al., 2010, 2012; Jin et al., 2020; Kang et al., 2018). Appraisal and coping are central tenets of appraisal theory (Lazarus, 1991). The following paragraphs review definitions and critical components of appraisal and coping to elucidate the basic mechanism of how individuals cognitively, affectively, and behaviorally adapt to crises.

Appraisals are individuals' evaluation and interpretation of events' harms and benefits, which function as essential causes for individuals' emotions (Roseman & Smith, 2001). Appraisals include two main kinds: primary appraisal and secondary appraisal (Lazarus, 1991). Primary appraisal influences the intensity and valence of an individual's response, whereas secondary appraisal defines the emotional responses' specific quality (e.g., differentiating anger, fright, anxiety, and sadness) (Roseman & Smith, 2001; Scherer, 1984).

Section 2.4.1.1 Primary Appraisal

Primary appraisal is an individual's evaluation of an event's direct personal significance (Lazarus, 1991; Peacock & Wong, 1990). In its initial conceptualization, primary appraisal refers to a general judgment that an event is irrelevant, benign, or stressful (Lazarus & Folkman, 1984). Crises like disasters commonly elicit stressful appraisals (Park & Blake, 2020). Stressful primary appraisals can take three primary forms: harm/loss, threat, and challenge (Lazarus, 1991). In addition, Peacock and Wong (1990) introduced another form of stressful primary appraisal, centrality, which refers to the perceived importance/stake of an event for one's well-being. Similarly, Lazarus (1991) noted that perceived personal importance drives emotional and behavioral reactions and proposed three components of primary appraisal: goal relevance, goal congruence, and type of ego involvement.

In existing crisis communication research, crises have been mainly treated as isolated events in a limited timeframe (Liu & Viens, 2020). Crisis communication research in disaster contexts mainly examines the impacts of threats on individuals' crisis preparedness in the pre-crisis stage (e.g., Lim et al., 2019; Liu et al., 2019). This dissertation focuses on the post-crisis stage and argues that affected individuals may simultaneously deal with incurred damage (i.e., harm/loss; Lazarus, 1991), consider improving their adaptive capacities (i.e., challenge; Lazarus, 1991), and prepare for future threatening events (i.e., threat; Lazarus, 1991), conjointly influencing individuals' perceived community resilience, emotional responses, communication, and protective action taking intention. Furthermore, this dissertation argues that perceived importance (i.e., goal relevance, goal congruence, and type of ego involvement; Lazarus, 1991; Peacock & Wong, 1990) is associated with individuals' surrounded social environment (e.g., interpersonal connections, group identities, and cultural contexts; Keltner & Haidt, 1999; Lazarus, 2006) and generates impacts on individuals' responses to crises. The following

paragraphs review definitions and applications of harm/loss, challenge, goal relevance and goal congruence, as well as the type of ego involvement. Because threat is a focal concept examined in the current crisis communication literature, a comprehensive review of threat is provided in a later dissertation section (i.e., 2.4.2).

Harm/Loss. Harm/loss is the judgment of damage already incurred by an individual, and threat refers to evaluating impending harms or losses (Lazarus, 1991). Harm/loss and threat are perceptions of damage varying on referred time points. Existing crisis communication research in the context of disasters has mainly examined the role of threat and focused on the pre-crisis and crisis stages (e.g., Jin, 2010; Jin et al., 2020; Jin et al., 2021; Lim et al., 2019; Liu et al., 2019). However, disasters like floods typically cause great harm that lasts longer than the examined timeframe in current crisis communication research (Bonanno et al., 2010; Liu & Viens, 2020). Moreover, findings in emergency management research (e.g., Carroll et al., 2009; Paquin et al., 2021) suggest that harm/loss plays a critical role in individuals' adaptation post disasters. Thus, this dissertation argues that studying harm/loss is essential for crisis communication research for the post-crisis stage. Focusing on the context of floods, the following research questions are proposed:

RQ1a. How, if at all, does perceived incurred damage from the last flooding season influence individuals' negative emotions about floods?

RQ1b. How, if at all, does perceived incurred damage from the last flooding season influence individuals' positive emotions about floods?

RQ1c. How, if at all, does perceived incurred damage from the last flooding season influence individuals' information seeking intention?

RQ1d. How, if at all, does perceived incurred damage from the last flooding season influence individuals' passive protective action taking intention?

RQ1e. How, if at all, does perceived incurred damage from the last flooding season influence individuals' active protective action taking intention?

Challenge. Challenge represents anticipated mastery or gain, including individuals' evaluation of potential personal growth and other positive consequences related to an event (Lazarus & Folkman, 1984; Peacock & Wong, 1990). Though less examined in crisis communication research, the concept "challenge" aligns with crisis communication scholars' claim that opportunities are embedded in crises (Fuller et al., 2019; Fuller et al., 2023; Seeger & Ulmer, 2002; Sellnow et al., 2022; Slagle et al., 2022; Ulmer et al., 2017; Xu, 2018). As stated in section 2.1, this dissertation notes that effective crisis communication and management can transform disasters into forces for social changes in the crisis recovery stage.

Goal Relevance and Goal Congruence. Goal relevance refers to the extent to which an emotional event relates to personal goals, and it influences the existence of personal emotional experience (Lazarus, 1991). Goal congruence refers to the degree to which an emotional event aligns with an individual's personal goals, determining the valence of emotions (Smith & Lazarus, 1993). In existing crisis communication literature, scholars (e.g., Jin et al., 2007) presume a crisis is always goal-relevant, and goal congruence depends on individuals' standpoints (i.e., perceptions shaped by individuals' beliefs or social environment; Allen, 2017); Though individuals' standpoints vary, the relevant impacts have been rarely examined in crisis communication research (e.g., Clark et al., 2022; Lee et al., 2022).

Large-scale crises like disasters can disrupt a social system's normal operations and are closely tied to individuals' daily lives (Harrison & Williams, 2016). This dissertation agrees that

disasters are undeniably goal-relevant, and individuals' standpoints depend on their social identities (e.g., self-categorization and group identification; Lee et al., 2022; Mackie et al., 2008; Smith & Mackie, 2015). For instance, Lee et al. (2022) found that Asian American publics' group identity enhanced their perceived injustice, efficacy, and situational motivation to combat racism and xenophobia, contributing to their online activism on social media during the COVID-19 pandemic. The discussion of individuals' social identities is further developed in the section on how emotions function at the group level (see section 2.4.4).

Type of Ego Involvement. Ego involvement refers to individuals' perceived psychological significance of events (Gendolla et al., 2008). Type of ego involvement is "diverse aspects of ego-identity or personal commitment" (Lazarus, 1991, p. 149). The concept "type of ego involvement" includes, but is not limited to, the self and others' well-being, a commitment to certain social identities, and the interpreted meaning of events in social contexts (Lazarus, 1991). Existing crisis communication literature has examined the impacts of individuals' as well as their socially significant others' well-being (e.g., Austin et al., 2023; Jin et al., 2016; Jin et al., 2020; Liu et al., 2020b), but the roles of individuals' social identities and essential meaning in social contexts remain unexplored.

To enhance the understanding on the type of ego involvement in crisis communication literature, this dissertation discusses how individuals' responses to crises associate with individuals' identified social groups. The sociocultural context is reviewed in the sections on how emotions function at the group level (see section 2.4.4) and how collectivistic cultural context possibly influences individuals' responses (see section 2.5).

Section 2.4.1.2 Secondary Appraisal

Secondary appraisal refers to individuals' evaluation of coping options and resources (Smith & Lazarus, 1993). In the initial conceptualization, secondary appraisal generally concerns individuals' judgments from two aspects: the likelihood that a specific coping option will work and the likelihood of effectively applying a strategy or strategies (Lazarus & Folkman, 1984). Concentrating on whether a given action will prevent, minimize, or cause additional harm, the refined secondary appraisal includes three components: blame or credit, coping potential, and future expectations (Lazarus, 1991).

Blame or Credit. Blame or credit is the responsibility attribution of an emotional event (Lazarus, 1991). This concept has been extensively assessed as perceived crisis responsibility in crisis communication research in the corporate context (e.g., Coombs, 2023; Coombs & Holladay, 2005; Choi & Lin, 2009; Fannes & Claeys, 2022; Jin, 2009, 2010). For crises that are not caused by organizations, Jin et al. (2016; also see Jin et al., 2020) noted that organizations can also be blamed or credited for their efforts in protecting individuals' physical and psychological well-being. The discussion of perceived crisis responsibility is further developed later in this dissertation (i.e., section 2.4.2).

Coping Potential. Coping potential refers to whether an individual can manage an emotional event's demands (Folkman & Lazarus, 1980; Lazarus & Folkman, 1987). Lazarus (1991) emphasized that coping potential is conceptually similar to self-efficacy (Bandura, 1986; Bandura et al., 1999), which concerns individuals' perceptions of their competence in performing the needed tasks. Coping potential has been operationalized as the term "perceived crisis controllability" in psychology and crisis communication research. For instance, in the stress appraisal scale, Peacock and Wong (1990) noted that controllability could be measured by three dimensions: controllable by self, controllable by others, and uncontrollable. In crisis

communication research, scholars have consistently found perceived crisis controllability impacts individuals' emotional and behavioral responses (e.g., Grappi & Romani, 2015; Jin et al., 2020; Jin et al., 2021; Li et al., 2023). More details on perceived crisis controllability are provided in the review of the IDT model (see section 2.4.2).

Besides perceived crisis controllability, Lazarus (1991) noted that coping potential relates to constraints on coping options' feasibility. Though less examined in crisis communication research (e.g., Avery et al., 2021; Park & Avery, 2019), resource constraints have been found to be crucial for individuals' protective action taking intentions in emergency management research (e.g., Levac et al., 2012; Lindell & Perry, 2012). Resources include individuals' knowledge, time, material resources, and social resources (Lindell & Perry, 2012). Perceived esource constraints are closely linked with individuals' vulnerability in crises (Avery et al., 2021; Baker, 2009; Vann et al., 2022). With limited resources, individuals tend to delay adopting recommended behaviors that contradict their usual resource allocation (Gao et al., 2017; Knox et al., 2022). Given the crucial role of resource constraints in individuals' responses, the following research questions are proposed:

RQ2a. How, if at all, do perceived resource constraints of protective instructions influence individuals' negative emotions about floods?

RQ2b. How, if at all, do perceived resource constraints of protective instructions influence individuals' positive emotions about floods?

RQ2c. How, if at all, do perceived resource constraints of protective instructions influence individuals' information seeking intention?

RQ2d. How, if at all, do perceived resource constraints of protective instructions influence individuals' passive protective action taking intention?

RQ2e. How, if at all, do perceived resource constraints of protective instructions influence individuals' active protective action taking intention?

In crisis communication research (e.g., Avery et al., 2021), social support is a crucial but less examined resource for individuals' recovery after disasters, including both perceptions of support (i.e., perceived support) and receipt of supportive behaviors (i.e., received support; Haber et al., 2007; Shang et al., 2019; Zhou et al., 2018). Abundant psychological research (see Chen et al., 2021; McGuire et al., 2018; Platt et al., 2016; Rogers et al., 2023; Shang et al., 2019) suggests social support is vital for individuals' coping and social groups' rebounding in the aftermath of disasters. Furthermore, perceived social support is more proximally linked to an individual's ability to adjust and cope with stress than received social support (Norris & Kaniasty, 1996; Yu et al., 2022; Zhang et al., 2022). Therefore, this dissertation extends existing crisis communication literature by examining how individuals' perceived social support from their community influences individuals' post-crisis recovery. Focusing on the context of floods, the related research questions are:

RQ3a. How, if at all, does perceived social support influence individuals' negative emotions about floods?

RQ3b. How, if at all, does perceived social support influence individuals' positive emotions about floods?

RQ3c. How, if at all, does perceived social support influence individuals' information seeking intention?

RQ3d. How, if at all, does perceived social support influence individuals' passive protective action taking intention?

RQ3e. How, if at all, does perceived social support influence individuals' active protective action taking intention?

Future Expectancy. Future expectancy concerns individuals' judgments of coping options' impacts on making an event more goal congruent, and it is conceptually comparable to response efficacy (Lazarus, 1991; Rogers, 1975). In crises, future expectancy and response efficacy can be individuals' perceptions of coping options' effectiveness in protecting personal well-being and possessions, as well as enhancing individuals' and community's coping capacities (Bonanno, 2004; Declerq & Palmans, 2006; Lindell & Perry, 2012; Park & Avery, 2019; Witte, 1992). The term "future expectancy" has been less examined in crisis communication, but response efficacy has been found to predict individuals' protective action taking intentions (Avery & Park, 2016; Chen & Cong, 2022; Park & Avery, 2019; Xue et al., 2022). Therefore, this dissertation includes future expectancy by measuring individuals' perceived response efficacy and assessing its influences on how individuals adjust and cope in the aftermath of disasters. Accordingly, the following research questions are proposed:

RQ4a. How, if at all, does perceived response efficacy of protective instructions influence individuals' negative emotions about floods?

RQ4b. How, if at all, does perceived response efficacy of protective instructions influence individuals' positive emotions about floods?

RQ4c. How, if at all, does perceived response efficacy of protective instructions influence individuals' information seeking intention?

RQ4d. How, if at all, does perceived response efficacy of protective instructions influence individuals' passive protective action taking intention?

RQ4e. How, if at all, does perceived response efficacy of protective instructions influence individuals' active protective action taking intention?

The above discussion on primary and secondary appraisals reflects how individuals' subjective assessments of an emotional event's personal significance elicit and differentiate emotions (Scherer, 1999). Besides determining individuals' emotional responses, individuals' appraisals influence their coping preferences/strategies (Lazarus, 1991; Jin et al., 2007; 2010; 2012). Coping refers to individuals' cognitive and behavioral efforts to meet demands posted by emotional events (Lazarus & Folkman, 1984). The two main coping mechanisms are problem-focused coping and emotion-focused coping (Smith & Kirby, 2009).

Section 2.4.1.3 Problem-focused and Emotional-focused Coping

Problem-focused coping refers to individuals taking action to make the situation more goal congruent, whereas emotion-focused coping refers to individuals adjusting themselves to change their relationships with situations (Lazarus, 1991). In general, problem-focused coping is more action-oriented and preferred for controllable situations, while emotion-focused coping is more cognition-oriented and preferred for uncontrollable situations (Smith & Kirby, 2009). Because of these two coping mechanisms' action-oriented and cognition-oriented nature, they have been adapted as *conative* coping and *cognitive* coping in crisis communication research (e.g., Austin et al., 2023; Jin & Hong, 2010; Jin et al., 2007, 2010, 2012; Jin et al., 2022).

Conative coping is operationalized as individuals' intentions of actively following protective action instructions and/or passively checking others' responses to a crisis, and cognitive coping is operationalized as individuals' intentions of seeking information that aids decision-making (Jin et al., 2020). For conative coping, Liu et al. (2015) developed a set of items to assess individuals' intentions to take protective actions in response to a disaster. Jin et al.

(2020) adopted the proposed items and assessed the measurement via a principal component analysis, identifying two components: passive and active protective action taking intentions. Passive protective action taking intentions refer to individuals' tendency to prepare and be willing to take protective measures in response to crises without actively seeking confrontation, while active protective action taking intentions measure participants' tendency to actively take protective measures in response to crises (Jin et al., 2020; Liu et al., 2015).

This dissertation includes individuals' information seeking and protective action taking intentions to assess how individuals cope in the post-crisis stage. As noted in section 2.3.2 on community resilience, existing crisis communication research on community resilience suggests individuals' communicative behaviors or behavioral intentions positively associate with individuals' perceived community resilience (e.g., Spialek & Houston, 2018; Spialek et al., 2019). In light of this, the following research questions are proposed:

RQ5a. How, if at all, does information seeking intention influence individuals' perceived community resilience?

RQ5b. How, if at all, does passive protective action taking intention influence individuals' perceived community resilience?

RQ5c. How, if at all, does active protective action taking intention influence individuals' perceived community resilience?

Furthermore, this dissertation argues that both conative coping and cognitive coping have been mainly studied as intrapersonal activities (i.e., activities that operate within individuals' minds or selves; Speer, 2000) that are solely influenced by individuals' evaluation of events in crisis communication literature (e.g., Austin et al., 2021; Austin et al., 2023; Jin et al., 2020), neglecting the impacts from individuals' social environment. Using appraisal theory as a

foundation (Lazarus, 1991), this dissertation argues that individuals' coping influences and is influenced by the environment (e.g., interpersonal connections, social groups, and cultural contexts) (Keltner & Haidt, 1999; Lazarus, 2006). This argument is further developed in the dissertation sections on how emotions operate at the interpersonal and group levels (see sections 2.4.3 and 2.4.4) and how the collectivistic cultural context possibly influences individuals' responses (see section 2.5) to understand how individuals, as connected units in communities (Aldrich & Meyer, 2015), react in the post-crisis stage.

Summary. In conclusion, appraisal theory (Lazarus, 1991; Lazarus & Folkman, 1984) provides the fundamental propositions about emotions. The application of appraisal theory to crisis communication research generally reveals fruitful findings at the intrapersonal level. To gain a more precise understanding of how emotions have been studied in crisis communication, the next section reviews the two emotions-focused models, both rooted in appraisal theory: the ICM model (Jin et al., 2012) and the IDT model (Jin et al., 2020; Jin et al., 2021).

Section 2.4.2 Crisis Communication Research on Emotions: How Emotions Function at the Intrapersonal Level

The integrated crisis mapping model (i.e., ICM; Jin et al., 2012; Jin et al., 2016) and the infectious disease threat appraisal model (i.e., IDT; Jin et al., 2020; Jin et al., 2021) are the two theoretical frameworks in crisis communication that explore the roles of crisis emotions. Both models center at the intrapersonal level and shed light on how individuals cognitively, emotionally, and behaviorally adapt in the pre-crisis and crisis stages (Austin et al., 2023; Jin et al., 2012; Jin et al., 2016; Jin et al., 2020; Jin et al., 2021). In the following discussion, the first subsection focuses on the ICM model (Jin et al., 2007, 2010, 2012) and maps out the core emotions in flood recovery. The second subsection concentrates on the IDT model's key

components (Jin et al., 2020; Jin et al., 2021) to identify potential determinants for individuals' responses in the context of flood recovery.

Section 2.4.2.1 Reviewing the Integrated Crisis Mapping (i.e., ICM) Model and Core Emotions in Flood Recovery

Rooted in appraisal theory (Lazarus, 1991) and developed in the Western context, the integrated crisis mapping model (i.e., ICM) is the first comprehensive framework that provides a systematic understanding of individuals' emotional upheavals and corresponding behavioral intentions in the crisis event stage (Jin et al., 2007, 2010, 2012). The ICM model provides a public-focused and emotion-based approach for crisis communicators to shape organizational crisis responses, thereby addressing affected individuals' coping needs (Jin et al., 2012). For public-driven, acknowledging the primary public as the community where the organization is based (Ulmer, 2001), Jin et al. (2012) defined the primary public as individuals directly affected by a crisis, have shared common interests, and generate long-term influences on the reputation and operations of the organization in crisis. For emotion-based, centering on the primary publics' emotional reactions, Jin et al. (2012) further noted emotions are multi-staged in crises: individuals' appraisal of a crisis can lead to their initial emotional responses (i.e., primary level emotion; Jin et al., 2007, 2010, 2012). Individuals' coping strategies/efforts and organizational crisis responses can further influence individuals' crisis appraisals and result in their subsequent emotional responses (i.e., secondary level emotion; Jin et al., 2007, 2010, 2012).

There are two continua in the ICM model. The X-axis indicates individuals' preferred coping strategies that range from cognitive coping to conative coping, and the Y-axis indicates organizational engagement, which ranges from high to low (Jin et al., 2007, 2010, 2012). For individuals' coping strategies, recapping on the previous section's content, cognitive coping and

conative coping align with emotion-focused and problem-focused coping in the appraisal theory (Jin & Hong, 2010; Jin et al., 2012). In more recent crisis communication research (Austin et al., 2023; Jin et al., 2020; Jin et al., 2021), cognitive coping is operationalized as individuals seek information from different channels, and conative coping is operationalized as individuals actively implementing protective action guidance and/or passively observing others' reactions to a crisis. Moreover, Jin et al. (2020) suggested that individuals' information seeking intentions (i.e., cognitive coping) can contribute to their intentions to take protective actions (i.e., conative coping). For organizational engagement, high engagement means abundant resource allocations to address crises; correspondingly, low organizational engagement refers to less resource allocation (Jin et al., 2012). Different types of crises and the discrete emotions individuals tend to experience are mapped into the four quadrants in the ICM model (Jin et al., 2007, 2010, 2012).

Based on the ICM model, disasters like floods are located in quadrant two. According to the model, individuals tend to experience sadness as the primary level emotion and fright as the secondary level emotion when responding to floods; meanwhile, individuals are inclined to take actions (e.g., communicative and protective action taking) (Austin et al., 2023; Jin et al., 2012), which aligns with findings in risk and emergency management research (e.g., Chen & Cong, 2022; Medd et al., 2014; Ogunbode et al., 2019). For experienced crisis emotions, Jin et al. (2012) noted there is not sufficient evidence to rule out the possibility for individuals to experience anger and anxiety in crises listed in quadrant two; meanwhile, both anger and anxiety were found in emergency management research on flood recovery (e.g., Bubeck & Thieken, 2018; Butler et al., 2018; Carroll et al., 2009; McKenzie et al., 2022). Indeed, individuals may experience all four negative emotions indicated by the ICM model: sadness, fright/fear, anxiety, and anger in the flood recovery process. In addition to the identified four negative emotions for

disasters like floods, communication scholars have noted the importance of positive emotions for individuals' adaptation in crises (e.g., Bian et al., 2021; Grappi & Romani, 2015; Jeong, 2010; Jin et al., 2021; Kim & Niederdeppe, 2013). The examined positive crisis emotions include sympathy, gratitude, hope, pride, and love, which have been found to contribute to individuals' cognitive and conative coping in crises (e.g., Datu et al., 2022; Gan & Fu, 2022; Guo, 2017; Jin et al., 2021; Ke et al., 2022; Li et al., 2022; Malighetti et al., 2023; Zhang & Shay, 2019; Waters et al., 2022).

A thorough understanding of individuals' negative and positive emotions can provide comprehensive guidance for crisis managers to facilitate individuals' post-crisis recovery. Hence, the following paragraphs review the literature on emotions in the flooding context and their impacts on individuals' behavioral intentions. Also, because the majority of existing crisis communication research has focused on the impacts of emotions on individuals' situational behavioral intentions during the pre-crisis and crisis stages, the following paragraphs draw on psychology and emergency management research to enhance the understanding of how individuals' affective experiences may influence their behavioral responses and perceived community's capacity to recover from adversity (i.e., community resilience; Houston, 2015; Houston et al., 2018; Zhang & Shay, 2019) in the post-crisis stage.

Negative Emotions

Sadness. A predictable but uncontrollable loss can lead to sadness (Lazarus, 1991; Jin, 2009). Previous studies found that sadness can lead to systematic and rational information processing (e.g., Bodenhausen et al., 1994; Jin, 2010; Kim & Cameron, 2011; Tiedens & Linton, 2001). Meanwhile, information seeking intention was found to be positively associated with sadness in a crisis (Austin et al., 2023; Kim & Niederdeppe, 2013). Furthermore, in the context

of infectious diseases, Liu et al. (2020b) found that sadness alongside information seeking intentions contributed to individuals' protective action taking intentions. In other words, under the influence of cognitive coping, sadness can be adaptive and facilitate individuals to initiate conative coping to achieve adaptation goals.

Besides information seeking intentions and protective action taking intentions, sadness can trigger a preference for adopting rewarding and comforting coping strategies, such as seeking social/emotional support and adopting positive thinking (Jin, 2009; Raghunathan & Corfman, 2006). Social/emotional support and positive thinking have been found to positively associate with individuals' post-crisis recovery (e.g., Andrews et al., 2003; Cohen & Wills, 1985; Guo, 2017; Liu & Huang, 2021). Following this line of logic, though less examined in crisis communication research (e.g., Liu et al., 2020b), it is reasonable to argue that sadness may improve individuals' and communities' coping capacities and connections, under the influence of social/emotional support.

Fright/Fear. Imminent, concrete, and overwhelming physical danger can induce fright (Lazarus, 1991), and individuals tend to experience more fright when they perceive that a crisis is unpredictable and uncontrollable (Jin, 2009; 2010; Lerner et al., 2003; Oh et al., 2021; Yen et al., 2021). When individuals are uncertain about how a threat would develop and how to cope with an emotional event (Jin, 2010; Jin et al., 2016), individuals tend to adopt an avoidance strategy (Jin, 2009) and/or seek the termination of the threatening stimulus (Izard, 2009; LaBar et al., 1995). Specifically, previous research found that individuals prefer to escape from the disaster area when they predominantly feel frightened and in situations out of their control (Fung et al., 2019; Goltz, 2016; Jin, 2009). Meanwhile, individuals who experience more fright are inclined to seek information (Coan et al., 2020; Kim & Niederdeppe, 2013) and follow

instructions about protective behaviors (Austin et al., 2023; Jin et al., 2016; Lim et al., 2019; Lindell et al., 2016) to avoid the crisis' impacts and potential dangers. In other words, individuals' avoidance tendency of physical harm and proactive tendency to terminate threats elicited by fright possibly aid individuals' recovery and enhance individuals' threat assessment, resulting in long-term improvements in individuals' coping capacities. Therefore, this dissertation argues that understanding fright can contribute to the understanding of how crisis communication can aid affected individuals to follow instructing information and take protective actions.

Anxiety. It has been argued that anxiety is the default emotion that individuals experience in any type of crisis (Jin, 2009; Jin et al., 2007, 2010, 2012). Individuals tend to feel anxiety when they are concerned about an imminent, unpredictable, and uncontrollable negative outcome (Jin, 2010; Lake & LaBar, 2011; Lazarus, 1991). Compared with fright, anxiety is more future-oriented and longer-lasting, and its elicitor and terminator tend to be less concrete (LaBar, 2016; Lang et al., 2000). In crisis communication research, anxiety has been found to be positively associated with individuals' information seeking intentions (Jin et al., 2016; Kim & Niederdeppe, 2013; Lee et al., 2021; Zhao & Tsang, 2022), information sharing, and protective action taking (Austin et al., 2023; Jin et al., 2016; Lim et al., 2019). Psychological studies have found that anxiety in high intensity can functionally prepare individuals to confront threats (e.g., Cheung-Blunden et al., 2019; McNaughton & Corr, 2004; Perkins et al., 2007). Moreover, due to its future-oriented characteristic, anxiety is positively associated with individuals' precautionary tendencies and threat assessments (Kenwood et al., 2022; LaBar, 2016). Briefly speaking, anxiety-induced precautionary tendencies and threat assessments may boost individuals' coping capacities. Thus, this dissertation highlights the importance of examining how the connection

between individuals' affective experience of anxiety and their behavioral intentions may prompt individuals to take recovery actions in the post-crisis stage.

Anger. The core relational theme of anger is "a demeaning offense against me and mine" (Lazarus, 1991, p. 123). In a crisis, individuals tend to experience anger when the crisis is relevant to their goals (Jin et al., 2016; Lazarus, 1991), and the causality of the crisis is attributed to external actors (not to the individuals experiencing the crisis) (Lazarus, 1991). Perceived crisis responsibility is a significant predictor of individuals' anger in crises (Choi & Lin, 2009; Kim & Niederdeppe, 2013; Lee et al., 2021). Individuals tend to experience more anger when crises are perceived as controllable and predictable (Jeong, 2010; Jin, 2009, 2010; Lerner & Keltner, 2001; Smith & Ellsworth, 1985). For unpredictable and/or uncontrollable crises, organizations are likely to offend individuals by posing threats to individuals' well-being or being inactive in mitigating negative impacts on individuals (Jin et al., 2016).

Anger can bias individuals' perceptions of reality (Cooke & Halberstadt, 2021), hence boosting individuals' intentions to seek and share emotionally charged information (Griffin et al., 2008; Hoffner et al., 2009; Parrott et al., 2005; Xue et al., 2020). In an intentional crisis that was not perpetrated by an organization, Jin et al. (2016) found that anger positively associated with individuals' intentions of seeking and sharing information, which in turn facilitated individuals' adaptation to the crisis situation. In an infectious disease context, Oh et al. (2021) found anger elicited by information on social media enhanced individuals' threat assessment.

In sum, findings from previous crisis communication research (e.g., Jin et al., 2016; Oh et al., 2021) indicate that anger can boost individuals' protective cognitive and conative coping. This dissertation validates the impacts of anger on individuals' behavioral responses and recovery in the aftermath of disasters in China. Furthermore, this dissertation proposes that

individuals' information seeking intentions triggered by anger may enhance individuals' connections with others in the community, resulting in impacts on the community's adjustment after disasters.

Disgust. The affective experience of disgust is a strong aversive response to a stimulus (e.g., situation, information) perceived as repulsive, offensive, or morally corrupt, eliciting individuals' behavioral intentions to distance from the stimulus (Lazarus, 1991). Existing research on disgust in crisis communication centers mainly on organizational crises and studies individuals' perceptions of organizations (e.g., Jin et al., 2014; Lee et al., 2021; Mak & Song, 2019; Zhao, 2022). The only identified crisis communication study that investigates disgust and concentrates on an emergency context (Waymer & Heath, 2007) also focuses on individuals' expressed disgust toward the perceived slow response by the federal government. Existing crisis communication literature largely ignores how disgust influences individuals' coping with devastating crises like floods.

Extensive psychological research (e.g., Curtis & Biran, 2001; Hacquin et al., 2022; Rozin & Haidt, 2013; Tybur et al., 2013) suggests that disgust can increase individuals' intentions in taking protective behaviors that possibly reduce threats and harm. In the context of floods or earthquakes, where environmental contamination can pose significant health risks, the protective mechanism elicited by disgust can be especially important. Therefore, this dissertation argues that disgust possibly motivates individuals to engage in restorative and protective actions to alleviate incurred damage and perceived threats.

Positive Emotions

Sympathy. Sympathy is an "other-oriented" (Goetz et al., 2010, p. 351) emotion, which is based on individuals' appraisals of others' physical or emotional suffering and involves

individuals' feelings of concern and sorrow for others (Stellar & Keltner, 2014). The action tendency associated with sympathy is the impulse of ameliorating others' adversity (Lazarus, 1991), and sympathy has been found to positively associate with individuals' altruistic and supportive behavioral intentions toward crisis survivors (Coombs & Holladay, 2007, 2009; Jeong, 2010).

Darwinism and the evolutionary theory (Gould, 2002; Richerson & Boyd, 2004) suggest that the community which includes the greatest number of sympathetic members would flourish best. Driven by sympathy, individuals' altruistic and supportive behaviors for survivors who suffer in crises can ultimately build community resilience and aid crisis recovery. For instance, in the terrorism context, by analyzing posts on social media, crisis communication scholars (e.g., Canel & Sanders, 2010; Guo, 2017) found that individuals' sympathy toward survivors is the dominantly expressed emotion and is closely related to individuals' altruistic behavioral intentions such as donating and offering support.

Existing crisis communication research provides preliminary evidence on how sympathy possibly contributes to survivors' adaptation from crises (e.g., Canel & Sanders, 2010; Guo, 2017; Jeong, 2010). However, more empirical research is needed to validate sympathy's impacts and explore sympathy's potential beyond individuals' behavioral intentions as an emotion toward others. Thus, this dissertation examines the linkages among sympathy, behavioral intentions, and perceived community resilience in the aftermath of floods in China.

Gratitude. Gratitude is the positive feeling individuals tend to experience after receiving beneficial support from others (DeSteno et al., 2019; McCullough et al., 2001). Previous crisis communication research results show that personalized supportive messages from organizations and instrumental support from organizations and other individuals can promote individuals'

gratitude (Guo, 2017). Meanwhile, the experienced gratitude can increase individuals' cognitive flexibility in the crisis context (Fredrickson et al., 2003; Tong & Oh, 2021). Moreover, the affective experience of gratitude may increase individuals' connections, given the behavior tendency associated with gratitude is returning the favor (Ahrens & Forbes, 2014; Sawyer et al., 2022).

Explicitly, gratitude has been found to increase individuals' relational trust and prosocial behavioral intentions in the crisis context (e.g., intentions of supportive behaviors and future cooperation) (Bartlett & DeSteno, 2006; DeSteno et al., 2010; Guo, 2017; Ni et al., 2022). Furthermore, the prosocial behavioral intentions for individuals who feel grateful can be stronger when they receive beneficial support from strangers than from friends (Clark, 1984). For instance, through a qualitative content analysis on the Boston Marathon Facebook (BMF) page, Guo (2017) found individuals showed gratitude toward the organization and strangers because of their support after the 2013 Boston marathon bombing.

Because of the elicited prosocial behavioral intentions and the potential reciprocal benevolent prosocial interactions beyond individuals' interpersonal networks, this dissertation proposes that gratitude possibly contributes to individuals' adaptation and perceived community resilience after crises. Regardless of gratitude's potential, there are limited crisis communication studies (e.g., Guo, 2017; Lim et al., 2019; Lim et al., 2019) that either summarized gratitude's impacts from social media posts or recognize that gratitude is an emotion toward others that is under the influence of interpersonal interactions. Thus, this dissertation collects empirical evidence through a survey to assess gratitude's impacts in the context of community recovery from floods in China.

Hope. In a dreaded situation, individuals can experience hope if they perceive the situation is changeable, and hope's core relational theme is yearning for alleviation from undesired outcomes (Lazarus, 1991). Lazarus (1991) claimed that individuals' appraisal of their coping potential is the determinant for hope. However, Smith et al. (1989) suggested that the personality trait of optimism is enough to elicit hope. In extreme adversities, the experienced hope can motivate individuals to stay committed to an uncertain but desired outcome (Lazarus, 1991), which is crucial for individuals to stay functioning and to protect their psychological well-being.

Existing crisis communication research has mainly assessed hope's positive impacts on individuals' behavioral intentions (e.g., Jin et al., 2020; Jin et al., 2021; Lim et al., 2019; Lim et al., 2019; Lu et al., 2022). For instance, Jin et al. (2021) defined hope as an emotion that elicits through self-attributed responsibility and arouses communicative and protective action taking intentions in the contexts of sexually transmitted and respiratory infectious diseases. In addition to individuals' perceptions, recent psychology research (Chiesi et al., 2022; Kaniasty, 2020; Lee, 2021) suggests individuals' interpersonal interactions can be a source of hope. Therefore, this dissertation argues that more empirical research is needed to examine how individuals' perceptions and interpersonal interactions elicit an affective experience of hope, resulting in potential differences in individuals' adaptive responses in the flooding context.

