Empirical Research Article

The Matching Effect of Destinations' Crisis Communication

Journal of Travel Research
1–26

DOI: 10.1177/00472875211067548
journals.sagepub.com/home/jtr
SAGE

Jiangchi Zhang[1], Chaowu Xie[1], Yanying Chen[2], You-De Dai[3], and Wang Yi-Jun[3]

Abstract

The match between destinations' crisis communication sources and crisis types, and their impacts on tourists' travel intentions, has not yet been investigated. This research explored the effect of destinations' crisis communication on tourists' travel intentions based on different crisis types (i.e., victimized and preventable crises) and communication sources (i.e., from the government, businesses, and other tourists). Results showed that crisis type had a matching effect on the impact process of crisis communication sources on tourists' travel intentions. In addition, the mediation effects of tourists' heuristic processing and perceived safety on destinations' crisis communication–tourists' travel intentions were confirmed. This study uncovered a matching effect of destinations' crisis communication sources and crisis types. Results offer valuable theoretical and practical implications regarding destinations' crisis communication agendas, crisis communication systems, and strategies for alleviating negative consequences of crises.

Keywords

crisis communication, heuristic/systematic model, perceived safety, matching effect, travel intention, COVID-19 pandemic

Introduction

Destinations' tourism development is highly sensitive to safety and security issues (Pizam 1996), particularly during crises when the safety of tourists, corporations, and employees is under threat (e.g., COVID-19) (Fong, Law, and Ye 2020; Zenker and Kock 2020). Even a minor crisis in one part of the world can trigger severe tourism demand reactions elsewhere via the "effect of generalization," influencing local tourism's long-term development and prosperity (Seabra et al. 2013). Crisis communication is a key aspect of crisis management, referring to controlling the scale and patterns of information dissemination along with organizations' crisis responses (Derani and Naidu 2016). Communication is essential to mitigating the adverse effects of crises. In the absence of direct experiences with such events, destinations' crisis communication encompasses common channels through which most tourists learn about these events (Kapuściński and Richards 2016; Oliveira and Huertas 2019). In the new media era, crisis communication affects the development of and responses to crisis events. It can also shape the public's attitudes and behavior due to a corresponding "online public opinion storm" (Ballrokeach 1985; Cheng et al. 2016; Luo and Zhai 2017). Thus, tourism-oriented crisis communication is an important tool in destinations' development and image restoration after crises (Coombs 1999). Such communication can also determine whether crisis events will become public opinion crises and enduring market crises.

Crisis communication is derived from public relations. Destinations' crisis communication is intended to manage the public's attitudes toward crisis events and reduce associated threat perceptions via messaging, thus promoting the stability of tourism markets (Coombs 2014; Liu-Lastres, Schroeder, and Pennington-Gray 2019; Sano and Sano 2019). Destination-promoted safety, risk, and crisis messaging fundamentally affect tourists' perceived safety (Kapuściński and Richards 2016; Sano and Sano 2019), travel fear (Zheng, Luo, and Ritchie 2021), and travel intentions (Wang and Lopez 2020; Xie et al. 2021). Especially in crisis situations, tourists often seek information to protect themselves and reduce uncertainty in the pre-visit stage (Cahyanto et al. 2016). Tourists' responses to crisis communication have therefore garnered close attention. For instance, focusing on norovirus infections on cruise ships, Liu-Lastres, Schroeder, and Pennington-Gray (2019) examined customers' perceived safety, travel intentions, and information search behavior in response to cruise lines' risk and crisis communication. Sano and Sano (2019) investigated the effect of destinations' crisis communication on tourists'

[1]Huaqiao University, Quanzhou, Fujian, China
[2]Jimei University, Xiamen, Fujian, China
[3]National Chi Nan University, Puli, Nantou

Corresponding Author:
Chaowu Xie, Huaqiao University, Chenghua Bei Road 269, Quanzhou, Fujian 362021, China.
Email: xiecwu@126.com

perceived safety and willingness to travel based on different sources (i.e., from businesses and other tourists) following a volcanic eruption. The COVID-19 pandemic represents a major health crisis (Fong, Law, and Ye 2020) and threatens destinations' survival and development. Many factors guide individuals' post-pandemic travel intentions. Examples include people's intra-pandemic perceptions (e.g., hospitality and impressions) (Li, Nguyen, and Coca-Stefaniak 2020); perceived knowledge, attitudes, subjective norms, and perceived behavioral control (Han et al. 2020); destination health-risk image (Bhati et al. 2021); and travel fear, protection motivation, and resilience (Zheng, Luo, and Ritchie 2021). Tourism corporations and destinations must engage in effective crisis communication to restore the tourism market during catastrophes such as COVID-19. The influences of risk and crisis communication on individuals' perceived safety, travel intentions, and stockpiling intentions have been empirically explored with respect to the pandemic (Kim et al. 2020; Xie et al. 2021). Meanwhile, tourism crisis communication is a key factor in destinations' tourism development and presents an important topic for tourism-related crisis research.

Three main gaps exist in this field. First, crisis communication studies in tourism have not fully identified and compared destinations' crisis communication sources. Tourism crisis communication has entered a new era in which traditional and online media are combined. The proliferation of the Internet and social media has altered destinations' crisis communication patterns and public participation (Castells 2007; Shah et al. 2005). As such, destination-based crisis communication is a dynamic discourse conflict field (Utz, Schultz, and Glocka 2013): official information is disseminated by government departments (i.e., government-to-tourist [G-to-T] crisis communication), while commercial and personal information is shared by corporations and tourists (i.e., business-to-tourist [B-to-T] and tourist-to-tourist [T-to-T] crisis communication, respectively) (Sano and Sano 2019; Zhu 2015). The public relies on diverse official, personal, and other information sources to obtain and process crisis-related information. However, the public's perceptions, attitudes, and behavior in response to destinations' crisis communication sources (i.e., the government, businesses, and other tourists) lack empirical investigation. Second, the matching effect of destinations' crisis communication sources and crisis types calls for empirical research. Crisis responsibility is a prime factor in organizations' crisis responses and tourists' secondary crisis communication (Coombs 2007; Utz, Schultz, and Glocka 2013). Compared with crises associated with natural and external occurrences, those tied to human and internal causes are more likely to arouse public hostility and negative reactions to destinations. The latter types of events also have longer-lasting adverse effects on destinations' image and tourist markets (Breitsohl and Garrod 2016; Utz, Schultz, and Glocka 2013). Studies adopting situational crisis communication theory have inspired a matching system of organizations' crisis response strategies and crisis situations, proposing optimal organizational response strategies based on event types (Coombs 2007). Thus, exploring the synergy between crisis types relative to destinations' crisis communication sources could reveal crucial theoretical implications. In addition, COVID-19 is an extraordinary catastrophe (Fong, Law, and Ye 2020). Scholars have yet to explore the impacts of destinations' crisis communication on tourists' attitudes and behavior during COVID-19 using situational crisis communication theory. Third, tourists' crisis information seeking and processing remain pertinent yet underexplored (Aliperti and Cruz 2019; Cahyanto and Pennington-Gray 2015). Their reception and processing of crisis and risk messaging determine their attitudes toward destinations' crisis communication, which can mediate the impact of such communication on behavior (Aliperti and Cruz 2019; Cahyanto and Pennington-Gray 2015; Ryu and Kim 2015). At present, travel decision making in crisis situations is unclear. Academics generally believe that tourists avoid unsafe destinations, with crisis events reducing individuals' confidence and willingness to travel (Liu-Lastres, Schroeder, and Pennington-Gray 2019; Pizam and Smith 2000; Seabra et al. 2013; Zheng, Luo, and Ritchie 2021). Yet destinations' inherent risk can also draw tourists seeking adventure and a sense of excitement (Wang et al. 2019). Some travelers find destinations safer after terrorist attacks (Wolff and Larsen 2014) and may visit post-disaster destinations as a form of "dark tourism" (Biran et al. 2014). It is therefore necessary to explore how tourists process destinations' crisis communication so as to contextualize their behavior amid crisis situations. To date, related research has focused on organizations' response strategies and public secondary crisis communication; the potential roles of tourists' reception and processing of crisis information warrant closer inspection (Liu and Fraustino 2014). Research is hence needed to explore how tourists process destination-disseminated crisis information to guide destinations in establishing crisis communication agendas.

To address the above-mentioned gaps, this research explored the effect of the matching of crisis types and destination crisis sources on participants' travel intentions as well as the mediating role of participants' information processing. Our work makes three major contributions. First, the impacts of destinations' crisis communication sources (i.e., the government, businesses, and tourists) on participants' information processing, perceived safety, and travel intentions revealed differences in participants' responses to crisis communication sources. These results enrich traditional crisis communication research. Second, based on situational crisis communication theory, the matching and moderating effects of crisis types on the impacts of crisis communication sources on participants' information processing, perceived safety, and travel intentions were investigated. Findings offer empirical evidence of the effectiveness of destinations' crisis communication in the context of COVID-19 and promote

situational crisis communication theory in tourism-related crisis research. Third, based on a heuristic/systematic model, this research analyzed the mediating effect of participants' information processing on the impact process of destinations' crisis communication. Outcomes reveal the potential mechanisms of participants' reception and processing of crisis information and provide an empirical and theoretical basis for how tourists process destinations' crisis communication. In essence, our work bridges knowledge gaps related to destinations' crisis communication and tourists' crisis responses, extends traditional crisis communication theory, and provides novel insight into tourism-related crisis communication and disaster management.

Literature Review

Theoretical Foundation

Situational crisis communication theory provides an evidence-based framework for organizations to adopt appropriate crisis response strategies, maximize reputational protection, and mitigate crisis threats through post-crisis communication (Coombs 1995, 2007). This communication theory outlines three factors in determining crisis threats: crisis responsibility, crisis history, and prior relational reputation. Scholars have identified three crisis types based on responsibility, namely victimized, accidental, and preventable crises. Victimized crises involve low attributions of crisis responsibility; accidental crises carry moderate attributions; and preventable crises have strong attributions, mostly due to internal and controllable factors. Organizations should adopt tailored crisis response strategies (e.g., denial, minimization, and restoration) based on specific crisis situations to repair their reputations (Coombs 2007).