Pride. Based on findings of existing psychology research, pride is part of the evolved human nature, which functions mainly in the interpersonal and sociocultural domains (e.g., Cheng et al., 2010; Goffnett et al., 2022; Orth et al., 2010). The core relational theme of pride is ego-identity enhancement, which occurs when individuals or the social group they identified with take credit for achievements (Lazarus, 1991). In other words, the affective experience of

pride relies on events' assigned meaning by individuals or groups. For instance, countries recover from national traumas (e.g., disasters, wars) by reconstructing the past through communication that enhances group connections to foster patriotic emotions, including pride (Tint, 2010; Zhang et al., 2020). Pride commonly exists in the aftermath of disasters, whereas there is limited crisis communication research (e.g., Liu et al., 2020b; Zhang & Shay, 2019) empirically examining the impacts of pride in crises, which can be caused by solely focusing on how crisis events elicit individuals' emotions as well as neglecting the post-crisis stage.

Though rarely examined in crises (Fredrickson et al., 2003; Guo, 2017), pride is positively associated with individuals' resilience after a crisis. Also, pride can increase individuals' expressive impulse (Lazarus, 1991) and their intentions to identify with strong others and social groups (Oveis et al., 2010). After the 2013 Boston Marathon bombing, individuals expressed their pride in their community's resilience and the collective runner identity (Guo, 2017). In flood recovery, pride may increase individuals' communication with others who share common interests, which can facilitate individuals' post-crisis recovery and enhance their perceived community resilience.

Love. Love can be recognized as micro-moments of positivity resonance, which have two prerequisites: perceived safety and sensory connection (Oravecz et al., 2020). In other words, love is an emotion emphasizing interpersonal interactions. Lazarus (1991) divided love into romantic love and compassionate love. Existing research in crisis communication tends to focus on compassionate love: a deep, affectional bond based on trust, respect, caring, and honesty (e.g., Fredrickson et al., 2003; Fehr, 1988; Fehr & Broughton, 2001; Guo, 2017; Sprecher & Regan, 1998; Zhang & Shay, 2019).

Importantly, uncertain situations like crises can shift individuals' social priorities and make them feel heightened love toward their loved ones (Fredrickson, 2013). Love has been found as one of the most frequently experienced positive emotions after a crisis and is closely tied with individuals' interpersonal relationships (Fehr, 1988; Fehr & Broughton, 2001; Fredrickson et al., 2003; Zhou et al., 2022); however, its relevant influential factors and impacts on individuals' behavioral intentions and community resilience have not been examined until recently (Jin et al., 2020; Zhang & Shay, 2019). Along with other positive emotions (e.g., gratitude and pride), love elicited by crisis events or community identification was found to contribute to individuals' communicative and protective action taking intentions (Jin et al., 2020) as well as perceived community resilience (Zhang & Shay, 2019).

In a nutshell, this dissertation argues that individuals' negative and positive emotional experiences possibly influence their responses in the post-crisis stage. The following research questions are proposed:

RQ6a. How, if at all, do individuals' negative emotions (sadness, fright/fear, anxiety, anger, and disgust) about floods influence their information seeking intentions?

RQ6b. How, if at all, do individuals' positive emotions (sympathy, gratitude, hope, pride, and love) about floods influence their information seeking intentions?

RQ6c. How, if at all, do individuals' negative emotions (sadness, fright/fear, anxiety, anger, and disgust) about floods influence their passive protective action taking intentions?

RQ6d. How, if at all, do individuals' positive emotions (sympathy, gratitude, hope, pride, and love) about floods influence their passive protective action taking intentions?

RQ6e. How, if at all, do individuals' negative emotions (sympathy, gratitude, hope, pride, and love) about floods influence their active protective action taking intentions?

RQ6f. How, if at all, do individuals' positive emotions (sympathy, gratitude, hope, pride, and love) about floods influence their active protective action taking intentions?

Summary. In sum, the ICM model outlines the emotional experience and subsequent behavioral intentions that individuals are likely to have in crises, enabling crisis communicators to align crisis solutions with individuals' coping needs (Austin et al., 2023; Jin et al., 2007, 2010, 2012). However, the ICM model has been mainly applied to analyze the crisis response phase; moreover, the ICM model does not systematically clarify the determinants for individuals' emotional and behavioral responses nor consider the impacts of individuals' social environment. Acknowledging these three limitations in the ICM model, the next section reviews the ICM model's derivative: the infectious disease threat appraisal model (i.e., IDT appraisal; Jin et al., 2020; Jin et al., 2021). The review of the IDT model provides an understanding of recent developments in crisis communication literature on emotions and explores the potential determinants for individuals' affective and behavioral reactions in the context of flood recovery.

Section 2.4.2.2 Reviewing the Infectious Disease Threat (i.e., IDT) Model and Influential Factors for Individuals' Crisis Responses

Synthesizing insights from appraisal and coping theories from psychology (e.g., appraisal theory by Lazarus & Folkman, 1984; protection motivation theory by Rogers, 1975), health communication (the elaboration likelihood model by Witte, 1992), and crisis communication (e.g., the threat appraisal model by Jin, 2010), the infectious disease threat model (i.e., IDT) is the first and foremost to provide a comprehensive understanding of strategic communication's potential for enhancing individuals' knowledge and comprehension before a disease epidemic

(i.e., the pre-crisis stage) and guiding crisis management following a disease outbreak (i.e., the crisis event stage) (Jin et al., 2020; Jin et al., 2021). Because the IDT model focuses on the pre-crisis and crisis stages, the model's three key components for predicting individuals' affective and behavioral responses are prospective, mainly focusing on impending but uncertain threats (Jin et al., 2020; Jin et al., 2021). The three components are perceived crisis predictability, perceived crisis controllability, and perceived crisis responsibility.

As a recently established model, only three empirical studies have tested the model (e.g., Austin et al., 2021; Jin et al., 2020; Jin et al., 2021), which employed a 2 (predictability: high vs. low) × 2 (controllability: high vs. low) within-subjects online experimental design and consistently found participants' perceived crisis predictability, controllability, and responsibility of an IDT situation influence participants' emotional responses (e.g., negative and positive valence in Jin et al., 2020; attributions to external threats or internal threats in Jin et al., 2021) and drive their information seeking intention, and protective action taking intentions in passive and active ways (Austin et al., 2021; Jin et al., 2020; Jin et al., 2021). Integrating findings of these three studies, the following paragraphs focus on decomposing the IDT appraisal's three components and discussing their potential applications in the context of flood recovery.

Notably, existing crisis communication research on how individuals' threat appraisals influence their emotional and behavioral responses has mainly focused on the Western context and in the pre-crisis and crisis stages (e.g., Austin et al., 2021; Changnon et al., 2000; Coles & Hirschboeck, 2020; Coquet et al., 2019; Hamilton et al., 2018; Jin, 2010; Jin et al., 2020; Jin et al., 2021; Pearson & Hamilton, 2014); much less is known beyond that realm. This dissertation expands crisis communication literature by examining how Chinese individuals' cognitive and emotional responses in the context of flood recovery. The following paragraphs focus on

decomposing the IDT appraisal's three components and focusing on the applications of two components (i.e., controllability and responsibility) in the context of flood recovery.

Perceived crisis predictability. In crisis communication, predictability refers to individuals' perceptions of a human agency (e.g., self, others, and/or organizations) for forecasting what will occur in an uncertain circumstance (Jin, 2010; Jin et al., 2020; Jin et al., 2021). Predictability may be low when individuals lack enough information for decision-making (Cahn & Abigail, 2007; Jin et al., 2020). For example, Jin et al. (2020) noted that an infectious disease's novelty might decrease individuals' perceived crisis predictability. Compared to infectious diseases, extreme weather disasters like floods seem less novel and more predictable because the cause: precipitation is prevalent and seasonal (Akinboye & Morrish, 2022; Tabari, 2020; Zhang, 2022).

Nevertheless, for the predictability of floods, meteorologists and geologists found that global warming decreases the predictability and increases the frequency of extreme precipitation events (e.g., Bubeck et al., 2019; Xu et al., 2020). The fluctuations in extreme weather can amplify damage to societal functioning and individuals' physical and psychological well-being (Changnon et al., 2000; Osti & Nakasu, 2016); correspondingly, flood recovery efforts can be uncertain for individuals. Furthermore, Jiang et al. (2020) noted that extreme weather could be more destructive for highly populated regions like the mainland of China, because the high population density means human factors in crisis management can result in cascading damage, as exemplified by the detrimental 2021 Henan Floods (Yeung, 2022). Also, Sellnow and Seeger (2021) claimed affected individuals face incurred damages and plan for future crises in the post-crisis stage. Therefore, this dissertation argues that in the flood recovery phase, individuals' perceptions of how well themselves, the local community, and the local government emergency

management agency can predict floods may influence their cognitive, emotional, and behavioral responses. The following research questions are proposed:

RQ7a. How, if at all, does the perceived crisis predictability of floods influence individuals' negative emotions about floods?

RQ7b. How, if at all, does the perceived crisis predictability of floods influence individuals' positive emotions about floods?

RQ7c. How, if at all, does the perceived crisis predictability of floods influence individuals' information seeking intentions?

RQ7d. How, if at all, does the perceived crisis predictability of floods influence individuals' passive protective action taking intentions?

RQ7e. How, if at all, does the perceived crisis predictability of floods influence individuals' active protective action taking intentions?

Perceived crisis controllability. Controllability is defined as individuals' perceptions of human agency (e.g., the abilities of self, others, and/or organizations) for influencing emotionally charged situations (Austin et al., 2023; Jin et al., 2010; Jin et al., 2020; Jin et al., 2021). In existing risk and crisis communication research, high controllability has been found to associate with positive emotions (Kott & Limaye, 2016; Smith & Ellsworth, 1987), and low controllability with negative emotions can positively influence individuals' coping processes (Jin, 2010; Nabi et al., 2021). Individuals themselves, their interpersonal connections, and government agencies have been found to serve as sources for perceived crisis controllability (e.g., Park et al., 2021; Zimmer-Gembeck et al., 2016; Zimmer-Gembeck et al., 2018). Though individuals and their interpersonal connections are fundamental for controlling and mitigating crises' negative consequences, only a few crisis communication research studies have examined individuals'

perceptions of the extent to which some disasters are controllable by themselves and socially significant others in the local community (e.g., Austin et al., 2021; Jin et al., 2016; Jin et al., 2020; Jin et al., 2021).

Furthermore, individuals' actions are an undeniable necessity for retaining their well-being after disasters (Jin et al., 2016; Lim et al., 2019; Liu et al., 2019). As noted in previous sections of this dissertation (i.e., sections 2.1 & 2.3), individuals affected by crises commonly receive support from their family members, friends, and neighbors before government agencies provide support (Quarantelli, 1982; Sellnow & Seeger, 2021). Therefore, this dissertation proposes that individuals' perceptions of disaster as controllable by the self, the local community, and the local government emergency management agency may influence individuals' emotional and behavioral responses, as well as individuals' perceived community resilience. Correspondingly, this dissertation proposes the following research questions:

RQ8a. How, if at all, does the perceived crisis controllability of floods influence individuals' negative emotions about floods?

RQ8b. How, if at all, does the perceived crisis controllability of floods influence individuals' positive emotions about floods?

RQ8c. How, if at all, does the perceived crisis controllability of floods influence individuals' information seeking intentions?

RQ8d. How, if at all, does the perceived crisis controllability of floods influence individuals' passive protective action taking intentions?

RQ8e. How, if at all, does the perceived crisis controllability of floods influence individuals' active protective action taking intentions?

Perceived crisis responsibility. Responsibility is conceptualized as the extent to which individuals perceive a social entity (e.g., self, others, and/or organizations) being accountable for an emotionally charged situation (Jin, 2010; Jin et al., 2020; Jin et al., 2021). In crises like disasters, government emergency management agencies are responsible for safeguarding individuals' physical and psychological well-being also facilitating individuals' adaptation (Davvetas et al., 2021; Horsley et al., 2010; Liu et al., 2010; Liu & Levenshus, 2017; Liu et al., 2020a). Accordingly, existing communication literature in the context of disasters has mainly explored the role of individuals' perceptions of organizations' crisis responsibility on individuals' responses (e.g., Jin et al., 2020; Jin et al., 2021; Liu et al., 2020b).

In addition to government emergency management agencies, individuals' and their families' coping efforts are fundamental for reducing human and property losses in disasters (Donahue et al., 2014; Johnston et al., 2020). In contrast, little research assesses individuals' perceptions of their own and/or socially significant others' responsibilities to adapt to disasters (e.g., Jin et al., 2021). The same research gap exists for crisis communication practices. By examining the Australian government's strategic communication in disasters, Johnston et al. (2020) found that governments tend to emphasize local agencies' response capacity/performance, but overlook individuals' responsibility in managing crises. The potential drawback of this type of crisis communication is that high confidence in government agencies' capacities in managing crises without individuals' recognition of their own responsibilities may inhibit individuals from proactively taking essential actions to recover from disasters (Heath et al., 2018). Acknowledging this research gap and the multi-layered nature of perceived crisis responsibility, this dissertation systematically examines how individuals' perceptions of personal responsibility, the local community's responsibility, and the local government emergency

management agency's responsibility in controlling floods influence individuals' emotional and behavioral responses, as well as perceptions of community resilience in the post-flood recovery phase. The following research questions are proposed:

RQ9a. How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' negative emotions about floods?

RQ9b. How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' emotions about floods?

RQ9c. How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' information seeking intentions?

RQ9d. How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' passive protective action taking intentions?

RQ9e. How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' active protective action taking intentions?

Summary. In conclusion, the IDT model provides a comprehensive understanding of how individuals cognitively, emotionally, and behaviorally adapt in crises, which explores strategic communication's potential for enhancing individuals' knowledge and comprehension at the pre-crisis stage and guiding crisis management at the crisis event stage (Jin et al., 2020; Jin et al., 2021). Similar to the ICM model, the IDT model neglects individuals' responses in the post-crisis stage and treats individuals' responses as isolated intrapersonal activities. Large-scale crises like disasters strike individuals and their social systems (Heath, 2018a, 2018b). Also, post-crisis recovery demands coordinated coping efforts from individuals and communities.

This dissertation argues that both crises and individuals' responses occur in a social system; meanwhile, individuals' responses are linked with others' responses. To extend crisis

communication literature on emotions beyond the intrapersonal level, the impacts of interpersonal interactions and group identities on individuals' crisis responses should also be considered. Therefore, the next section of the literature review focuses on how emotions function at the interpersonal level (i.e., emotional contagion or the sharing of emotions; Barsade et al., 2018; Rimé, 2009), including literature on the subconscious transfer of emotions (i.e., primitive emotional contagion theory; Barsade, 2002; Barsade et al., 2018; Hatfield et al., 1993) and the conscious transfer of emotions (i.e., social appraisal theory; Manstead & Fischer, 2001; Parkinson, 2001, 2011, 2021).

Section 2.4.3 Primitive Emotional Contagion and Social Appraisal: How Emotions Function at the Interpersonal Level

Despite the unquestionable importance of studying emotions at the intrapersonal level like the ICM model and the IDT model (Jin et al., 2012; Jin et al., 2020), the social nature of emotions has not been fully acknowledged in crisis communication literature. Long before psychology or communication research began to examine emotions, great philosophers and scientists like Aristotle and Darwin demonstrated the pivotal role of emotions in social interactions (Hess & Thibault, 2009; Keltner & Kring, 1998; Van Kleef, 2009). Therefore, this dissertation argues that emotions have social causes at the interpersonal, group, and cultural levels. This dissertation section focuses on the interpersonal level and illustrates how others' emotional expressions possibly influence individuals' crisis responses (i.e., emotional contagion; Barsade et al., 2018; Kane et al., 2023; Mayo et al., 2022; Parkinson, 2011, 2020).

Human beings are social animals that rely on interpersonal connections, and networks of relations include family, friends, colleagues, neighbors, and acquaintances (Basyouni & Parkinson, 2022; Hupe & Hill, 2007; Kilduff & Tsai, 2003; Kilduff & Krackhardt, 2008). At the

interpersonal level, emotions can diffuse through online and offline interpersonal communication, affecting individuals' responses (Barsade, 2002; Kramer et al., 2014; Parkinson, 2011; Rimé, 2009; Schoebi & Randall, 2015; Smith et al., 2007). Importantly, interpersonal communication includes sharing information between two or more individuals, which can go beyond dyads (e.g., group; Barsade et al., 2018; Knight & Eisenkraft, 2015; Xerri et al., 2022). However, to clearly illustrate theoretical frameworks and eliminate overlaps with the content on how emotions function at the group level (see section 2.4.4), this dissertation section mainly uses the dyad structure, sender and perceiver (i.e., individuals who sense others' displayed emotions and possibly change subsequent responses), to elucidate the mechanism of emotional contagion (or the sharing of emotions; Barsade et al., 2018; Parkinson, 2011, 2020; Yu et al., 2022). The central question discussed in this dissertation section is how emotional contagion influences individuals' cognitive, emotional, and behavioral responses.

As a prevalent phenomenon in social interactions, emotional contagion or the sharing of emotions has been a focal research topic in the organizational psychology literature (Barsade et al., 2018). This dissertation section reviews two widely used theories: the primitive emotional contagion theory (Barsade, 2002; Hatfield et al., 1993; Hatfield et al., 2014) and the social appraisal theory (Manstead & Fischer, 2001; Parkinson, 2011, 2020, 2021) to obtain a comprehensive understanding of emotional contagion. Primitive emotion contagion is a feature-driven and subconscious process in which perceivers automatically mimic senders' expressed emotions regardless of the emotional event (Hatfield et al., 1993; Hatfield et al., 2014). In contrast, social appraisal aligns with appraisal theory's general assumption (Lazarus, 1991) and refers to a meaning-driven and conscious process in which perceivers' affective experiences are

based on their evaluations of an emotional event in the light of senders' expressed emotions (Manstead & Fischer, 2001).

Briefly speaking, the critical difference between primitive emotional contagion and social appraisal is whether individuals' affective experiences are elicited by individuals' automatic physiological responses or conscious evaluations of others' emotional expressions. This dissertation section posits that, through both the feature-driven (i.e., primitive emotional contagion; Barsade, 2002; Hatfield et al., 1993; Hatfield et al., 2014) and the meaning-driven (i.e., social appraisal; Manstead & Fischer, 2001; Parkinson, 2020) pathways, others' emotional expressions possibly influence individuals' crisis responses. By reviewing these two different pathways, this dissertation section illustrates the mechanism of emotion sharing through interpersonal interactions (see sections 2.4.3.1 and 2.4.3.2). Moreover, this dissertation section explains how interpersonally shared emotions can function as social information (Van Kleef, 2009; Van Kleef & Fischer, 2016) to influence individuals' responses in uncertain and stressful situations like crises (see section 2.4.3.3).

Section 2.4.3.1 Defining Primitive Emotional Contagion: A Feature-Driven and Subconscious Pathway for Emotional Contagion

There are three fundamental types of affective experiences: emotions, moods, and dispositional affect (Ashkanasy & Humphrey, 2011; Barsade & Knight, 2015). Both emotions and moods can act as content for emotional contagion (Barsade et al., 2018; Hsee et al., 1990). Emotions are acute affective responses to a specific situational stimulus (Reber & Reber, 2001). In comparison to emotions, moods are less intense but more diffuse affective responses to general environmental stimuli that can easily change (Watson & Tellegen, 1985). Because this dissertation explores individuals' responses in the aftermath of a disaster that includes affective

reactions to a specific situation, the following discussion on emotional contagion focuses on sharing emotions.

Primitive emotional contagion theory (i.e., PEC) proposes a feature-driven connection between senders' emotional expressions and perceivers' felt emotions (Barsade et al., 2018; Hatfield et al., 2014; Kane et al., 2023; Parkinson, 2020; Zhang et al., 2022). Because the word "contagion" typically refers to being influenced by infectious objects through simple proximity, the process of emotional contagion has been assumed to occur automatically without demanding individuals' cognitive efforts (Bruder et al., 2014; Parkinson & Simons, 2012; Van Kleef, 2009). The PEC theory conceptualizes that emotional contagion operates as follows: when a sender expresses an emotion, the perceiver automatically mimics the sender's expression without appraising the event that elicits emotions (Chartrand & Bargh, 1999; Dimberg et al., 2000). Then, the perceiver's mimicked emotional expression has a congruent effect on the perceiver's affective feelings via the intrapersonal automatic nervous system (Cacioppo et al., 1992; Ekman, 1992). Perceivers often do not consciously realize the occurrence of primitive emotional contagion, and the perceiver's affective responses are primarily based on automatic physiological responses (Barsade et al., 2018; Hatfield et al., 1993; Neumann & Strack, 2000).

Importantly, emotional contagion is a form of social influence closely tied to individuals' relationships with others and organizations (Barsade et al., 2018; Elfenbein, 2014). For instance, Hatfield et al. (1993) claimed individuals felt sad when they saw family members grieve, but not as sad when they saw strangers' similar emotional expressions. Barsade (2002) found that emotional contagion occurred in groups that participated in managerial negotiations based on the finding that a convergence existed among the outside video coders' ratings, ratings of other group members, and participants' self-reports on emotions. Cropanzano et al. (2017) noted that

leaders' emotional expressions influence group members' affective experiences through emotional contagion in corporate contexts.

Through machine learning, Gruda and Ojo (2022) found that the perceived anxiety in an organization's crisis responses was positively associated with publics' affective experiences of anxiety. Also, physics research found the occurrence of emotional contagion in disasters using computational simulations of affected individuals' physical movement (e.g., Fu et al., 2014; T. Xu et al., 2020). Meanwhile, as noted in previous dissertation sections (e.g., sections 2.1 & 2.3), individuals and their socially significant others (e.g., family members and friends) are the first lines in response to disasters (Sellnow & Seeger, 2021). One psychological study (Jin et al., 2020) found that individuals' susceptibility to emotional contagion was positively associated with individuals' protective action taking intentions during the COVID-19 pandemic. Furthermore, individuals with collectivistic tendencies (e.g., value the group's interests and rely on relationships with others) are prone to emotional contagion (Barsade & Knight, 2015; Ilies et al., 2007). Regarding the empirical evidence from other disciplines, this dissertation argues that disasters are emotionally charged events that trigger individuals' primitive mechanism of social connections (e.g., sharing of emotions; Fischer & Manstead, 2008; Keltner & Haidt, 1999; Spoor & Kelly, 2004) to cope; accordingly, primitive emotional contagion can occur in the context of post-crisis recovery.

Section 2.4.3.2 Defining Social Appraisal: A Meaning-Driven and Conscious Pathway for Emotional Contagion

Primitive emotional contagion theory (Hatfield et al., 1993; Hatfield et al., 2014) has been widely applied in psychology research to explain emotional contagion (Barger & Grandey, 2006; Barsade et al., 2018; Knight & Eisenkraft, 2015; Paz et al., 2022); however, it only

explains the subconscious and feature-driven part of emotional contagion. Both the influence of individuals' conscious processing of others' emotional expression (e.g., social appraisal; Belkin & Kong, 2022; Manstead & Fischer, 2001; Li et al., 2023) and the evaluation of emotional events (e.g., primary and secondary appraisals; Lazarus, 1991) have been neglected (Bruder et al., 2014; Kyranides et al., 2023; Parkinson, 2020, 2021). When dyads or larger groups of individuals confront an emotionally charged event (e.g., a disaster), individuals' understanding of the event may rely on the appraisal and reappraisal of the situation co-constructed with others (Clément & Dukes, 2017; Manstead & Fischer, 2001; Van Kleef & Côté, 2022). Moreover, in uncertain situations like crises, it is common for individuals to use others' emotional expressions as appraisal-related information to make sense of what is occurring (Parkinson, 2011; 2020).

Using others' emotional expression as social information to evaluate emotional events and influence subsequent cognitive and emotional responses is social appraisal (Parkinson, 2011, 2020; Parkinson & Manstead, 2015). Social appraisal is distinct from primary appraisal and secondary appraisal (Parkinson & Manstead, 2015). Instead of concentrating on an emotional event's characteristics, social appraisal views others' emotional expressions as meaningful signals that provide important information about an emotional event (Bruder et al., 2014; Fischer & Manstead, 2008; Keltner & Haidt, 1999; Parkinson & Manstead, 2015; Van Kleef & Lelieveld, 2022). The perceiver's knowledge of appraisals for specific emotions allows the perceiver to interpret how the sender appraised an emotional event based on the sender's emotional expression (Hareli & Hess, 2010; Lange et al., 2022). In brief, the perceiver works backward from an observed emotion to infer related appraisals. For instance, seeing the sender expresses fear may lead the perceiver to conclude that the emotional event is uncontrollable.

Besides differences, social appraisal is connected to primary and secondary appraisals (Parkinson & Manstead, 2015). Individuals' uncertainties about their own primary appraisal and secondary appraisal positively associate with individuals' tendencies of engaging in social appraisal (Manstead & Fischer, 2001; Parkinson & Manstead, 2015; Romo et al., 2022; Van Kleef et al., 2010; Walker & Zimet, 2022). Specifically, Bruder et al. (2014) explained that individuals are motivated to attend to others' emotions (i.e., social appraisal) if they are unable to arrive at a complete pattern of appraisals for a given situation due to lack of information, or if they are uncertain about the emotional significance of an emotional event (i.e., primary appraisal; Lazarus, 1991) or their capacity to cope with an emotional event (i.e., secondary appraisal; Lazarus, 1991).

As crisis communication scholars have only recently shed light on the role of interpersonal communication in crises (Liu & Levenshus, 2023; Liu & Viens, 2020), there is no found crisis communication research that has examined social appraisal. However, given the uncertainty permeating crises (Lee et al., 2021; Liu et al., 2016) and social appraisal's potential in facilitating individuals to make sense of crisis situations (Van Kleef, 2009; Van Kleef & Fischer, 2016), this dissertation proposes social appraisal may occur in the aftermath of disasters and possibly contribute to individuals' perceptions, emotions, and behavioral intentions. To sum, this dissertation section proposes that primitive emotional contagion (Barsade, 2002; Hatfield et al., 1993; Hatfield et al., 2014) and social appraisal are potential processes for emotional contagion in post-crisis recovery. The following dissertation sections (i.e., sections 2.4.3.3 and 2.4.3.4) illustrate how emotional contagion can be assessed and how the sharing of emotions influences individuals' perceptions, emotions, and behavioral intentions.

Section 2.4.3.3 Assessing Emotional Contagion

There is copious evidence for the emotional contagion (e.g., Anderson et al., 2003; Hatfield et al., 2014; Hess & Blairy, 2001; Kane et al., 2023; Shang et al., 2023; Sy et al., 2005; van Haeringen et al., 2023). However, psychologists have noted difficulties in proving the sequential process of emotional contagion (i.e., senders express emotions and then elicit perceivers' affective experiences; Blairy et al., 1999; Bruder et al., 2014; Hess & Blairy, 2001). To assess emotional contagion, psychologists have employed the self-reported susceptibility to emotional contagion scale (Doherty, 1997) as the primary measure (Barsade et al., 2018).

The susceptibility to emotional contagion scale (Doherty, 1997) measures people's self-reported overall tendency to "catch" others' expressed emotions and has consistently been found to associate with individuals' perceptions, affective experiences, and behavioral tendencies in organizational contexts (e.g., Doherty et al., 1995; Gruda et al., 2022; Le Blanc et al., 2001; Lee et al., 2023; Omdahl & O'Donnell, 1999; Verbeke, 1997; Xerri et al., 2022). Though elucidating how emotional contagion can influence perceivers' cognitive, emotional, and behavioral responses (Baral & Sampath, 2019; Ilies et al., 2007; Liang & Chi, 2013), the susceptibility to emotional contagion scale (Doherty, 1997) mainly assesses individuals' general tendencies or dispositional characteristics without considering the impact of a particular context such as a disaster (e.g., "I panic if others around me panic").

Drawing insights from the susceptibility to emotional contagion scale (Doherty, 1997) and specifically focused on the context of public emergency, the emotional contagion scale for public emergency (i.e., ECS-PE; Song et al., 2017) measures individuals' susceptibility to catching emotions in public emergency events (e.g., "When a public emergency happens, I panic if others around me panic"). Psychologists Z. Jin et al. (2020) used ECS-PE to analyze the influence of emotional contagion in the context of COVID-19 in China and found that

individuals' susceptibility to emotional contagion was positively related to preventative action. Moreover, this dissertation argues that adding the description of contexts to certain items (e.g., "When a public emergency happens …") makes participants interpret the meaning of emotional expressions based on contexts, implying that the ECS-PE measures capture both feature-driven and meaning-driven emotional contagion.

Compared to research on the appraisal theory (Lazarus, 1991; Lazarus & Folkman, 1984) or primitive emotional contagion (Hatfield et al., 1993; Hatfield et al., 2014), research on social appraisal has been slow to advance. After Campos and Stenberg (1981) coined the term: social appraisal, it took another two decades to be formally defined (see Manstead & Fischer, 2001). Existing research examining social appraisal has mainly been conducted by psychologists in experiments and has found others' emotional expressions can influence how individuals make sense of events (e.g., Evers et al., 2005; Mumenthaler & Sander, 2012, 2015; Parkinson & Simons, 2009; van der Schalk et al., 2015). One more recent example is van der Schalk et al.'s (2015) study in which participants were first exposed to the experimental setting that an individual split an economic game fairly or unfairly and expressed pride or regret about the judgment; following that, participants reported their emotional experiences and made their resource distribution judgment. This study's findings (van der Schalk et al., 2015) suggest that others' emotional expressions can influence perceivers' affective experiences and subsequent resource allocation decisions.

Instead of using experimentation, two found studies adopted different methods. First, Parkinson and Simons (2009) conducted a longitudinal diary study: 41 participants reported on their decisions involving others over three weeks. Participants' self-reported anxiety and excitement levels were found to be related to their perceived anxiety and excitement levels of

another individual present during decision-making. Second, in the context of the COVID-19 pandemic, Pagnini et al. (2020) investigated participants' social appraisal by directly asking how much they felt impacted by other individuals' expressed fear and anxiety (e.g., "Does seeing people around you worried about the virus increase your concern?"). Based on their findings, Pagnini et al. (2020) suggested that participants' social appraisal of others' expressed fear and anxiety conjointly generated negative influences on participants' psychological well-being and intolerance of uncertainty (e.g., individuals desire straight answers to questions, leaving no room for uncertainty or ambiguity; Webster & Kruglanski, 1994). Though the findings from Pagnini et al.'s study (2020) are insightful, the measurements do not reflect the meaning-driven characteristic of social appraisal.

Regarding the emotional contagion scale for public emergency (i.e., ECS-PE; Song et al., 2017) measures both the feature-driven and the meaning-driven pathways for the sharing of emotions through interpersonal interactions, in connection with the context of floods, this dissertation adopts the concept of susceptibility to emotional contagion and proposes the following research questions:

RQ10a. How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' negative emotions about floods?

RQ10b. How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' positive emotions about floods?

RQ10c. How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' information seeking intentions?

RQ10d. How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' passive protective action taking intentions?

RQ10e. How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' active protective action taking intentions?

RQ10f. How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' negative emotions about floods?

RQ10g. How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' positive emotions about floods?

RQ10h. How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' information seeking intentions?

RQ10i. How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' passive protective action taking intentions?

RQ10j. How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' active protective action taking intentions?

Summary. To sum, this dissertation section proposes that primitive emotional contagion (Barsade, 2002; Hatfield et al., 1993; Hatfield et al., 2014) and social appraisal (Manstead & Fischer, 2001) are potential processes for emotional contagion in post-crisis recovery. This dissertation argues that, in addition to individuals' appraisals of crises, individuals' tendency to capture others' emotional responses (i.e., emotional contagion; Barsade, 2002) can contribute to individuals' responses. Because this dissertation focuses on a public emergency (i.e., a flood) in mainland China, the reliability and validity of the ECS-PE scale (Song et al., 2017) that has been tested in an identical cultural context (i.e., China; Jin et al., 2020) is appropriate to adapt for this dissertation. The following dissertation section discusses the potential influences of interpersonally shared emotions on individuals' responses in the post-crisis stage.

Section 2.4.3.4 Reviewing the Impacts of Interpersonally Shared Emotions

How interpersonal emotions transfer or the sharing of emotions (hereafter interpersonally shared emotions) generates impacts in accordance with the conceptualizations of primitive emotional contagion and social appraisal. First, interpersonally shared emotions may converge to influence individuals' perceptions and behaviors (e.g., Barsade & Gibson, 2007; Barsade & Knight, 2015; Elfenbein, 2007; Men & Robinson, 2018; Van Kleef & Côté, 2022;). Second, the transferred emotions can be treated as information that reflects a group's performance on tasks, influencing individuals' subsequent reactions (e.g., Hess & Bacigalupo, 2011; Knight & Eisenkraft, 2015; Parkinson, 2011, 2020; Treffers & Putora, 2020).

To obtain a comprehensive understanding of interpersonally shared emotions' impacts, the following paragraphs first summarize research findings on the impacts of interpersonally shared emotions from organizational psychology studies that adopted primitive emotional contagion (Barsade, 2002; Hatfield et al., 1993; Hatfield et al., 2014) or social appraisal (Manstead & Fischer, 2001) as the theoretical frameworks. Then, the discussion expands on the specific impacts of interpersonal transferred negative (e.g., sadness, fright, anxiety, and anger) and positive (e.g., sympathy, gratitude, hope, and pride) emotions on individuals' responses.

Primitive emotional contagion does not demand individuals' cognitive efforts; however, similar to emotions elicited by appraisals (Lazarus, 1991; Jin et al., 2007; 2010; 2012; Manstead & Fischer, 2001), the contagion of emotions can influence individuals' cognitive, emotional, and behavioral responses (e.g., Barsade et al. 2018; Grawitch et al 2003; Jia & Cheng, 2021). Existing studies on emotional contagion have mainly centered on organizational management and focused on how leaders' and colleagues' emotional expressions influence individuals' cognitive, emotional, and behavioral responses (e.g., collaborative intentions, Christian et al., 2011; perceived burnout and engagement; Eldor, 2017, 2018).

Social appraisal aligns with appraisal theory's general assumption: individuals' evaluation and interpretation (i.e., appraisals) determine emotional and behavioral responses (Lazarus, 1991). The social appraisal theory (Manstead & Fischer, 2001) suggests that senders' emotional expression can elicit perceivers' social appraisal, resulting in individuals' perceptions, emotions, and behavioral intentions. Existing research that examined social appraisal mainly confirmed the occurrence of social appraisal and its association with individuals' responses after controlling the impacts of individuals' appraisals of emotional events (e.g., Parkinson & Simons, 2009).

In sum, findings from research that adopted primitive emotional contagion (Hatfield et al., 1993; Hatfield et al., 2014) or social appraisal (Manstead & Fischer, 2001) suggest that interpersonally shared emotions can influence how individuals cognitively, emotionally, and behaviorally respond to events. The following paragraphs review the specific impacts of interpersonal-transferred negative (e.g., disgust, sadness, fright, anxiety, and anger) and positive (e.g., sympathy, gratitude, hope, and pride) emotions on individuals' responses.

Impacts of Interpersonally shared Negative Emotions. There is no confirmed answer on the potential impacts of interpersonally shared negative emotions (Fischer & Manstead, 2008; Knight & Eisenkraft, 2015). Existing research on interpersonally shared negative emotions mainly centered on organizational management in the corporate context. Some psychologists have argued that interpersonally shared negative emotions associate with negative consequences such as inhibiting individuals from interacting (Hareli & Rafaeli, 2008; Rhee, 2007), whereas others have noted that interpersonally shared negative emotions can contribute to individuals' connections and work-role performances (Kelly et al., 2020; van der Schalk et al., 2011).

Through a meta-analysis of organizational psychology studies on interpersonally shared negative emotions. Knight and Eisenkraft (2015) found that the impacts of interpersonally shared negative emotions depend on contexts. Specifically, the sharing of negative emotions enhances individuals' social connections and task performance when negative emotions originate from an exogenous (e.g., outgroup) source or are experienced in a one-time group, but undermine social connections and task performance when negative emotions originate from an endogenous (e.g., ingroup) source or are experienced in an ongoing group (Knight & Eisenkraft, 2015). This dissertation focuses on how Chinese individuals in the same community (i.e., an ongoing group) adapt in the aftermath of floods (i.e., exogenous sources for negative emotions); the impacts of interpersonally shared negative emotions on individuals' responses are not definitive. Findings from prior research not on crises for the four negative emotions included in this dissertation (i.e., sadness, fright, anxiety, and anger) are detailed below.

First, in one-time experimental groups constituted by university students, leaders' expressed sadness has been found to increase group members' analytical performance in tasks (e.g., the accuracy of answering questions; Schwarz et al., 1991; Visser et al., 2013). In ongoing groups, interpersonally shared sadness has been found to commonly exist in communities with the collectivist culture (Kimura et al., 2008), but there is no definitive answer on the impacts of interpersonally shared emotions for large ongoing groups like communities (Barsade et al., 2018). Thus, this dissertation fills this gap by assessing how the sharing of sadness influences individuals' cognitive, emotional, and behavioral responses after floods in mainland China.

Second, except for the previously noted research conducted by Pagnini et al. (2020), existing research on interpersonally shared fear among individuals has only confirmed its occurrence in interpersonal interactions (e.g., fear about diseases; Cantisano et al., 2013). Pagnini

et al. (2020) suggested that the sharing of fright and anxiety jointly inhibited individuals' psychological well-being and tolerance of uncertainty during the COVID-19 pandemic. However, recent biology research (e.g., Keysers & Gazzola, 2021) has suggested the interpersonally shared fright's function in sensing and preparing for danger, based on the observations that the sharing of fright activates rats' responses and improves the odds for survival. Therefore, this dissertation proposes that interpersonally shared fright may influence individuals' cognitive, emotional, and behavioral responses in the context of crisis recovery.

Third, sharing of anxiety and fright can combinedly impair individuals' psychological well-being and tolerance for uncertainty (Pagnini et al., 2020). Whereas interpersonally shared anxiety also can function as a signal to others about impending danger (warning function) or as an appeal for emotional support or practical assistance (coping function) (Parkinson & Simons, 2012). Regarding the mixed findings from psychology research on interpersonally shared anxiety's impacts on individuals' adaptations to adverse situations, this dissertation assesses how interpersonally shared anxiety may impact individuals' cognitive, emotional, and behavioral responses in the context of crisis recovery.

Fourth, the impacts of expressed anger depend on the relationships between the sender and the perceiver (e.g., Dehghani et al., 2014; Heerdink et al., 2013; Van Kleef, Homan, Beersma & van Knippenberg, 2010). For instance, Lelieveld et al. (2013) noted that expressed anger might elicit perceivers' affective experience of fear when the perceiver treated the sender as an opponent in negotiations. When the sender and the perceiver belong to the same group, interpersonally shared anger has been found to inhibit individuals' performance (Heerdink et al., 2013). This dissertation assesses the responses of individuals in the same community; therefore,

this dissertation proposes that the sharing of anger influences how individuals react in the post-crisis stage.

Fifth, the impacts of expressed disgust can be adaptive and maladaptive. First, the expressed disgust can foster a sense of unity and social cohesion if individuals collectively respond to a perceived threat situation such as floods, contributing to forming social bonds and promoting collective action to address the source of disgust (Marzillier & Davey, 2004). On the other hand, the expressed disgust may also lead to adverse outcomes. For instance, the expressed disgust can amplify the experiences of negative emotions, exacerbating distress and potentially hindering effective communication and problem-solving (Buckels & Trapnell, 2013). Moreover, the expressed disgust can stigmatize or ostracize individuals or groups associated with the source of disgust, fostering community divisions and conflicts (Giner-Sorolla et al., 2018). This dissertation examines how disgust, as a negative emotion, influences individuals' information seeking and protective action taking intentions and their perceptions of the local community's resilience during the flood recovery phase.

Impacts of Interpersonally shared Positive Emotions. In general, interpersonally shared emotions with positive valence have been mainly treated as social information that may contribute to individuals' favorable perceptions about relationships with their group members, including commitment and satisfaction (e.g., Adler et al., 2022; Barsade & O'Neill, 2014; Chi et al., 2011), as well as cooperative behavioral intentions with other group members in corporate settings (e.g., Grawitch et al., 2003, Knight & Eisenkraft, 2015). The specific findings for the four positive emotions included in this dissertation (i.e., sympathy, gratitude, hope, and pride) are as follows. First, expressed sympathy from leaders has been found to increase staff's perceived work engagement and intentions of sharing strategic information, as well as decrease

staffs' perceived burnout and intentions of turnover in the context of public service (e.g., Eldor, 2017; Pecino et al., 2018; Santalla-Banderali & Alvarado, 2022).

Second, expressed gratitude can serve as a reward for others' support, enhancing individuals' connections (Datu et al., 2022; Dennis & Ogden, 2022; Fehr et al., 2017; Morris & Keltner, 2000). Moreover, an experimental study (Algoe et al., 2020) found that if third-party witnesses observe the expressed gratitude, the third-party witnesses are more willing to communicate and build relationships with both senders and perceivers of expressed gratitude.

Third, interpersonally shared hope is under-researched, but may facilitate individuals to cope with adverse situations. Findings from a case study on a terrorist attack suggest that interpersonal interactions can cultivate interpersonally shared hope and influence how individuals respond to events (Tracy & Huffman, 2017).

Last but not least, interpersonally shared pride has been found to link with individuals' identification with social groups (Delvaux et al., 2016; Furley et al., 2015; Nunney et al., 2022) and possibly increase individuals' intentions in contributing to their social groups. For example, a longitudinal social network analysis showed that individuals' perceptions of their group members could influence individuals' group pride (Delvaux et al., 2016). Moreover, in an organizational setting, Men and Yue (2019) found that the shared pride can cultivate individuals' intentions of taking constructive actions for the organization. To sum, this dissertation argues that interpersonally shared positive emotions (e.g., sympathy, gratitude, hope, and pride) can contribute to individuals' cognitive, emotional, and behavioral responses in the aftermath of floods.

Summary. In conclusion, by reviewing two theories for emotional contagion (or the sharing of emotions; Barsade et al., 2018): the primitive emotional contagion theory (Hatfield et

al., 1993; Hatfield et al., 2014) and the social appraisal theory (Manstead & Fischer, 2001; Parkinson, 2011, 2020, 2021), this dissertation section illustrates the feature-driven and the meaning-driven pathways for others' emotional expressions to influence individuals' responses, as well as reveals that individuals' appraisals of events (i.e., primary and secondary appraisals; Lazarus, 1991; Jin et al., 2007; 2010; 2012) are not the only source for individuals' emotional and behavioral responses.

Importantly, emotional contagion is closely related to individuals' relationships with others and groups (Barsade et al., 2018; Elfenbein, 2014; Kane et al., 2023; Parkinson, 2011, 2020). For instance, emotions are more contagious when they contain information related to group members (Delvaux et al., 2016). Also, individuals are more likely to attend to other ingroup members' emotions (Parkinson, 2020). In other words, individuals' group memberships (e.g., as a community member) possibly influence individuals' reactions (Mackie et al., 2008; Smith & Mackie, 2015). Accordingly, the next dissertation section expands to how emotions function at the group level to illustrate the impacts of individuals' self-categorizations to groups and identifications to social groups on how individuals cognitively, emotionally, and behaviorally respond.

Section 2.4.4 Identity-based Responses: How Emotions Function at the Group Level

A social group is comprised of more than two individuals, and the unit of a social group includes but is not limited to family, school, organizations, community, and countries (Dutton et al., 1994; Fuligni & Flook, 2005; Lantz & Loeb, 1996). Social groups are vital for individuals' adaptation to disasters (Prasad et al., 2019). Scholars (Aldrich & Meyer, 2015; Sugiura et al., 2020) have noted that socially connected individuals tend to have a higher chance to survive and adapt to catastrophic situations. Meanwhile, emotions ubiquitously exist in the interactions

within and between groups (Mackie & Smith, 2018; Nunney et al., 2022; Wakefield & Wakefield, 2022).

Existing literature on how emotions function at the group level has used various terminology: collective emotions (e.g., Doosje et al., 1998; Goldenberg et al., 2020; Thonhauser, 2022), group emotions (e.g., Li et al., 2022; Parkinson et al., 2005; Rhee, 2007), intergroup emotions (e.g., Atwell Seate & Mastro, 2017; Atwell Seate et al., 2018; Mackie et al., 2000), or group-based emotions (e.g., Kuppens & Yzerbyt, 2012; Mackie & Smith, 2018; Porat et al., 2022). While some conceptual distinctions may exist between these terms (see Yzerbyt et al., 2006), these terms can be summarized into the concept of identity-based emotions, referring to emotions that arise when individuals identify with a social group or groups (Campo et al., 2019; Tamminen et al., 2022). Moreover, individuals' group identification has been associated with individuals' cognitive and behavioral responses to events that influence the group (Campo et al., 2019; Mackie et al., 2008; Van Kleef & Fischer, 2016). Taken together, individuals' group identification can influence individuals' cognitive, emotional, and behavioral responses.

Given the potential impact of individuals' group identification on how individuals react to events, this dissertation section lends light from the social identity approach (i.e., social identity theory, Tajfel & Turner, 1986; self-categorization theory, Turner et al., 1987) and specifically focuses on individuals' ingroup identification (Campo et al., 2019; Ellemers et al., 1999; Leach et al., 2008; Yzerbyt et al., 2003). The following subsection first reviews the social identity approach and then discusses how individuals' identification with their community possibly influences individuals' perceptions of community resilience, emotional experiences, and behavioral intentions.

Section 2.4.4.1 Defining Ingroup Identification: The Social Identity Approach

A fundamental idea of the social identity approach (Hogg, 2003; Hornsey, 2008; Tajfel & Turner, 1986) is that, as well as personal identities (i.e., “me”), individuals have social identities based on their group (e.g., women, parent, environmentalist). Individuals belong to various groups and hence have multiple social identities (Campo et al., 2022; Cruwys et al., 2016). Social identity can be defined as a part of an individual’s self-concept formed from individuals’ knowledge gained via engaging in social groups and the emotional significance attached to those memberships (Tajfel & Turner, 1979). Different social identities become meaningful to individuals in different settings, depending on who else is present and how they behave (Turner et al., 1987). Meanwhile, each social identity has its own norms, values, and interests that influence how individuals respond to events (Drury et al., 2019; Hornsey, 2008; Mackie & Smith, 2018; Turner & Reynolds, 2012).

The social identity approach (Tajfel & turner, 1979; Turner et al., 1987) is one of the most widely used perspectives in contemporary social psychology (Brown, 2020), which originated as a theory of intergroup relations, but has evolved into a collection of principles adaptable to applied settings, including organizational, health, and clinical psychology (Haslam, et al., 2014; Postmes et al., 2005). A systematic literature review (Brown, 2020) on the social identity approach noted its real value lies in its ability to provide a comprehensive view on the significance of groups in social life and to promote new fields of research. For emergencies and disasters, scholars’ recommendations derived from the social identity approach have a shared assumption: individuals’ shared ingroup identification endows individuals with qualities and abilities they do not possess individually (e.g., Drury et al., 2019; Helsloot & Ruitenberg, 2004). In other words, as a group-level factor, ingroup identification can influence how individuals react to disasters.

Therefore, this dissertation section adopts the social identity approach and argues that individuals' identification with their community can become more apparent in the aftermath of disasters like floods, impacting individuals' cognitive, emotional, and behavioral responses alongside individuals' evaluation of events (e.g., primary and secondary appraisals; Lazarus, 1991) and observation of others (e.g., emotional contagion and social appraisal; Barsade et al., 2018; Van Kleef et al., 2004). The social identity approach includes social identity theory and self-categorization theory (Reicher et al., 2010). The following paragraphs dive into these two theories to illustrate the importance of ingroup identification in the context of disasters.

Social Identity Theory. Social identity theories include two fundamental mechanisms: categorization and self-enhancement (Hogg et al., 1995). Social identity theory explains how individuals acquire and behave in terms of social (rather than personal) identities (Ellemers & Haslam, 2011). Specifically, when do individuals begin to view themselves in terms of "we" rather than "I"? Why is it critical to determine whether others represent "us" or "them"? What impacts do social identities have on individuals' cognitive, emotional, and behavioral responses?

A core idea in social identity theory (Tajfel & Turner, 1979) is that, when social identity is activated, individuals' need for "positive distinctiveness" can be triggered (Tajfel & Turner, 1986, p. 19); accordingly, individuals tend to adopt aspects of their group membership as guiding principles for their cognitive and behavioral responses (Tajfel & Turner, 1979). Individuals tend to increase their sense of self-worth and positive distinctiveness through ingroup conduct (e.g., solidarity or partiality) and outgroup prejudice (Tajfel & Turner, 1979).

More recent research on social identity theory has noted that positing the need for positivity as the primary motive for maintaining, enhancing, or restoring identity is an oversimplification (Brown, 2020). For instance, individuals may identify with groups to develop

self-awareness and comprehension (Ethier & Deaux, 1994; London et al., 2023; Steffens et al., 2021). Also, individuals can identify with and behave in groups to decrease uncertainty (Hogg, 2007, 2021). Furthermore, individuals may identify with groups to accomplish tasks that they could not accomplish alone, increasing their effectiveness (Masson & Fritsche, 2021; Ntontis et al., 2021; Slater et al., 2014). Moreover, individuals may identify with groups to re-establish continuity with their past (Krug et al., 2021; Smeekes & Verkuyten, 2015).

In the context of public emergencies, researchers have found that previously existing social boundaries (i.e., objectified forms of social inequality in unequal access to resources and opportunities; Lamont & Molnár, 2002) tend to dissolve, and affected individuals tend to experience a sense of we-ness (e.g., Drury, 2018; Drury et al., 2021; Jencson, 2001; Kaniasty & Norris, 1999; Solnit, 2009; Vezzali et al., 2015). The we-ness refers to an emergent shared social identity, which may be caused by individuals' exposure to similar damage, threats, and challenges posed by disasters (Drury et al., 2016; Drury, 2018). For instance, after an earthquake, Vezzali et al. (2016) collected data from affected children and found that the perceived threat of the earthquake was associated with children's perceptions of belonging to one group that included both ingroup and outgroup members; also, the heightened perception of "we-ness" was associated with greater behavioral intentions of helping outgroup members, both directly and indirectly via more positive attitudes toward the outgroup members.

Individuals' disaster exposure has also been linked to maladaptation (e.g., depression), both directly and indirectly, via individuals' perceptions of damage and diminished social support (e.g., perceived damage and resource constraints; Kaniasty & Norris, 1993). Particularly for disasters like floods, besides damage, individuals may also need to deal with persistent secondary stressors (i.e., difficulties that emerge from disasters and impair individuals' well-

being and functioning; Lock et al., 2012; Williams et al., 2021) in the post-crisis stage like home repairment and prolonged dislocation.

Therefore, this dissertation argues that individuals' common fate in the confrontation of disasters and the heightened coping needs posed by disasters possibly heightens individuals' identification with their community. This dissertation argues that individuals' identification with their community can emerge or become more apparent in the aftermath of floods. Moreover, this dissertation argues that individuals' identification with their community will be associated with individuals' evaluation of disasters.

Self-categorization Theory. As a conceptual extension of social identity theory, self-categorization theory explains how individuals develop cognitive perceptions of themselves and others in relation to various social groups; and how this self-categorizing process shapes individuals' subsequent reactions (e.g., attitudes, emotions, behaviors) (Turner & Reynolds, 2012). Social categories are cognitively exemplified as prototypes (Reid & Hogg, 2005; Sewell et al., 2022). A prototype is a loosely defined set of features that determines a category by "maximizing intracategory similarity and intercategory differences" (i.e., the meta-contrast ratio, Reid & Hogg, 2005, p. 132). In other words, when all other variables are equal, a collection of individuals tends to be categorized as a group because the extent that this collection of individuals' (ingroup) perceived differences are less than their perceived differences with others (outgroup) in the context of interest (Fouka & Tabellini, 2022; Voci, 2006).

When individuals self-categorize as members of a certain social category ('us' rather than 'them'), individuals adopt or develop the appropriate behaviors associated with category membership, distinguishing between this social category and other categories (e.g., stereotypical ingroup norm; Castano et al., 2002). The more individuals' group membership becomes salient,

the more individuals' responses become normative and vice versa (Marques et al., 1998). Psychologists have found that observing the majority of others in an individuals' group can guide how the individual behaves (e.g., Cruwys et al., 2021; Drury et al., 2019; Gigerenzer, 2008; Neville et al., 2021).

Applying these ideas to the context of disasters, individuals' responses are likely to be influenced not only by individuals' own disaster experiences, but also by individuals' ingroup identification and individuals' observations of others' responses to disasters. Additionally, as noted in the previous dissertation section (i.e., 2.4.3), affected individuals' observations of others' emotional responses can be treated as social information related to the event (e.g., emotional contagion and social appraisal; Barsade et al., 2018; Parkinson, 2020).

Thus, this dissertation argues that individuals' identification with their community can influence individuals' responses; meanwhile, this dissertation argues that individuals' identification with their community will be associated with emotional contagion in the aftermath of floods.

RQ11a. How, if at all, does the identification with the local community influence individuals' negative emotions about floods?

RQ11b. How, if at all, does the identification with the local community influence individuals' positive emotions about floods?

RQ11c. How, if at all, does the identification with the local community influence individuals' information seeking intentions?

RQ11d. How, if at all, does the identification with the local community influence individuals' passive protective action taking intentions?

RQ11e. How, if at all, does the identification with the local community influence individuals' active protective action taking intentions?

Furthermore, this dissertation theorizes that both emotional contagion and ingroup identification may play critical roles in a collectivistic culture like China. More detailed information is provided in the following section (i.e., section 2.5).

Section 2.4.4.2 Reviewing the Impacts of Ingroup Identification on Individuals' Responses

To obtain a comprehensive understanding of ingroup identification's impacts, the following paragraphs review how ingroup identification can influence individuals' perceptions (e.g., perceived community resilience; Norris et al., 2008; O'Donnell et al., 2022), emotional experiences (Mackie & Smith, 2018), and behavioral intentions (Campo et al., 2019; Davidson et al., 2022; Drury et al., 2016; Simić et al., 2022).

Ingroup Identification and Perceived Community Resilience. As noted in section 2.3, individuals in a closely connected community are more likely to recover from disasters (e.g., Ayyub, 2014; Boin & McConnell, 2007; Norris et al., 2008; O'Donnell et al., 2022). Also, applied psychology research has highlighted the benefits of ingroup identification in adapting to adverse situations (e.g., Chamlee-Wright & Storr, 2011; Vezzali et al., 2015). For instance, in the context of climate change (e.g., extreme weather), Ntontis et al. (2021) adopted the social identity approach and found that individuals' ingroup identification was positively associated with community resilience. Based on these findings, this dissertation proposes that individuals' identification with their community will be positively associated with their community resilience in the post-crisis stage.

Ingroup Identification and Emotional Experiences. A theoretical framework specifically explains how individuals' social identity influences their emotional experiences:

intergroup emotions theory (Mackie & Smith, 2018). Intergroup emotions theory's initial conceptualization (E. Smith, 1993) and later work (Mackie et al., 2000; Mackie & Smith, 2018) adhere to the general assumption of appraisal theory: individuals' evaluation and interpretation of events (i.e., primary and secondary appraisals) influence individuals' emotional and behavioral responses (Lazarus, 1991). Intergroup emotions theory's sole modification to appraisal theory is that individuals can appraise an emotional event in terms of the implications for their self-identified social groups (i.e., group memberships; Mackie et al., 2008).

Group-based appraisal means that even when an emotional event does not personally impact the perceivers, they can experience emotions on behalf of their self-identified social group or other ingroup members (i.e., group-based emotions; Atwell Seate et al., 2018; Campo et al., 2019). For example, Yzerbyt et al. (2003) found that the perceivers reported negative emotions when they learned of an event harming other ingroup members, even though the event has no direct personal consequences for the perceivers. Based on the intergroup emotions theory (Mackie & Smith, 2018) and empirical findings (see Campo et al., 2019), this dissertation proposes that individuals' identification with their community may influence their emotional experiences.

Ingroup Identification and Communicative Behavioral Intentions. For communicative behavioral intentions such as seeking information (Austin et al., 2021; Jin et al., 2020), scholars have found that individuals' ingroup identification was positively associated with their intentions of contributing to their group, including sharing information (e.g., Flanagin et al., 2014; Kaakinen et al., 2020). Meanwhile, scholars have noted that individuals' ingroup identification could bias their evaluation of information; specifically, individuals tend to seek and trust the information from their ingroup members (e.g., Flanagin et al., 2014; Ö Özer &

Zheng, 2017). Based on these findings, this dissertation proposes that individuals' identification with their community will influence their information seeking intentions.

Ingroup Identification and Protective Action taking Intention. Though individuals' ingroup impacts have not been fully acknowledged in crisis communication research, abundant psychology research has found that individuals' ingroup identification could influence individuals' behavioral intentions in addressing issues that influence their social groups' interests. Individuals' ingroup identification has also been positively associated with their physical and psychological well-being (e.g., Cruwys et al., 2020; Jetten et al., 2017; Stevenson et al., 2020).

In the context of disasters, Drury et al. (2019; also see Drury et al., 2016; Simić et al., 2022) found that individuals' shared identity elicited by disaster exposure (i.e., the "we-ness") was positively associated with their intentions of following protective action instructions from government emergency management agents and offering support to ingroup members. Therefore, this dissertation proposes that individuals' identification with their community will influence individuals' intentions of following protective action instructions in the aftermath of floods.

Summary. To sum, deriving from the viewpoint that, besides individuals' evaluation of events (i.e., primary and secondary appraisals; Lazarus, 1991), individuals' in-group identification can influence individuals' responses, this dissertation section lends light from the social identity approach (Tajfel & Turner, 1979;Turner et al., 1987) and argues that individuals' identification with their community can influence individuals' perceived community resilience, emotional experiences, and behavioral intentions.

In addition to individuals' evaluations, others' emotional expressions, and group memberships, scholars have noted the cultural context could influence how individuals respond

to events (Eid &Diener, 2009; Keltner & Haidt, 1999; Mesquita, 2003; Van Kleef et al., 2016). Mesquita (2001, 2003) noted cultural values and priorities are embedded in individuals' cognitive, emotional, and behavioral patterns. Thus, the following dissertation section discusses how collectivistic culture in China possibly influences individuals' responses in the context of crisis recovery.

Section 2.5 Relational-oriented: How Collectivistic Culture Possibly Influences Individuals' Responses

In general, the United States, as well as Western and Northern European countries, are high in individualism; in contrast, East Asian cultures, such as China, Japan, and South Korea, are high in collectivism (Bedford et al., 2021; Cho et al., 2023; Eid & Diener, 2009; Hofstede, 1980; Huang et al., 2018; Oyserman et al., 2002; Suh et al., 1998; Triandis, 1995). Also, as noted in section 2.2, existing public relations research focusing on China has noted that collectivism is a critical trait of China (e.g., Chen et al., 2023; Cheng & Lee, 2019; Huang et al., 2016; Wu et al., 2016). By noting the core element of collectivism is "groups bind and mutually obligate individuals" (Oyserman et al., p. 5, 2002), Huang et al. (2018; also see Bedford et al., 2021) emphasized that interdependent and harmonious relationships are vital for individuals in China.

Furthermore, as stated at the beginning of section 2.4, emotions are adaptive and socially functional reactions individuals have toward the environment they find themselves in (Lazarus, 1991, 2006). From a socially functional perspective, emotions and related cognitive and behavioral responses can be viewed as cultural products constructed by individuals or groups in social contexts (Eid & Diener, 2009; Keltner & Haidt, 1999; Lutz & Abu-Lughod, 1990; Mesquita, 2003). In other words, individuals' connections with others and social groups can be influential for individuals' responses to events.

Applying these ideas to crisis contexts, individuals in a collectivistic culture (e.g., China) can be more prone to the influences from others and social groups, possibly resulting in differences in reactions compared to individuals in other cultures. Hence, this dissertation argues that interpersonal interactions (e.g., emotional contagion or the sharing of emotions; Barsade et al., 2018) and group memberships (e.g., identifications with a community; Drury et al., 2016) can be vital for Chinese individuals' responses in the post-crisis stage. The following paragraphs draw insights from cross-cultural psychology research on cultural differences in emotions (e.g., Boiger et al., 2018; Chen et al., 2022; Mesquita & Frijda, 1992; Mesquita et al., 2017; Schouten et al., 2020) and the concept of self-construal (Markus & Kitayama, 1991) to support this dissertation's argument on the importance of emotional contagion and ingroup identification.

By collecting and comparing data from multiple countries, existing cross-cultural psychology research on emotions has mainly proved that individuals in different cultural contexts have different cognitive, emotional, and behavioral responses toward events; as well as emphasized the perceived cultural differences in the self (i.e., self-construal) is an influential factor that causes differences in individuals' responses (e.g., Boiger et al., 2018; Eid & Diener, 2009; Kim-Prieto & Eid, 2004; Mesquita, 2001, 2003; Schouten et al., 2020). There are two prototypes of self-construal: the independent and the interdependent self-construal (Markus & Kitayama, 1991). The independent self-construal includes a collection of inner traits (e.g., attitudes, motives, and values) that distinguish an individual from others (Eid & Diener, 2009). Individuals with independent self-construal tend to focus on their own attributes, abilities, and interests and express themselves publicly and privately (Singelis & Sharkey, 1995). Individuals with independent self-construal are more common in individualistic cultures than in collectivistic cultures (Markus & Kitayama, 1991). Individuals are encouraged to develop independence from

others and to pursue and pursue own interests in societies where independent self-construal is predominant in cultures (Gore et al., 2009).

In contrast, the interdependent (relational) self emphasizes that the self cannot be separated from others or the social context (Cross et al., 2000). The interdependent self is a unit with all-encompassing social interactions, and individuals with an interdependent self tend to be influenced by others' emotions, thoughts, and actions (Singelis & Sharkey, 1995). The interdependent self-construal is more common in collectivistic cultures than individualistic cultures, and individuals with interdependent self-construal tend to be influenced by the social norm of maintaining harmony with others, fulfilling social obligations, and supporting socially significant others (Kitayama et al., 2017). Based on the prior research just reviewed, this dissertation poses that individuals in a collectivistic culture like China may be inclined to possess interdependent self-construal.

Collectivistic Culture and Emotional Contagion. Hatfield et al. (1993; also see Hatfield et al., 2018; Uchida et al., 2022) claimed that individuals with interdependent self-construal are more susceptible to emotional contagion than individuals with independent self-construal, which means individuals in a collectivist cultural context that emphasizes the collective self are more likely to rely on their social groups (e.g., communities), are therefore more susceptible to emotional contagion (Bhullar & Bains, 2013), and are more likely to behave cooperatively (Triandis, 1996, 2001; Triandis & Gelfand, 1998). Therefore, this dissertation argues that emotional contagion can play an important role in Chinese individuals' recovery from disasters like floods.

Collectivistic Culture and Ingroup Identification. Psychologists have found that individuals in a collectivist culture that values the collective self are more inclined to be

concerned about their social groups' interests and stay connected with their ingroup members (e.g., Brewer & Chen, 2007; Chen et al., 2002; Triandis, 2001). This dissertation claims that Chinese individuals' identification with their community can be vital for their recovery in the aftermath of disasters.

Summary. To sum, this dissertation section recaps the idea that individuals' cognitive, emotional, and behavioral responses to events can be viewed as cultural products constructed by individuals or social groups in social contexts (Eid & Diener, 2009; Keltner & Haidt, 1999; Mesquita, 2003). Given 's collectivistic culture (Cheng & Lee, 2019; Huang et al., 2016), this dissertation section emphasizes the importance of interpersonal interactions (e.g., emotional contagion or the sharing of emotions; Barsade et al., 2018) and group memberships (e.g., identifications with a community; Drury et al., 2016) in individuals' recovery from adverse situations.

Chapter 3: Method

This chapter first details this dissertation's context: the post-flood recovery phase in south-central mainland China. Then, Chapter 3 explains the dissertation's data collection procedure (i.e., a self-report survey utilizing systematic cluster sampling), including the sampling method, the characteristics of participants and their local community, the calculation and justification for the sample size, as well as the data collection timing and approach. Second, this chapter presents the observed variables (i.e., items in the survey), justifies their appropriateness as indicator variables of associated factors, and explains how the control variables are integrated into the dissertation's theoretical model. Third, this chapter covers the analysis approach, explains the treatment of missing data and outliers, and notes the applied software (i.e., Mplus).

Though structural equation modeling (SEM) is a powerful and theory-driven data analysis tool, this dissertation's collected data is observational (i.e., a self-report survey utilizing systematic cluster sampling) and not ideal for causal inferences (Hernán, 2018). In addition to acknowledging this constraint, Chapter 3 mentions other inherent limitations in surveys (e.g., participants are "susceptible to reactivity"; Singleton & Straits, 2017, p. 297) and discusses how this dissertation's data collection settings potentially address these limitations. Lastly, after this chapter's summary, one diagram (i.e., Figure 1) that aids in comprehending the proposed conceptual model the relevant statistical analysis is provided.

Section 3.1 Context.

This dissertation answers the overarching question of how individuals can cope and cultivate community resilience in the post-disaster phase in a nondemocratic and non-Western context by focusing on a specific context: the post-flood recovery phase in Lukou District, Zhuzhou City, Hunan Province of China. Floods have caused millions of fatalities and tens of

billions of dollars of direct economic loss each year worldwide in the twentieth century (Merz et al., 2021). As a flood-prone country, flood damage in China accounted for a large portion of global flood losses (Ding et al., 2022; Guo et al., 2023; Qazlbash et al., 2021).

Geographic Context and Threats to Floods. Hunan is located in the middle Yangtze River Basin (i.e., the third-longest river worldwide) and faces severe threats from floods, such as fatalities and economic damage (Zeng et al., 2021). Hunan's topography and climate contributes to its' vulnerability to flooding. Hunan is located in the south-central region of mainland China, encompasses an area of approximately 211,800 square kilometers, and is characterized by hilly and mountainous landscapes with flatlands constituting less than 10% of the total area (Zhang et al., 2019). The Xiang, Zi, Yuan, and Li Rivers form Hunan's primary drainage network, and the mountainous terrain contributes to accelerated runoff, which can intensify flooding during substantial precipitation periods (Du et al., 2013; Xiong et al., 2019). Meanwhile, Hunan has a humid subtropical climate and experiences significant precipitation from April to September, with average annual precipitation between 1,200 and 1,700 millimeters and some regions receiving up to 2,400 millimeters, where intense rainfall frequently causes flooding (Du et al., 2013; Liu et al., 2018).

Historically, Hunan has experienced several catastrophic floods. For instance, the 1998 floods impacted 8.3 million individuals and led to over 20 billion RMB in economic losses. During the 2022 flooding season, Hunan faced unprecedented rainfall beginning in June (Davidson, 2022). This extreme weather predominantly affected the province's rural and mountainous regions. Consequently, approximately 1.8 million people were impacted, and over 2,700 houses in rural areas of Hunan were either damaged or completely collapsed (ABC News, 2022). There also were at least 10 fatalities and at least three missing residents (ABC News,

2022). Compared to urban areas in China (e.g., Beijing, Shanghai), rural areas are generally more vulnerable to disasters such as flooding than urban areas because of insufficiencies in infrastructures, crisis management, and communication (Chen et al., 2021). Yet, no found crisis communication research provides evidence-based scientific guidance for individuals and social groups in flood-prone areas of China to recover and rebound. Thus, this dissertation explores how individuals cope and cultivate community resilience in the post-disaster recovery phase in Lukou District, Zhuzhou City, Hunan Province of China.