Situational crisis communication theory also summarizes effective organizational crisis response strategies, seeking to build top-down and one-way communication to repair organizations' reputations and reduce crises' adverse effects (Coombs 2007). This theory has been applied in crisis management within governments, corporations, non-profit organizations, and tourist destinations. The theory thus plays a critical role in preventing secondary crises and repairing organizations' reputations (Cai and Zhu 2019; Jeong 2009; Sisco 2012). Impactful crisis communication includes four elements: the audience, message, source, and channel (Freimuth, Linnan, and Potter 2000). Avraham and Ketter (2008) suggested that three media strategies be considered in destinations' crisis communication: the source, audience, and message strategies. As such, the crisis communication source represents an important component of crisis response strategies and can greatly influence the effectiveness of organizations' responses. Sano and Sano (2019) examined the effects of destinations' crisis communication sources (i.e., business-to-customer or customer-to-customer) on consumers' safety perceptions and travel intentions in a natural disaster context. In today's new media era, the Internet and social media have altered organizations' crisis communication and offered opportunities for multiple subjects and sources (e.g., the government, businesses, and members of the public) to participate in such communication (Castells 2007; Shah et al. 2005). The crisis situation is a fundamental determinant of organizations' crisis response strategies, and situational crisis communication theory further emphasizes that organizations should adopt crisis-specific strategies to ensure optimal responses (Coombs 2007). An organization's crisis communication source should hence align with the type of crisis the organization is facing. Overall, based on situational crisis communication theory, this study seeks to examine the matching effect of crisis type in the impact process of destinations' crisis communication sources.

Crisis Communication in the New Media Era

Crises, especially avoidable ones, threaten organizations' reputations, prosperity, and survival (Utz, Schultz, and Glocka 2013). Crisis communication is intended to manage the public's perceptions of such events. This communication encompasses the messages and strategies entities use to alleviate the consequences of crises and to protect organizations, stakeholders, and/or broader industries from damage (Coombs 2014). Given that the tourism industry is susceptible to various natural and manmade disasters (Pforr and Hosie 2008), crisis events threaten destinations' development and prosperity. Tourism has become one of the world's most vulnerable industries (Sönmez, Apostolopoulos, and Tarlow 1999). Travelers generally avoid visiting destinations where crises have recently occurred, suggesting a supporting role of perceived safety in tourists' decision making (Rittichainuwat 2011). Effective crisis communication is necessary to restore tourists' safety-related confidence and destination perceptions after a crisis. Related communication can also prevent secondary crises and restore a destination's image and tourist market (Sano and Sano 2019).

The term "new media" refers to media forms developed after traditional media such as newspapers, radio, and television; relevant information and services are provided via digital technology, Internet channels, and smartphones (Li et al. 2018; Liao 2008). New media is rooted in digital compression and wireless network technology. This media form features a large capacity, real-time communication, and strong interactivity to spread information across geographic boundaries (Li et al. 2018). Advances in information technology continue to birth communication platforms (e.g., Facebook, Twitter, WeChat, Weibo, and short videos). Crisis communication now features a far reach; efficient dissemination; large amounts of information; and multiple communication sources, diffusion channels, and patterns (Avraham and Ketter 2008; Cheng et al. 2016; Luo and Zhai 2017; Sano and Sano 2019; Zhu 2015). In this era, all people have a "microphone" and can act as a "news agency." Crisis

Table 1. Destination Crisis Communication Sources.

Type of source	Definition	Channel	Credibility	Effect	References
G-to-T crisis communication	A series of information communication activities promoted by destination government departments to resolve or avoid crises via traditional mass or online media. "Authority voice"	Mass media: television; newspaper; radio; social media: Weibo; Twitter	High	Helping tourists track crisis events, calming their emotions, restoring destination image and market, and maintaining public order	Avraham (2015), Procter et al. (2013)
B-to-T crisis communication	Destination corporations maintain and protect their reputations by providing information about crisis events, organizations' crisis response strategies, and crisis guidance messages to the public and tourists during crisis. "Business voice"	Social media: Weibo; WeChat; Facebook	Medium	Corporation role: repairing reputation; community role: act as emergency responders to assist employees, customers, and the destination from threats.	Möller, Wang, and Nguyen (2018), Sano and Sano (2019)
T-to-T crisis communication	Tourists' online communication behavior when commenting on, sharing, or forwarding posts about crises. "Experience voice" or "Tourist voice"	Social media: Weibo; Wechat; Facebook	Sub-high	Positive: restoring destination image and market Negative: triggering negative emotions and secondary opinion crisis	Luo and Zhai (2017), Utz, Schultz, and Glocka (2013)

communication has thus shifted from one-to-one to many-to-many patterns, and the boundary between communication sources and audiences is blurred (Castells 2007; Shah et al. 2005; Utz, Schultz, and Glocka 2013). Destinations' crisis communication patterns can be divided into G-to-T, B-to-T, and T-to-T communication based on sources (Table 1).

Government-to-tourist crisis communication. Government-to-tourist (G-to-T) crisis communication involves information from destinations' government departments, distributed via traditional mass or online media, to resolve or avoid crises. Such communication is crucial for destinations' emergency management (Coombs 2001), representing an "authoritative voice" in crisis communication. G-to-T communication is also pivotal to helping tourists track crisis events in a destination, reassuring visitors, restoring a destination's image and market, and maintaining public order (Avraham 2016; Avraham and Ketter 2017; Chen 2009; Procter et al. 2013). During the traditional media era, destinations' G-to-T crisis communication mostly involved top-down mass media channels such as television and newspapers (Cheng et al. 2016; Utz, Schultz, and Glocka 2013). Such communication shaped public opinion and reduced the negative impacts of crises through agenda setting and controlled news coverage (Sparks 2008). The Internet and social media now provide technical support for public participation along with new avenues for destination governments' crisis communication (Oliveira and Welch 2013). Various social media platforms, such as Government Affairs Microblog, have emerged and broadened the scope of G-to-T crisis communication. Government Affairs Microblog and similar venues have also promoted two-way crisis interaction between government departments and tourists.

Business-to-tourist crisis communication. B-to-T crisis communication refers to corporations striving to maintain their reputations by providing information about crisis events, response strategies, and guidance. This form of communication is intended to facilitate businesses' recovery via two-way communication with the public (Greer and Moreland 2003; Möller, Wang, and Nguyen 2018). The crisis dissemination and response strategies of tourism firms (e.g., hotels, travel agencies, and tourist attractions) embody the "business voice" of destination communication. Tourism corporations are not simply commercial enterprises; they serve as small communities during crises, conveying corporate social responsibility (Möller, Wang, and Nguyen 2018). Specifically, tourism corporations usually act as emergency responders to protect employees, customers, and destinations from threats. Social media sites offer fresh possibilities for B-to-T crisis communication as well. For example, based on interviews and hotels' real-time Facebook posts, Möller, Wang, and Nguyen (2018) explored the roles of social media in hotels' crisis communication during a natural disaster. The value of social media appeared underutilized in hotels' crisis preparation and response phases but accelerated firms'

recovery. Yet thus far, from an organizational perspective, few studies have focused on how social media is incorporated into B-to-T crisis communication (Houston et al. 2015). This gap may manifest from tourism corporations' relatively passive risk assessment and communication in the face of disaster (Lamanna, Williams, and Childers 2012).

Tourist-to-tourist crisis communication. T-to-T crisis communication refers to tourists commenting on, sharing, or forwarding crisis-related posts (Schultz, Utz, and Göritz 2011; Utz, Schultz, and Glocka 2013). Online platforms, especially social media, have gained strong discourse power for public participation in crisis communication, moving people from passive receivers to active participants (Lin et al. 2016). Some tourists also serve as "opinion leaders," presenting an "experienced voice" on behalf of travelers in destinations' crisis communication. Opinion leaders' reactions can mold others' attitudes, emotions, and behavior (Derani and Naidu 2016; Luo and Zhai 2017). In addition, T-to-T crisis communication reflects tourist-driven communication in a crisis context (Sano and Sano 2019). Tourists' sharing of crisis-related information via social media generally carries no ulterior motive and can be timelier and more reliable than other communication sources. It thus has positive impacts on destinations' post-crisis image restoration and tourism market recovery. However, distorted information, prejudice, and activist behavior can infiltrate social media due to a lack of professional oversight (Friedman 2011; Schuckert, Liu, and Law 2015; Xie et al. 2017). T-to-T crisis communication may even hinder destinations' crisis management, particularly by triggering negative emotions and secondary public opinion crises among visitors. Currently, online public opinions from individuals who participate in destinations' crisis communication reflect crisis management. Resulting "social media opinion storms" can inspire group conflict and social contradictions (Luo and Zhai 2017).

Tourists' Responses to Crisis Communication

Tourists' responses to crisis communication reveal the impacts of such communication on tourists' perceptions, attitudes, emotions, and behavior. Academics have contended that crisis events increase tourists' perceived risk and compromise travel decisions, narrowing a destination's tourism market (Liu-Lastres, Schroeder, and Pennington-Gray 2019; Pizam and Smith 2000; Seabra et al. 2013; Zheng, Luo, and Ritchie 2021). Crisis communication can protect destinations and restore tourists' perceived safety and destination image (Coombs 2014; Sano and Sano 2019; Xie et al. 2021). The process through which a crisis alters tourists' decisions and hinders a destination's tourist market is complicated; changes follow from many tourists' behavior. Tourists' responses to crisis communication thus play a major part in destinations' post-crisis recovery and prosperity.