Section 3.2 Data Collection

This dissertation deploys a self-report survey utilizing systematic cluster sampling to test the proposed model based on the literature review (see Figure 1). Survey research is a non-experimental way of determining the incidence and distribution of variables in a predetermined population, as well as identifying relationships among variables (Coughlan et al., 2009). Surveys are commonly applied to collect data in social science research because they can be cost-effective and convenient for gaining generalizable data in natural contexts (Singleton & Straits, 2017). However, researchers should also be cautious about errors caused by the differences between the targeted population and the sample (i.e., sampling error; Singleton & Straits, 2017), the differences between participants and individuals in the targeted population who ignore or refuse to participate (i.e., nonresponse error; Singleton & Straits, 2017). The following discussion on sampling method, participants and the local community's characteristics, sample size, and data collection procedure reveals this dissertation's efforts to eliminate these errors.

A Systematic Cluster Sampled Survey Research. Coverage error refers to the discrepancy between the target population and the sample, and sampling error is the difference between the target population's value and the sample estimate, which are both caused by not

surveying the whole targeted population (Singleton & Straits, 2017). To minimize both coverage error and sampling error with a manageable expense, this dissertation uses the systematic cluster sampling method. Systematic cluster sampling is a sampling method that incorporates elements of both systematic and cluster sampling, typically dividing the targeted population into clusters based on administrative or geographic boundaries; then, a systematic sampling procedure is used to select a study sample of clusters (Singleton & Straits, 2017). This dissertation's targeted population is adult residents who live in Lukou District, Zhuzhou City, Hunan Province of China. After locating the areas affected by floods through internal reports from the local government emergency management agency, participants (i.e., this dissertation's sample) were selected randomly from a computerized list based on residential locations with the data from the census bureau in Lukou District. Residential locations are clusters in this dissertation, including eight towns. All identifiable information (e.g., residential location) was removed before data analysis to protect participants' privacy.

Participants. This dissertation's participants are adult residents in Lukou District, Zhuzhou City, Hunan Province of China. This dissertation chooses Lukou District because it is located in the confluence of the Xiangjiang River (i.e., the primary river of the Lake Dongting drainage system, which locates in the Yangtze River's middle reach) and the Lujiang River, which is highly flood-prone (Zeng et al., 2021). Though a systematic review (Zeng et al., 2021) shows that Hunan residents have suffered impacts from floods since 1910, and Zhuzhou is the city that has the most precipitation, there is no found empirical crisis communication research to understand how residents in Lukou District react to floods, hampering crisis communication practices.

To bring the needed clarity for practice and research, this dissertation recruited adult residents in Lukou District after securing University of Maryland Institutional Review Board (IRB) approval. To ensure recruited participants are residents in the flood-prone area (i.e., Lukou District), the data collection was facilitated by the Emergency Management Bureau of Lukou District, Zhuzhou City, Hunan Province of China. Lukou Emergency Management Bureau has access to the raw data and agreed that all data from this study can be submitted to peer-reviewed journals. Though the Emergency Management Bureau of Lukou District reserves the right to be anonymized in future publications. In the IRB consent process, potential participants were informed that the local emergency agency has access to the project's raw data.

Sample Size. This dissertation's consideration on the sample size includes two aspects. The first consideration is whether the sample size is adequate to represent the target population. The second consideration is whether the sample size can provide enough statistical power to detect effects and structural equations. For representativeness, a desirable maximum sample size is roughly 10% of the population, but not more than 1,000 to avoid type 1 error (i.e., because the statistical power is too strong, researchers can get a statistically significant result when there is no relationship; Fan et al., 1999).

For statistical power, this dissertation adopts the latent variable path analysis, a type of structural equation modeling (hereafter, SEM) for the data analysis (Hoyle, 2023). When determining the sample size required for an SEM analysis, researchers should consider both the desired level of statistical power and the adequacy for accurate parameter estimation (Mueller & Hancock, 2019). According to Kline (2015), there is no universal applicable rule of thumb for the sample size of an SEM analysis, but a minimum of power >0.85 has been commonly used as

a threshold; higher levels of power may be required for SEM analyses considering the potential repercussions of Type II errors or inability to reject false null hypotheses (Kline, 2015).

Monte Carlo simulations (Muthén & Muthén, 2002; Wolf et al., 2013) and lower bounds on sample size (Westland, 2010) have been widely used to calculate the sample size for SEM analyses. Because Monte Carlo simulations require the estimates of variables' relationships, but most structural relationships in the proposed model have not been assessed in the Chinese context, as well as the determinants for variables like CART's five dimensions (Pfefferbaum et al., 2015) have not been systematically assessed; furthermore, lower bound means the element is less than or equal to all the elements in a given set, which means the minimal sample size to detect effect is considered (Ehrenfeucht et al., 1989). Therefore, this dissertation uses lower bounds on sample size (Westland, 2010) to calculate the effect size. A sample size of 693 is obtained as the minimal sample size for detecting effects, with a conservative calculation setting (i.e., 0.3 as the expected effect size; 0.001 as the p-value; 33 latent variables and 119 observed variables).

Integrating insights from the two listed perspective and considering the adequate statistical power to observe true relationships in the data (see Cohen, 1988), a sufficient number of cases for the model to converge without improper solutions or impossible parameter estimates (Gagné & Hancock, 2006; Velicer & Fava, 1998), and the impacts of bias in the parameter estimates and standard errors (Kelley & Maxwell, 2003; Maxwell et al., 2008). An actual sample size of 1,000 was obtained in this dissertation.

Data Collection Process (Format and Timing). This dissertation uses hard-copy questionnaires to collect data, considering that participants in rural areas may lack access to the internet. To eliminate participants' susceptibility to reactivity (e.g., "providing socially desirable

answers for sensitive questions"; Singleton & Straits, 2017, p. 297), the survey was distributed by four members of the local community who had communicated with the Emergency Management Bureau of Lukou District regarding their willingness to participate in this project. These four community members did not answer the survey to avoid data contamination. Also, these four community members directly communicated with the author of this dissertation to streamline the survey distribution process. In addition to receiving instructive information about the survey, these four community members were asked not to introduce leading questions that might influence participants' responses before starting the data collection. Meanwhile, these four community members were instructed to distribute surveys on the weekends, given that targeted participants might be out for work during weekdays.

All survey items were translated into simplified Chinese by a hired professional translator and then back translated by a bilingual colleague to ensure items' construct validity. Meanwhile, to avoid academic jargon causing measurement errors, survey items in simplified Chinese were reviewed by three staff in the Emergency Management Bureau of Lukou District. Prior to apply for IRB approval, the dissertation author invited 10 residents in the targeted flood-prone areas to review survey items to remove academic jargon, and these ten residents were excluded from the following two rounds of data collection to avoid data contamination. Before the data collection, the University of Maryland IRB reviewed and approved this study.

Because the flood season in Hunan is from April to the beginning of September (Du et al., 2019; Hu et al., 2021; Zeng et al., 2021), the data collection started mid-September 2022 and was completed by mid-October 2022. The data collection involved two rounds. The first round started from September 16 to September 21, during which the trained community members distributed 110 copies of the survey and received 100 responses (response rate: 91%). The

purpose of this initial round was to ensure that all survey items were understandable to participants. During the initial round, after participants completed answering the survey, the four community members who facilitated collecting data gathered participants' feedback to identify any potential confusion or difficulties in comprehending the survey items. As no confusion or difficulties were identified, there was no adjustment between the first and the second rounds data collection survey items. The second round took place from October 14 to October 22, during which the trained community members distributed 996 copies of the survey and received 900 responses (response rate: 90.3%). A total of 1,000 complete responses were collected.

Before the data collection, this dissertation's author retrieved information about flood damage from the local emergency management department and the local government's websites to locate the targeted area for data collection. After locating the flood-prone areas, to eliminate participants' susceptibility to reactivity (e.g., providing socially desirable answers to sensitive questions), four local community members from the targeted area were hired for the data collection. These four community members were the local government's network connectors who were familiar with the local regulations, policies, and rules related to human subjects research. The four community members clearly understood the importance of protecting participants' anonymity and privacy and had previous experience in collecting survey data.

Prior to and during the data collection process, the four community members directly communicated with the principal investigator. The four community members received questionnaire instructions from the principal investigator and were asked not to pose leading questions during the data collection. After the four community members clearly understood the questionnaire instructions, they distributed the two hard copies of the consent document, the recruitment message, and the paper questionnaire to the participants in person.

The survey was distributed by going door to door. The four community members were instructed to follow a systematic cluster sampling approach (Singleton & Straits, 2017) to ensure a representative sample from the community. Specifically, the primary investigator first obtained aggregated, non-identifiable information regarding the distribution of households or dwelling units in flood-prone areas from the local census bureau's website. Then, the four community members were instructed to begin at a random location within each flood-prone area to knock on the door of the Nth household. The value of N was determined by dividing the total number of households within each flood-prone area by the total number of households within all flood-prone areas and then multiplying the result by the desired sample size. To maximize the number of responses, the four community members invited all eligible household members to partake in the survey instead of limiting participation to a single respondent per household. During the invitation process, the four community members noted that participation was completely voluntary to potential participants who answered the door.

During the data collection, to protect the participants' privacy, the participants' responses were only collected in a private space where participants' responses could not be observed or overheard by others, including the four community members. The four community members only distributed the consent document, the recruitment message, and the paper questionnaire, as well as answered questions when participants had confusion and asked for clarifications. After participants completed answering the paper questionnaire, the four community members obtained the answered questionnaire and one piece of the consent document. Meanwhile, the four community members reminded the participants to save the other piece of the consent document for the participants' records.

For participants who agreed to answer the survey, the procedure entailed the following steps: after providing the consent by signing the consent form, the recruited participants were invited to provide self-reported responses for seven clusters of independent variables: harm/loss (i.e., perceived incurred damage), coping potential (resource constraints, perceived social support), future expectancy (response efficacy), emotions (sadness, fright/fear, anxiety, anger, disgust, sympathy, gratitude, hope, pride, and love), threat appraisal (perceived crisis predictability, perceived crisis controllability, perceived crisis responsibility), susceptibility to emotional contagion in public emergencies, and ingroup identification. Second, participants were asked to provide self-reported responses for four dependent variables: information seeking intentions, passive protective action taking intentions, active protective action taking intentions, and perceived community resilience. Lastly, participants were asked to provide their self-reported socio-demographic information, including age, sex, parental status, income level, and education level.

There were 119 items in total, and it took participants on average about 30 minutes to complete the survey. To avoid participants' fatigue in answering questions, thereby causing measurement errors, and to increase participants' response rate (Singleton & Straits, 2017), a monetary incentive was provided. After considering the local economic status (per capita disposable income: 26,938 RMB; Lukou District Statistical Bureau, 2021), participants received 10 RMB (i.e., around $2) for each completed survey as the incentive. The dissertation author recognizes that using monetary incentives may be coercive or lucrative for participants, especially for vulnerable populations (e.g., individuals who encounter financial difficulties; Singer & Bossarte, 2006), but otherwise it was highly unlikely the study could be conducted.

Section 3.3 Measurement

To ensure the variances among participants are appropriately captured, all items in this dissertation were measured on a 7-point Likert-type scale unless otherwise noted. All items were adapted from previous studies that are widely cited, and these studies' latent variables show high reliability. However, certain items were modified to ensure items' readability in simplified Chinese, construct validity, and avoid item bias (Penfield & Camilli, 2006; Raykov & Marcoulides, 2011). Specific items used in this dissertation are listed in Appendix A.

Perceived Incurred Damage. Integrating insights from previous studies that applied the protective action decision model and assessed disasters' damage (e.g., Lindell & Perry, 2012; Terpstra & Lindell, 2013), as well as existing research that examined flood damage in China (e.g., Kundzewicz et al., 2019), this dissertation proposed twelve statements to assess individuals' perceived incurred damage. Example statements were "Floods damaged your house;" "Floods damaged the planted crop you have (e.g., rice, fruits, and vegetables);" and "Floods caused prolonged disruption of your daily life (e.g., work and other daily activities)." Participants were asked to self-report the extent to which they agree with these statements by using a 7-point Likert type scale (1 = "strongly disagree", 4 = "neither disagree nor agree", 7 = "strongly agree"). Because individuals may experience varied influences from floods, an additional selection was provided: not applicable at all.

Perceived Resource Constraints. Drawing insights from previous research assessing resource constraints or resource costs (e.g., Bubeck et al., 2018; Martin et al., 2010; Poussin et al., 2014; Terpstra & Lindell, 2013), this dissertation proposed six statements to assess individuals' perceived resource constraints. Example statements were "The cost (e.g., time, financial, or emotional) of purchasing family property insurance makes it difficult for me to take action"; "The cost (e.g., time, financial, or emotional) of creating a family emergency plan (e.g.,

a checklist that tells people what to do after floods) makes it difficult for me to take action"; and "The cost (e.g., time, financial, or emotional) of purchasing livestock farming insurance makes it difficult for me to take action." Participants were asked to self-report the extent to which they agree with these statements by using a 7-point Likert type scale (1 = "strongly disagree", 4 = "neither disagree nor agree", 7 = "strongly agree"). Because individuals may not need all the recommended protective actions, an additional selection was provided: not applicable at all.

Perceived Social Support. This dissertation adopted the multidimensional scale of perceived social support (i.e., MSPSS; Shi & Hall, 2020; Zimet et al., 1988) to assess individuals' perceived social support. To avoid confusion caused by the wording of "a special person" in the original items, this dissertation changed "a special person" to "a friend or family member." After removing duplicate items, this dissertation used five items to measure individuals' perceived social support. For instance, "I have a friend or family member around when I am in need"; "I have a friend or family member who is a real source of comfort to me"; and "I get the emotional help and support I need from my family or friends." Participants were asked to self-report the extent to which they agree with these statements by using a 7-point Likert type scale (1 = "strongly disagree", 4 = "neither disagree nor agree", 7 = "strongly agree").

Perceived Response Efficacy of Protective Instructions. This dissertation deployed insights from health and risk communication studies that assessed response efficacy (e.g., Avery & Park, 2016, 2018; S. Park & Avery, 2019; Thrasher et al., 2016) to examine how individuals affected by floods evaluate protective instructions. This dissertation tailored six statements that align with the context of flooding. Example statements are "Purchasing family property insurance is useful for me to protect my possessions"; "Purchasing personal accident insurance is useful for me to recover from flood damages"; and "Forming a tacit agreement with near

neighbors to help each other is useful for me to recover from flood damages." Participants were asked to self-report the extent to which they agree with these statements by using a 7-point Likert type scale (1 = "strongly disagree", 4 = "neither disagree nor agree", 7 = "strongly agree"). Because individuals may not need all the recommended protective actions, an additional selection was provided: not applicable at all.

Perceived Crisis Predictability. In light of studies that applied the infectious disease threat (IDT) appraisal model (Jin et al., 2020; Jin et al., 2021), this dissertation included three items to assess individuals' perceived crisis predictability of floods to themselves, the local community, and the local government emergency management agency. For example, "To what extent do you feel you can predict floods?" "To what extent do you feel the local government emergency management agency can predict floods?" A 7-point Likert scale (1 = "not at all"; 4 = "somewhat", 7 = "to a great extent") was applied.

Perceived Crisis Controllability. Perceptions of controllability of floods by individuals, the local community, and the local government emergency management agency were measured by three items adapted from previous studies (Jin et al., 2020; Jin et al., 2021). Example items include: "To what extent do you feel you have control over floods?" "To what extent do you feel the local government emergency management agency has control over floods?" A 7-point Likert scale (1 = "not at all"; 4 = "somewhat", 7 = "to a great extent") was applied.

Perceived Crisis Responsibility. This dissertation measured participants' perceived crisis responsibility for controlling floods by themselves, the local community, and the local government emergency management agency by three items adapted from previous studies (Jin et al., 2020; Jin et al., 2021). Example items are "I believe that I should do more to control floods"; and "I believe that the local government emergency management agency should do more to

control floods." Participants are asked to self-report the extent to which they agree with these statements by using a 7-point Likert type scale (1 = "strongly disagree", 4 = "neither disagree nor agree", 7 = "strongly agree").

Susceptibility to Emotional Contagion in Public Emergencies. This dissertation adopted the emotional contagion scale for public emergency (ECS-PE; Song et al., 2017) to measure the potential impacts of others' emotional expressions on individuals' responses in the post-crisis stage. The original scale includes fifteen statements that measure individuals' primitive emotional contagion and social appraisals. This dissertation contends that emotional contagion can occur through two pathways: feature-driven and meaning-driven. Four items were adopted to measure individuals' feature-driven emotional contagion; an example item is "When a public emergency happens, I panic if others around me panic." Three items were used to measure individuals' meaning-driven emotional contagion; an example item is "If a victim of a disaster begins to cry, I feel sad and get teary-eyed." Participants were asked to self-report the extent to which they agree with these statements by using a 7-point Likert type scale (1 = "strongly disagree", 4 = "neither disagree nor agree", 7 = "strongly agree").

Ingroup Identification. Participants' identification with their local community was measured by six items adapted from previous research (Mastro et al., 2005), such as "How similar do you feel to your local community as a whole in terms of general attitudes and beliefs?" "How closely knit are you with others of your local community?" A 7-point Likert scale (1 = "not at all", 4 = "somewhat", 7 = "to a great extent") was applied.

Emotions. Drawing insights from crisis communication research that assessed emotions (e.g., Jin et al., 2020; Jin et al., 2021; Liu et al., 2020b), this dissertation included five negative emotions (i.e., sadness, fright/fear, anxiety, anger, and disgust) and five positive emotions (i.e.,

sympathy, gratitude, hope, pride, and love). Participants were asked to self-report the extent to which they experienced the listed emotions in the context of flooding. A 7-point Likert scale (1 = "not at all"; 4 = "somewhat", 7 = "to a great extent") was applied. This dissertation used one item to measure each emotion. For example, to measure participants' affective experiences of anger when thinking about floods, participants were asked to answer the extent to which "angry" aligns with their experienced emotions.

Perceived Community Resilience. This dissertation adopted the communities advancing resilience toolkit (i.e., CART; Kim et al., 2023; Pfefferbaum et al., 2013; Pfefferbaum et al., 2015) to assess individuals' perceptions of community resilience. Twenty-four items were included. Example statements are "My community has resources it needs to take care of community problems (resources include, for example, money, information, technology, tools, raw materials, and services)"; "People in my community communicate with leaders who can help improve the community"; and "My community can provide emergency services during a disaster." Participants were asked to self-report the extent to which they agree with these statements by using a 7-point Likert type scale (1 = "strongly disagree", 4 = "neither disagree nor agree", 7 = "strongly agree")

Information Seeking Intentions. To assess participants' information seeking intentions, this dissertation adopted items from previous crisis communication research applying the social-mediated crisis communication model (Austin et al., 2012; Jin et al., 2016; Liu et al., 2019). Moreover, this dissertation modified these items based on the communication ecology in China and the consultations with members of the local government emergency management agency about common communication channels in rural areas of China. Eleven statements were proposed, such as "For floods, I would look for more information from "village sound

broadcasting"; "For floods, I would look for more information from WeChat groups formed by individuals in my local community"; and "For floods, I would look for more information from TV news from CCTV." Participants were asked to self-report the extent to which they agree with these statements by using a 7-point Likert type scale (1 = "strongly disagree", 4 = "neither disagree nor agree", 7 = "strongly agree").

Protective Action taking Intention. This dissertation directly adopted nine items from previous crisis communication studies (Jin et al., 2020; Liu et al., 2016) to measure individuals' protective action taking intentions. Through a principal component analysis, Jin et al. (2020) found that the scale of protective action taking intentions loaded on two components, indicating the scale's variance can be attributed to two distinct dimensions: passive protective action taking intentions and active protective action taking intentions. Therefore, this dissertation utilized four items to measure individuals' passive protective action taking intentions. Examples include: "I would see how my friends are responding before deciding to follow any emergency management agency's instruction" and "I would read posts and comments on social media sites I follow and see how other social media users think before deciding to follow any emergency management agency's instruction." Meanwhile, this dissertation adopted five items to measure individuals' active protective action taking intentions. Examples include: "If any protective action instruction is available, I will recommend that my friends and family members take actions" and "I would tell others to follow instructions from the local government during a flood." Participants were asked to self-report the extent to which they agree with these statements by using a 7-point Likert type scale (1 = "strongly disagree", 4 = "neither disagree nor agree", 7 = "strongly agree").

Socio-demographics. Considering the potential impacts of participants' socio-demographic characteristics on their responses in the post-crisis stage, this dissertation included

age, sex, parental status, income level, and education level as control variables. The specific items are listed in Appendix A. Past research has established the impact of characteristics such as age, sex, parenthood status on how people respond during disasters in the U.S. (e.g., Jin et al., 2016; Jin et al., 2020; Jin et al., 2021; Lim et al., 2019; Liu et al., 2019); this dissertation extends knowledge about the role of socio-demographics in the post-disaster context in China.

Section 3.4 Limitations of Using a Survey for Causal Inferences.

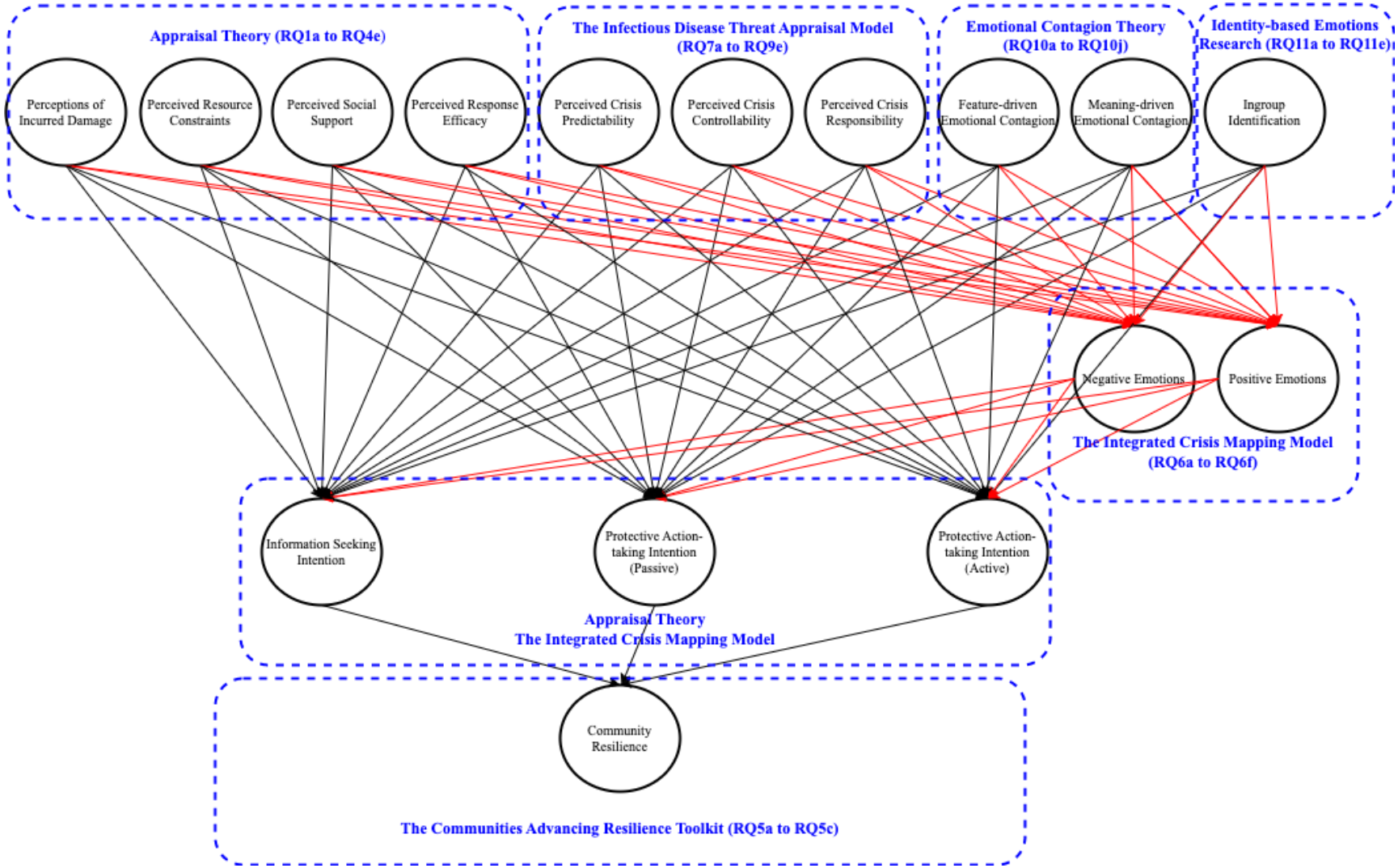
The above sections already mentioned how this dissertation uses a sampling method, a sample size, and a data collection procedure to minimize the survey research's coverage error, sampling error, nonresponse error, and measurement error. However, a critical limitation is that the data for this dissertation are observational in nature (i.e., a self-report survey utilizing systematic cluster sampling), which is not ideal for causal inferences (Hernán, 2018). This dissertation's research questions implicitly assess causal relations among variables, such as how coping appraisals and threat appraisals generate impacts on individuals' perceptions, emotional responses, and behavioral intentions.

As Pearl and Mackenzie (2018, p. 14) bluntly stated, "Data are profoundly dumb about causal relationships." This dissertation fully acknowledges that data alone is not robust enough for making causal inferences. However, most relationships included in this dissertation's proposed model are based on subject-matter theories (e.g., appraisal theory, Lazarus, 1991; social identity approach, Tajfel & Turner, 1979, 1986). Furthermore, previous crisis communication research (e.g., Austin et al., 2021; Jin, 2009; Jin et al., 2020; Jin et al., 2021) that uses rigorous experimental designs has consistently validated the causal relations between appraisals and emotions, appraisals and behavioral intentions, as well as emotions and behavioral intentions.

Therefore, this dissertation argues that subject-matter theories and SEM can lay a solid foundation for revealing the structural relationships in the proposed model. A more detailed discussion on future research based on this dissertation's proposed model, such as quasi-experiment designs to assess how different crisis communication strategies influence individuals' responses in the post-crisis stage, is provided in the final discussion and conclusion chapter. The next chapter reports the survey's findings, followed by a final discussion and conclusion chapter. Ultimately, this dissertation advances crisis communication theory and practice with the aim of understanding factors that can help communities recover from future mega-disasters like floods. To provide a roadmap for chapters on results and discussion (i.e., Chapters 4 and 5), this dissertation's proposed model (i.e., Figure 1) is presented below. The next chapter begins with a summary table of the dissertation's research questions and findings followed by in-depth reporting of all results.

Figure 1

The Proposed Theoretical Model



Chapter 4: Results

This dissertation answers how individuals cope and cultivate community resilience during the post-disaster phase in China, a non-democratic and non-Western context, in the recovery phase of floods. This dissertation chapter begins with a summary of research questions and findings in Table 1, followed by a thorough explanation of the data analysis procedure (i.e., section 4.1). Then, this dissertation chapter overviews the survey results, including descriptive statistics, model fit indices, and inferential statistics. Sections 4.2 and 4.3 summarize the sample characteristics, including demographic items' descriptive statistics and latent factors' reliabilities and estimated item loadings. Additionally, this chapter reports the proportions of variances explained for endogenous elements. Then, this chapter provides the model fit indices based on the maximum likelihood with robust standard error (MLR) estimations, including the standardized root mean square residual (SRMR), root mean square error of approximation (RMSEA), comparative fit index (CFI), and Tucker-Lewis index (TLI) values. Finally, this chapter presents inferential statistics that answer this dissertation's research questions, including standardized coefficients and statistical significance levels for the structural relationships in the proposed model.

Table 1
Summary of Research Questions and Findings

Concepts	Latent Factors	Research Questions	Standardized Estimates and P-value	Summary
Harm/Loss	Perceived Incurred Damage	**RQ1a.** How, if at all, does perceived incurred damage from the last flooding season influence individuals' negative emotions about floods?	(β = 0.11, p < 0.01)	Participants who perceived greater damage from the last flooding season were more likely to experience negative emotions about floods.
		RQ1b. How, if at all, does perceived incurred damage from the last flooding season influence individuals' positive emotions about floods?	Not statistically significant	There was no statistically significant relationship found between perceived incurred damage from the last flooding season and participants' positive emotions about floods.
		RQ1c. How, if at all, does perceived incurred damage from the last flooding season influence individuals' information seeking intentions?	(β = -0.14, p < 0.001)	Participants who perceived greater damage from the last flooding season were less likely to have information seeking intentions when recovering from a flood.

		RQ1d. How, if at all, does perceived incurred damage from the last flooding season influence individuals' passive protective action taking intentions?	(β = -0.07, p < 0.05)	Participants who perceived greater damage from the last flooding season were less likely to have passive protective action taking intentions when recovering from a flood.
		RQ1e. How, if at all, does perceived incurred damage from the last flooding season influence individuals' active protective action taking intentions?	(β = -0.1, p < 0.001)	Participants who perceived greater damage from the last flooding season were less likely to have active protective action taking intentions when recovering from a flood.
Coping Potential	Perceived Resource Constraints	**RQ2a.** How, if at all, do perceived resource constraints of protective instructions influence individuals' negative emotions about floods?	(β = 0.14, p < 0.01)	Participants who perceived higher levels of resource constraints in protective instructions were more likely to experience negative emotions about floods.
		RQ2b. How, if at all, do perceived resource constraints of protective instructions influence individuals' positive emotions about floods?	(β = -0.09, p < 0.05)	Participants who perceived higher levels of resource constraints in protective instructions were less likely to experience positive emotions about floods.

	RQ2c. How, if at all, do perceived resource constraints of protective instructions influence individuals' information seeking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived resource constraints of protective instructions and participants' information seeking intentions.
	RQ2d. How, if at all, do perceived resource constraints of protective instructions influence individuals' passive protective action taking intentions?	(β = 0.16, p < 0.001)	Participants who perceived higher levels of resource constraints in protective instructions were more likely to have passive protective action taking intentions.
	RQ2e. How, if at all, do perceived resource constraints of protective instructions influence individuals' active protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived resource constraints of protective instructions and participants' active protective action taking intentions.
Perceived Social Support	**RQ3a.** How, if at all, does perceived social support influence individuals' negative emotions about floods?	(β = -0.19, p < 0.01)	Participants who perceived higher levels of social support were less likely to experience negative emotions about floods.

		RQ3b. How, if at all, does perceived social support influence individuals' positive emotions about floods?	Not statistically significant	There was no statistically significant relationship found between perceived social support and participants' positive emotions about floods.
		RQ3c. How, if at all, does perceived social support influence individuals' information seeking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived social support and participants' information seeking intentions.
		RQ3d. How, if at all, does perceived social support influence individuals' passive protective action taking intentions?	(β = 0.12, $p < 0.05$)	Participants who perceived higher levels of social support were more likely to have passive protective action taking intentions.
		RQ3e. How, if at all, does perceived social support influence individuals' active protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived social support and participants' active protective action taking intentions.
Future Expectancy	Perceived Response Efficacy	**RQ4a.** How, if at all, does perceived response efficacy of protective instructions influence individuals' negative emotions about floods?	(β = 0.14, $p < 0.05$)	Participants who perceived higher response efficacy of protective instructions were more likely to experience negative emotions about floods.

RQ4b. How, if at all, does perceived response efficacy of protective instructions influence individuals' positive emotions about floods?	(β = 0.22, p < 0.001)	Participants who perceived higher response efficacy of protective instructions were more likely to experience positive emotions about floods.
RQ4c. How, if at all, does perceived response efficacy of protective instructions influence individuals' information seeking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived response efficacy of protective instructions and participants' information seeking intentions.
RQ4d. How, if at all, does perceived response efficacy of protective instructions influence individuals' passive protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived response efficacy of protective instructions and participants' passive protective action taking intentions.
RQ4e. How, if at all, does perceived response efficacy of protective instructions influence individuals' active protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived response efficacy of protective instructions and participants' active protective action taking intention.

Coping	Information Seeking and Protective Behavioral Intentions	**RQ5a.** How, if at all, does information seeking intention influence individuals' perceived community resilience?	(β = 0.26, p < 0.001)	Participants with higher information seeking intentions were more likely to perceive greater community resilience.
		RQ5b. How, if at all, does passive protective action taking intention influence individuals' perceived community resilience?	Not statistically significant	There was no statistically significant relationship found between passive protective action taking intentions and participants' perceived community resilience.
		RQ5c. How, if at all, does active protective action taking intention influence individuals' perceived community resilience?	(β = 0.68, p < 0.001)	Participants with higher active protective action taking intentions were more likely to perceive greater community resilience.
Emotions	Emotions (Sadness, Fright/Fear, Anxiety, Anger, Disgust, Sympathy, Gratitude, Hope, Pride, and Love)	**RQ6a.** How, if at all, do individuals' negative emotions (sadness, fright/fear, anxiety, anger, and disgust) about floods influence their information seeking intentions?	Not statistically significant	There was no statistically significant relationship found between individuals' negative emotions about floods and their information seeking intentions.
		RQ6b. How, if at all, do individuals' positive emotions (sympathy, gratitude, hope, pride, and love) about floods influence their information seeking intentions?	(β = 0.11, p < 0.05)	Participants who experienced more positive emotions about floods were more likely to have information seeking intentions.

RQ6c. How, if at all, do individuals' negative emotions (sadness, fright/fear, anxiety, anger, and disgust) about floods influence their passive protective action taking intentions?	(β = -0.09, p < 0.05)	Participants who experienced more negative emotions about floods were less likely to have passive protective action taking intentions.
RQ6d. How, if at all, do individuals' positive emotions (sympathy, gratitude, hope, pride, and love) about floods influence their passive protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between individuals' positive emotions about floods and their passive protective action taking intentions.
RQ6e. How, if at all, do individuals' negative emotions (sadness, fright/fear, anxiety, anger, and disgust) about floods influence their active protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between individuals' positive emotions about floods and their active protective action taking intentions.
RQ6f. How, if at all, do individuals' positive emotions (sympathy, gratitude, hope, pride, and love) about floods influence their active protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between individuals' positive emotions about floods and their active protective action taking intentions.

		RQ7a. How, if at all, does the perceived crisis predictability of floods influence individuals' negative emotions about floods?	(β = 0.20, p < 0.01)	Participants who perceived higher predictability of floods were more likely to experience negative emotions about floods.
		RQ7b. How, if at all, does the perceived crisis predictability of floods influence individuals' positive emotions about floods?	(β = 0.29, p < 0.001)	Participants who perceived higher predictability of floods were more likely to experience positive emotions about floods.
Threat Appraisal	Perceived Crisis Predictability	**RQ7c.** How, if at all, does the perceived crisis predictability of floods influence individuals' information seeking intentions?	Not statistically significant	There was no statistically significant relationship found between the perceived crisis predictability of floods and participants' information seeking intentions.
		RQ7d. How, if at all, does the perceived crisis predictability of floods influence individuals' passive protective action taking intentions?	(β = -0.23, p < 0.001)	Participants who perceived higher predictability of floods were less likely to have passive protective action taking intentions.
		RQ7e. How, if at all, does the perceived crisis predictability of floods influence individuals' active protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between the perceived crisis predictability of floods and participants' active protective action taking intentions.

Perceived Crisis Controllability	**RQ8a.** How, if at all, does the perceived crisis controllability of floods influence individuals' negative emotions about floods?	(β = -0.22, p < 0.001)	Participants who perceived higher controllability of floods were less likely to experience negative emotions about floods.
	RQ8b. How, if at all, does the perceived crisis controllability of floods influence individuals' positive emotions about floods?	Not statistically significant	There was no statistically significant relationship found between perceived crisis controllability of floods and individuals' positive emotions about floods.
	RQ8c. How, if at all, does the perceived crisis controllability of floods influence individuals' information seeking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived crisis controllability of floods and individuals' information seeking intentions.
	RQ8d. How, if at all, does the perceived crisis controllability of flood influence individuals' passive protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived crisis controllability of floods and individuals' passive protective action taking intentions.
	RQ8e. How, if at all, does the perceived crisis controllability of flood influence individuals' active protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between perceived crisis controllability of floods and individuals' active protective action taking intentions.

Perceived Crisis Responsibility	**RQ9a.** How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' negative emotions about floods?	Not statistically significant	There was no statistically significant relationship found between the perceived crisis responsibility of controlling floods and individuals' negative emotions about floods.
	RQ9b. How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' positive emotions about floods?	Not statistically significant	There was no statistically significant relationship found between the perceived crisis responsibility of controlling floods and individuals' positive emotions about floods.
	RQ9c. How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' information seeking intentions?	($\beta = 0.31$, $p < 0.001$)	Participants who perceived a higher responsibility of controlling floods were more likely to have an information seeking intentions.
	RQ9d. How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' passive protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between the perceived crisis responsibility of controlling floods and individuals' passive protective action taking intentions.

		RQ9e. How, if at all, does the perceived crisis responsibility of controlling floods influence individuals' active protective action taking intentions?	(β = 0.26, p < 0.001)	Participants who perceived a higher responsibility of controlling floods were more likely to have active protective action taking intentions.
Susceptibility to Emotional Contagion in Public Emergencies	Feature-Driven Emotional Contagion	**RQ10a.** How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' negative emotions about floods?	(β = 0.27, p < 0.001)	Feature-driven emotional contagion in public emergencies was found to have a statistically significant positive influence on individuals' negative emotions about floods.
		RQ10b. How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' positive emotions about floods?	Not statistically significant	There was no statistically significant relationship found between feature-driven emotional contagion in public emergencies and individuals' positive emotions about floods.
		RQ10c. How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' information seeking intentions?	Not statistically significant	There was no statistically significant relationship found between feature-driven emotional contagion in public emergencies and individuals' information seeking intentions.

	RQ10d. How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' passive protective action taking intentions?	(β = 0.13, p < 0.01)	Feature-driven emotional contagion in public emergencies was found to have a statistically significant positive influence on individuals' passive protective action taking intentions.
	RQ10e. How, if at all, does feature-driven emotional contagion in public emergencies influence individuals' active protective action taking intentions?	Not statistically significant	There was no statistically significant relationship found between feature-driven emotional contagion in public emergencies and individuals' active protective action taking intentions.
Meaning-Driven Emotional Contagion	**RQ10f.** How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' negative emotions about floods?	Not statistically significant	There was no statistically significant relationship found between meaning-driven emotional contagion in public emergencies and individuals' negative emotions about floods.
	RQ10g. How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' positive emotions about floods?	(β = 0.23, p < 0.001)	Meaning-driven emotional contagion in public emergencies was found to have a statistically significant positive influence on individuals' positive emotions about floods.

		RQ10h. How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' information seeking intentions	Not statistically significant	There was no statistically significant relationship found between meaning-driven emotional contagion in public emergencies and individuals' information seeking intentions.
		RQ10i. How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' passive protective action taking intention?	Not statistically significant	There was no statistically significant relationship found between meaning-driven emotional contagion in public emergencies and individuals' passive protective action taking intentions.
		RQ10j. How, if at all, does meaning-driven emotional contagion in public emergencies influence individuals' active protective action taking intentions?	($\beta = 0.15$, $p < 0.05$)	Meaning-driven emotional contagion in public emergencies was found to have a statistically significant positive influence on individuals' active protective action taking intentions.
The Social Identity Approach	Ingroup Identification	**RQ11a.** How, if at all, does the identification with the local community influence individuals' negative emotions about floods?	Not statistically significant	There was no statistically significant relationship found between the identification with the local community and individuals' negative emotions about floods.

RQ11b. How, if at all, does the identification with the local community influence individuals' positive emotions about floods?	Not statistically significant	There was no statistically significant relationship found between the identification with the local community and individuals' positive emotions about floods.
RQ11c. How, if at all, does the identification with the local community influence individuals' information seeking intentions?	(β = 0.28, p < 0.001)	Identification with the local community was found to have a statistically significant positive influence on individuals' information seeking intentions.
RQ11d. How, if at all, does the identification with the local community influence individuals' passive protective action taking intentions?	(β = 0.30, p < 0.001)	Identification with the local community was found to have a statistically significant positive influence on individuals' passive protective action taking intentions.
RQ11e. How, if at all, does the identification with the local community influence individuals' active protective action taking intentions?	(β = 0.30, p < 0.001)	Identification with the local community was found to have a statistically significant positive influence on individuals' active protective action taking intentions.

Section 4.1 Data Analysis

This dissertation section details the data analysis process, including information on assessing validity and reliability of latent factors, addressing missing data and outliers, assessing assumptions (e.g., normality, linearity, multicollinearity, and homoskedasticity), as well as conducting a two-phase analysis for this dissertation's latent variable path model (LVPM).

Latent Factors' Construct Validity and Reliability. Construct validity refers to the meaningful theoretical relationship between latent factors and observed items (Netemeyer et al., 2003). Confirmatory factor analysis (CFA) is a useful tool for assessing construct validity and providing model fit indices (Kline, 2015). Therefore, all latent factors in this study were evaluated for construct validity using CFA. This dissertation evaluated model fit based on the following indices model: standard root mean square residual (SRMR) is smaller than 0.08, and its root mean square error of approximation (RMSEA) is smaller than 0.06, as well as its Tucker–Lewis Index (TLI) and Comparative Fit Index (CFI) are greater than or equal to 0.95 (Kline, 2015).

Except for two latent factors: perceived crisis predictability and perceived crisis controllability, most latent factors' model fit indices indicated that latent factors in this dissertation are valid representations of the data after adding residual covariances between items in the same factor, in line with subject matter theories. For perceived crisis predictability and perceived crisis controllability, the two items related to community (e.g., "To what extent do you feel your local community can predict floods?") had negative residual variances. Negative residual variances in CFA indicate a violation of model assumptions (Flora et al., 2012). One common solution to this problem is to fix the residual variance to 0 (Farooq, 2022), which may post an additional assumption that influences estimates. Another option is to examine the item

content and consider removing it from the model, which brings the convergence issue (i.e., the inability to reach a stable solution; Wang & Rhemtulla, 2021) in this dissertation. Though none of these solutions work, the issue of negative residual variances in latent factors' CFA estimates does not preclude the use of latent variable path analysis to examine the proposed model in light of subject matter knowledge (Brown, 2015; Kline, 2015). Because all latent factor structures were specified based on previous research (e.g., Austin et al., 2021; Jin et al., 2020; Jin et al., 2021), this dissertation employs a latent variable path analysis (LVPA), and a comprehensive description of the analysis process is presented below.

Reliability refers to the degree of consistency and stability in the measurement of a construct or variable using a particular instrument or scale, which reflects the extent to which the scale consistently and accurately measures the intended attribute and ensures that the obtained results are replicable and dependable across multiple instances of measurement (Netemeyer et al., 2003). Cronbach's α is widely used given its simplicity; however, Cronbach's α is sensitive to the number of items, holds a strong assumption: tau-equivalence (i.e., all items in a scale has identical loading on a single underlying factor) (Raykov, 1998), and is not compatible to handle complex factor structure (e.g., second-order factor; Raykov et al., 2018). Therefore, in addition to reporting Cronbach's α, this dissertation reports maximal reliability (i.e., Coefficient H; Hancock & Mueller, 2001) for each factor in section 4.3 and Table 2 on descriptive statistics for latent factors, as it is the reliability of the linearly weighted combination of items/indicators (with weights w) that maximizes the scale score reliability, providing the score that has the largest possible amount of variance explainable by the underlying factor. Both Cronbach's alpha and Coefficient H values above 0.70 are considered favorable for factors' reliability (Mueller & Hancock, 2019).

Addressing Missing Data. The full-information maximum likelihood (FIML) estimation is a commonly used method for resolving missing data in SEM analyses (Enders, 2010, 2013). FIML implicitly allows all subgroups of individuals defined by distinct patterns of available data to contribute to the estimation of parameter estimations that their data can inform (Mueller & Hancock, 2019). Simply said, in the presence of missing data, FIML computes the likelihood for each case based on the observed variables for that case. This ensures that all available information is used in the estimation process, even when some variables are missing for certain cases (Enders, 2010; Nye, 2022). This dissertation uses FIML as the estimation if there are no competing concerns (e.g., non-normality and heteroscedasticity bias SEM estimates; Ory et al., 2009) that demand adopting alternative estimation (e.g., maximum likelihood with robust standard error; King & Roberts, 2015).

Addressing Outliers. Before proceeding to analyze the structural relations, it is essential to detect and potentially remove cases that were not missing but are abnormal (i.e., outliers; Fox, 2015; Hahs-Vaughn & Lomax, 2013). From a univariate aspect, outliers can be identified by comparing cases' standard (z) scores to an appropriate threshold, such as ±3 (Mueller & Hancock, 2019). Cases that are not within the threshold value range can be excluded. Second, multivariate outliers (cases with scores on individual variables that are not abnormal but have an unusual combination of scores) can be identified using the Mahalanobis distance (D) or the squared distance (Penny, 1996). Because the squared distance values follow a Chi-square distribution, each case has a corresponding p-value, and cases with extreme p values smaller than .001 can be removed (Mueller & Hancock, 2019). No extreme outlier was identified in this dissertation's dataset. However, there is no universally agreed-upon threshold for identifying outliers.

Assessing Assumptions. Latent variable path analysis has certain assumptions that need to be met for unbiased results, including linearity, normality, homoscedasticity, independence, and no multicollinearity (Loehlin & Beaujean, 2016). Specifically, linearity can be assessed by examining scatterplots of the variables or conducting a residual plot analysis. Normality can be assessed using statistical tests such as the Shapiro-Wilk or Kolmogorov-Smirnov tests. Homoscedasticity can be assessed by examining residuals and looking for patterns in the plot or conducting a formal test such as the Breusch-Pagan or White test. Independence can be assessed by examining residuals and looking for patterns in the plot or conducting a formal test such as the Durbin-Watson test and no multicollinearity can be assessed by examining the correlation matrix or calculating the variance inflation factor (VIF) for each variable in the model (Fox, 2015). Violations in normality and homoscedasticity were detected in this dissertation's dataset.

After systematically considering the impacts of missing data and assumption violations (e.g., nonnormality and heteroscedasticity). This dissertation adopts maximum likelihood with robust standard errors (i.e., MLR; King & Roberts, 2015) for analysis to obtain more robust estimations, which are also less sensitive to assumption violations. For missing data, MLR, as a maximum likelihood-based method, uses all available information in the dataset, including cases with missing values, to estimate model parameters, ensuring the analysis retains statistical power and avoids the biases associated with more simplistic missing data handling techniques, such as listwise deletion or mean imputation (Allison, 2003). Nonnormality and heteroscedasticity are common issues that can bias parameter estimates and standard errors in structural equation modeling (Shin et al., 2009). MLR is designed to be robust to deviations from normality and heteroscedasticity. By accounting for potential heteroscedasticity and non-normality in the data,

MLR provides valid standard errors and significance tests, ensuring that the results are less biased when distributional assumptions are violated (Li, 2016).

Though this dissertation's research questions mainly focus on the direct relationships between latent factors, this dissertation's author was fully aware that emotions, information seeking intentions, protective behavioral intentions can be recognized as the mediators in the proposed model. To ensure a comprehensive understanding of direct, indirect, and total effects in the proposed model, Bootstrap was used in this dissertation to estimate these effects and their corresponding confidence intervals (Kline, 2015). Bootstrap is a resampling technique that can be used to obtain less biased estimates of model parameters when the normality assumption is violated (Lai, 2018; Nevitt & Hancock, 2001). This dissertation's author compared MLR and bootstrap's estimates and confirmed most estimates are similar to identical. Noteworthy, the only statistically significant indirect effect in the proposed model was the specific indirect effect of perceived crisis predictability on participants' information seeking intentions through positive emotions ($\beta = 0.015$, $p < 0.05$). As bootstrapping is more sensitive to heteroscedasticity compared to MLR, the subsequent estimates are primarily based on MLR. The only exception is the reports on indirect effects in section 4.4, which relies on bootstrapping.

A Two-phase (Measurement, Structural) Analysis Process. This dissertation's proposed model includes latent factors; therefore, a two-phase modeling process is adopted to analyze the latent variable path model. In the first phase (i.e., the measurement phase), all latent variables are allowed to freely covary (Mueller & Hancock, 2019). If the measurement model's standard root mean square residual (SRMR) is smaller than 0.08, and its root mean square error of approximation (RMSEA) is smaller than 0.06, as well as its Tucker–Lewis index (TLI) and comparative fit index (CFI) are 0.95, the measurement model shows a satisfactory model fit

(Kline, 2015), which means the analysis is ready to proceed to the second phase (i.e., the structural phase). If the measurement model does not show a satisfactory model fit, modifications based on subject-matter theories should be implemented. In the second phase, the structural model includes the proposed structural relations among the factors, with any modifications being made in the first phase (e.g., covariances between exogenous latent factors, residual covariances between endogenous latent factors, and residual covariances between items; Mueller & Hancock, 2019). Once the overall structural model fit has been assessed, detailed results regarding the structural relations can be reported.

Section 4.2 Descriptive Statistics for Demographics

Section 4.2 reports the descriptive statistics for the survey items that measure participants' demographic characteristics. There is no missing data for items that measure participants' age, sex, parental status, income level, and educational level. These five items are included as control variables that act as covariates in the proposed model, accounting for potential confounding factors that influences the relationships between the main variables of interests and allowing for the specification of covariances between exogenous latent factors (e.g., covary perceived crisis predictability and perceived crisis controllability's residuals), which potentially increase the proposed model's validity and accuracy in representing the data and the relationships between latent variables.

Age. The sample for this dissertation comprises 1,000 participants with an age range of 19 to 85 (mean = 45.22, median = 45, mode = 40, standard deviation = 11.32). Young adults, defined as those aged 18 to 25, constitute only 3.1% (n = 31) of the sample, while middle-aged adults, aged 26 to 64, constitute the vast majority at 92.4% (n = 924). The remaining 4.5% (n =

45) of participants are senior adults aged 65 and above. The distribution of participants by age did not match the targeted population (Lukou District Statistic Bureau, 2021).

Sex. The distribution of participants by sex was nearly even. 534 participants (53.4%) in this dissertation self-reported as male, and 466 participants (46.6%) self-reported as female.

Parental Status. Most participants (n = 918, 91.8%) reported having children, while a small proportion (n = 82, 8.2%) reported not having any children. The distribution of participants by parental status did not mirror the targeted population (Lukou District Statistic Bureau, 2021).

Income Level. Out of the 1000 participants, 248 (24.8%) reported an income of ¥20,000 to ¥34,999 (2,922 to 5,112.55 USD), while 208 (20.8%) reported an income of ¥35,000 to ¥49,999 (5,112.70 to 7,303.71 USD). These two income ranges are representative of lower-middle and middle-income individuals in the urban-rural area of mainland China (Zhou & Shi, 2022), like Lukou county in Zhuzhou. Furthermore, 105 (10.5%) of participants reported an income of ¥100,000 to ¥199,999 (14,607.71 to 29,215.27 USD), and 52 (5.2%) reported an income of ¥200,000 or more (29,215.42 USD or more), reflecting upper-middle and high-income individuals in (Zhou & Shi, 2022). Additionally, 98 (9.8%) of participants reported an income of ¥15,000 to ¥19,999 (2,191.16 to 2,921.40 USD), 79 (7.9%) reported an income of ¥50,000 to ¥74,999 (7,303.85 to 10,955.64 USD), and another 79 (7.9%) reported an income of ¥75,000 to ¥99,999 (10,955.78 to 14,607.56 USD). Moreover, 72 (7.2%) of participants reported an income of ¥0 to ¥9,999 (0 to 1,460.62 USD), and 59 (5.9%) reported an income of ¥10,000 to ¥14,999 (1,460.77 to 2,191.01 USD). These latter income levels are indicative of individuals living in poverty or near-poverty conditions (Zhou & Shi, 2022).

Education Level. The educational level of the 1000 participants in this dissertation varies from having an advanced degree to having no formal education. Having a middle school

diploma was reported by 29% (n = 290) of participants. This proportion aligns with the overall educational attainment in mainland China, where a notable portion of the population has completed middle school education (Ministry of Education of the People's Republic of China, 2021). 25.5% (n = 255) of participants reported having a high school diploma, while 24% (n = 240) reported having a college degree. These figures correspond with the observed trend of increasing educational attainment in mainland China, especially in urban-rural areas (Ministry of Education of the People's Republic of China, 2021). Additionally, 5% (n = 50) of participants reported holding advanced degrees, such as Bachelor's, Master's, or Doctoral degrees. This percentage is lower than the proportion of advanced degree holders in major urban centers of mainland China (e.g., Beijing, Shanghai; Cao et al., 2023). Lastly, 0.7% (n = 7) of the participants reported having no formal education.

Section 4.2 Descriptive Statistics for Latent Factors

Section 4.2 presents latent factors' reliabilities and estimated item loadings as latent factors are not directly observed or measured items but constructed by analyzing the relationships among observed items (Kline, 2015). Additionally, for endogenous latent factors, section 4.2 reports the proportion of variance explained by the proposed model (see Table 2). The following paragraphs are organized based on latent factors' positions (e.g., exogenous and endogenous latent factors) in the proposed model (see Figure 1). Comprehensive information on all latent factors' loadings and reliabilities is presented in Table 2.

Perceived Incurred Damage. In this dissertation, perceived incurred damage is an exogenous latent factor that assesses participants' perceptions of experienced harm resulting from floods, possibly influencing participants' affective experiences and behavioral intentions. The twelve measured items comprising the latent factor showed statistically significant loadings,

ranging from 0.77 to 0.96. An example item was: “Floods damaged your house.” The latent factor’s reliability was assessed using both Cronbach’s alpha ($\alpha = 0.98$) and maximal reliability ($\widehat{H}$ = 0.98), indicating a high level of internal consistency among the items.

Perceived Resource Constraint. Perceived resource constraint is an exogenous latent factor that examines participants’ perceptions of resource constraints in adopting suggested protective actions for mitigating floods’ harm, possibly influencing participants’ affective experiences and behavioral intentions. The six measured items comprising the latent factor showed statistically significant loadings, ranging from 0.78 to 0.93. An example item was “The cost (e.g., time, financial, or emotional) of purchasing family property insurance makes it difficult for me to take action”. The latent factor’s reliability was assessed using both Cronbach’s alpha ($\alpha = 0.95$) and maximal reliability ($\widehat{H}$ = 0.96), indicating a high level of internal consistency among the items.

Perceived Social Support. Perceived social support is an exogenous latent factor that investigates participants’ perceptions of their access to social resources and assistance from others, possibly influencing participants’ affective experiences and behavioral intentions. The five measured items comprising the latent factor showed statistically significant loadings, ranging from 0.72 to 0.90. An example item was “I get the emotional help and support I need from my family or friends.” The latent factor’s reliability was assessed using both Cronbach’s alpha ($\alpha = 0.93$) and maximal reliability ($\widehat{H}$ = 0.94), indicating a high level of internal consistency among the items.

Perceived Response Efficacy. Perceived response efficacy is an exogenous latent factor that studies participants’ perceptions of the suggested protective actions’ effectiveness, possibly influencing participants’ affective experiences and behavioral intentions. The six measured items

comprising the latent factor showed statistically significant loadings, ranging from 0.85 to 0.96. An example item was "Purchasing personal accident insurance is useful for me to recover from flood damages." The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha =$ 0.97) and maximal reliability ($\widehat{H}$ = 0.97), indicating a high level of internal consistency among the items.

Perceived Crisis Predictability. Perceived crisis predictability is an exogenous latent factor that examines participants' perceptions of the predictability of floods by themselves, the local community, and the local government, possibly influencing participants' affective experiences and behavioral intentions. An example item was "To what extent do you feel you can predict floods?" The three measured items comprising the latent factor showed statistically significant loadings, ranging from 0.90 to 0.95. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha = 0.94$) and maximal reliability ($\widehat{H}$ = 0.94), indicating a high level of internal consistency among the items.

Perceived Crisis Controllability. Perceived crisis controllability is an exogenous latent factor that analyzes participants' perceptions of the controllability of floods by themselves, the local community, and the local government, possibly influencing participants' affective experiences and behavioral intentions. An example item was "To what extent do you feel the local community has control over floods?" The three measured items comprising the latent factor showed statistically significant loadings, ranging from 0.85 to 0.92. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha = 0.94$) and maximal reliability ($\widehat{H}$ = 0.94), indicating a high level of internal consistency among the items.

Perceived Crisis Responsibility. Perceived crisis responsibility is an exogenous latent factor that studies participants' perceptions of their own, the local community's, and the local

government's responsibility for controlling floods, possibly influencing participants' affective experiences and behavioral intentions. An example item was: "I believe that the local government emergency management agency should do more to control floods." The three measured items comprising the latent factor showed statistically significant loadings, ranging from 0.83 to 0.92. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha =$ 0.93) and maximal reliability ($\widehat{H}$ = 0.97), indicating a high level of internal consistency among the items.

Feature-Driven Emotional Contagion in Public Emergencies. In this dissertation's proposed model, feature-driven emotional contagion in public emergencies is an exogenous latent factor that assesses participants' tendencies to capture and be influenced by the emotional expressions of others in their social surroundings without evaluating public emergencies, possibly influencing affective experiences and behavioral intentions. An example item was "When a disaster happens, I panic if others around me panic." The four measured items comprising the latent factor showed statistically significant loadings, ranging from 0.72 to 0.97. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha = 0.94$) and maximal reliability ($\widehat{H}$ = 0.94), indicating a high level of internal consistency among the items.

Meaning-Driven Emotional Contagion in Public Emergencies. Meaning-driven emotional contagion in public emergencies is an exogenous latent factor that examines participants' tendencies to capture and be influenced by their social surroundings by evaluating public emergencies, possibly influencing affective experiences and behavioral intentions. An example item was "If a victim of a disaster begins to cry, I feel sad and get teary-eyed." The three measured items comprising the latent factor showed statistically significant loadings, ranging from 0.76 to 0.87. The latent factor's reliability was assessed using both Cronbach's

alpha ($\alpha = 0.90$) and maximal reliability ($\widehat{H}$ = 0.91), indicating a high level of internal consistency among the items.

Ingroup Identification. Ingroup identification is an exogenous latent factor that investigates the extent to which participants identify with their local community, possibly influencing participants' affective experiences and behavioral intentions. An example item was "How much do you identify with other members of your local community?" The six measured items comprising the latent factor showed statistically significant loadings, ranging from 0.89 to 0.97. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha = 0.97$) and maximal reliability ($\widehat{H}$ = 0.98), indicating a high level of internal consistency among the items.

Negative Emotions. In this dissertation's proposed model, negative emotions is a latent factor under the influences of participants' perceptions and a latent factor that influences participants' behavioral intentions and perceived community resilience, measuring participants' affective experiences of disgust, anxiety, anger, sadness, and fright/fear. Participants were asked to self-report the extent to which they experienced the listed emotions in the context of flooding. The five measured items comprising the latent factor showed statistically significant loadings, ranging from 0.87 to 0.95. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha = 0.97$) and maximal reliability ($\widehat{H}$ = 0.97), indicating a high level of internal consistency among the items. As an endogenous factor in the proposed model, negative emotions' variance is explained by the model by 17.3% (R^2 = 0.17, p < 0.001).

Positive Emotions. Positive emotions is a latent factor under the influence of participants' perceptions and a latent factor that influences participants' behavioral intentions and perceived community resilience, measuring participants' affective experiences of sympathy, gratitude, hope, pride, and love. Participants were asked to self-report the extent to which they

experienced the listed emotions in the context of flooding. The five measured items comprising the latent factor showed statistically significant loadings, ranging from 0.66 to 0.95. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha = 0.92$) and maximal reliability ($\widehat{H}$ = 0.96), indicating a high level of internal consistency among the items. As an endogenous factor in the proposed model, positive emotions' variance is explained by the model by 33% (R^2 = 0.33, p < 0.001).

Passive Protective Action taking Intentions. Passive protective action taking intentions is a latent factor that assesses participants' tendency to prepare and be willing to take protective measures in response to floods without actively seeking confrontation, possibly being influenced by participants' perceptions and affective experiences and possibly influencing participants' perceived community resilience. An example item was "I would read posts and comments on social media sites I follow and see how other social media users respond before deciding to follow any instructions from the local government during a flood." The four measured items comprising the latent factor showed statistically significant loadings, ranging from 0.87 to 0.95. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha = 0.96$) and maximal reliability ($\widehat{H}$ = 0.96), indicating a high level of internal consistency among the items. As an endogenous factor in the proposed model, passive protective action taking intentions' variance is explained by the model by 17.1% (R^2 = 0.17, p < 0.001).

Active Protective Action taking Intentions. Active protective action taking intentions is a latent factor that measures participants' tendency to actively take protective measures in response to floods, possibly being influenced by participants' perceptions and affective experiences and possibly influencing participants' perceived community resilience. An example item was "I would tell others to follow instructions from the local government during a flood."

The five measured items comprising the latent factor showed statistically significant loadings, ranging from 0.90 to 0.96. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha = 0.97$) and maximal reliability ($\widehat{H}$ = 0.97), indicating a high level of internal consistency among the items. As an endogenous factor in the proposed model, active protective action taking intentions' variance is explained by the model by 40% (R^2 = 0.40, p < 0.001).

Information Seeking Intentions. Information seeking intentions is a latent factor that measures participants' tendency to actively seek out information from multiple sources to comprehend flood situations, possibly being influenced by participants' perceptions and affective experiences and possibly influencing participants' perceived community resilience. Example items were "For floods, I would look for more information from "village sound broadcasting"; "For floods, I would look for more information from WeChat groups formed by individuals in my local community"; and "For floods, I would look for more information from TV news from CCTV." The eleven measured items comprising the latent factor showed statistically significant loadings, ranging from 0.55 to 0.88. The latent factor's reliability was assessed using both Cronbach's alpha ($\alpha = 0.94$) and maximal reliability ($\widehat{H}$ = 0.96), indicating a high level of internal consistency among the items. As an endogenous factor in the proposed model, information seeking intentions' variance is explained by the model by 30% (R^2 = 0.30, p < 0.001).

Perceived Community Resilience. In this dissertation's proposed model, perceived community resilience is an endogenous second-order latent factor comprising five first-order factors (i.e., connection and caring, resources, transformative potential, disaster management, and information and communication), possibly being influenced by participants' perceptions, affective experiences, and behavioral intentions. Example item for the dimension of connection

and caring was “People in my local community feel like they belong to the community.” Example item for the dimension of resource was “My local community has the resources it needs to take care of community problems (resources include, for example, money, information, technology, tools, raw materials, and services).” Example item for the dimension of transformative potential was “My local community works with organizations and agencies outside the community to get things done.” Example item for the dimension of disaster management was “My local community has services and programs to help people after a disaster.” Example item for the dimension of information and communication was “I get information/communication through my local community to help with my home and work life.” The five first-order factors statistically significantly contribute to the second-order factor (i.e., perceived community resilience), with loadings ranging from 0.73 to 0.94. The second-order factor’s reliability was assessed using both Cronbach’s alpha ($\alpha = 0.95$) and maximal reliability ($\widehat{H}$ = 0.97), indicating a high level of internal consistency among the items. As an endogenous factor in the proposed model, perceived community resilience’s variance is explained by the model by 65% (R^2 = 0.65, p < 0.001).

Section 4.3 Model Fit

The model fit indices provide valuable insights into the adequacy of the model’s fit. This dissertation’s proposed model was assessed by maximum likelihood with robust standard error (MLR) and obtained the following model fit indices: the standardized root mean square residual (SRMR) value of 0.08 suggests a reasonable fit of the model (Kline, 2015). Second, the root mean square error of approximation (RMSEA) estimate of 0.04, along with its 90% confidence interval of 0.040-0.041, indicates a good fit of the model (Kline, 2015). Lastly, though lower than the proposed threshold for the satisfactory model fit (Kline, 2015), the comparative fit index

(CFI) and Tucker-Lewis index (TLI) values of 0.90 and 0.90 indicate that the proposed model fits the data significantly better than the null model that assumes no relationships between the observed variables (Hu & Bentler, 1999; Marsh et al., 2004). To sum, the obtained model fit indices suggest that this dissertation's proposed model is a valid representation of the data.

The covariance matrix is vital for reproducing a structural model as it provides the foundation for model estimation, evaluation, and modification (Lei & Wu, 2007). However, interpreting covariance values can be challenging due to the dependence) on the latent factors' scales (Fox, 2015). Therefore, this dissertation reports exogenous latent factors' standard deviations and means in Table 3 and provides comprehensive information of exogenous latent factors' Pearson correlations in Table 4.

Section 4.4 Inferential Statistics

Section 4.4 presents inferential statistics that answer this dissertation's research questions, including standardized coefficients and statistical significance levels for the structural relationships in the proposed model. The following paragraphs are organized based on research questions. A summary of research questions and findings can be found in Table 1. The influences of control variables on endogenous latent factors are placed near the end of section 4.4.

Perceived Incurred Damage. RQ1a to RQ1e examine the influences of perceived incurred damage from the last flooding season on individuals' negative and positive emotions, information seeking intentions, and passive and active protective action taking intentions. In this dissertation, perceived incurred damage from the last flooding season was found to have a statistically significant positive influence on participants' negative emotions about floods (i.e., RQ1a; $\beta = 0.11$, $p < 0.01$). In other words, participants who perceived greater damage from the

last flooding season were more likely to experience negative emotions about floods. Perceived incurred damage from the last flooding season was not found to have a statistically significant influence on participants' positive emotions about floods. Perceived incurred damage from the last flooding season was found to have a statistically significant negative influence on participants' information seeking intentions (RQ1c; β = -0.14, $p < 0.001$), passive protective action taking intentions (RQ1d; β = -0.07, $p < 0.05$), and active protective action taking intentions (RQ1e; β = -0.10, $p < 0.001$). In other words, participants who perceived greater damage from the last flooding season were less likely to seek information and to take both passive and active protective actions in the recovery phase of floods.

The bootstrap estimates revealed that perceived incurred damage did not have any statistically significant indirect effects on participants' information seeking intentions, passive protective action taking intentions, or active protective action taking intentions through either negative or positive emotions. Meanwhile, there was no statistically significant indirect effect of perceived incurred damage on participants' perceived community resilience.

Perceived Resource Constraint. RQ2a to RQ2e assess how perceived resource constraints of protective instructions influences individuals' negative and positive emotions, information seeking intentions, and passive and active protective action taking intentions. RQ2a found that participants who perceived higher levels of resource constraints in protective instructions were more likely to experience negative emotions about floods (β = 0.14, $p < 0.01$). Whereas RQ2b found that participants who perceived higher levels of resource constraints in protective instructions were less likely to experience positive emotions about floods (β = -0.09, $p < 0.05$). RQ2d found that participants who perceived higher levels of resource constraints in protective instructions were more likely to have passive protective action taking intentions (β =

0.16, $p < 0.001$). For RQ2c and RQ2e, perceived resource constraints of protective instructions were not found to have a statistically significant influence on participants' information seeking intentions and active protective action taking intentions.

The bootstrap estimates showed that there were no statistically significant indirect effects observed for perceived resource constraints on participants' information seeking intentions, passive protective action taking intentions, or active protective action taking intentions through either negative or positive emotions. Also, there was no statistically significant indirect effect of perceived resource constraint on participants perceived community resilience.

Perceived Social Support. RQ3a to RQ3e study how perceived social support influences individuals' negative and positive emotions, information seeking intentions, and passive and active protective action taking intentions. For RQ3a, this dissertation's results suggest that participants who perceived higher levels of social support were less likely to experience negative emotions about floods ($\beta = -0.19$, $p < 0.01$). For RQ3d, this dissertation's results suggest that participants who perceived higher levels of social support were more likely to have passive protective action taking intentions ($\beta = 0.12$, $p < 0.05$). For RQ3b, RQ3c, and RQ3e, perceived social support was not found to have a statistically significant influence on participants' positive emotions, information seeking intentions, and active protective action taking intentions.

The bootstrap estimates demonstrated that there were no statistically significant indirect effects observed for perceived social support on participants' information seeking intentions, passive protective action taking intentions, or active protective action taking intentions through either negative or positive emotions. Moreover, there was no statistically significant indirect effect of perceived social support on participants' perceived community resilience.

Perceived Response Efficacy. RQ4a to RQ4e analyze how perceived response efficacy of protective instructions influences individuals' negative and positive emotions, information seeking intentions, and passive, and active protective action taking intentions. For RQ4a, this dissertation's results show that participants who perceived higher response efficacy of protective instructions were more likely to experience negative emotions about floods ($\beta = 0.14$, $p < 0.05$). For RQ4b, this dissertation's results show that participants who perceived higher response efficacy of protective instructions were more likely to experience positive emotions about floods ($\beta = 0.22$, $p < 0.001$). For RQ4c to RQ4e, there was no statistically significant relationship found between perceived response efficacy of protective instructions and participants' information seeking intentions and passive and protective action taking intentions.