Scholars have empirically investigated the effects of destinations' crisis communication on tourists' perceived risk (Kapuściński and Richards 2016), threat perceptions (Zheng, Luo, and Ritchie 2021), trust (Sano and Sano 2019), destination image perceptions (Avraham 2016), emotions (Luo and Zhai 2017), travel intentions (Xie et al. 2021), stockpiling intentions (Kim et al. 2020), and information search behavior (Liu-Lastres, Schroeder, and Pennington-Gray 2019). Research has shown that perceived safety mediates the relationship between risk and crisis communication and tourists' travel intentions (Liu-Lastres, Schroeder, and Pennington-Gray 2019; Sano and Sano 2019). Tourists can comment on, share, and forward destinations' crisis communication messages via social media, leading to secondary crisis communication (Schultz, Utz, and Göritz 2011). Luo and Zhai (2017) asserted that tourists' secondary crisis communication can trigger group conflict and negative emotions, potentially causing travelers to boycott the destination where a crisis originated. Regarding COVID-19, Pennycook et al. (2020) discovered that people shared false claims on social media when failing to consider whether the content was reputable. Inaccurate secondary crisis communication from tourists can spark public opinion crises and exacerbate events' adverse effects on destinations. Scholars have also explored the boundary conditions and moderating effects of tourists' responses to destinations' crisis communication. For example, Xie et al. (2021) identified the moderating effects of empathy and perceived waiting time in the relationship between risk message communication and post-pandemic travel intention during COVID-19. Kim et al. (2020) investigated two boundary conditions (i.e., information precision and comparison standards) of communication messages' effects on individuals' perceived threats and stockpiling intentions during events such as COVID-19.

Heuristic/Systematic Information Processing Model

The heuristic/systematic model (HSM) is a persuasion-based model that takes information processing as the antecedent of attitude formation, perceptual changes, and behavioral responses (Ryu and Kim 2015). This dual-process model involves contrasting modes of information processing: heuristic and systematic (Chaiken 1980). Under heuristic processing, individuals tend to rely on accessible information and external cues (e.g., source credibility) or non-context cues when deciding to accept messaging. In systematic processing, individuals attempt to comprehend and assess a message's content and evaluate its validity in relation to its conclusion. Heuristic processing thus requires less effort and fewer cognitive resources when individuals ponder messages' validity; systematic processing requires considerable effort when interpreting message content.

HSM provides a theoretical basis for individuals' information processing and decision making in various settings. Because information processing differs with each mode, some researchers have proposed that the two modes are mutually exclusive (Fiske, Lin, and Neuberg 1999). Others have argued that the modes' operation depends on context, such that each mode could either exert independent effects on individuals' information processing and decisions or work simultaneously (Ryu and Kim 2015). Three hypotheses address how these modes interact: the attenuation hypothesis, additivity hypothesis, and bias hypothesis (Chaiken and Maheswaran 1994). The attenuation hypothesis suggests that if individuals are motivated and able to engage in systematic processing, heuristic cues' effects may be attenuated; that is, systematic processing suppresses the impact of heuristic processing. The additivity hypothesis posits that if systematic processing does not overwhelm heuristic information cues and if individuals have lower motivation, then heuristic processing can affect individuals' judgment independent of systematic processing: the two modes of information processing could independently influence individuals' attitude judgments or function simultaneously. The bias hypothesis states that, because heuristic cues are the basis of the impact of and expectations about valid and persuasive messages, these cues indirectly contribute to systematic information processing in a biased manner that suits individuals' expectations. In other cases, heuristic processing can bias systematic processing when evidence is ambiguous. In addition, due to factors such as cognitive laziness or busyness, insufficient adjustment, and intuitive confidence, heuristic processing is often more advantageous than systematic processing (Epley and Gilovich 2006; Petty and Wegener 1999; Simmons and Nelson 2006). In sum, both information processing modes' effects on individuals' attitude judgments depend on many aspects and require further empirical investigation.

Compared with other information processing models, such as the social information processing approach, elaboration likelihood model, and stimulus–organism–response model, HSM reveals how individuals process external information through two cognitive paths: intuition-based heuristic processing and rational-based systematic processing. More specifically, HSM is a persuasion-based information receiving and processing model. HSM has been adopted to examine individuals' crisis information processing and responses to disasters, and it is valid in different cultural contexts. For example, regarding the Fukushima accident in Japan, Ryu and Kim (2015) pointed out that the public adopted heuristic and systematic dual-process models while receiving and processing crisis messages. The respective effects of these two modes on individuals' perceived risk were examined as well. Considering a natural disaster in Japan, Aliperti and Cruz (2019) adopted HSM to construct a risk information seeking and processing model for international tourists from mainland China and the United States. Results showed that tourists processed risk information heuristically and systematically. This finding emphasizes the need to develop tailored risk and crisis communication strategies while accounting for cross-cultural information processing variation among international tourists. Accordingly, the current study investigates tourists' responses to destination crisis communication based on HSM.

Per previous HSM research, communicators' source credibility is paramount to effective information delivery (Chaiken and Eagly 1983) and informs individuals' engagement in heuristic or systematic processing (Ryu and Kim 2015; Trumbo and McComas 2003). People generally adopt heuristic processing to consume information from highly credible sources, whereas systematic processing is more common for information from less credible sources. The public's trust in communication is tied to sources' authority, perceived honesty, and potential to benefit from provided information (McGinnies and Ward 1980; Sano and Sano 2019). In crisis communication contexts, source credibility fundamentally affects individuals' information processing, acceptance, and search behavior (Lin et al. 2016; Sano and Sano 2019; Veil, Buehner, and Palenchar 2011). For example, information from official government websites is perceived as highly reliable (Lin et al. 2016); tourists tend to exert relatively little effort when judging the validity of such information and adopt heuristic processing. Business-to-consumer crisis communication was a major research focus in past decades, and its source reliability was seldom doubted. However, in the new media era, social media has cast doubt on the credibility of businesses' crisis communication (Austin, Fisher Liu, and Jin 2012; Lin et al. 2016; Schultz, Utz, and Göritz 2011). Compared with passively consuming organization-provided information, individuals can now receive crisis information from multiple sources and are more willing to engage in such communication. Consumers are also likely to seek information from peers via social media instead of corporations' official websites, as information from faceless managers is thought to have low credibility (Argenti 2006; Stephens and Malone 2009). Social media has become an essential information source for tourists (Sano and Sano 2019). Online communities can also self-correct inaccurate information in crisis communication settings (Veil, Buehner, and Palenchar 2011). In addition, because information shared by tourists via social media offers no commercial benefit apart from reflecting personal experience, such commentary is deemed credible and is often processed heuristically (Litvin, Goldsmith, and Pan 2008; Schroeder and Pennington-Gray 2015). By contrast, information from business sources is often accompanied by clear commercial benefits (e.g., advertising), leading tourists to exercise caution when judging the validity of claims and adopt systematic processing. Sano and Sano (2019) confirmed that crisis information from tourists is more credible than that from businesses. Trumbo and McComas (2003) specifically examined the impact of source credibility on individuals' perceived risk and proposed that such credibility is contingent on the type of trusted subject: if individuals

place more trust in government groups, then they should adopt heuristic processing. The following hypotheses are proposed accordingly:

H1: Tourists tend to adopt heuristic processing for G-to-T and T-to-T crisis communication.
H2: Tourists tend to adopt systematic processing for B-to-T crisis communication.

Perceived Safety and Travel Intention

Perceived safety refers to tourists' subjective impressions of destination safety and risk, representing a key aspect of travel intention (Xie, Zhang, and Morrison 2021) especially in the pre-trip stage (Rittichainuwat 2011). Destinations' success is directly linked to the ability to offer tourists a safe environment (Xie, Zhang, and Morrison 2021). Generally, crisis events diminish tourists' safety expectations and confidence in a destination, resulting in sharp declines in tourism demand (Kapuściński and Richards 2016; Pizam 1996; Pizam and Smith 2000). Amid a major crisis such as COVID-19, "travel fears" lead to protective behavior (e.g., travel avoidance, cautious travel) (Zheng, Luo, and Ritchie 2021). Destinations' crisis communication plays a central role in image reparation, market recovery, and the mitigation of crises' negative impacts (Avraham 2015; Oliveira and Huertas 2019; Sano and Sano 2019). Scholars have explored how destinations' crisis communication increases tourists' safety perceptions and travel intentions in terms of numerous crises and cultural backgrounds. For example, based on a survey of mainland Chinese tourists during the COVID-19 pandemic, Xie et al. (2021) confirmed that destination risk and crisis communication each had a positive impact on tourists' perceived safety, basic travel intentions, and destination travel intentions. Sano and Sano (2019) investigated the positive influence of crisis communication on tourists' perceived safety and travel intentions with respect to a natural disaster in Japan.

In the new media era, tourists no longer depend on a single source, channel, or communicator to obtain crisis information; they can instead refer to official destination government departments, corporations' crisis reports, or commentary from other travelers on social media. These sources shape tourists' perceived destination safety and travel intentions. Information sources' credibility also affects individuals' perceived safety and travel decisions (Gao, Tian, and Tu 2015; Wang, Kao, and Ngamsiriudom 2017): the higher the credibility of destinations' crisis communication, the greater tourists' perceived safety and travel intentions (Sano and Sano 2019). Tourists possess varying degrees of trust toward different communicators (i.e., the government, businesses, and tourists). These sources can generate diverse safety perceptions and travel intentions even when delivering similar crisis communication messages (Utz, Schultz, and Glocka 2013; Schultz, Utz, and Göritz 2011), hence the following hypotheses:

H3: Tourists' perceived safety related to G-to-T and T-to-T crisis communication is higher than that related to B-to-T crisis communication.
H4: Tourists' travel intentions related to G-to-T and T-to-T crisis communication are stronger than those related to B-to-T crisis communication.