The bootstrap estimates revealed that there were no statistically significant indirect effects observed for perceived response efficacy on participants' information seeking intentions, passive protective action taking intentions, or active protective action taking intentions through either negative or positive emotions. Likewise, there was no statistically significant indirect effect of perceived response efficacy on participants' perceptions of community resilience.

Coping (Information Seeking and Protective Action Taking Intentions). RQ5a to RQ5c test how individuals' information seeking intentions and passive and active protective action taking intentions influence their perceived community resilience. RQ5a found that participants with higher information seeking intentions were more likely to perceive greater community resilience ($\beta = 0.26$, $p < 0.001$). RQ5c found that participants with higher active protective action taking intentions were more likely to perceive greater community resilience ($\beta = 0.68$, $p < 0.001$). For RQ5b, there was no statistically significant relationship found between passive protective action taking intentions and participants' perceived community resilience.

Emotions. RQ6a to RQ6f examine the relationship between individuals' negative and positive emotions about floods and their information seeking intentions, passive protective action taking intentions, and active protective action taking intentions. The results indicate no statistically significant relationship between individuals' negative emotions about floods and their information seeking intentions (RQ6a) or active protective action taking intentions (RQ6e). However, participants who experienced more positive emotions about floods were more likely to have an information seeking intentions (RQ6b; $\beta = 0.11$, $p < 0.05$), and those with more negative emotions were less likely to have passive protective action taking intentions (RQ6c; $\beta = -0.09$, $p < 0.05$). This dissertation's results also indicate there is no statistically significant relationship between individuals' positive emotions about floods and their passive (RQ6d) or active (RQ6f) protective action taking intentions.

The bootstrap estimates indicate that neither negative nor positive emotions have statistically significant indirect effects on participants' perceived community resilience through information seeking intentions, passive protective action taking intentions, and active protective action taking intentions.

Perceived Crisis Predictability. RQ7a to RQ7e examine the influences of individuals' perceived crisis predictability of floods on their negative and positive emotions about floods, information seeking intentions, and passive and active behavioral intentions. RQ7a found that participants who perceived higher predictability of floods were more likely to experience negative emotions about floods ($\beta = 0.20$, $p < 0.01$). RQ7b found that participants who perceived higher predictability of floods were more likely to experience positive emotions about floods ($\beta = 0.29$, $p < 0.001$). RQ7c found no statistically significant relationship between the perceived crisis predictability of floods and participants' information seeking intentions. RQ7d found that

participants who perceived higher predictability of floods were less likely to have passive protective action taking intentions (β = -0.23, $p < 0.001$). Lastly, RQ7e found no statistically significant relationship between participants' perceived crisis predictability of floods and their active protective action taking intentions.

The bootstrap estimation found that the indirect effect of perceived crisis predictability on participants' information seeking intentions through positive emotions (β = 0.015, $p < 0.05$) was statistically significant, which means participants who perceived higher predictability of floods were more likely to experience positive emotions, further led to an increased likelihood of participants engaging in information seeking behaviors. However, there was no statistically significant indirect effect of perceived crisis predictability on participants' perceptions of community resilience.

Perceived Crisis Controllability. RQ8a to RQ8e explore the influence of the perceived crisis controllability of floods on individuals' negative and positive emotions about floods, information seeking intentions, and passive and active protective action taking intentions. The results indicate that participants who perceived higher controllability of floods were less likely to experience negative emotions about floods (RQ8a; β = -0.22, $p < 0.001$). However, there were no statistically significant relationships found between the perceived crisis controllability of floods and individuals' positive emotions about floods (RQ8b), information seeking intentions (RQ8c), passive protective action taking intentions (RQ8d), or active protective action taking intentions (RQ8e).

The bootstrap estimates evidenced that there were no statistically significant indirect effects observed for perceived crisis controllability on participants' information seeking intentions, passive protective action taking intentions, or active protective action taking

intentions through either negative or positive emotions. Similarly, there was no statistically significant indirect effect of perceived crisis responsibility on participants' perceptions of community resilience.

Perceived Crisis Responsibility. RQ9a to RQ9e investigate the influence of individuals' perceived crisis responsibility of controlling floods on their negative and positive emotions about floods, information seeking intentions, and passive and active protective action taking intentions. The results indicate no statistically significant relationship between the perceived crisis responsibility of controlling floods and individuals' negative emotions about floods (RQ9a) or overall emotions about floods (RQ9b). However, participants who perceived a higher responsibility for controlling floods were more likely to have information seeking intentions (RQ9c; $\beta = 0.31$, $p < 0.001$). No statistically significant relationship was found between the perceived crisis responsibility of controlling floods and individuals' passive protective action taking intentions (RQ9d). On the other hand, participants who perceived a higher responsibility for controlling floods were more likely to have an active protective action taking intentions (RQ9e; $\beta = 0.26$, $p < 0.001$).

The bootstrap estimates suggested that there were no statistically significant indirect effects observed for perceived crisis responsibility on participants' information seeking intentions, passive protective action taking intentions, or active protective action taking intentions through either negative or positive emotions. In addition, there was no statistically significant indirect effect of perceived crisis responsibility on participants' perceptions of community resilience.

Feature-Driven Emotional Contagion. RQ10a to RQ10e examine the influence of feature-driven emotional contagion in public emergencies on individuals' negative and positive

emotions about floods, information seeking intentions, and passive and active protective action taking intentions. RQ10a found that feature-driven emotional contagion had a significant positive influence on negative emotions about floods ($\beta = 0.27$, $p < 0.001$), which means participants who tend to catch others' expressed emotions without evaluating the crisis situation were inclined to experience negative emotions about floods. However, RQ10b revealed no statistically significant relationship between feature-driven emotional contagion and individuals' positive emotions about floods. Similarly, RQ10c found no statistically significant relationship between feature-driven emotional contagion and information seeking intentions. In contrast, RQ10d demonstrated that feature-driven emotional contagion had a significant positive influence on passive protective action taking intentions ($\beta = 0.13$, $p < 0.01$), which means participants who tend to catch others' expressed emotions without evaluating the crisis situation were more likely to have a passive protective action taking intention. Lastly, RQ10e revealed no statistically significant relationship between feature-driven emotional contagion and individuals' active protective action taking intentions.

The bootstrap estimates displayed that there were no statistically significant indirect effects observed for feature-driven emotional contagion on participants’ information seeking intentions, passive protective action taking intentions, or active protective action taking intentions through either negative or positive emotions. Furthermore, there was no statistically significant indirect effect of feature-driven emotional contagion on participants’ perceptions of community resilience.

Meaning-Driven Emotional Contagion. RQ10f to RQ10j examine the influence of meaning-driven emotional contagion in public emergencies on individuals' negative and positive emotions about floods, information seeking intentions, and passive and active protective action

taking intentions. RQ10f found no statistically significant relationship between meaning-driven emotional contagion in public emergencies and individuals' negative emotions about floods. In contrast, RQ10g revealed that meaning-driven emotional contagion in public emergencies had a significant positive influence on individuals' positive emotions about floods ($\beta = 0.23$, $p < 0.001$), which means participants who tend to catch others' expressed emotions by interpreting the crisis situation were inclined to experience positive emotions about floods. RQ10h and RQ10i found no statistically significant relationships between meaning-driven emotional contagion in public emergencies and individuals' information seeking intentions or passive protective action taking intentions, respectively. Lastly, RQ10j demonstrated that meaning-driven emotional contagion in public emergencies had a significant positive influence on individuals' active protective action taking intentions ($\beta = 0.15$, $p < 0.05$), which means participants who tend to catch others' expressed emotions by interpreting the crisis situation were more likely to have active protective action taking intentions.

The bootstrap estimates exhibited that there were no statistically significant indirect effects observed for meaning-driven emotional contagion on participants’ information seeking intentions, passive protective action taking intentions, or active protective action taking intentions through either negative or positive emotions. Also, there was no statistically significant indirect effect of meaning-driven emotional contagion on participants’ perceptions of community resilience.

Ingroup Identification. RQ11a to RQ11e explore the influence of identification with the local community on individuals' negative and positive emotions about floods, information seeking intentions, and passive and active protective action taking intentions. RQ11a and RQ11b found no statistically significant relationships between identification with the local community

and individuals' negative or positive emotions about floods. In contrast, RQ11c revealed that identification with the local community had a significant positive influence on individuals' information seeking intentions ($\beta = 0.28$, $p < 0.001$), which means participants who identify more strongly with their local community were more likely to seek information about floods. Similarly, RQ11d and RQ11e demonstrated that identification with the local community had a significant positive influence on both individuals' passive ($\beta = 0.30$, $p < 0.001$) and active ($\beta = 0.30$, $p < 0.001$) protective action taking intentions, indicating that participants who identify more strongly with their local community were more likely to engage in both passive and active protective action taking intentions regarding floods.

The bootstrap estimates suggested that there were no statistically significant indirect effects observed for ingroup identification on participants' information seeking intentions, passive protective action taking intentions, or active protective action taking intentions through either negative or positive emotions. Additionally, there was no statistically significant indirect effect of ingroup identification on participants' perceptions of community resilience.

Control Variables (Age, Sex, Parental Status, Income Level, and Education Level). In this dissertation, age, sex, and parental status were not found to have statistically significant relationship with participants' negative emotions, positive emotions, information seeking intentions, passive protective action taking intentions, active protective action taking intentions, and perceived community resilience. A statistically significant negative relationship was found between participants' income and their passive behavioral intentions ($\beta = -0.11$, $p < 0.001$), stating that participants with a higher income level were less likely to have passive protective action taking intentions. A statistically significant positive relationship was observed between participants' education level and their passive behavioral intentions ($\beta = 0.14$, $p < 0.001$),

suggesting that participants with a higher education level were more likely to have passive protective action taking intentions.

A statistically significant positive relationship was identified between participants' education level and their active behavioral intentions ($\beta = 0.12$, $p < 0.001$), indicating that participants with a higher education level were more likely to have active protective action taking intentions.

Chapter 5. Discussion and Conclusion

This dissertation examines how individuals cope and cultivate community resilience during the post-crisis stage in a non-democratic and non-Western context, specifically focusing on the recovery phase of floods in mainland China. Understanding the coping and resilience mechanisms in specific contexts is vital for broadening crisis communication research and practices beyond the Western realm and improving post-disaster interventions to safeguard and improve survivors' well-being. This dissertation chapter first synthesizes and interprets the survey's key findings by drawing connections to the existing crisis communication literature. Then, this chapter illustrates this dissertation's theoretical and practical implications for crisis communication. This chapter concludes with a discussion of this dissertation's limitations and recommendations for future crisis communication studies to further enhance the understanding of individuals' coping and community resilience during the post-disaster recovery phase.

Section 5.1 Discussion of Findings

Section 5.1 discusses the key findings of this dissertation on how residents in flood-prone areas of south-central mainland China cope and cultivate community resilience in the post-crisis stage. In line with the dissertation's emphasis on individual coping mechanisms (e.g., perceptions, affective experiences, and behavioral intentions) as adaptive and socially functional, further contributing to individuals' perceived local community resilience, the following paragraphs are structured from an adaptive perspective (i.e., section 5.1.1) towards a socially functional perspective of individuals' coping (i.e., section 5.1.2), and then illustrating how individuals' behavioral intentions can contribute to perceived community resilience in the crisis recovery phase (i.e., section 5.1.3).

Though individuals' perceived social support can be recognized as a resource that contributes to individuals' appraisal of coping potential (Avery et al., 2021), undeniably, individuals' perceived social support derives from their interpersonal interactions with others (Barnett et al., 2021; Zhang et al., 2022). Meanwhile, interpersonal interactions can involve more than two people (i.e., groups; Ivan, 2022; Mheidly et al., 2020). To decrease unnecessary complexity in paragraphs, the content of latent factors related to interpersonal interactions (e.g., perceived social support, feature-driven emotional, contagion and meaning-driven emotional contagion) is incorporated with the content of the group-level latent factor (e.g., i.e., ingroup identification) in section 5.1.2.

Section 5.1.1 The Adaptive Perspective of Individual Coping

Section 5.1.1 focuses on the adaptive perspective of individual coping. The following paragraphs first illustrate the findings of how individuals' perceived incurred damage, perceived resource constraints in protective instructions, perceived response efficacy of protective instructions, perceived crisis predictability, perceived crisis controllability, and perceived crisis responsibility influence individuals' affective experiences of negative and positive emotions, information seeking intentions, passive protective action taking intentions, and active protective action taking intentions. Then, section 5.1.1 discusses the findings of how individuals' affective experiences of negative and positive emotions influence their information seeking intentions, passive protective action taking intentions, and active protective action taking intentions.

Perceived Incurred Damage (i.e., RQ1a to RQ1e). Results of RQ1a, RQ1c, RQ1d, and RQ1e indicate a concerning pattern among participants who perceived greater damage from the previous flooding season: These participants were more likely to experience negative emotions and less likely to engage in information seeking behaviors or take protective measures to recover

from damage and prevent future threats in the post-crisis stage. At the individual level, the observed pattern suggests that individuals who perceive themselves to experience significant damage may struggle to effectively regulate their emotional responses and take the necessary protective measures to recover from the crisis and prevent future threats, aligning with psychology and disaster management research's findings on the influences of disaster damages (e.g., Karantzas et al., 2022; Kondo et al., 2021). As public health and crisis management scholars theorized (Bonanno et al., 2010; Rammah et al., 2022), if generalizing the concerning pattern to the group level, when a substantial proportion of the affected population experiences negative emotions and refrains from engaging in adaptive behaviors, the community's overall capacity to bounce back from a disaster may be compromised, leading to a decelerated recovery process, increased reliance on external assistance, and potentially exacerbate the disaster's long-term consequences. This dissertation is the first crisis communication study that tests perceived incurred damage on individuals' crisis responses and concurrent influences on their perceived community resilience in an Eastern context. This dissertation underscores the importance of tailoring crisis communication and management efforts to support the needs of vulnerable populations, encouraging active coping (e.g., information seeking and protective action taking) to enhance individual and community recovery in the aftermath of disasters. The dissertation also points to the importance of alleviating resource constraints (discussed further below in the next section) and promoting social support among community members, which can lead to passive protective action taking (discussed later in this chapter; see section 5.1.2. on RQ3a)

RQ1b finding shows no statistically significant relationship between perceived incurred damage from the last flooding season and participants' positive emotions about floods. To move beyond a crisis, individuals need to "replace feelings of urgency, anxiety, and loss with positive

emotions such as patience, confidence, and optimism" (Seeger et al., 2003, p. 149), requiring individuals to forget the trauma of the crisis like incurred damage (Sellnow & Seeger, 2021). RQ1b's non-statistically significant result possibly supports the claim and indicates that individuals experience positive emotions may not be directly related to perceived incurred damage if individuals move forward in the post-crisis stage. An alternative explanation is that Chinese culture is historically less emotionally expressive than Western culture (i.e., saving face; Cheng, 2020), which may have influenced participants' responses to the emotions measured in this survey.

Perceived Resource Constraints (i.e., RQ2a to RQ2e). Consistent with existing crisis communication and management literature that suggests perceived resource constraints are closely related to individuals' vulnerability in crises (Avery et al., 2021; Baker, 2009; Vann et al., 2022), results of RQ2a, RQ2b, and RQ2d show participants who perceived higher resource constraints in protective instructions were more likely to experience negative emotions, less likely to experience positive emotions, and more likely to have passive protective action taking intentions in the post-crisis stage. In other words, perceived resource constraints can strain individuals' psychological well-being by influencing individuals' emotions (Beeble, 2010) and lead to a preference of passive protective approach, such as referring to how individuals' friends are responding before deciding to follow any instruction from the local government during a disaster.

Individuals' perceived resource constraints can stem from the combination of actual resource limitations (Ward et al., 2008) and cognitive overload due to the overwhelming nature of crises like disasters (Farcas et al., 2020). Also, this dissertation argues that the tendency to observe others' actions before responding possibly delays individuals' responses, increasing their

vulnerability to the disasters' impacts (Fischer et al., 2011). To reduce perceived resource constraints' negative influences, it is essential for crisis communication practitioners to deliver clear and actionable instructions to alleviate individuals' cognitive overload and empower individuals with the necessary knowledge to make informed decisions. Meanwhile, crisis communication practitioners can cultivate relationships with individuals' in disaster-prone areas during the pre-crisis stage to become individuals' prioritized source for crisis information (Liu et al., 2022), reducing people's dependence on social observation to respond to disasters and promoting timely and active protective action taking. Given the tendency to observe others' actions, which matches the collectivistic culture of China (Bedford et al., 2021; Huang et al., 2016; Oyserman et al., 2002), this dissertation suggests that crisis communication messaging should emphasize group-level protective actions along with individual-level protective actions and promoting collective efficacy (i.e., the belief that a group of individuals can work together to accomplish a common goal; Ntontis et al., 2014; Yu et al., 2022) to encourage individuals to collaborate in response to megacrises like floods.

RQ2c and RQ2e's findings present no statistically significant relationship between participants' perceived resource constraints and their information seeking intentions and active protective action taking intentions, this divergent from previous crisis communication research focusing on disaster risk reduction in the pre-crisis stage in the U.S. (Lim, 2022). One possible explanation is the differences between the pre-crisis and post-crisis stages. In the post-crisis stage, individuals may prioritize rebuilding efforts that improve the affected communities' living conditions, infrastructure, and overall resilience, instead of allocating resources for information seeking and active protective action taking to diminish crisis threats because the influences of a crisis on individuals' well-being would have already occurred in the post-crisis stage. An

alternative explanation is that motivating active protective action taking is more difficult than motivating passive protective action taking. Given that scholars have only recently distinguished between passive and active protective action taking in crisis communication research (Jin et al., 2020; Liu et al., 2015), this is a clear avenue for future research.

Perceived Response Efficacy (i.e., RQ4a to RQ4e). Existing crisis communication literature on the pre-crisis and crisis stages suggests that perceived response efficacy explains individuals' communicative and protective action taking intentions (Avery & Park, 2016; Chen & Cong, 2022; Park & Avery, 2019; Xue et al., 2022). Diverging from this prior research, results of RQ4c to RQ4e indicate no statistically significant relationship was found between perceived response efficacy of protective instructions and participants' information seeking intentions, passive protective action taking intentions, or active protective action taking intentions in the post-crisis recovery stage. Meanwhile, RQ4a and RQ4b provide seemingly conflicting results that participants who perceived higher response efficacy of protective instructions were more likely to experience both negative and positive emotions about floods.

For the results on participants' information seeking and protective action taking intentions, this dissertation notes that different processes are involved in distinct crisis stages. Specifically, during the pre-crisis stage, the primary focus is on prevention, preparedness, and risk reduction, which involves identifying potential hazards, developing contingency plans, raising public awareness, and implementing mitigation measures to reduce vulnerability (Sellnow & Seeger, 2021). By enhancing perceived response efficacy, crisis communication and management practitioners can foster greater preparedness and mitigate the potential impacts of future crises (Avery & Park, 2021; Chen & Cong, 2022; Cong et al., 2022). During the crisis stage, the primary focus is on immediate response and survival, such as evacuating affected

areas, providing emergency assistance, and addressing urgent needs (Sellnow & Seeger, 2021). The urgency and immediacy of the crisis stage may be driving the significant relationships observed in previous literature; for instance, when individuals believe that recommended actions are effective, they are more likely to actively search for relevant and credible information to help them navigate the crisis and make timely decisions (e.g., Avery & Park, 2016).

In contrast, the post-crisis phase begins when the crisis's immediate impacts and uncertainty subside, restoring order and eliciting both a sense of relief and an acknowledgment of a loss (Sellnow & Seeger, 2021). The post-crisis stage involves addressing the physical, social, economic, and environmental consequences of the crisis and working to return the affected community to normalcy or rebuild it more resiliently. (Aldrich & Meyer, 2015; Ayyub, 2014; Zhang & Shay, 2019). In other words, individuals can have priorities besides taking protective measures as they transition from the pre-crisis and crisis stages to the post-crisis recovery stage (e.g., cleanup damage and rebuilding), possibly weakening the relationship between perceived response efficacy and information seeking intentions, passive protective action taking intentions, and active protective action taking intentions. Although this dissertation comprehensively assesses the perceived response efficacy of protective instructions, which are vital for improving individuals' understanding of disasters' threats and coping strategies, more tailored measurements that focus on rebuilding and reconstruction during the crisis recovery phase are required to better capture the nuances in individuals' coping strategies at different crisis stages.

There may also be cultural implications here. Past research conducted in the U.S. has argued that there is a "window of opportunity" to prepare for the next crisis immediately after a crisis occurs (Liu et al., 2014; Liu et al., 2022). It may be that in the non-Western context of

China that time has a different meaning, as reflected in the short-term vs. long-term orientation distinction found between Western (short-term) and Eastern (long-term) cultures (Hofstede & Minkov, 2010; Huang & Crotts, 2019). Future research is definitely needed to understand the optimal timing for preparedness messaging after a disaster occurs in Eastern contexts.

Furthermore, participants who perceived higher response efficacy of protective instructions were more likely to experience both negative and positive emotions about floods. This dissertation notes that one potential explanation for these seemingly conflicting findings is the concept of emotional ambivalence. Emotional ambivalence refers to the simultaneous experience of both positive and negative emotions in response to a particular event or situation (Fong, 2006; Gabriel et al., 2022; Pratt & Doucet, 2000; Wang et al., 2022). Individuals who perceive higher response efficacy of protective instructions can be more emotionally engaged with the crisis, leading them to experience both negative and positive emotions more intensely. For instance, individuals may be more aware of the potential dangers associated with floods, leading to increased negative emotions. Meanwhile, individuals may also have a stronger sense of agency (i.e., individuals' perceptions that they have the capacity to influence the environment and achieve desired outcomes) as their beliefs in the effectiveness of the recommended protective measures, contribute to the affective experiences of positive emotions (Niikuni et al., 2022). Given the coexistence of negative and positive emotions in the post-crisis stage and the limited crisis communication scholarly attention on positive emotions (e.g., Guo, 2017; Jin et al., 2020), this dissertation calls for further research on the role of positive emotions along with emotional ambivalence. Such research is imperative to the longevity and generalizability of crisis and emotions theory, such as the ICM model (Austin et al., 2023; Jin et al., 2012).

Perceived Crisis Predictability (i.e., RQ7a to RQ7e). RQ7a's finding differs from existing crisis communication literature (Jin et al., 2020; Jin et al., 2021) and reveals that participants who perceived greater predictability of floods by themselves, the local community, and the local government were more likely to experience negative emotions in the post-crisis stage. One potential explanation is that, in the post-crisis stage, individuals may reflect on the consequences of the floods they experienced or witnessed, such as loss of life and the impact on their community (e.g., emotional rumination; Lachlan et al., 2023; Liang et al., 2023). This reflection could amplify their negative emotions, as they are more aware that these events are predictable and can occur again. An alternative explanation is that this dissertation examined a community that recently and frequently experiences floods whereas prior research on emotions has predominantly tested individuals' responses to hypothetical disasters through online experiments (Jin et al., 2020; Jin et al., 2021). It is quite likely that concepts like participants respond to measures of predictability differently in a hypothetical, controlled context than in a real-world disaster context (Ma & Zhan, 2016), calling for continued diversity of methods in crisis communication research.

Similar to RQ4b and consistent with existing crisis communication literature (Jin et al., 2020; Jin et al., 2021), RQ7b's finding indicates the complexity of individuals' affective experiences in the post-crisis stage by revealing the positive relationship between participants' perceived crisis predictability and positive emotions. This dissertation argues that when individuals perceive they, the local community, and the local government can predict a crisis like flooding, they may believe they can prepare for and manage crises' consequences more effectively, especially in the context of the disaster studied, seasonal floods. Meanwhile,

participants may feel positive emotions such as pride if they perceive they and their community can collectively overcome obstacles.

Inconsistent with existing crisis communication literature (Austin et al., 2021; Austin et al., 2023; Jin et al., 2020; Jin et al., 2021), RQ7d's finding shows that participants who perceived higher predictability of floods were less likely to have passive protective action-taking intentions. One potential explanation is that the increased perceived crisis predictability may reduce individuals' tendency to observe how others respond. Also, RQ7c and RQ7e findings imply that no statistically significant relationship between the perceived predictability of floods and participants' information seeking intentions and active protective action taking intentions. This dissertation's findings indicate that merely influencing perceived crisis predictability may not be enough to drive individuals to actively seek information or proactively take protective actions. This claim can be supported by this dissertation's bootstrap estimation, which found that the indirect effect of perceived crisis predictability by participants themselves, the local community, and the local government on participants' information seeking intentions through positive emotions was statistically significant, which means perceiving higher crisis predictability is positively associated with individuals' information seeking intentions when individuals experience positive emotions. This dissertation emphasizes the importance of crisis communication efforts that provide actionable guidance and relationship-building efforts that empower individuals to actively participate in the crisis recovery phase to preserve individual well-being and cultivate community resilience. Such a relational focus is likely to especially important in crisis communication efforts in collectivist cultures like China (Cheng, 2020).

Perceived Crisis Controllability (i.e., RQ8a to RQ8e). Aligning with previous communication research (Jin, 2010; Nabi et al., 2021), RQ8a's finding suggests that participants

who perceived higher controllability of floods were less likely to experience negative emotions about floods. As individuals perceive greater control by themselves, the local community, and the local government over the crisis, they feel more empowered and less overwhelmed (Jin, 2010), resulting in fewer negative emotions during the crisis recovery phase.

Differing from the existing literature that claims high perceived controllability has been found to associate with positive emotions (Kott & Limaye, 2016; Smith & Ellsworth, 1987), RQ8b's finding indicates that there was no statistically significant relationship found between perceived controllability of floods and participants' positive emotions about floods. In the post-crisis stage, individuals may be more focused on recovery and reconstruction efforts (Sellnow & Seeger, 2021) and more likely to experience positive emotions when they see progress in rebuilding efforts instead of when they feel in control. An alternative explanation may be that individuals in an Eastern culture may be less concerned about control than individuals in a Western culture, as reflected by prior research (Slingerland, 2000). For instance, the philosophical concept Wú Weí ér Zhì (the Chinese symbol:无为而治; non-doing or effortless) from Taoism suggests trusting in the natural flow of life and allowing things to unfold without undue effort or resistance (Kee et al., 2021). In the recovery phase of crises, by following the principle of non-doing, individuals may take a step back and assess the situation before taking action, possibly leading to more strategic responses and outcomes.

Divergent from previous crisis communication studies on perceived crisis controllability (e.g., Austin et al., 2021; Jin et al., 2020), RQ8c to RQ8e's findings show that there was no statistically significant relationship found between perceived controllability of floods and participants' information seeking intentions, passive protective action taking intentions, and active protective action taking intentions, indicating solely influencing individuals' perceived

crisis controllability is not sufficient to motivate individuals to take actions in the context of this dissertation. Individuals' actions are undeniably necessary for retaining their well-being in crises (Jin et al., 2016; Lim et al., 2019; Liu et al., 2019). Therefore, this dissertation suggests that crisis communication practitioners need to take a comprehensive approach, such as inform and persuade regarding ongoing efforts for remediation and reconstruction, as well as facilitate a broad, open-minded, and honest discussion and resolution of issues regarding cause, blame, responsibility, and action adequacy (Sellnow & Seeger, 2021). This would help to adapt to individuals' changing needs over time to effectively motivate individuals to take actions to retain their well-being in the post-crisis stage and prevent future crisis threats.

Perceived Crisis Responsibility (i.e., RQ9a to RQ9e). RQ9c's finding reveals that participants who perceive greater responsibilities for themselves, the local community, and the local government to control floods are more likely to have information-seeking intentions in the post-crisis stage, allowing individuals to gather the needed knowledge and resources to address the crisis and mitigate its consequences. RQ9e's finding presents that participants who perceived there is greater responsibility for themselves, the local community, and the local government to control floods are more likely to have active protective action-taking intentions in the post-crisis recovery phase, such as telling others to follow instructions from the local government during a disaster. Both RQ9c and RQ9e's findings are consistent with existing crisis communication and management research's claim that individuals' perceived crisis responsibility can motivate them to take necessary actions to recover from disasters (Heath et al., 2018) and contribute to their community's capacities to return normalcy (Henderson et al., 2020), showcasing that some existing crisis communication knowledge derived mostly from Western research can also apply to an Eastern context.

RQ9c and RQ9e's findings confirm the importance of emphasizing the role of individuals' and their families' coping efforts in managing a disaster's threats and damage (Donahue et al., 2014; Jin et al., 2021; Johnston et al., 2020). This dissertation further argues that individuals with a greater perceived self-responsibility to control a disaster may foster altruism from a desire to contribute to the collective good, motivating active protective actions to support their community and help others as others found in the context of infectious diseases (Wong & Yang, 2021).

RQ9c and RQ9e's findings also support existing crisis communication literature's claim that government emergency management agencies are responsible for safeguarding individuals' physical and psychological well-being, also facilitating individuals' adaptation to crises like disasters (Davvetas et al., 2021; Horsley et al., 2010; Liu et al., 2010; Liu & Levenshus, 2017; Liu et al., 2020a). This dissertation highlights the potential that a higher perceived responsibility for controlling a disaster by the local government and the community may indicate greater trust in these entities, driving individuals to follow guidelines, collaborate with their community and local government, and take active protective actions during the recovery phase of floods (Henderon et al., 2020). This dissertation calls for future crisis communication research to investigate how individuals' perceived crisis responsibility is associated with individuals' altruism tendencies and their relationships with the local community and local government, as well as the role of altruism tendencies and relationships with the local community and government in facilitating individuals' crisis coping and cultivating community resilience in the post-crisis stage.

RQ9a, RQ9b, and RQ9e's results show no statistically significant relationship between participants' perceived crisis responsibility and their negative emotions, positive emotions, and

active protective action taking intentions in the flood recovery phase, which are different from existing crisis communication studies that assess perceived crisis responsibility's influences on individuals' affective responses and preventative behavioral intentions in the context of infectious diseases (Austin et al., 2021; Jin et al., 2020). A potential explanation is that, in the context of infectious diseases, perceived crisis responsibility may have a stronger influence on affective responses and preventative behavioral intentions due to the immediate threat to public health and the importance of individual actions in mitigating the spread (Austin et al., 2021; Jin et al., 2020). In contrast, during the flood recovery phase examined in this dissertation, perceived crisis responsibility may not have the same impact on emotions and active protective action-taking intentions, as the focus is more on rebuilding and reconstruction efforts rather than immediate prevention (Rayamajhee et al., 2020). This discrepancy with the prior research points to the importance of continued crisis communication research on a variety of crises/disasters so as to further uncover universal crisis communication principles vs. those that only apply to certain hazards and certain cultural contexts.

Negative Emotions (i.e., RQ6a, RQ6c, and RQ6e). This dissertation's findings on negative emotions' influences on individuals' information seeking intentions, passive protective action taking intentions, and active protective action taking intentions differ from existing crisis communication and emergency management literature that focuses on the crisis stage and suggests that individuals who experienced more negative emotions are inclined to take actions (e.g., communicative and protective action-taking; Austin et al., 2023; Chen & Cong, 2022; Jin et al., 2012; Medd et al., 2014; Ogunbode et al., 2019). Specifically, RQ6c's finding reveals that participants who experienced more negative emotions about floods were less likely to have passive protective action-taking intentions in the post-crisis stage. RQ6a and RQ6e's findings

present that no statistically significant relationship was found between participants' experienced negative emotions and their intentions of seeking information and taking active protective actions in the crisis recovery phase. The differences between existing crisis communication literature's claims and this dissertation's findings on negative emotions can be elucidated through the lenses of individuals' emotional burnout (Sever et al., 2021) in the post-crisis stage.

This dissertation argues that the intensities of experienced negative emotions and negative emotions' influences on individuals' behavioral intentions may vary during the crisis and post-crisis stages. Specifically, individuals may experience heightened negative emotions given the immediate disrupts in the crisis stage (Kroencke et al., 2020), promoting communicative behavioral intentions (Meadows et al., 2019) and protective action taking intentions (Iglesias-Sánchez et al., 2020). For the post-crisis stage, individuals may experience moderately intense but sustained negative emotions (Pan et al., 2023), leading to emotional burnout and further resulting in decreases in individuals' cognitive capacities for information processing and behavioral intentions for taking protective measures. Emotional burnout is a state of emotional, physical, and mental exhaustion caused by prolonged and excessive stress, resulting in cognitive, emotional, and physical exhaustion, depersonalization, and reduced personal accomplishment (Shah et al., 2019). In brief, this dissertation argues that the experienced negative emotions in the post-crisis stage may not increase individuals' behavioral intentions, resulting in individuals' maladaptation, which is a prime area for future research.

As negative emotions and relevant influences on individuals' behavioral intentions may vary in different crisis stages, possibly causing individuals' maladaptation, this dissertation calls for longitudinal crisis communication research to assess the differences, better facilitating individuals to cope with detrimental crises like floods. Meanwhile, this dissertation suggests

future crisis communication research to examine the role of emotional burnout in individuals' coping and community resilience in different crisis contexts.

Positive Emotions (i.e., RQ6b, RQ6d, and RQ6f). RQ6b's finding shows that participants who experienced more positive emotions about floods were more likely to have information-seeking intentions, supporting existing crisis communication research (e.g., Jin et al., 2020) and psychology literature's findings (e.g., Fredrickson, 2013; Zhou et al., 2022) on positive emotions. According to Fredrickson's broaden-and-build theory (2001, 2013), positive emotions can increase individuals' cognitive flexibility. This dissertation claims that, in the context of post-flood recovery in China, individuals experiencing positive emotions may be more likely to explore a wide range of information sources, as their increased cognitive flexibility enables them to process different information to enhance their post-crisis recovery and preparation for future crises. This is another area ripe for future research to broaden the ICM model.

RQ6d and RQ6f findings diverge from existing crisis communication research on positive emotions (e.g., Jin et al., 2021) and show that no statistically significant relationship was found between individuals' experienced positive emotions and their passive protective action taking intentions and active protective action taking intentions, indicating that solely eliciting positive emotions might not be sufficient to increase participants' protective behavioral intentions in the context of crisis recovery. Further exploring influential factors that relate to individuals' affective experiences and promote individuals' protective behavioral intentions can better facilitate individuals' recovery in the post-crisis stage. The following dissertation section investigates how individuals' perceived support from their interpersonal networks, individuals'

tendencies to capture others' emotions, and individuals' identification with their local community influence their affective experiences and behavioral intentions.

Section 5.1.2 The Socially Functional Perspective of Individual Coping

Section 5.1.2 focuses on the socially functional perspective of individual coping. The following paragraphs illustrate the findings of how individuals' perceived social support, feature-driven emotional contagion, meaning-driven emotional contagion, and ingroup identification influence individuals' affective experiences of negative and positive emotions, information seeking intentions, passive protective action taking intentions, and active protective action taking intentions.

Perceived Social Support (i.e., RQ3a to RQ3e). In crisis communication research (e.g., Avery et al., 2021), perceived social support is a crucial but less examined resource for individuals' adaptation in the post-crisis stage. RQ3a's finding is consistent with existing crisis management research (Norris & Kaniasty, 1996; Yu et al., 2022; Zhang et al., 2022) by demonstrating a statistically significant negative relationship between individuals' perceived social support and their negative emotions about floods, indicating the importance of perceived social support in individuals' ability to adjust and cope with stress in a variety of cultural contexts. This dissertation argues that perceived social support can act as a buffer against the negative impact of stressors, helping individuals to cope with the emotional turmoil in crises like floods (Kaniasty & Norris, 2008) and COVID-19 (Sahay & Wei, 2022).

RQ3d's finding suggests that participants' perceived social support is positively associated with their passive protective action taking intentions. This dissertation provides three potential explanations: the decreased urgency of taking protective actions independently, the increased tendency to imitate others' coping strategies, and the shared responsibility of managing

crises in a collectivistic context. Like psychologists theorized (Arnold & Winkielman, 2020), this dissertation mentions the possibility that, when individuals perceive strong social support, they may be more inclined to imitate others' crisis coping strategies as passive protective action taking allows individuals to build on others' experiences and knowledge, enhancing their own adaptation in the post-crisis stage. Meanwhile, like crisis management research theorized (Kaniasty, 2020; Labrague, 2021), this dissertation also points out that, with higher perceived social support, individuals may feel less pressure to take immediate and independent action in the post-crisis stage as their social connections can provide the needed sources and support. Furthermore, this dissertation contends the possibility that individuals in a community with strong social support and a collectivistic cultural context, such as mainland China, may have a greater willingness to observe the actions of others and coordinate their own efforts, further contributing to a more cohesive community response to the crisis (Ejeta et al., 2016; Paton et al., 2010) as the emphasis in the group's interests and the reliance on relationships with others (Bedford et al., 2021; Huang et al., 2018).

RQ3b, RQ3c, and RQ3e's findings show participants who perceived higher levels of social support might not be more likely to experience positive emotions, have information seeking intentions, or intend to engage in active protective action-taking. For positive emotions, this dissertation mentions the possibility that individuals who perceive a high level of social support may already feel adequately protected, as perceived social support can be recognized as a coping strategy (Wang et al., 2020), reducing their need for positive emotions as means of coping. For information seeking intentions and active protective action taking intentions, this dissertation argues that individuals who perceived greater social support may have assumptions that others will address a crisis' negative consequences, weakening the direct relationships

between perceived social support and individuals' intentions of seeking information and taking active protective actions. Connecting with the previously mentioned findings about perceived crisis responsibility's positive relationships with individuals' individuals' information seeking intentions and active protective action taking intentions (i.e., RQ9c and RQ9e), this dissertation contends that crisis communication efforts that elicit individuals' recognition of their own responsibilities and perceived social support can enhance individuals' coping capacities and psychological well-being in crises.

Feature-Driven Emotional Contagion (i.e., RQ10a to RQ10e). RQ10a's finding implies that feature-driven emotional contagion in public emergencies has a statistically significant positive influence on participants' negative emotions about floods, aligning with the findings in existing crisis communication research (Gruda & Oio, 2022) and psychology literature (Barsade et al., 2018; Hatfield et al., 2014; Kane et al., 2023; Parkinson, 2020; Zhang et al., 2022) that examine how individuals' tendencies of unconsciously capturing others emotional expressions influence individuals' affective experiences.

RQ10d's results indicate feature-driven emotional contagion in public emergencies has a statistically significant positive influence on participants' passive protective action taking intentions. In other words, individuals who have higher tendencies of unconsciously capturing others' emotional expressions are more likely to follow the protective actions taken by others around them. RQ10d's finding supports psychological research on emotional contagion that feature-driven emotional contagion does not require cognitive effort from individuals; however, emotional contagion can influence individuals' cognitive and behavioral responses (e.g., Barsade et al. 2018; Grawitch et al., 2003; Jia & Cheng, 2021).

RQ10c and RQ10e's findings demonstrate that no statistically significant relationship between feature-driven emotional contagion in public emergencies and participants' information seeking intentions and active protective action taking intentions, implying that feature-driven emotional contagion can occur in the post-crisis stage, but the interpersonally shared emotions may not play a significant role in shaping individuals' intentions to gather information or engage in active protective measures. These non-statistically significant findings may have a positive aspect, as these findings imply individuals might rely more on rational decision-making processes rather than being overly influenced by individuals' unconscious tendencies to capture others' expressed emotions to determine whether to gather information or take protective actions.

Meaning-Driven Emotional Contagion (i.e., RQ10f to RQ10j). Compared to feature-driven emotional contagion, meaning-driven emotional contagion in public emergencies assesses participants' tendencies to capture and be influenced by their social surroundings based on their interpretation of others' emotional expressions. RQ10g's result shows that meaning-driven emotional contagion in public emergencies has a statistically significant positive influence on participants' positive emotions about floods. This dissertation explains that interpreting others' emotional expression to enhance individuals' understanding of the crisis (i.e., meaning-driven emotional contagion) can be categorized into meaning making (Park, 2016). This dissertation highlights the importance of individuals' tendencies to create meaning for negative life experiences like crises on individuals' coping in the post-crisis stage. Specifically, according to Lazarus' cognitive-motivational-relational theory (1991; also see the secondary appraisal in appraisal theory, Lazarus & Folkman, 1984), meaning-making is an important part of the appraisal process that contributes to individuals' emotional response to an event. Meaning making enables individuals to reframe negative events and identify positive aspects, resulting in

increased affective experiences of positive emotions and enhanced mental well-being (Lambert et al., 2012; Tugade et al., 2004). This dissertation is the first crisis communication research study that examines individuals' meaning-driven emotional contagion and their crisis responses in the context of post-crisis recovery, shedding light on future crisis communication research to examine the role of meaning making in preserving individuals' well-being in crises.

RQ10j's finding demonstrate that meaning-driven emotional contagion in public emergencies has a statistically significant positive influence on participants' active protective action taking intentions. In uncertain situations like crises, it is common for individuals to use others' emotional expressions as appraisal-related information to make sense of what is occurring (Parkinson, 2011; 2020). Both RQ10g and RQ10j's findings support the claims that others' emotional expression can act as social information to evaluate emotional events and influence subsequent emotional responses and behavioral intentions in the post-crisis stage (Parkinson, 2011, 2020; Parkinson & Manstead, 2015). Across the board, the findings about feature-driven and meaning-driven emotional contagion call for broadening the dominant emotions crisis communication theory, the ICM model, to include group-level emotions and not just the individual emotions features in the current model (Austin et al., 2023; Jin et al., 2012).

RQ10f, RQ10h, and RQ10i's findings show no statistically significant relationship between individuals' meaning-driven emotional contagion and negative emotions, information seeking intentions, and passive protective action taking intentions. The positive aspect of the non-statistically significant relationships is that individuals' tendencies to draw meanings from others' emotional expressions may not directly contribute to their negative emotions and intentions of observing others first before taking protective actions. Connecting with meaning-driven emotional contagion in public emergencies' positive relationships with individuals'

positive emotions and active protective action taking intentions (i.e., RQ10g and RQ10j), this dissertation suggests that, during the pre-crisis and post-crisis stages, crisis communication practitioners can implement programs to strengthen individuals' meaning-making tendencies to reduce individuals' distress and facilitate effective coping.

Ingroup Identification (i.e., RQ11a to RQ11e). Previous studies (e.g., Flanagin et al., 2014; Kaakinen et al., 2020) have found that individuals' ingroup identification was positively associated with their intentions of contributing to their group through communicative behaviors, but not in the disaster context. The same logic possibly explains RQ11c's finding that identification with the local community has a statistically significant positive influence on participants' information-seeking intentions in the disaster context of floods, as individuals gather accurate and timely information can help themselves and other group members make informed decisions during a disaster. Scholars also noted that individuals' ingroup identification could bias their evaluation of information; specifically, individuals tend to seek and trust the information from their ingroup members (e.g., Flanagin et al., 2014; Özer & Zheng, 2017). This dissertation argues that ingroup identifications and information seeking intentions can mutually reinforce and possibly strengthen the local community's cohesion, calling for more crisis communication research examining ingroup identification.

In the context of disasters, researchers found that individuals' shared identity elicited by disaster exposure (i.e., the "we-ness") was positively related to their intentions of following protective action instructions from government emergency management agents and offering support to ingroup members (Drury et al., 2016; Drury et al., 2019; Simi et al., 2022). RQ11d and RQ11e's findings show that identification with the local community has a statistically significant positive influence on participants' passive protective action taking intentions and

active protective action taking intentions. This dissertation contends that the shared disaster exposure may increase individuals' identifications with the local community and contribute to individuals' adoptions of protective measures. This finding may reflect the collectivistic cultural context of this study. Future research is necessary to expand this finding to other cultural contexts and other hazard types.

RQ11a and RQ11b's findings show that no statistically significant relationship between ingroup identification and participants' negative emotions and positive emotions in the post-crisis recovery phase, deviating from research on group-based emotions (e.g., Atwell Seate et al., 2018; Campo et al., 2019) and reflecting the importance of testing intergroup theory in the disaster context. Intergroup emotions theory (Mackie & Smith, 2018) suggests that group identification can play a significant role in shaping individuals' emotional responses to events. In this dissertation's context, the logic in intergroup emotions theory would suggest that individuals who identify strongly with their ingroup would experience more positive emotions and less negative emotions in the post-crisis recovery phase, as they draw on the support and solidarity of their group to cope with the aftermath of the disaster. The lack of statistically significant relationships between ingroup identification and participants' negative emotions and positive emotions may indicate other latent factors such as perceived response efficacy (i.e., RQ4a-4b) and perceived crisis predictability (i.e., RQ7a-7b) and are more influential in individuals' affective experiences in the post-crisis stage than ingroup identification.

Section 5.1.3 From Individual Coping to Community Resilience

Measuring how individuals' coping influences their community resilience is an important step in promoting effective disaster preparedness, response, and recovery efforts. Specifically, by identifying the coping strategies and resources that promote community resilience, recovery-

focused interventions for the post-crisis stage and prevention-focused programs for the pre-crisis stage can be developed to help individuals cope more effectively and build community resilience in the aftermath of disasters to mitigate future crisis threats. Section 5.1.3 presents how individuals' information seeking intentions, passive protective action taking intentions, and active protective action taking intentions influences individuals' perceived community resilience.

Behavioral Intentions and Perceived Community Resilience (i.e., RQ5a to RQ5c). RQ5a's finding presents that participants with higher information seeking intentions were more likely to perceive greater community resilience. Individuals who intend to actively seek out information may have a better understanding of their community's capabilities to withstand and recover from crises, leading to greater perceived community resilience, like Guo et al. (2020) found in the context of extreme storms. RQ5c's finding shows that participants with higher active protective action taking intentions were more likely to perceive greater community resilience. The positive relationship between the intention to actively take action and perceived community resilience delivers a simple notion that "because I intend to take protective measures, I feel my community is prepared," highlighting the possibility of promoting individuals' autonomy (i.e., individuals' abilities to make independent decisions or act in accordance to individuals' own beliefs; Lorenz-Spree et al., 2020) may increase a community's capacities to bounce back from adverse situations.

In contrast, RQ5b's finding indicates that no statistically significant relationship between individuals' passive protective action taking intentions and perceived community resilience. One potential explanation is that passively observing others' actions without actively taking protective measures or contributing to the community's recovery efforts, individuals may feel that they have less control over the situation and are less connected to the community, leading to a less positive

perception of community resilience, like Bokszczanin (2012) observed among teenagers in the aftermath of floods. Connecting with ingroup identification's relationships with individuals' information seeking intentions and active protective action taking intentions, this dissertation suggests that crisis communication and relationship building efforts should increase individuals' connections with others and the local community as well as empower individuals' proactive coping strategies such as information seeking and active protective action taking.

Conclusion. In conclusion, this dissertation explores how residents in flood-prone areas of south-central mainland China cope and cultivate community resilience in the post-crisis stage. As discussed in Section 5.1, the key findings emphasize individual coping mechanisms (e.g., perceptions, affective experiences, and behavioral intentions) as adaptive and socially functional, ultimately contributing to individuals' perceived community resilience. The following sections illustrate how this dissertation advances crisis communication research.

Section 5.2 Theoretical Implications

Individuals and their social groups are vital for implementing crisis communication and management practices (Cox & Perry, 2011). Comprehending individuals' coping mechanisms and their perceptions of their groups' adaptive capacities in the post-crisis stage is essential for enhancing crisis communication and management practices. This dissertation underscores the concept of learning from crises during the post-crisis stage (Huber, 1991; Moynihan, 2009; Renå & Christensen, 2018), contributing to the limited knowledge on post-crisis communication. The following paragraphs detail this dissertation's theoretical implications, including examining adaptive and socially functional perspectives of individuals' coping and their perceived community resilience in the post-crisis stage within a collectivistic and non-democratic context, with measurement instructions with high reliability scores.

Post-crisis Stage. The crisis event stage has attracted most crisis communication scholarly attention, with limited research examining the post-crisis stage (Liu & Viens, 2020). The post-crisis stage begins when uncertainty about crises subsides, and eventually, certain societal order or functioning is restored (Coombs, 2021; Reynolds & Seeger, 2005). Existing crisis communication research related to the post-crisis stage mostly focuses on advancing organizational management after crises (e.g., organizational learning; Larsson, 2010; Popper & Lipshitz, 2000; Sitkin et al., 2011; Veil & Sellnow, 2008) or organizational crisis responses within a limited time frame (e.g., the discourse of renewal; Du Plessis, 2018; Guo, 2017). How individuals cope in the post-crisis stage has been largely neglected. This dissertation provides valuable insights into how individuals can effectively cope with and bounce back from crises. This dissertation's findings can contribute to developing tailored crisis communication messaging and recovery-focused interventions that facilitate individuals to restore normalcy in the post-crisis stage.

Adaptive and Socially Functional Perspectives of Individuals' Coping. Crises are emotionally charged events (Jin et al., 2016). Emotions are adaptive because they are shaped by individuals' assessments of achieving specific goals in a given situation (i.e., appraisals; Folkman & Lazarus, 1988; Roseman & Smith, 2001) and can influence individuals' behavioral intentions, including information seeking and protective action taking (Austin et al., 2023; Guo, 2017; Jin et al., 2016; Jin et al., 2020; Jin et al., 2021). Emotions are socially functional because the significance of emotional events varies in accordance with the individual's interpersonal relationships, group identities, and sociocultural environments (Lazarus, 2006; Van Kleef, 2009). Meanwhile, experienced and expressed emotions can influence individuals' interactions and guide communities to meet shared goals (Frijda & Mesquita, 1994; Keltner & Haidt, 1999).

Existing crisis communication studies on emotions are primarily rooted in appraisal theory (Lazarus, 1991; Lazarus & Folkman, 1984) and have focused on how individuals' evaluations of crises influence their emotional and behavioral responses to the crisis at the pre-crisis and crisis stages (e.g., Brummette & Sisco, 2015; Jin et al., 2020; Jin et al., 2021; Lim et al., 2019; Liu et al., 2020b). Though obviously fruitful, the current crisis communication literature on emotions has largely neglected that crises and individuals' corresponding responses occur in a social system (Heath, 2018a, 2018b; Pulido, 2012). In other words, the potentially influential factors at the interpersonal, group, and cultural levels have been largely neglected.

Human beings are social animals that rely on interpersonal connections, and networks of relations include family, friends, colleagues, neighbors, and acquaintances (i.e., social groups; Basyouni & Parkinson, 2022; Hupe & Hill, 2007; Kilduff & Tsai, 2003; Kilduff & Krackhardt, 2008). This dissertation is the first known crisis communication research that examines crisis emotions at both the individual and group levels. The novel aspect of this dissertation is the analysis of how individuals' tendencies to capture others' emotions (i.e., emotional contagion in public emergencies) and their identification with the local community influence their emotional responses and subsequent behavioral intentions.

Emotional Contagion. For emotional contagion, this dissertation draws insights from two widely used psychology theories: the primitive emotional contagion theory (Barsade, 2002; Hatfield et al., 1993; Hatfield et al., 2014) and the social appraisal theory (Manstead & Fischer, 2001; Parkinson, 2011, 2020, 2021) and proposes two concepts to depict individuals' tendencies to unconsciously and consciously capture others' emotional expressions in public emergencies: feature-driven emotional contagion and meaning-driven emotional contagion. In this dissertation, both feature-driven emotional contagion and meaning-driven emotional contagion have

statistically significant relationships with individuals' affective experiences of emotions and behavioral intentions. This dissertation calls for expanding the dominant emotions crisis communication theory, the ICM model, to include group-level emotions and not just the individual emotions features in the current model (Austin et al., 2023; Jin et al., 2012).

This dissertation's feature-driven and meaning-driven emotional contagion in public emergencies demonstrate that not only crisis communication messages can be shared, individuals' affective experiences of emotions about crises can also be disseminated. However, this dissertation does not examine the process of how individuals synchronize their emotions with others in public emergencies (i.e., the social sharing of emotions or the process of emotional contagion; Cantisano et al., 2013; Van Kleef & Côte, 2022) or pertinent effects. To understand the social sharing of emotions or the process of emotional contagion, drawing insights from the social-mediated crisis communication model (Austin et al., 2012; Jin et al., 2011; Jin & Liu, 2010; Liu et al., 2011, 2013; Liu et al., 2019), a theoretical framework that explains the social sharing of crisis information, this dissertation suggests future research to examine how emotional contagion can be elicited by social information in different expressive modalities (e.g., facial expressions, voice variety, body language, and visual symbols like memes and emojis; Van Kleef & Côte, 2022), different forms (e.g., offline interpersonal communication and media platforms based on information technologies), and from different sources (e.g., community leaders, experts, family members, friends), as well as studying the influences of emotional contagion on individuals' coping and community resilience in different crisis stages.

The value of further examining emotional contagion is not limited to advancing crisis communication research on emotions. This dissertation advocates that, regarding emotional contagion's potential influences on individuals' cognitive, affective and behavioral responses

(Van Kleef & Côte, 2022), crisis communication scholars and practitioners can leverage emotional contagion's effects to promote individuals' collective efficacy (Ntontis et al., 2021) that increases individuals' collaborative tendencies for the group's interests, strengthen individuals' social bonds (i.e., individuals' connections with others in their social environment; Lecker et al., 2021) that possibly decrease maladaptation (Bzdok & Dunbar, 2020), and encouraging individuals' citizenship behaviors (i.e., actions that individuals engage in as members of a community; Chiu et al., 2015) like volunteering, donating, and advocating for social justices that contribute to social groups' interests.

Ingroup Identification. In terms of ingroup identification, a social group is comprised of more than two individuals, and the unit of a social group includes but is not limited to family, school, organizations, community, and countries (Dutton et al., 1994; Fuligni & Flook, 2005; Lantz & Loeb, 1996). Social groups are vital for individuals' adaptation to disasters (Prasad et al., 2019). Emotions that arise when individuals identify with a social group or groups can be defined as identity-based emotions (Campo et al., 2019; Tamminen et al., 2022).

In the context of public emergencies like floods, research has shown that pre-existing social boundaries, which manifest as objectified forms of social inequality in terms of unequal access to resources and opportunities (Lamont & Molnár, 2002), tend to dissolve. Consequently, affected individuals often experience a sense of unity or "we-ness" (e.g., Drury, 2018; Drury et al., 2021; Jencson, 2001; Kaniasty & Norris, 1999; Solnit, 2009; Vezzali et al., 2015). The we-ness refers to an emergent shared social identity, which may be caused by individuals' exposure to similar damage, threats, and challenges posed by disasters (Drury et al., 2016; Drury, 2018).

This dissertation focuses on residents in flood-prone areas of south-central mainland China and reveals that individuals' identification with their local community contributes to

individuals' information seeking intentions, passive protective action taking, and active protective action taking intentions. By assessing individuals' ingroup identification, this dissertation suggests the potential influence of collectivistic culture in shaping individuals' responses to crises. Future cross-cultural comparison research can investigate how cultural factors, such as collectivism or individualism (Bedford et al., 2021; Huang et al., 2016; Oliveira & Nisbett, 2017), interact with other factors to influence crisis communication processes and outcomes. This dissertation's finding on ingroup identification and individuals' coping strategies also informs future crisis communication research on crisis response strategies to examine messaging strategies that strengthen individuals' identification with their local communities, contributing to individuals' coping and community resilience.

Collectivistic and Non-democratic Context. Uncertainty elicits a need to comprehend threat, harm, and the control mechanisms that mitigate the negative impacts of crises (Liu et al., 2016). In this way, knowledge like crisis communication research can serve to manage uncertainty, but knowledge is culturally sensitive (Heath et al., 2021). Crisis communication scholars (e.g., Falkheimer & Heide, 2006; Manias-Muñoz et al., 2019) have continuously noted the vital role of cultural contexts in shaping individuals' and organizations' crisis responses, whereas most crisis communication research examines the Western context (Heath et al., 2021). Mainland China has attracted growing scholarly attention as one of the largest economies worldwide with a non-democratic and collectivist cultural context, a centralized authoritarian government, and a capitalistic economy, making it ideal for examining crisis communication theories' reliability and advancing practice beyond the Western realm (Cheng & Lee, 2019). This dissertation extends existing crisis communication theory beyond the Western sphere by investigating the role of crisis communication in transforming adverse circumstances into

developmental opportunities, such as cultivating community resilience in the crisis recovery phase.

Community Resilience. A community consists of a complex interplay of natural and sociocultural components (Norris et al., 2008), which can be defined as individuals who share a common fate in the crisis recovery phase of a non-democratic collectivistic culture. Community resilience is collective in nature and is defined as networked adaptive capacities that contribute to the functioning of society in the aftermath of disasters (Boin & McConnell, 2007; Kendra & Wachtendorf, 2007). Current crisis communication studies that have empirically examined community resilience have mainly used the communities advancing resilience toolkit (CART) assessment for survey items (Kim et al., 2023; Pfefferbaum et al., 2013; Pfefferbaum et al., 2015) and primarily focused on the relationship between individuals' communicative behaviors and their perceptions of community resilience, with around 21% of the variance in individuals' perceptions of community resilience explained (e.g., Houston et al., 2017; Spialek et al., 2016; Spialek & Houston, 2018). First, this dissertation tested the reliability of the CART assessment, a theoretical framework and measurement model, in an Eastern context. This cross-cultural validation encourages future research to explore community resilience in diverse cultural contexts.

More importantly, this dissertation advances crisis communication research on community resilience by increasing the explained variance of perceived community resilience to 65% through using individuals' information seeking intentions ($\beta = 0.26$, $p < 0.001$), passive protective action taking intentions (not statistically significant), and active protective action taking intentions ($\beta = 0.68$, $p < 0.001$) as the explanatory factors. This dissertation contends that crisis communication is essential for facilitating individuals' coping and cultivating community

resilience, but not the end. Crisis communication is even more essential for protecting individuals' physical and psychological well-being (Coombs, 2007). Instead of limiting explanatory factors to communicative actions, this dissertation suggests that examining individuals' different coping strategies as explanatory factors possibly leads to a more accurate and robust model to understand community resilience.

Measurements. High reliability scores for latent factors are an important indicator of measurements' accuracy and consistency (Raykov & Marcoulides, 2011). All latent factors in this dissertation have high reliability scores ranging from 0.90 to 0.98 (see Table 2), which ensures this dissertation's measurement instructions can be replicated and used by other researchers in different settings with different samples to advance knowledge and practice in the field of crisis communication.

Conclusion. To sum, section 5.2 illustrates this dissertation's theoretical implications, including examining individuals' coping in the post-crisis stage, extending existing crisis communication literature on emotion by integrating group-level factors (e.g., feature-driven emotional contagion, meaning-driven emotional contagion, and ingroup identification) and broadening previous crisis communication literature by studying a collectivistic and non-democratic context. This dissertation also advances crisis communication research on community resilience by increasing the explained variance of perceived community resilience, and paving the way for future crisis communication research by providing measurement instructions with high reliability scores. After illustrating this dissertation's theoretical implications and suggestions for future crisis communication research on emotions, the following section details this dissertation's practical implications.

Section 5.3 Practical Implications

Effective post-crisis communication can convert devastating disasters into forces for social changes because ongoing communication can advance crisis understanding; meanwhile, revised rules or procedures can mitigate negative consequences of crises and prevent future crises (Reynolds & Seeger, 2005). The subsequent paragraphs on this dissertation's practical implications begin with a discussion of the adaptive perspective's findings, then transition to the socially functional perspective's findings, and conclude with a discussion of how insights into behavioral intentions and community resilience can improve crisis communication practice.

The Adaptive Perspective of Individual Coping

Perceived Incurred Damage (i.e., RQ1a to RQ1e). Findings on perceived incurred damage indicate a concerning pattern among participants who perceived greater damage from the previous flooding season: These participants were more likely to experience negative emotions and less likely to engage in information seeking behaviors or take protective measures to recover from damage and prevent future threats during the crisis recovery phase. This dissertation highlights the importance of addressing incurred damage that hinders effective coping and community recovery. A community includes both individuals and organizations (Hallaham, 2004). Accordingly, crisis communication professionals should work with relevant stakeholders, such as government agencies and grassroots organizations, to ensure that vulnerable populations can access and are aware of necessary resources and services in different crisis stages.

Perceived Resource Constraints (i.e., RQ2a to RQ2e). This dissertation reveals that perceived resource constraints can strain individuals' psychological well-being by influencing individuals' emotions and lead to a preference for a passive protective approach, such as referring to how individuals' friends are responding before deciding to follow instructions from the local government during a disaster. Considering the inclination to observe others' actions,

which aligns with China's collectivistic culture (Bedford et al., 2021; Huang et al., 2016; Oyserman et al., 2002), this dissertation posits that crisis messages in mainland China may benefit from highlighting group-level protective actions alongside individual-level actions, and foster collective efficacy (i.e., the conviction that a group can collaborate to achieve a shared objective; Ntontis et al., 2014; Yu et al., 2022). This approach aims to motivate individuals to cooperate in tackling large-scale crises' negative consequences, which should be tested in future messaging research.

Perceived Response Efficacy (i.e., RQ4a to RQ4e). This dissertation shows that there is no statistically significant relationship between perceived response efficacy and individuals' information seeking intentions, passive protective action taking intentions, and active protective action taking intentions. Previous research conducted in the U.S. has argued that there is a "window of opportunity" to prepare for the next crisis immediately after a crisis occurs (Liu et al., 2014; Liu et al., 2022). It may be that, in the non-Western context of China, time has a different meaning, as reflected in the short-term vs. long-term orientation distinction found between Western (short-term) and Eastern (long-term) cultures (Hofstede & Minkov, 2010; Huang & Crotts, 2019). This dissertation suggests that to better understand the unique needs and preferences of diverse populations, crisis communication practitioners should collaborate with local communities, researchers, and experts in various cultural contexts to generate valuable insights for developing effective and culturally sensitive crisis communication strategies.

Perceived Crisis Predictability (i.e., RQ7a to RQ7e). Noteworthy, the only statistically significant indirect effect in this dissertation is the specific indirect effect of perceived crisis predictability on participants' information seeking intentions through positive emotions. Accordingly, this dissertation suggests that crisis communication professionals may incorporate

positive emotions, when appropriate, into their messages to increase individuals' information-seeking intentions, which can be accomplished by emphasizing the community's strengths, providing examples of effective crisis management, or conveying empathy and support.

Perceived Crisis Controllability (i.e., RQ8a to RQ8e). This dissertation presents that there is no statistically significant relationship between perceived crisis controllability and individuals' negative emotions, information seeking intentions, passive protective action taking intentions, and active protective action taking intentions. Individuals in an Eastern culture may be less concerned about control than individuals in a Western culture (Slingerland, 2000). In Eastern cultures, which hold the belief that excessive effort and action possibly disrupt the natural balance of things and lead to negative consequences (Kee et al., 2021), crisis communication practitioners should consider emphasizing patience, reflection, and assessment before taking action, which may resonate with the target audience and encourage more strategic responses in the post-crisis stage. This messaging suggestion is ripe for future research.

Perceived Crisis Responsibility (i.e., RQ9a to RQ9e). For perceived crisis responsibility, this dissertation highlights the possibility that a higher perception of local government and community responsibility for disaster control may indicate greater trust in these entities, thereby motivating individuals to adhere to guidelines, collaborate with their community and local government, and take active protective measures during a disaster recovery phase. (Henderon et al., 2020). Past research finds that crisis communication practitioners enhance the trustworthiness of local government and local community by promoting transparency and accountability through open communication, including sharing timely and accurate information, addressing concerns, and acknowledging mistakes or shortcomings (Sellnow & Seeger, 2021). Furthermore, this dissertation suggests that crisis communicators can design messages that

emphasize the role of individuals and groups in disaster recovery efforts, fostering a sense of collective responsibility in managing crises' threats and negative consequences and ultimately resulting in individuals' active engagement in protective measures.

Negative Emotions (i.e., RQ6a, RQ6c, and RQ6e). This dissertation reveals that, in the post-crisis stage, individuals may experience moderately intense but sustained negative emotions; other research (Pan et al., 2023) suggests that this may lead to emotional burnout and further result in decreases in individuals' cognitive capacities for information processing and behavioral intentions for taking protective measures. This dissertation supports the process approach to crisis communication (Seeger, 2006; Liu et al., 2021) where crisis communicators should regularly evaluate the effectiveness of their communication strategies and interventions, making necessary adjustments to better support vulnerable populations during disasters, as continuous improvement can help individuals develop more effective approaches to enhancing community resilience and promoting adaptive coping behaviors in the face of adversity.

Positive Emotions (i.e., RQ6b, RQ6d, and RQ6f). This dissertation shows that individuals' positive emotions positively associate with their information seeking intentions. Crisis communicators should consider communicating with individuals by encouraging questions and feedback, which likely helps to build trust, increase individuals' positive emotions, and obtain valuable insight into the community's needs, in line with the dialogic approach to public relations (Ao & Huang, 2020; Johnston et al., 2020) and crisis management, which admittedly is more challenging to apply in non-democratic contexts like China (Hung-Baesecke & Chen, 2020). In the meantime, the repertoire between information seeking intentions and positive emotions may contribute to individuals' coping in the post-crisis stage by improving individuals' psychological well-being.

The Socially Functional Perspective of Individual Coping

Perceived Social Support (i.e., RQ3a to RQ3e). This dissertation presents that individuals' perceived social support can contribute to their passive protective action taking intentions and decrease individuals' negative emotions. Recognizing that individuals may look to their friends for cues on how to respond during a disaster, crisis communicators should capitalize on this social influence by engaging influential community members in crisis communication efforts, such as involving community leaders to disseminate important information and promote protective measures.

Feature-Driven Emotional Contagion (i.e., RQ10a to RQ10e). In this dissertation, feature-driven emotional contagion accesses individuals' tendencies to unconsciously capture others' emotional expressions and has statistically significant positive relationships with individuals' negative emotions about floods and their passive protective action taking intentions. In the context of career development, psychologists (e.g., Petitta & Jiang, 2020) found negative emotional contagion exacerbates individuals' insecurity and emotional burnout. Focusing on negative emotions, to decrease individuals' maladaptation in crises, this dissertation suggests that understanding the dynamics of feature-driven emotional contagion can help crisis communicators to identify populations that may be more susceptible to the negative emotions associated with public emergencies, developing targeted interventions and support systems to improve vulnerable groups' psychological well-being in crises.

Meaning-Driven Emotional Contagion (i.e., RQ10f to RQ10j). Compared to feature-driven emotional contagion, meaning-driven emotional contagion assesses participants' tendencies to capture and be influenced by their social surroundings based on their interpretation of others' emotional expressions. This dissertation finds that meaning-driven emotional

contagion in public emergencies has statistically significant positive relationships with individuals' positive emotions and active protective action taking intentions. Based on the findings, crisis communication practitioners can encourage individuals to find meaning in their experiences, which may involve offering opportunities for reflection and sharing personal narratives. Also, understanding the mechanism of meaning-driven emotional contagion can help individuals better understand and interpret the emotional expressions of others in a crisis, which can be achieved through active listening and validating emotions (Schoofs et al., 2022). By helping individuals create meaning from negative life experiences, individuals may be better equipped to cope in the post-crisis stage.

Ingroup Identification (i.e., RQ11a to RQ11e). This dissertation finds that ingroup identification has positive relationships with individuals' information seeking intentions, passive protective action taking intentions, and active protective action taking intentions. In light of ingroup identification's influences on individuals' behavioral intentions in the crisis recovery phase, crisis communicators should employ message strategies that emphasize shared values and goals within the community (e.g., the discourse of renewal; Du Plessis, 2018; Seeger & Ulmer, 2002; Xu, 2018), strengthening ingroup identification and encourage individuals to actively engage in proactive coping strategies like seeking information and taking protective measures.

From Individual Coping to Community Resilience

Behavioral Intentions and Perceived Community Resilience (i.e., RQ5a to RQ5c). This dissertation reveals that individuals' information seeking intentions and active protective action taking intentions contribute to individuals' perceived community resilience. Given the importance of individuals' proactive coping strategies in cultivating community resilience, crisis communicators need to provide easy access to relevant, accurate, and timely

information that can help individuals better understand their community's capabilities, leading to individuals' active engagement in protective measures and greater perceived community resilience. Also, crisis communication practitioners should consider offering training, resources, and support to enable community members to actively engage in protective actions during a crisis, which helps increase individuals' autonomy and contribute to greater perceived community resilience.