Matching and Combination of Crisis Communication Sources and Crisis Types

A crisis is an unpredictable event that disrupts entities' operations, endangers organizations' viability, and threatens individuals' physical and mental health (Fink 1986). As noted, situational crisis communication theory specifies three crisis types based on responsibility: victimized crises, accidental crises, and preventable crises (Coombs 1999, 2007). The attribution of organizational crisis responsibility in victimized crises is weak; organizations are regarded as the victims of crises such as natural disasters, product tampering, and rumors. Attributions of organizational crisis responsibility are moderate in accidental (i.e., unintentional or uncontrollable) crises, such as technical-error accidents and technical-error product harm. In preventable crises, organizations may knowingly place people at risk, act inappropriately, or violate laws; these crises carry strong attributions of crisis responsibility, such as organizational misdeed, human-error accidents, and human-error product harm (Coombs 2007). Thus, attributions of organizational crisis responsibility are weakest in victimized crises and strongest in preventable crises. The current research aims to examine the effects of destinations' crisis communication and tourists' responses to two extremes: victimized and preventable crises.

Coombs (1995, 2007) proposed that the stronger the public's perceived crisis responsibility, the more likely a crisis is to adversely affect an organization and elicit negative tourist responses. According to attributional theory, the public is actively involved in the attribution process once a crisis occurs. When the public deems internal organizational factors to have sparked a crisis, they will exhibit negative perceptions, emotions, and behavioral responses; conversely, when a crisis is attributable to external or unpreventable factors, the public often expresses compassion, forgiveness, and positive responses toward the organization (Utz, Schultz, and Glocka 2013; Weiner 1985). Situational crisis communication theory suggests that organizations should adopt response strategies such as apologies and compensation to address high crisis responsibility (i.e., preventable crises) but rely on minimization and rebuilding in cases of low crisis responsibility (i.e., victimized crises) (Coombs 1995, 2007). Essentially, organizations should adopt appropriate strategies (e.g., including for crisis communication sources) tailored to the crisis type to achieve optimal response effectiveness. In other words, tourists' perceptions, emotions, and behavioral responses vary across matching situations involving crisis communication

sources and crisis types. The interaction between crisis type and crisis communication has received considerable attention in different cultural contexts. For example, Utz, Schultz, and Glocka (2013) compared the impacts of victimized and preventable crises on individuals' anger, secondary crisis communication, secondary crisis reactions, and organizational reputation in the context of the Fukushima Daiichi nuclear disaster in Japan. A higher level of anger resulted from preventable crises versus victimized crises. Anger also mediated the impacts of crisis type on organizations' reputations, secondary crisis communication, and secondary crisis reactions. Based on the headline "Female tourist attacked in Lijiang" in China, Cai and Zhu (2019) pointed out that destinations should adopt tailored image restoration and communication strategies for distinct crisis types to alleviate the impacts of a crisis and restore tourists' perceived safety. Therefore, tourists' information processing, perceived safety, and travel intentions will presumably differ across matching and combination strategies based on destinations' crisis communication sources (i.e., the government, businesses, and tourists) and crisis types (e.g., victimized and preventable crises).

Risk and crisis communication messages also have a frame effect (Kapuściński and Richards 2016; Xie et al. 2021). Tourists exposed to messages in a risk-amplifying frame (i.e., a high-risk situation) have been found to score relatively low on perceived safety and travel intentions but high on information searching; tourists exposed to messages in a risk-attenuating frame (i.e., a low-risk situation) do the opposite (Liu-Lastres, Schroeder, and Pennington-Gray 2019; Sano and Sano 2019; Xie et al. 2021). Preventable crises are caused by internal organizational factors, which can negatively affect a destination's image and market and thus represent a high-risk situation for the destination. Compared with preventable crises, tourists are more likely to forgive victimized crises (Utz, Schultz, and Glocka 2013). Victimized crises have fewer adverse effects on tourists' perceived safety, destination image, and the tourism market as well (Xie, Zhang, and Morrison 2021). These crises are thus low risk for a destination. Tourists' perceived safety, travel intentions, and information processing of destinations' crisis communication sources may be more sensitive in high-risk situations (preventable crises). Specifically, when receiving crisis messages from different sources (e.g., the government, businesses, and other tourists), tourists may express forgiveness and sympathy toward a destination in low-risk situations (victimized crises) and tend to adopt intuition-based heuristic processing. Crisis communication from authoritative sources (the government) can quickly alleviate public concern and better restore tourists' perceived safety and travel intentions compared with messaging from business and tourist sources. However, tourists may blame the destination and attribute crisis responsibility in high-risk situations (preventable crises), leading travelers to engage in rational systematic processing. At the same time, crisis communication from tourist sources can enhance individuals' trust and reduce their boycott intentions to more effectively restore their perceived safety and travel intentions compared with government and business sources. Put simply, crisis type moderates the relationship between destinations' crisis communication sources and tourists' information processing, perceived safety, and travel intentions. The following hypotheses are thus put forth:

H5: Tourists' information processing (H5a), perceived safety (H5b), and travel intentions (H5c) differ across matching strategies based on destinations' crisis communication sources and crisis types.
H6: Crisis type moderates the impacts of crisis communication sources on tourists' information processing (H6a), perceived safety (H6b), and travel intentions (H6c).

Mediating Effects of Tourists' Heuristic/ Systematic Processing and Perceived Safety

Effective crisis communication calls for appropriate crisis messaging based on the stage of a crisis and the public's expectations (Greer and Moreland 2003). Tailored messages can diminish the public's perceptions of crisis-related consequences and boost tourists' safety perceptions and travel intentions. In a crisis context, tourists' travel intentions are based on comprehensive judgments of destination safety and risk messages (Wang and Lopez 2020; Xie et al. 2021), depending on the adopted information processing model (e.g., HSM) (Aliperti and Cruz 2019). HSM suggests that information processing is the premise of behavioral responses (Chaiken 1980; Ryu and Kim 2015), while perceived safety is an antecedent of travel intention (Sano and Sano 2019; Xie, Zhang, and Morrison 2021). Thus, information processing and perceived safety constitute evaluative and response bases of tourists' travel decisions during crises and shape tourists' travel intentions.

Under the stimulus–organism–response framework, external stimuli trigger individuals' information processing and internal states followed by behavioral responses (Mehrabian and Russell 1974). Information processing and internal states thus mediate the impacts of external stimuli on behavioral responses. Accordingly, when tourists receive destinations' crisis communication, they begin processing the information and forming crisis-related perceptions, which then influence their travel decisions. Tourists' crisis information processing and perceived safety therefore mediate the effectiveness of destinations' crisis communication strategies. The impact of destinations' crisis communication on travel intention is also supported by and mediated through information processing and perceived safety. The mediating effect of destinations' crisis communication on tourists' travel intentions entails a dual mediation process under the dual-processing approach (i.e., heuristic and systematic processing) when consuming crisis information (Chaiken 1980). Studies have shown that heuristic processing and systematic

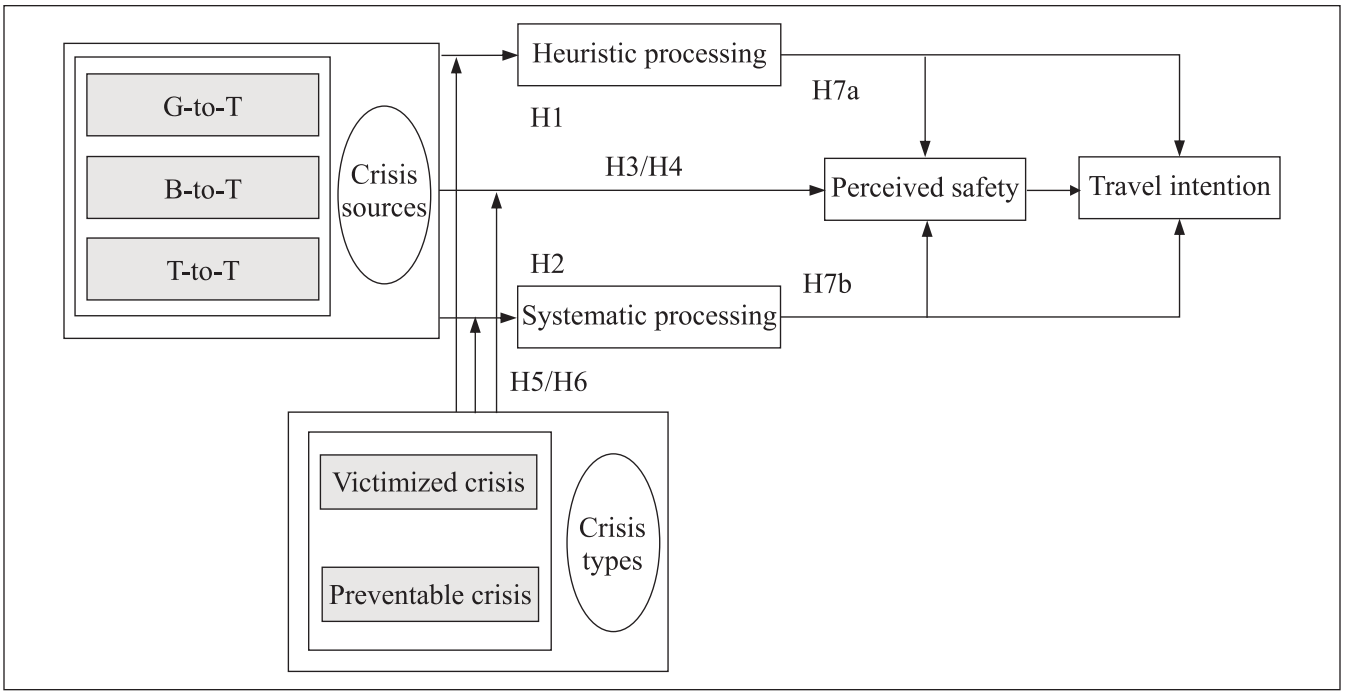

Figure 1. Conceptual.

processing significantly predict perceived risk and safety (Ryu and Kim 2015), and perceived safety mediates the effects of risk and crisis communication messages on travel intention (Liu-Lastres, Schroeder, and Pennington-Gray 2019). The following hypotheses are therefore proposed:

H7a: Heuristic processing and perceived safety mediate the effect of destinations' crisis communication on tourists' travel intentions.
H7b: Systematic processing and perceived safety mediate the effect of destinations' crisis communication on tourists' travel intentions.

The proposed conceptual model is shown in Figure 1.

Experiment 1

Design of Stimuli Materials of Victimized Crisis

A pilot test was conducted to assess the effectiveness of designed stimuli materials in a victimized crisis context. Jiuzhaigou, in Sichuan, China, is a national natural protected area. This national park is a famous tourist destination in China as well as abroad owing to its unique natural scenery. On August 8, 2017, a 7.0-magnitude earthquake occurred in Jiuzhaigou and seriously damaged its natural and cultural scenery, infrastructure, and ecological environment. The catastrophe received extensive media coverage. This earthquake served as the victimized crisis context in our study. To minimize the influences of time distance, personal experience, and geographic proximity, some details about the crisis were omitted from our experimental stimuli; participants were only exposed to key material that could induce varying levels of perceived risk (see Supplemental Appendix 1). Moreover, stimuli materials were optimized based on news reports of the earthquake. Six Ph.D. students ensured materials' content validity following in-depth discussion.

A pilot test was performed with 30 students at the authors' university to ensure the effectiveness of stimuli materials. Participants were asked to read the materials and then rate several items related to perceived risk on a 7-point Likert scale (1=*strongly disagree*, 7=*strongly agree*). Perceived risk was evaluated using Rimal and Real's (2003) instrument, consisting of two dimensions of perceived susceptibility and severity. Some items were revised slightly to suit our research context. These stimuli materials triggered participants' perceived risk and provided an appropriate crisis judgment situation for the formal experiment.

Design of Stimuli Materials on Destinations' Crisis Communication Sources

Crisis communication stimuli materials were designed based on three sources (i.e., the government, businesses, and other tourists). In line with Sano and Sano's (2019) recommendations, three key elements—ethos, logos, and pathos—were drawn from Andersen's (2001) classic rhetorical philosophy when designing these materials. Because this study intended to examine the cognitive rather than affective effects of crisis communication messages, only ethos and logos elements

were adopted to develop messages, including keywords such as "emergency response," "safety," "tourists returning," and "operating as usual" (see Supplemental Appendix 1). To compare the effects of crisis communication sources in natural decision-making contexts and to make the scenarios more realistic, G-to-T stimuli materials were combined with the local government's website announcement; B-to-T stimuli materials were based on a local travel agency's website; and T-to-T stimuli materials were based on tourists' reviews on Ctrip. Stimuli materials from different sources contained similar elements and were presented in the same way (e.g., font, size, color, and line width) to minimize bias from the message content and language. All materials were presented in Chinese and shared a similar writing style and syntax.

Procedures

A nationwide web-based survey was carried out via a leading market research platform in China (www.wenjuan.cn) as the formal experiment. A hyperlink to the survey was posted on major Chinese social media platforms, such as WeChat and QQ. Participants with travel experience were invited through convenience sampling and were randomly assigned to one of three groups (Group 1: G-to-T crisis communication; Group 2: B-to-T crisis communication; Group 3: T-to-T crisis communication). All participants were asked to read their assigned stimuli materials and then respond to a series of items on source credibility, heuristic/systematic processing, perceived safety, and travel intention. These items were followed by demographic questions, including gender, age, education, monthly income, travel frequency, and crisis experience. To ensure data quality, participants were informed there were no right or wrong answers and were assured of anonymity. Each item was measured using a 7-point Likert scale.

The measurement scales were adopted from previously validated research, and some items were revised slightly to suit our research context (Supplemental Appendix 2). Source credibility was measured using one item from Utz, Schultz, and Glocka (2013). HSM was evaluated with two items each based on Ryu and Kim's (2015) research (heuristic processing: Cronbach's $\alpha = 0.778$; systematic processing: Cronbach's $\alpha = 0.722$). Four items from Liu-Lastres, Schroeder, and Pennington-Gray (2019) and George (2010) were adapted to measure perceived safety (Cronbach's $\alpha = 0.844$). Travel intention was measured with one item based on Liu-Lastres, Schroeder, and Pennington-Gray (2019): participants were asked to rate their likelihood of visiting a particular destination. In addition, these multi-item constructs have been shown to be unidimensional in previous research design and validation processes. For example, Ryu and Kim (2015) used two items to measure heuristic and systematic processing, respectively, and these two constructs were unidimensional when examining the impact of each on individuals' perceived risk. George (2010) also identified perceived safety as a unidimensional construct based on a reliability test and confirmatory factor analysis. The English-language scales were translated into Chinese and then back-translated with the help of two tourism professors (one Chinese and one English) and five Ph.D. students. Three hundred questionnaires were returned; 257 were valid, yielding an 85.667% effective response rate. The final sample profile is summarized in Table 2.

Data Analysis

Data from Experiment 1 were analyzed using three steps in SPSS. First, descriptive analysis was conducted to determine the mean, skewness, and kurtosis of each item (Table 3). Second, a reliability analysis of multi-item variables (e.g., heuristic and systematic processing, perceived safety) was performed. Third, analyses of variance (ANOVAs) were carried out along with either a least significant difference (LSD) or Tamhane's T2 test to examine participants' responses to different communication sources.

Results

The dataset was examined for normality. All items' skewness (<3) and kurtosis (<8) values met Kline's (2011) recommended criteria. ANOVA was performed as a manipulation check of source credibility after exposing participants to stimuli materials from different sources. As expected, the three source types induced distinct source credibility: participants exposed to G-to-T and T-to-T materials indicated significantly higher source credibility than those exposed to T-to-T materials ($M_{\text{G-to-T}} = 5.420$, $M_{\text{B-to-T}} = 4.470$, $M_{\text{T-to-T}} = 5.118$, $F(2, 256) = 12.995$, $p = .000$). These results indicated that our manipulation check was effective and enabled us to investigate how crisis communication from three sources affected participants' information processing, perceived safety, and travel intentions.

A series of ANOVAs were conducted next, with either LSD or Tamhane's T2 test adopted for post hoc comparison. Heuristic processing, systematic processing, and perceived safety passed the homogeneity test of variance, but travel intention did not. As shown in Table 4 and Figure 2, significant differences emerged between crisis communication sources in terms of heuristic processing ($F(2, 256) = 22.299$, $p = 0.001$), perceived safety ($F(2, 256) = 15.883$, $p = 0.001$), and travel intention ($F(2, 256) = 7.597$, $p = 0.01$) in a victimized crisis context. No significant difference was observed between the three communication sources in terms of systematic processing ($F(2, 256) = 0.168$, $p = 0.845$). Post hoc results showed that participants who were exposed to G-to-T and T-to-T stimuli materials scored significantly higher on heuristic processing ($M_{\text{G-to-T}} = 4.642$, $M_{\text{B-to-T}} = 3.404$, $M_{\text{T-to-T}} = 4.586$), perceived safety ($M_{\text{G-to-T}} = 4.593$, $M_{\text{B-to-T}} = 3.693$, $M_{\text{T-to-T}} = 4.559$), and travel intention ($M_{\text{G-to-T}} = 5.025$, $M_{\text{B-to-T}} = 4.289$, $M_{\text{T-to-T}} = 4.903$) than those

Table 2. Sample Profile in Experiment 1.

Source type	G-to-T		B-to-T		T-to-T		Total	
Group	Group 1 ($n=81$)		Group 2 ($n=83$)		Group 3 ($n=93$)		($N=257$)	
Characteristics	*n*	%	*n*	%	*n*	%	*n*	%
Gender								
Male	39	48.2	32	38.6	41	44.1	112	43.6
Female	42	51.9	51	61.5	52	55.9	145	56.4
Age								
Below 18 years	2	2.5	7	8.4	0	0.0	9	3.5
18–25 years	30	37.0	53	63.9	37	39.8	120	46.7
26–35 years	34	42.0	22	26.5	40	43.0	96	37.4
36–45 years	6	7.4	1	1.2	12	12.9	19	7.4
Above 46 years	9	11.1	0	0.0	4	4.3	13	5.1
Education								
High school	7	8.6	13	15.7	1	1.1	21	8.2
Junior college	30	37.0	24	28.9	19	20.4	73	28.4
Undergraduate	33	40.7	40	48.2	61	65.6	134	52.1
Master	11	13.6	6	7.2	12	12.9	29	11.3
Monthly income								
≤2,500 CNY	10	12.4	34	41.0	13	14.0	57	22.2
2,501–5,000 CNY	21	25.9	21	25.3	16	17.2	58	22.6
5,001–10,000 CNY	38	46.9	20	24.1	54	58.1	112	43.6
10,001–20,000 CNY	5	6.2	8	9.6	10	10.8	23	9.0
≥20,001 CNY	7	8.6	0	0.0	0	0.0	7	2.7
Travel frequency								
Low	23	27.2	6	7.3	19	20.4	47	18.3
Middle	44	54.3	10	12.1	66	71.0	120	46.7
High	15	18.5	67	80.7	8	8.6	90	35.0
Crisis experience								
Yes	31	38.3	24	28.9	28	30.1	83	32.3
No	50	61.7	59	71.1	65	69.9	174	67.7

exposed to B-to-T stimuli materials. Thus, H1, H3, and H4 were supported but H2 was not.

Experiment 1 featured a quasi-experimental design. Convenience sampling and web-based surveys can impede experimental control and compromise randomization. Thus, to avoid interference from participants' demographics (e.g., age and travel frequency), analysis of covariance (ANCOVA) was performed to assess the effects of communication sources on participants' information processing, perceived safety, and travel intentions. The results showed that the communication source significantly predicted heuristic processing ($F(2, 248)=14.551$, $p=.000$), perceived safety ($F(2, 248)=15.334$, $p=.001$), and travel intention ($F(2, 248)=8.734$, $p=.001$). Its effect on systematic processing was not significant ($F(2, 248)=0.940$, $p=.392$). A paired comparative analysis indicated that participants who were exposed to G-to-T and T-to-T materials tended to adopt heuristic processing and scored higher on perceived safety and travel intentions. H1, H3, and H4 were again supported.