Conclusion. In conclusion, this dissertation provides insights for crisis communication to understand the complex mechanism of individuals' coping and community resilience in a collectivistic and non-democratic context. Ultimately, the dissertation's findings help crisis communicators craft culturally sensitive messaging and recovery-focused intervention programs that address vulnerable groups' needs and enhance the community's overall capacities to bounce forward after crises. However, all research has limitations. The following dissertation section focuses on this dissertation's limitations.

Section 5.4 Limitations

This dissertation's limitations mainly focus on three aspects: data collection, sampling, and measurement instructions.

Data Collection. This dissertation relies on survey data to examine causal relationships. Though most relationships included in this dissertation's proposed model are based on well-established theories (e.g., appraisal theory, Lazarus, 1991; the social identity approach, Tajfel & Turner, 1979, 1986), and previous crisis communication research (e.g., Austin et al., 2021; Jin, 2009; Jin et al., 2020; Jin et al., 2021) that uses rigorous experimental designs, this dissertation acknowledges this limitation. Future crisis communication research should use experimental

designs to validate the proposed relationships in this dissertation and test the crisis communication messages recommended in the prior section.

Sampling. This dissertation's sample focuses on a single community, potentially limiting the generalizability of findings. Focusing on one community may not capture the diverse experiences and perspectives that may be found in other communities with differing social, economic, and cultural contexts. Future research should expand the scope of investigation by and examining how multiple communities, as well as communities in different cultural and geographical contexts, respond to different crises in varied stages. Meanwhile, incorporating comparative analyses (e.g., multiple-sample structural equation modeling, Kline, 2015) between communities can offer valuable insights into how different contexts may shape individuals' responses and perceptions during a crisis, ultimately contributing to the development of more effective and culturally sensitive crisis communication strategies.

Also, though this dissertation takes a systematic cluster sampling approach (Singleton & Straits, 2017) to ensure a representative sample from the community, this dissertation's sample does not mirror the targeted population. Specifically, young adults, defined as those aged 18 to 25, constitute only 3.1% (n = 31) of the sample, while middle-aged adults, aged 26 to 64, constitute the vast majority at 92.4% (n = 924). The remaining 4.5% (n = 45) of participants are senior adults aged 65 and above. Furthermore, most participants (n = 918, 91.8%) reported having children, while a small proportion (n = 82, 8.2%) reported not having any children. To obtain a sample that accurately reflects the population, future crisis communication research can adopt alternative sampling techniques (e.g., stratified random sampling; Singleton & Straits, 2017).

Measurement instructions. For measurement instructions, although this study thoroughly assesses individuals' appraisal of the crisis in the recovery phase, more tailored measurements focusing on rebuilding and reconstruction during the crisis recovery phase are needed to better capture the nuances of individuals' coping strategies at different stages.

Second, this dissertation's examination of crisis communication is limited to individuals' information seeking intentions through various channels to decrease participants' fatigue in completing the long survey. Future research should explore communicative behavioral intentions beyond information seeking, such as information sharing intentions (Austin et al., 2023). Meanwhile, this dissertation suggests that future research should measure individuals' actual communicative and protective behaviors alongside relevant intentions, so researchers can better understand the mechanisms underlying the translation of intentions into action and facilitate individuals to take the needed actions in crises to protect individuals' well-being. Furthermore, psychology research (e.g., Nguyen et al., 2022; van Hooft et al., 2005) has shown that there can be a gap between intentions and actual behaviors, with individuals not always acting according to their stated intentions. Also, when measuring behavioral intentions alone, participants' responses may be subject to social desirability bias (Fisher, 1993; Kwak et al., 2019), where individuals report more socially acceptable intentions rather than reflecting their true intentions. Measuring actual behaviors can provide a more objective assessment of individuals' actions, mitigating the impact of this bias on research findings.

Third, this dissertation highlights the importance of individuals' interpersonal interactions in crises but does not examine individuals' interpersonal communication content. Interpersonal communication, especially the content in which individuals communicate, is vital for individuals' coping and community resilience (Houston, 2018; Liu & Levenshus, 2023).

Therefore, this dissertation notes that future research should examine the role of individuals' interpersonal communication content (e.g., the sharing of personal experiences, beliefs, attitudes, and feedback; Berger & Calabrese, 1974; Chen et al., 2023; Wang & Noe, 2010) within their social networks. This dissertation further contends that crisis communication scholars should consider adopting qualitative research methods (e.g., interviews, focus groups, and ethnography) to obtain a more nuanced understanding of individuals' interpersonal interactions and other behaviors in the post-crisis stage.

Conclusion. This dissertation's limitations center around the usage of survey data for causal relationships, the representative but limited sampling, and the measurement instructions. These limitations present opportunities for future crisis communication research to explore and refine the theoretical frameworks discussed in this dissertation from the research method aspect.

Section 5.5 Conclusion

In summary, this dissertation emphasizes the notion of learning from crises in the post-crisis stage (Huber, 1991; Moynihan, 2009; Renå & Christensen, 2018) and contributes to the limited knowledge on post-crisis communication by examining how residents in flood-prone areas of south-central mainland China cope and cultivate community resilience in the crisis recovery phase.

From the aspect of advancing crisis communication research, this dissertation extends existing crisis communication literature on emotions by integrating group-level factors (e.g., feature-driven emotional contagion, meaning-driven emotional contagion, and ingroup identification), broadening previous crisis communication literature by studying a collectivistic and non-democratic context. This dissertation also advances crisis communication research on community resilience by increasing the explained variance of perceived community resilience

and paving the way for future crisis communication research by providing measurement instructions with high-reliability scores. From the aspect of enhancing crisis communication practice, this dissertation provides insights for crisis communicators to understand the complex mechanism of individuals' coping and community resilience in a collectivistic and non-democratic context. Through this dissertation, the author aims to tell a simple story. Every cloud has a silver lining, and adversity bears the seeds of resilience as emotional turbulence transforms into forces contributing to individuals' and communities' capacities to bounce forward from damage and triumph over future challenges.

Appendices

Appendix A

This study examines how residents of the Lukou District respond to floods. You will be asked a series of questions about your experiences with floods, such as heavy rains and waterlogging. The study takes approximately 30 minutes to complete. You can skip any question you prefer not to answer. Findings will help your community prepare for future floods as well as contribute to academic research and theory-building about disasters.

Perceived Incurred Damage (RQ1)

Think about your experiences during the last or current flood season in your community. Please rate from 1 to 7, indicating how much you agree or disagree with the following statements. For instance, use 1 when you strongly disagree and use 7 when you strongly agree. You can use 999 if a statement is not applicable to your situation.

On a 7-point Likert scale (1 = "strongly disagree", 2 = "disagree", 3 = "somewhat disagree", 4 = "neither agree nor disagree", 5 = "somewhat agree", 6 = "agree", 7 = "strongly agree"; 999 = "not applicable").

1. Floods damaged your house (q1).
2. Floods damaged your vehicle (q2).
3. Floods caused sickness or death of your livestock (e.g., chicken, duck, goat, pig) (q3).
4. Floods damaged your planted crops (e.g., rice, fruits, and vegetables) (q4).
5. Floods inhibited you from obtaining essential items for your livelihood (e.g., food, clothing, shelter) (q5).

6. Floods caused prolonged disruption of your daily life (e.g., work and other daily activities) (q6).
7. Floods have negatively affected your health or personal safety (q7).
8. Floods have negatively affected your immediate family members' (e.g., parents, siblings, children) health or personal safety (q8).
9. Floods have negatively affected your friends, neighbors, or colleagues' health or personal safety (q9).
10. Floods have damaged public resources (e.g., roads) in your community (q10).
11. Floods have increased floating garbage in your community (q11).
12. Floods have caused an increase in mosquitoes, flies, rats, cockroaches, and other hazardous species in your community (q12).

Perceived Resource Constraint (RQ2)

Think about the potential costs of disasters, such as flash floods, river floods, ice disasters, or wildfires. **Costs can be emotional, your time, or financial, such as purchasing insurance for disasters.** Please rate from 1 to 7, indicating how much you agree or disagree with the following statements. For instance, use 1 when you strongly disagree and use 7 when you strongly agree. You can use 999 if a statement is not applicable to your situation.

On a 7-point Likert scale (1 = "strongly disagree", 2 = "disagree", 3 = "somewhat disagree", 4 = "neither agree nor disagree", 5 = "somewhat agree", 6 = "agree", 7 = "strongly agree"; 999 = "not applicable").

1. The cost of purchasing family property insurance makes it difficult for me to take action (q13).

2. The cost of purchasing personal accident insurance makes it difficult for me to take action (q14).
3. The cost of purchasing insurance for crops and/or livestock makes it difficult for me to take action (q15).
4. The cost of creating a family emergency plan (e.g., a checklist that tells people what to do after floods) makes it difficult for me to take action (q16).
5. The cost of forming a tacit agreement with near neighbors to help each other during a disaster makes it difficult for me to take action (q17).
6. The cost of seeking help after a disaster from the local government makes it difficult for me to take action (q18).

Perceived Response Efficacy (RQ4)

Think about actions you can take to respond to disasters, such as flash floods, river floods, ice disasters, wildfires. Please rate from 1 to 7, indicating how much you agree or disagree with the following statements. For instance, use 1 when you strongly disagree and use 7 when you strongly agree. You can use 999 if a statement is not applicable to your situation.

On a 7-point Likert scale (1 = "strongly disagree", 2 = "disagree", 3 = "somewhat disagree", 4 = "neither agree nor disagree", 5 = "somewhat agree", 6 = "agree", 7 = "strongly agree"; 999 = "not applicable").

1. Purchasing family property insurance is useful for me to protect my possessions (q19).
2. Purchasing personal accident insurance is useful for me to recover from disaster damage (q20).
3. Purchasing insurance for crops and/or livestock is useful for me to protect my possessions (q21).

4. Creating a family emergency plan (e.g., a checklist that tells people what to do after floods) is useful for me to recover from disaster damage (q22).
5. Forming a tacit agreement with near neighbors to help each other is useful for me to recover from disaster damage (q23).
6. Seeking help from the local government is useful for me to recover from disaster damage (q24).

Perceived Social Support (RQ3)

Think about social support. Please rate from 1 to 7, indicating how much you agree or disagree with the following statements. For instance, use 1 when you strongly disagree and use 7 when you strongly agree.

On a 7-point Likert scale (1 = "strongly disagree", 2 = "disagree", 3 = "somewhat disagree", 4 = "neither agree nor disagree", 5 = "somewhat agree", 6 = "agree", 7 = "strongly agree").

1. I receive a lot of social support and security from others (q25).
2. There is someone very close to me whose help I can always count on (q26).
3. If I need to, I can borrow something from friends or neighbors without any problems (q27).
4. When I am sick, I can ask friends/relatives to handle important things for me without hesitation (q28).
5. If I'm very depressed, I know whom I can turn to (q29).

Emotions (RQ6)

Think about your experiences during the last or current flood season in your community. Please rate from 1 to 7, indicating **the extent to which the described emotions**

about floods align with your experiences. For instance, 1 represents “not at all” and can be used if you did not experience the described emotion; 7 represents “extremely” and can be used if you experienced the described emotion frequently or intensely.

On a 7-point Likert scale (1 = “not at all”, 2 = “very little”, 3 = “little”, 4 = “somewhat”, 5 = “much”, 6 = “very much”, 7 = “extremely”).

1. Disgust (q30)
2. Anxious (q31)
3. Angry (q32)
4. Sad (q33)
5. Fearful (q34)
6. Sympathy (q35)
7. Grateful (q36)
8. Hopeful (q37)
9. Pride (q38)
10. Loving (q39)

Perceived Crisis Predictability (RQ7)

Please indicate the extent to which you perceive floods as predictable by **a**nswering the following questions. For instance, use 1 if you perceive floods are not predictable at all, and use 7 if you perceive floods are predictable to a considerable extent.

On a 7-point Likert scale (1 = “not at all”, 2 = “very little”, 3 = “little”, 4 = “somewhat”, 5 = “much”, 6 = “very much”, 7 = “extremely”).

1. To what extent do you feel **you** can predict floods (q40)?
2. To what extent do you feel **your local community** can predict floods (q41)?

3. To what extent do you feel **the local government** can predict floods (q42)?

Perceived Crisis Controllability (RQ8)

Please indicate the extent to which you perceive floods as controllable by answering the following questions. For instance, use 1 if you perceive floods are not controllable at all, and use 7 if you perceive floods are controllable to a considerable extent.

On a 7-point Likert scale (1 = “not at all”, 2 = “very little”, 3 = “little”, 4 = “somewhat”, 5 = “much”, 6 = “very much”, 7 = “extremely”).

1. To what extent do you feel **you** have control over floods (q43)?
2. To what extent do you feel **your local community** has control over floods (q44)?
3. To what extent do you feel **the local government** has control over floods (q45)?

Perceived Crisis Responsibility (RQ9)

Think about the responsibility for controlling floods. Please rate from 1 to 7 to indicate how much you agree or disagree with the following statements. For instance, use 1 when you strongly disagree and use 7 when you strongly agree.

On a 7-point Likert scale (1 = "strongly disagree”, 2 = “disagree”, 3 = “somewhat disagree”, 4 = “neither agree nor disagree”, 5 = “somewhat agree”, 6 = “agree”, 7 = “strongly agree”).

1. I believe that **I** should do more to control floods (q46).
2. I believe that the **local community** should do more to control floods (q47).
3. I believe that **the local government** should do more to control floods (q48).

Susceptibility to Emotional Contagion in Public Emergencies (RQ10)

Think about how you generally respond to disasters, such as flash floods, river floods, ice disasters, wildfires. Please rate from 1 to 7 to indicate how much you agree or

disagree with the following statements. For instance, use 1 when you strongly disagree and use 7 when you strongly agree.

On a 7-point Likert scale (1 = "strongly disagree", 2 = "disagree", 3 = "somewhat disagree", 4 = "neither agree nor disagree", 5 = "somewhat agree", 6 = "agree", 7 = "strongly agree").

1. When a disaster happens, I panic if others around me panic (q49).
2. I become anxious if others around me become angry (q50).
3. I become nervous if others around me become nervous (q51).
4. I get filled with sorrow when I hear that someone died from a disaster (q52).
5. I feel warm-hearted or warm within when someone supports and consoles me after a disaster (q53).
6. I feel happy when I see people cheering because disaster survivors are rescued (q54).
7. It shocks me to be around a panic-stricken crowd fleeing in a public space (q55).
8. Watching the angry faces of disaster survivors on the news makes me exasperated (q56).
9. I am taken aback by street brawls (q57).
10. I tense when overhearing an angry quarrel (q58).
11. I would be shocked by a panic-stricken crowd pushing through an emergency exit (q59).
12. If a victim of a disaster begins to cry, I feel sad and get teary-eyed (q60).
13. The sad scenes in a video about a disaster will make me cry (q61).
14. Listening to the shrill screams of a terrified child in a public space makes me feel nervous (q62).
15. I would be very happy if rescuers show up in a disaster (q63).

Ingroup Identification (RQ11)

Please indicate the extent to which you identify with your local community by answering the following questions. For instance, 1 represents “not at all” and can be used if you have no sense of belonging to the local community; 7 represents “extremely” and can be used if you have a strong sense of belonging to the local community.

On a 7-point Likert scale (1 = “not at all”, 2 = “very little”, 3 = “little”, 4 = “somewhat”, 5 = “much”, 6 = “very much”, 7 = “extremely”).

1. How strong a sense of belonging do you have with your local community (q64)?
2. How similar do you feel to your local community as a whole in terms of general attitudes and beliefs (q65)?
3. How closely knit are you with others in your local community (q66)?
4. How included do you feel by others in your local community (q67)?
5. How much do you identify with other members of your local community (q68)?
6. How strong are your ties to other members of your local community (q69)?

Perceived Community Resilience (CART; RQ5)

Think about how your local community adapts to disasters, such as flash floods, river floods, ice disasters, wildfires. Please rate from 1 to 7 to indicate how much you agree or disagree with the following statements. For instance, use 1 when you strongly disagree and use 7 when you strongly agree.

On a 7-point Likert scale (1 = "strongly disagree”, 2 = “disagree”, 3 = “somewhat disagree”, 4 = “neither agree nor disagree”, 5 = “somewhat agree”, 6 = “agree”, 7 = “strongly agree”).

Connection and Caring:

1. People in my local community feel like they belong to the community (q70).

2. People in my local community are committed to the community's well-being (q71).
3. People in my local community have hope about the future (q72).
4. People in my local community help each other (q73).
5. My local community treats people fairly no matter what their background is (q74).

Resources:

6. My local community supports programs for children and families (q75).
7. My local community has the resources it needs to take care of community problems (resources include, for example, money, information, technology, tools, raw materials, and services) (q76).
8. My local community has effective leaders (q77).
9. People in my local community are able to get the services they need (q78).
10. People in my local community know where to go to get things done (q79).

Transformative Potential:

11. My local community works with organizations and agencies outside the community to get things done (q80).
12. People in my local community communicate with leaders who can help improve the community (q81).
13. People in my local community work together to improve the community (q82).
14. My local community looks at its successes and failures so it can learn from the past (q83).
15. My local community develops skills and finds resources to solve its problems and reach its goals (q84).
16. My local community has priorities and sets goals for the future (q85).

Disaster Management:

17. My local community tries to prevent disasters (q86).
18. My local community actively prepares for future disasters (q87).
19. My local community can provide emergency services during a disaster (q88).
20. My local community has services and programs to help people after a disaster (q89).

Information and Communication:

21. My local community keeps people informed (for example, via television, radio, newspaper, Internet, phone, neighbors) about issues that are relevant to them (q90).
22. If a disaster occurs, my local community provides information about what to do (q91).
23. I get information/communication through my local community to help with my home and work life (q92).
24. People in my local community trust public officials (q93).

Taking Protective Actions (Conative Coping):

Think about actions you can take to respond to floods. Please rate from 1 to 7 to indicate how much you agree or disagree with the following statements. For instance, use 1 when you strongly disagree and use 7 when you strongly agree.

On a 7-point Likert scale (1 = "strongly disagree", 2 = "disagree", 3 = "somewhat disagree", 4 = "neither agree nor disagree", 5 = "somewhat agree", 6 = "agree", 7 = "strongly agree").

Passive Behavioral Intention:

1. **I would see how my friends are responding** before deciding to follow any instruction from the local government during a flood (q94).

2. **I would see how my family is responding** before deciding to follow any instruction from the local government during a flood (q95).
3. **I would read posts and comments on social media sites I follow and see how other social media users respond** before deciding to follow any instructions from the local government during a flood (q96).
4. **I would read through news stories by mainstream media** before deciding to follow any instructions from the local government during a flood (q97).

Active Behavioral Intention:

5. I would follow instructions from the local government step by step during a flood (q98).
6. I would tell others to follow instructions from the local government during a flood (q99).
7. I would listen for more information from the local government during a flood (q100).
8. If there were instructions on protecting myself, I would follow the instructions during a flood (q101).
9. If there were instructions on protecting well-being and property, I would recommend that my friends and family members follow the instructions during a flood (q102).

Information Seeking Intention

Think about how you look for information when recovering from a flood. Please rate from 1 to 7 to indicate how much you agree or disagree with the following statements. For instance, use 1 when you strongly disagree and use 7 when you strongly agree.

On a 7-point Likert scale (1 = "strongly disagree", 2 = "disagree", 3 = "somewhat disagree", 4 = "neither agree nor disagree", 5 = "somewhat agree", 6 = "agree", 7 = "strongly agree").

<u>I would look for more information from</u>

1. “village sound” broadcasting (q103).
2. The governmental hotline: “12345” (q104).
3. the text message sent by the local government (q105).
4. WeChat groups formed by individuals in my local community (q106).
5. Weibo (q107).
6. Douyin (i.e., TikTok) (q108).
7. weather apps on my cell phone (q109).
8. news apps on my cell phone (e.g., Toutiao) (q110).
9. newspapers (q111).
10. TV news from CCTV (q112).
11. TV news from local news stations (q113).

Socio-demographic (e.g., sex, age, income level, parental status, education, sources for economic income)

1. **Age:** What is your age? (Please fill in the answer).
2. **Sex:** What is your sex? Male Female Other
3. **Parental status:**
    a. Do you have children? Yes No
    b. If yes, how many?
4. **Income:** What is the combined annual income of your family members living together, meaning the total pre-tax income from all sources earned in the past year?

    ¥0 to ¥9,999

    ¥10,000 to ¥14,999

    ¥15,000 to ¥19,999

¥20,000 to ¥34,999

¥35,000 to ¥49,999

¥50,000 to ¥74,999

¥75,000 to ¥99,999

¥100,000 to ¥199,999

¥200,000 or more

5. **Education:** What's your highest level of education?

No formal education

Primary school education

Middle school diploma

High school diploma

Vocational training

College degree

Advanced degrees (e.g., Bachelor's degree, Master's degree, Doctor's degree).

Table 2

Latent Factors' Loadings and Reliabilities

	Items	Standardized Estimate	Standard error	Est./S.E.	P-value
Perceived Incurred Damage	q1	0.77	0.03	31.17	p < 0.001
Cronbach's alpha= 0.98	q2	0.78	0.03	30.74	p < 0.001
Coefficient H= 0.98	q3	0.85	0.02	47.67	p < 0.001
	q4	0.85	0.02	45.59	p < 0.001
	q5	0.92	0.01	67.51	p < 0.001
	q6	0.96	0.01	138.36	p < 0.001
	q7	0.92	0.01	88.67	p < 0.001
	q8	0.92	0.01	91.96	p < 0.001
	q9	0.92	0.01	95.40	p < 0.001
	q10	0.92	0.01	73.96	p < 0.001

	q11	0.89	0.01	70.55	p < 0.001
	q12	0.87	0.01	64.93	p < 0.001
Perceived Resource Constraint	q13	0.87	0.02	45.46	p < 0.001
Cronbach's alpha= 0.95	q14	0.93	0.01	84.45	p < 0.001
Coefficient H= 0.96	q15	0.93	0.01	82.12	p < 0.001
	q16	0.90	0.02	59.11	p < 0.001
	q17	0.79	0.02	38.52	p < 0.001
	q18	0.78	0.02	36.82	p < 0.001
Perceived Response Efficacy	q19	0.85	0.02	42.00	p < 0.001
Cronbach's alpha= 0.97	q20	0.91	0.02	59.89	p < 0.001
Coefficient H= 0.97	q21	0.88	0.02	57.68	p < 0.001
	q22	0.94	0.01	90.30	p < 0.001
	q23	0.96	0.01	131.96	p < 0.001
	q24	0.94	0.01	78.93	p < 0.001

Perceived Social Support	q25	0.72	0.03	24.62	p < 0.001
Cronbach's alpha= 0.93	q26	0.85	0.02	47.15	p < 0.001
Coefficient H= 0.94	q27	0.87	0.02	54.22	p < 0.001
	q28	0.90	0.02	58.17	p < 0.001
	q29	0.89	0.02	55.53	p < 0.001
Perceived Crisis Predictability	q40	0.90	0.01	65.62	p < 0.001
Cronbach's alpha= 0.94	q41	0.96	0.01	148.49	p < 0.001
Coefficient H= 0.94	q42	0.95	0.01	106.92	p < 0.001
Perceived Crisis Controllability	q43	0.89	0.02	50.65	p < 0.001
Cronbach's alpha= 0.94	q44	0.92	0.01	64.67	p < 0.001
Coefficient H= 0.94	q45	0.85	0.02	42.80	p < 0.001
Perceived Crisis Responsibility	q46	0.91	0.02	52.02	p < 0.001
Cronbach's alpha= 0.93	q47	0.89	0.02	39.37	p < 0.001

Coefficient H= 0.97	q48	0.84	0.03	29.98	p < 0.001
Feature-Driven Emotional Contagion	q49	0.92	0.02	58.28	p < 0.001
Cronbach's alpha= 0.94	q50	0.97	0.01	150.89	p < 0.001
Coefficient H= 0.94	q51	0.95	0.01	85.16	p < 0.001
	q58	0.72	0.02	31.36	p < 0.001
Meaning-Driven Emotional Contagion	q60	0.76	0.04	20.38	p < 0.001
Cronbach's alpha= 0.90	q61	0.81	0.03	27.94	p < 0.001
Coefficient H= 0.91	q63	0.87	0.03	29.47	p < 0.001
Ingroup Identification	q64	0.89	0.01	85.02	p < 0.001
Cronbach's alpha= 0.97					
Coefficient H= 0.98	q65	0.90	0.01	74.56	p < 0.001
	q66	0.94	0.01	80.76	p < 0.001
	q67	0.97	0.01	201.27	p < 0.001
	q68	0.94	0.01	129.97	p < 0.001

	q69	0.89	0.01	66.22	p < 0.001
Negative Emotions	q30	0.87	0.01	59.70	p < 0.001
Cronbach's alpha= 0.97					
Coefficient H= 0.97	q31	0.95	0.01	126.79	p < 0.001
	q32	0.95	0.01	112.73	p < 0.001
	q33	0.94	0.01	115.40	p < 0.001
	q34	0.90	0.01	70.24	p < 0.001
Positive Emotions	q35	0.66	0.03	21.08	p < 0.001
Cronbach's alpha= 0.92					
Coefficient H= 0.96	q36	0.95	0.01	103.07	p < 0.001
	q37	0.94	0.01	84.03	p < 0.001
	q38	0.74	0.02	33.32	p < 0.001
	q39	0.85	0.02	45.00	p < 0.001
Information Seeking Intention	q103	0.69	0.03	21.54	p < 0.001
Cronbach's alpha= 0.94	q104	0.73	0.03	24.64	p < 0.001
Coefficient H= 0.96	q105	0.80	0.03	26.87	p < 0.001

	q106	0.55	0.16	3.48	p < 0.001
	q107	0.76	0.02	39.40	p < 0.001
	q108	0.76	0.02	33.90	p < 0.001
	q109	0.86	0.02	39.88	p < 0.001
	q110	0.88	0.02	42.42	p < 0.001
	q111	0.81	0.02	35.65	p < 0.001
	q112	0.87	0.02	55.24	p < 0.001
	q113	0.85	0.02	43.36	p < 0.001
Passive Protective Action taking Intention Cronbach's alpha = 0.96 Coefficient H = 0.96	q94	0.95	0.02	50.50	p < 0.001
	q95	0.92	0.02	57.45	p < 0.001
	q96	0.94	0.02	61.98	p < 0.001
	q97	0.87	0.02	37.80	p < 0.001
Active Protective Action taking Intention	q98	0.92	0.02	60.87	p < 0.001
	q99	0.95	0.01	86.57	p < 0.001

Cronbach's alpha= 0.97 Coefficient H= 0.97	q100	0.96	0.01	91.32	p < 0.001
	q101	0.92	0.02	41.06	p < 0.001
	q102	0.90	0.02	41.09	p < 0.001
RESI1 (Connection and Caring) Cronbach's alpha= 0.94 Coefficient H= 0.98	q70	0.95	0.01	107.34	p < 0.001
	q71	0.97	0.01	110.25	p < 0.001
	q72	0.96	0.01	180.20	p < 0.001
	q73	0.68	0.04	17.01	p < 0.001
	q74	0.68	0.04	17.22	p < 0.001
RESI2 (Resources) Cronbach's alpha= 0.96 Coefficient H= 0.98	q75	0.85	0.02	42.08	p < 0.001
	q76	0.88	0.02	54.18	p < 0.001
	q77	0.92	0.02	63.13	p < 0.001
	q78	0.95	0.01	106.71	p < 0.001
	q79	0.96	0.01	135.55	p < 0.001
	q80	0.92	0.01	67.32	p < 0.001

RESI3 (Transformative Potential)	q81	0.93	0.01	83.05	p < 0.001
Cronbach's alpha= 0.97	q82	0.93	0.01	88.20	p < 0.001
Coefficient H= 0.97	q83	0.93	0.02	63.23	p < 0.001
	q84	0.91	0.02	59.66	p < 0.001
	q85	0.89	0.02	47.62	p < 0.001
RESI4 (Disaster Management)	q86	0.93	0.02	61.35	p < 0.001
Cronbach's alpha= 0.97	q87	0.93	0.01	65.00	p < 0.001
Coefficient H= 0.98	q88	0.95	0.02	58.76	p < 0.001
	q89	0.97	0.01	135.88	p < 0.001
RESI5 (Information and Communication)	q90	0.92	0.02	52.80	p < 0.001
Cronbach's alpha= 0.98	q91	0.96	0.01	112.47	p < 0.001
Coefficient H= 0.98	q92	0.97	0.01	158.11	p < 0.001
	q93	0.95	0.01	118.74	p < 0.001
	RESI1	0.73	0.04	17.03	p < 0.001

Perceived Community Resilience (Second-order)	**RESI2**	0.91	0.02	48.97	$p < 0.001$
	RESI3	0.93	0.02	55.36	$p < 0.001$
Cronbach's alpha= 0.95 Coefficient H= 0.97	**RESI4**	0.91	0.02	47.88	$p < 0.001$
	RESI5	0.93	0.01	78.38	$p < 0.001$

Table 3

Exogenous Latent Factors' Means and Standard Deviations

Variable	Mean	Standard Deviation
Perceived Incurred Damage	35.97	22.96
Perceived Resource Constraint	22.91	10.56
Perceived Response Efficacy	32.18	8.56
Perceived Social Support	24.88	7.10
Perceived Crisis Predictability	11.41	5.14
Perceived Crisis Controllability	11.30	5.18
Perceived Crisis Responsibility	16.06	3.63
Feature-Driven Emotional Contagion	16.41	6.19
Meaning-Driven Emotional Contagion	15.48	4.17
Ingroup Identification	32.03	7.72

Table 4

Exogenous Latent Factors' Pearson Correlations

Variable 1	Variable 2	Pearson Correlation	Sig. (2-tailed)
Perceived Incurred Damage	Perceived Resource Constraint	0.27	$p < 0.001$
Perceived Incurred Damage	Perceived Response Efficacy	0.15	$p < 0.001$
Perceived Incurred Damage	Perceived Social Support	0.12	$p < 0.01$
Perceived Incurred Damage	Perceived Crisis Predictability	0.05	Not statistically significant
Perceived Incurred Damage	Perceived Crisis Controllability	0.03	Not statistically significant
Perceived Incurred Damage	Perceived Crisis Responsibility	0.04	Not statistically significant
Perceived Incurred Damage	Feature-Driven Emotional Contagion	0.08	$p < 0.05$
Perceived Incurred Damage	Meaning-Driven Emotional Contagion	0.05	Not statistically significant
Perceived Incurred Damage	Ingroup Identification	0.07	Not statistically significant

Perceived Resource Constraint	Perceived Response Efficacy	0.19	$p < 0.001$
Perceived Resource Constraint	Perceived Social Support	0.15	$p < 0.001$
Perceived Resource Constraint	Perceived Crisis Predictability	-0.02	Not statistically significant
Perceived Resource Constraint	Perceived Crisis Controllability	-0.03	Not statistically significant
Perceived Resource Constraint	Perceived Crisis Responsibility	0.06	Not statistically significant
Perceived Resource Constraint	Feature-Driven Emotional Contagion	0.35	$p < 0.001$
Perceived Resource Constraint	Meaning-Driven Emotional Contagion	0.28	$p < 0.001$
Perceived Resource Constraint	Ingroup Identification	0.00	Not statistically significant
Perceived Response Efficacy	Perceived Social Support	0.65	$p < 0.001$
Perceived Response Efficacy	Perceived Crisis Predictability	0.29	$p < 0.001$
Perceived Response Efficacy	Perceived Crisis Controllability	0.25	$p < 0.001$
Perceived Response Efficacy	Perceived Crisis Responsibility	0.46	$p < 0.001$
Perceived Response Efficacy	Feature-Driven Emotional Contagion	0.11	$p < 0.001$

Perceived Response Efficacy	Meaning-Driven Emotional Contagion	0.37	$p < 0.001$
Perceived Response Efficacy	Ingroup Identification	0.41	$p < 0.001$
Perceived Social Support	Perceived Crisis Predictability	0.36	$p < 0.001$
Perceived Social Support	Perceived Crisis Controllability	0.30	$p < 0.001$
Perceived Social Support	Perceived Crisis Responsibility	0.41	$p < 0.001$
Perceived Social Support	Feature-Driven Emotional Contagion	0.20	$p < 0.001$
Perceived Social Support	Meaning-Driven Emotional Contagion	0.37	$p < 0.001$
Perceived Social Support	Ingroup Identification	0.45	$p < 0.001$
Perceived Crisis Predictability	Perceived Crisis Controllability	0.74	$p < 0.001$
Perceived Crisis Predictability	Perceived Crisis Responsibility	0.27	$p < 0.001$
Perceived Crisis Predictability	Feature-Driven Emotional Contagion	0.06	Not statistically significant
Perceived Crisis Predictability	Meaning-Driven Emotional Contagion	0.22	$p < 0.001$
Perceived Crisis Predictability	Ingroup Identification	0.40	$p < 0.001$

Perceived Crisis Controllability	Perceived Crisis Responsibility	0.26	$p < 0.001$
Perceived Crisis Controllability	Feature-Driven Emotional Contagion	0.06	Not statistically significant
Perceived Crisis Controllability	Meaning-Driven Emotional Contagion	0.17	$p < 0.001$
Perceived Crisis Controllability	Ingroup Identification	0.38	$p < 0.001$
Perceived Crisis Responsibility	Feature-Driven Emotional Contagion	0.19	$p < 0.001$
Perceived Crisis Responsibility	Meaning-Driven Emotional Contagion	0.46	$p < 0.001$
Perceived Crisis Responsibility	Ingroup Identification	0.38	$p < 0.001$
Feature-Driven Emotional Contagion	Meaning-Driven Emotional Contagion	0.45	$p < 0.001$
Feature-Driven Emotional Contagion	Ingroup Identification	0.04	Not statistically significant
Meaning-Driven Emotional Contagion	Ingroup Identification	0.31	$p < 0.001$

Table 5

Endogenous Latent Factors' R-square

	Standardized Estimate	**Standard error**	**Est./S.E.**	**P-value**
Negative Emotions	0.17	0.03	6.98	p <0.001
Positive Emotions	0.33	0.03	11.36	p <0.001
Perceived Community Resilience	0.65	0.04	16.41	p <0.001
Passive Behavioral Intentions	0.17	0.03	6.01	p <0.001
Active Behavioral Intentions	0.40	0.04	9.32	p <0.001
Information Seeking Intentions	0.30	0.04	7.92	p <0.001

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