Experiment 1 demonstrated good external validity by targeting potential tourists in natural decision-making scenarios. However, the internal validity of this experiment may have been affected by irrelevant factors. To ensure the reliability and robustness of our results, another quasi-experiment (Experiment 2) involving university students was conducted. The matching strategies of crisis communication source and crisis type and their impacts on participants' travel intentions were examined along with the mediating effects of participants' heuristic/systematic processing and perceived safety on this association.

Experiment 2

Design of Stimuli Materials on Preventable Crisis

According to a travel complaint report published on the 3.15 platform of People's Daily Online, Yunnan has been China's most commonly cited area for national travel complaints since 2014. On November 11, 2016, a female tourist was robbed and attacked in Lijiang, Yunnan. The crime was extensively publicized via social media and had a devastating impact on the area's destination image and tourism

Table 3. Descriptive Statistic.

		Experiment 1				Experiment 2				Experiment 3			
Variables	Items	Mean	SD	Skewness	Kurtosis	Mean	SD	Skewness	Kurtosis	Mean	SD	Skewness	Kurtosis
Perceived risk													
Perceived severity	PSE01	5.206	1.463	−0.762	0.373	5.576	1.196	−0.558	−0.328	5.667	1.235	−0.937	0.942
	PSE02	5.482	1.389	−0.875	0.382	5.789	1.163	−0.857	0.466	5.819	1.259	−1.256	1.776
	PSE03	5.708	1.345	−1.037	0.647	6.347	0.967	−1.986	5.230	6.222	1.059	−1.777	4.273
Perceived susceptibility	PSU01	3.712	1.927	0.150	−1.116	2.895	1.224	0.437	0.420	4.348	1.597	−0.048	−0.778
	PSU02	4.198	1.909	−0.321	−0.991	3.731	1.591	−0.031	−0.651	4.568	1.751	−0.467	−0.676
	PSU03	4.093	1.815	−0.168	−1.005	3.390	1.433	0.286	−0.223	4.713	1.505	−0.401	−0.215
Source credibility	SC01	5.004	1.279	−0.763	1.128	3.929	0.921	−0.529	0.716	4.828	1.353	−0.657	0.567
HSM													
Heuristic processing	HP01	4.506	1.594	−0.370	−0.372	3.539	1.302	−0.013	0.118	4.258	1.491	0.005	−0.394
	HP02	3.938	1.636	−0.158	−0.796	2.882	1.294	0.618	0.710	4.403	1.424	−0.001	−0.484
Systematic processing	SP01	5.401	1.363	−0.941	0.928	5.486	0.989	−0.340	0.069	5.412	1.016	−0.111	−0.390
	SP02	5.265	1.281	−0.944	1.299	5.446	1.012	−0.349	−0.162	5.586	1.062	−0.323	−0.100
Perceived safety	PS01	4.405	1.343	−0.370	0.138	3.678	0.969	−0.429	0.698	4.794	1.231	−0.306	0.197
	PS02	4.607	1.489	−0.564	0.017	3.734	1.044	−0.372	0.503	4.740	1.219	−0.307	0.475
	PS03	3.891	1.671	0.007	−0.803	3.031	1.071	0.045	−0.048	4.387	1.453	−0.195	−0.293
	PS04	4.257	1.585	−0.245	−0.481	3.365	1.165	0.620	4.958	4.570	1.322	−0.357	0.331
Travel intention	TI01	4.743	1.339	−0.407	−0.092	3.806	1.153	−0.251	0.382	4.998	1.209	−0.297	0.340

Table 4. ANOVA Results of Experiment 1.

	G-to-T ($n=81$)		B-to-T ($n=83$)		T-to-T ($n=93$)		Homogeneity of variance	Total
Dependent variables	*M*	SD	*M*	SD	*M*	SD	Levene Statistic	*p*-Value
Heuristic processing	4.642	1.372	3.404	1.380	4.586	1.324	0.019	.000***
Systematic processing	5.272	1.110	5.374	1.287	5.350	1.134	0.704	.845
Perceived safety	4.593	1.162	3.693	1.325	4.559	1.032	2.140	.000***
Travel intention	5.025	1.162	4.289	1.581	4.903	1.143	7.436***	.001**

*$p < .05$; **$p < .01$; ***$p < .001$.

market. Therefore, "female tourist attacked in Lijiang" served as the preventable crisis context in this study. Corresponding stimuli materials were optimized based on news coverage of the incident, and six Ph.D. students ensured content validity (see Supplemental Appendix 1).

Procedures

This quasi-experiment was designed to investigate how participants responded to crisis messages from three sources when different crisis types were involved. A 2 (victimized vs. preventable) × 3 (G-to-T vs. B-to-T vs. T-to-T crisis communication) between-subjects factorial design was adopted. The experiment was conducted in a study room at a university in Shanghai using on-site convenience sampling. Participants were assigned to one of six matched groups (Group 1: G-to-T + victimized crisis; Group 2: B-to-T + victimized crisis; Group 3: T-to-T + victimized crisis; Group 4: G-to-T + preventable crisis; Group 5: B-to-T + preventable crisis; Group 6: T-to-T + preventable crisis). All participants were asked to read their assigned stimuli materials and then respond to a series of items related to source credibility, perceived risk (severity: Cronbach's $\alpha = 0.842$; susceptibility: Cronbach's $\alpha = 0.757$), heuristic/systematic processing (heuristic processing: Cronbach's $\alpha = 0.809$; systematic processing: Cronbach's $\alpha = 0.778$), perceived safety (Cronbach's $\alpha = 0.877$), and travel intention. Of the 330 distributed questionnaires, 323 were valid after excluding those with repetitious response patterns, random writing, and multiple missing values. There were ultimately 50 participants in Group 1, 53 in Group 2, 56 in Group 3, 57 in Group 4, 53 in Group 5, and 54 in Group 6. The sample consisted of 25.4% men and 74.6% women; the largest travel frequency group was moderate (2–3 times a year), and only 16.4% had encountered a similar crisis in the past.

Data Analysis

Data analysis consisted of the following four steps in SPSS: (1) descriptive analysis; (2) reliability analysis of

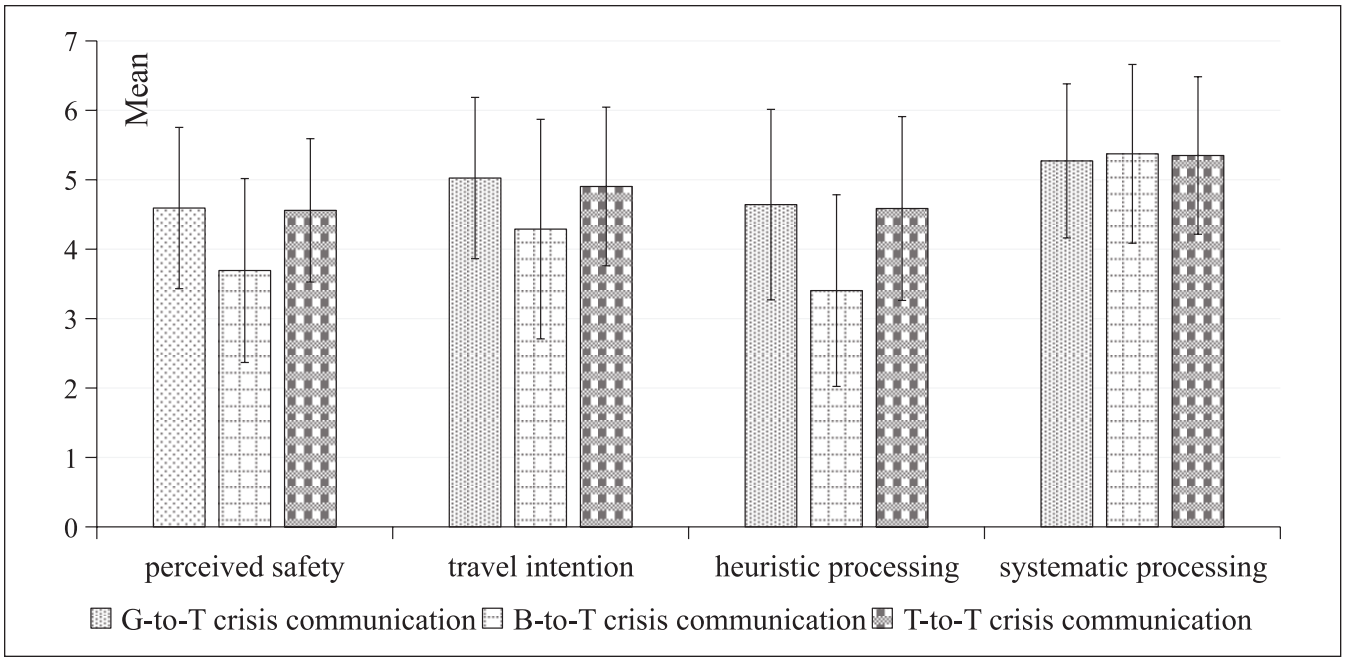

Figure 2. ANOVA results of Experiment 1.
Note: The error bar denote the SD.

multi-item variables; (3) ANOVA and either LSD or Tamhane's T2 tests (i.e., to examine participants' responses to destinations' crisis communication strategies based on crisis type and communication sources); and (4) deployment of the PROCESS macro to evaluate the mediating effects of participants' heuristic/systematic processing and perceived safety.

Results

Matching effect of crisis communication sources and crisis types. As in Experiment 1, the dataset was examined for normality. The skewness (<3) and kurtosis (<8) values of all items met Kline's (2011) suggested criteria. The manipulation check on crisis type showed that participants' perceived severity ($M_{victimized}$=5.725, $M_{preventable}$=6.077, *t*-3.306, *p* .001) and susceptibility ($M_{victimized}$=2.991, $M_{preventable}$=3.290, *t*=−2.263, *p*. 024) to a preventable crisis were significantly higher than to a victimized crisis. Meanwhile, the manipulation check on crisis communication source showed that participants exposed to G-to-T and T-to-T materials scored higher than those exposed to B-to-T materials ($M_{G\text{-}to\text{-}T}$=4.290, $M_{B\text{-}to\text{-}T}$=3.726, $M_{T\text{-}to\text{-}T}$=3.773, $F(2, 322)=13.286$, $p=.000$). These findings confirmed the usefulness of our manipulation.

Experiment 2 tested the robustness of findings from Experiment 1 before investigating the match strategies of crisis types and communication sources. Results revealed significant differences between crisis communication sources in terms of heuristic processing ($F(2,158)=14.420$, $p=.000$], perceived safety ([$F(2,158)=5.953$, $p=.03$), and travel intention ($F(2, 158)=2.685$, $p=.071$) in the context of a victimized crisis. No significant difference was observed between communication sources for systematic processing ($F(2, 158)=0.534$, $p=.588$). Post hoc results showed that participants who were exposed to G-to-T stimuli materials tended to adopt heuristic processing and scored highest on perceived safety and travel intention; participants exposed to B-to-T stimuli materials scored lowest. This pattern was largely consistent with that identified in Experiment 1. However, significant differences emerged between crisis communication sources in terms of heuristic processing ($F(2, 163)=6.858$, $p=.001$) and perceived safety ($F(2, 163)=4.436$, $p=.013$) in the context of a preventable crisis; no significant difference was found between communication sources for systematic processing ($F(2, 163)=2.249$, $p=.109$) and travel intention ($F(2, 163)=2.240$, $p=.110$). Post hoc results indicated that participants who were exposed to G-to-T and T-to-T stimuli materials tended to adopt heuristic processing. Participants scored highest on perceived safety when exposed to T-to-T stimuli materials and lowest on perceived safety when exposed to B-to-T stimuli materials. Tourists' responses to destinations' crisis communication sources thus may be moderated and intervened by crisis types.

As presented in Table 5 and Figure 3, except for systematic processing, heuristic processing, perceived safety, and travel intentions each passed the homogeneity test of variance. Significant differences were identified between crisis communication matching groups in terms of heuristic processing ($F(5, 322)=9.867$, $p=.000$), perceived safety ($F(5,$

Table 5. ANOVA Results of Experiment 2.

	Group 1 ($n=50$)		Group 2 ($n=53$)		Group 3 ($n=56$)		Group 4 ($n=57$)		Group 5 ($n=53$)		Group 6 ($n=54$)		Homogeneity of variance	Total
Dependent variables	*M*	SD	*M*	SD	*M*	SD	*M*	SD	*M*	SD	*M*	SD	Levene Statistic	*p*-Value
Heuristic processing	4.060	1.058	3.057	0.959	3.107	1.167	3.456	1.244	2.642	1.089	2.982	1.137	0.777	.000***
Systematic processing	5.320	0.925	5.500	0.707	5.455	1.076	5.500	0.835	5.321	1.000	5.685	0.826	2.638*	.307
Perceived safety	3.880	0.846	3.415	0.707	3.415	0.809	3.272	1.014	3.113	0.954	3.653	0.923	1.466	.000***
Travel intention	4.260	0.965	3.774	1.154	3.900	1.164	3.667	1.155	3.396	1.132	3.870	1.198	0.391	.007**

Note: Group 1 = victimized crisis + G-to-T; Group 2 = victimized crisis + B-to-T; Group 3 = victimized crisis + T-to-T; Group 4 = preventable crisis + G-to-T; Group 5 = preventable crisis + B-to-T; Group 6 = preventable crisis + T-to-T.
*$p < .05$; **$p < .01$; ***$p < .001$.

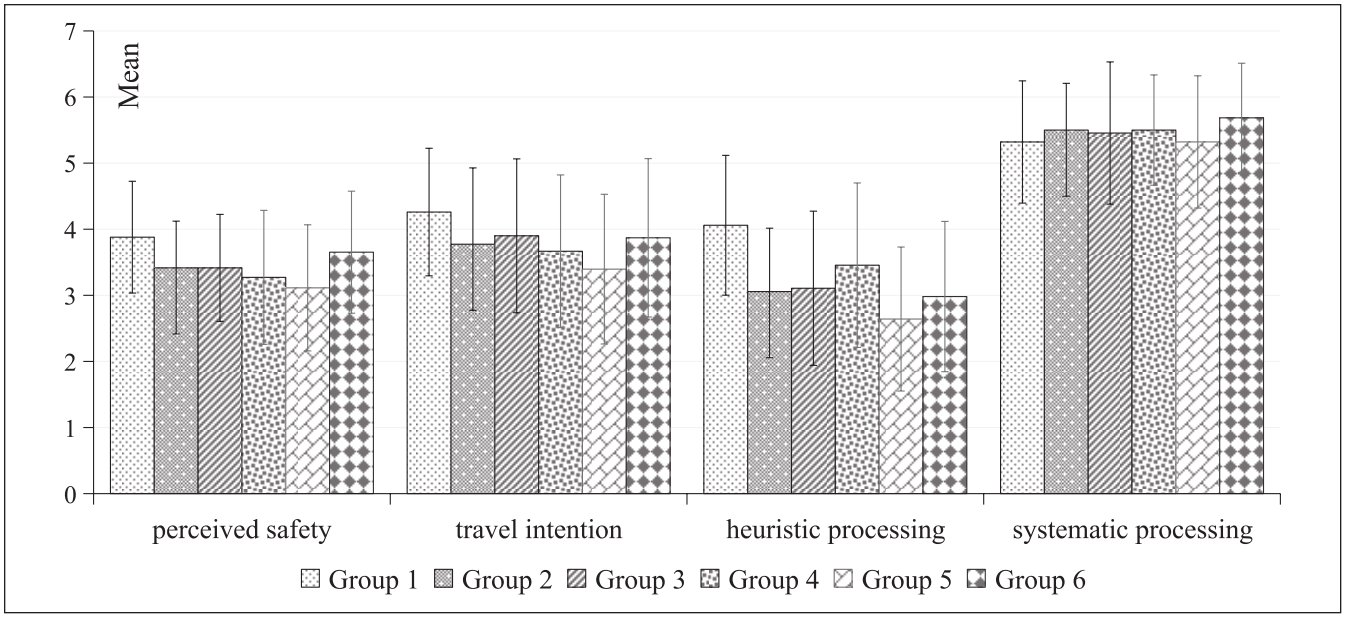

Figure 3. ANOVA results of Experiment 2.
Note: The error bar denote the SD.

322) = 4.982, $p = .000$), and travel intention ($F(5, 322) = 3.286$, $p = .007$). Regarding heuristic processing, post hoc results showed that participants who were exposed to G-to-T materials scored significantly higher on heuristic processing than those who were exposed to B-to-T and T-to-T materials for any crisis type, but particularly in the victimized crisis context. Participants who were exposed to B-to-T materials scored lowest on heuristic processing for any crisis type. Regarding perceived safety, post hoc results revealed that participants exposed to G-to-T materials scored significantly higher on perceived safety than those exposed to B-to-T and T-to-T materials in a victimized crisis context. Participants who were exposed to T-to-T materials scored significantly higher on perceived safety than those exposed to G-to-T and B-to-T materials in a preventable crisis context. Finally, participants who were exposed to G-to-T materials scored highest on perceived safety in a victimized crisis context, while those exposed to T-to-T materials scored highest on perceived safety in a preventable crisis context. Regarding travel intention, post hoc results also indicated that participants exposed to G-to-T materials scored significantly higher on travel intention than those who were exposed to B-to-T materials in a victimized crisis context. Participants exposed to T-to-T stimuli materials scored significantly higher on travel intention than those who were exposed to B-to-T materials in a preventable crisis context. Participants who were exposed to G-to-T materials scored highest on travel intentions in a victimized crisis context; participants exposed to B-to-T materials scored lowest on travel intentions in a preventable crisis context. H5 was therefore supported.

Mediating effects of tourists' heuristic/systematic processing and perceived safety. In line with suggestions from Hayes and Preacher (2014), we used the SPSS PROCESS macro to perform bootstrapping to test the mediating effects of participants' heuristic/systematic processing and perceived safety. This procedure returned mediating effect estimates for serial multiple mediators (Model 6 with two mediators), standard errors, and confidence intervals (CIs) derived from the bootstrap distribution with 5,000 estimates. Group 1 served as the reference group, and five dummy codes were created for the five other matched groups.

The mediation results of participants' heuristic processing and perceived safety appear in Table 6. Findings showed that heuristic processing positively predicted perceived safety (β = 0.281***, p = .000) and travel intention (β = 0.176**, p = .002), while perceived safety positively predicted travel intention (β = 0.471***, p = .000). In terms of between-group differences, Group 2 tended to demonstrate lower heuristic processing than Group 1 (β = −1.010***, p = .000), with no significant differences in perceived safety and travel intention between them. Mediation results indicated that, in Models 2-1 and 2-3, heuristic processing mediated the relationship between Group 2 and travel intention (β = −0.177, 95% CI: [−0.361, −0.032]). Heuristic processing and perceived safety co-mediated the relationship between Group 2 and travel intention (β = −0.134, 95% CI: [−0.231, −0.062]).

Group 3 generally exhibited lower heuristic processing than Group 1 (β = −0.920***, p = .000), and no significant differences were identified between them in terms of perceived safety and travel intention. The mediation results showed that, in Models 3-1 and 3-3, heuristic processing mediated the relationship between Group 3 and travel intention (β = −0.161, 95% CI: [−0.342, −0.027]). Heuristic processing and perceived safety co-mediated the relationship between Group 3 and travel intention (β = −0.122, 95% CI: [−0.223, −0.049]). Group 4 mostly displayed lower heuristic processing (β = −0.613**, p = .005) and perceived safety (β = −0.467**, p = .004) than Group 1 with no apparent significant differences in travel intention. The mediation results also revealed that, for Models 4-1, 4-2, and 4-3, heuristic processing mediated the relationship between Group 4 and travel intention (β = −0.108, 95% CI: [−0.255, −0.011]); perceived safety mediated the relationship between Group 4 and travel intention (β = −0.220, 95% CI: [−0.414, −0.054]); and heuristic processing and perceived safety co-mediated the relationship between Group 4 and travel intention (β = −0.081, 95% CI: [−0.170, −0.020]).

Group 5 tended to have lower heuristic processing (β = −1.452***, p = .000) and perceived safety (β = −0.408*, p = .020) than Group 1, and no significant differences appeared in travel intention between them. The mediation results showed that, among Models 5-1, 5-2, and 5-3, heuristic processing mediated the relationship between Group 5 and travel intention (β = −0.255, 95% CI: [−0.503, −0.045]); perceived safety mediated the relationship between Group 5 and travel intention (β = −0.192, 95% CI: [−0.391, −0.026]); and heuristic processing and perceived safety co-mediated the relationship between Group 5 and travel intention (β = −0.192, 95% CI: [−0.352, −0.097]). Group 6 largely displayed lower heuristic processing (β = −1.083***, p = .000) than Group 1, and no significant differences emerged in perceived safety and travel intention between them. Mediation results revealed that, for Models 6-1 and 6-3, heuristic processing mediated the relationship between Group 6 and travel intention (β = −0.190, 95% CI: [−0.401, −0.030]), and heuristic processing and perceived safety co-mediated the relationship between Group 6 and travel intention (β = −0.143, 95% CI: [−0.249, −0.063]). H7a was accordingly supported.

The mediation results of participants' systematic processing and perceived safety are listed in Table 7. Systematic processing had no impact on perceived safety and travel intention, whereas perceived safety positively predicted travel intention (β = 0.551***, p = .000). In terms of between-group differences, only Group 6 tended to have higher systematic processing than Group 1 (β = 0.370*, p = .039); only Group 5 tended to have lower travel intentions than Group 1 (β = −0.418*, $p < .049$); and Groups 2, 3, 4, and 5 tended to have lower perceived safety than Group 1. The mediation results indicated that systematic processing (independent or with perceived safety) did not play a significant mediating role between matching strategies and travel intention. Additionally, except for Group 6, perceived safety mediated the relationship between matching strategies and travel intention. H7b was therefore partially supported.

Experiment 3

Design of Stimuli Materials of Victimized Crisis

The COVID-19 pandemic has significantly affected destinations' crisis management, tourists' travel decisions, and travelers' perceptions and processing of crisis communication. Thus, to ensure the reliability of our conclusions, another experiment was conducted based on the pandemic. The moderating effect of crisis type on the impacts of crisis communication source on heuristic/systematic processing, perceived safety, and travel intention were examined. COVID-19 is a global health crisis that has threatened tourists, industries, and destinations. The pandemic is a victimized crisis; "COVID-19 outbreak in Wuhan" served as the victimized crisis context in Experiment 3. The stimuli material was designed and optimized based on news coverage of the incident, and six Ph.D. students ensured content validity (see Supplemental Appendix 1). "Female tourist attacked in Lijiang" served as the preventable crisis context.

Procedures

This experiment involved a 2 (victimized vs. preventable) × 3 (G-to-T vs. B-to-T vs. T-to-T crisis communication)

Table 6. Mediation Effect of Heuristic Processing and Perceived Safety (Experiment 2).

	Heuristic processing (MV1)		Perceived safety (MV2)		Travel intention (DV)	
Independent variables	β	95% CI	β	95% CI	β	95% CI
Direct effect						
Gender	−0.108	−0.396, 0.180	−0.109	−0.322, 0.104	0.186	−0.076, 0.448
Travel frequency	0.067	−0.082, 0.215	−0.015	−0.124, 0.095	0.035	−0.100, 0.169
Crisis experience	0.104	−0.231, 0.439	0.199	−0.048, 0.447	0.076	−0.230, 0.381
Group 2	−1.010***	−1.448, −0.572	−0.209	−0.542, 0.125	−0.042	−0.453, 0.368
Group 3	−0.920***	−1.349, −0.490	−0.193	−0.519, 0.132	0.037	−0.364, 0.438
Group 4	−0.613**	−1.040, −0.186	−0.467**	−0.786, −0.148	−0.191	−0.588, 0.206
Group 5	−1.452***	−1.890, −1.014	−0.408*	−0.752, −0.064	−0.230	−0.656, 0.197
Group 6	−1.083***	−1.517, −0.649	0.054	−0.278, 0.386	−0.081	−0.490, 0.327
Heuristic processing	-	-	0.281***	0.199, 0.363	0.176**	0.067, 0.284
Perceived safety	-	-	-	-	0.471***	0.334, 0.608
R^2	0.139***		0.2018***		0.254***	
F	6.282		8.734		10.563	
Mediation effect						
Group 2						
Model 2-1	•		-		−0.177	−0.361, −0.032
Model 2-2	-		◎		−0.098	−0.261, 0.053
Model 2-3	•		•		−0.134	−0.231, −0.062
Group 3						
Model 3-1	•		-		−0.161	−0.342, −0.027
Model 3-2	-		◎		−0.098	−0.254, 0.071
Model 3-3	•		•		−0.122	−0.223, −0.049
Group 4						
Model 4-1	•		-		−0.108	−0.255, −0.011
Model 4-2	-		•		−0.220	−0.414, −0.054
Model 4-3	•		•		−0.081	−0.170, −0.020
Group 5						
Model 5-1	•		-		−0.255	−0.503, −0.045
Model 5-2	-		•		−0.192	−0.391, −0.026
Model 5-3	•		•		−0.192	−0.316, −0.097
Group 6						
Model 6-1	•		-		−0.190	−0.401, −0.030
Model 6-2	-		◎		0.026	−0.135, 0.201
Model 6-3	•		•		−0.143	−0.249, −0.063

Note: • = significant mediating effect; ◎ = non-significant mediating effect; for example, Model 2-1 showed that heuristic processing mediated the effect of Group 2 and tourist travel intention; Group 1 = victimized crisis + G-to-T; Group 2 = victimized crisis + B-to-T; Group 3 = victimized crisis + T-to-T; Group 4 = preventable crisis + G-to-T; Group 5 = preventable crisis + B-to-T; Group 6 = preventable crisis + T-to-T.
*$p < .05$. **$p < .01$. ***$p < .001$.

between-subjects factorial design. A nationwide web-based survey was carried out, and the hyperlink to the survey was posted on major Chinese social media platforms. Participants with travel experience were recruited through convenience sampling. All participants were asked to read their assigned stimuli materials and then respond to a series of items related to source credibility, perceived risk (severity: Cronbach's $\alpha = 0.772$; susceptibility: Cronbach's $\alpha = 0.879$), heuristic/systematic processing (heuristic processing: Cronbach's $\alpha = 0.809$; systematic processing: Cronbach's $\alpha = 0.729$), perceived safety (Cronbach's $\alpha = 0.903$), and travel intention. In total, 600 questionnaires were returned and 442 were valid, yielding a 73.67% effective response rate. The final sample profile is outlined in Table 8.

Data Analysis

Data analysis for Experiment 3 consisted of several steps: (1) descriptive analysis; (2) reliability analysis of multi-item variables and confirmatory factor analysis (CFA) based on structural equation modeling; (3) ANOVA and either LSD or Tamhane's T2 tests; (4) deployment of the PROCESS macro; and (5) multivariate analysis of variance (MANOVA) to test the moderating effect of crisis types.

Table 7. Mediation Effect of Systematic Processing and Perceived Safety (Experiment 2).

	Systematic processing (MV1)		Perceived safety (MV2)		Travel intention	
Independent variables	β	95% CI	β	95% CI	β	95% CI
Direct effect						
Gender	−0.101	−0.335, 0.133	−0.144	−0.371, 0.084	0.180	−0.086, 0.446
Travel frequency	0.027	−0.093, 0.148	0.005	−0.112, 0.122	0.046	−0.091, 0.182
Crisis experience	0.164	−0.108, 0.436	0.236	−0.029, 0.501	0.073	−0.238, 0.384
Group 2	0.166	−0.190, 0.521	−0.486**	−0.832, −0.140	−0.183	−0.592, 0.226
Group 3	0.132	−0.216, 0.481	−0.446*	−0.785, −0.107	−0.091	−0.491, 0.309
Group 4	0.161	−0.186, 0.507	−0.632***	−0.970, −0.295	−0.250	−0.653, 0.152
Group 5	−0.036	−0.391, 0.319	−0.818***	−1.163, −0.473	−0.418*	−0.836, −0.001
Group 6	0.370*	0.018, 0.722	−0.234	−0.579, 0.111	−0.258	−0.661, 0.146
Systematic processing	-	-	−0.043	−0.152, 0.065	0.017	−0.109, 0.144
Perceived safety	-	-	-	-	0.551***	0.421, 0.682
R^2	0.027		0.087		0.230***	
F	1.080		3.305		9.248	
Mediation effect						
Group 2						
Model 2-1	◎		-		0.003	−0.031, 0.046
Model 2-2	-		•		−0.268	−0.475, −0.089
Model 2-3	◎		◎		−0.004	−0.026, 0.010
Group 3						
Model 3-1	◎		-		0.002	−0.031, 0.047
Model 3-2	-		•		−0.246	−0.453, −0.070
Model 3-3	◎		◎		−0.003	−0.027, 0.012
Group 4						
Model 4-1	◎		-		0.003	−0.033, 0.045
Model 4-2	-		•		−0.349	−0.596, −0.135
Model 4-3	◎		◎		−0.004	−0.028, 0.010
Group 5						
Model 5-1	◎		-		−0.001	−0.031, 0.031
Model 5-2	-		•		−0.451	−0.713, −0.234
Model 5-3	◎		◎		0.001	−0.015, 0.018
Group 6						
Model 6-1	◎		-		0.006	−0.050, 0.077
Model 6-2	-		◎		−0.129	−0.327, 0.068
Model 6-3	◎		◎		−0.009	−0.044, 0.016

Note: • = significant mediating effect; ◎ = non-significant mediating effect; Group 1 = victimized crisis + G-to-T; Group 2 = victimized crisis + B-to-T; Group 3 = victimized crisis + T-to-T; Group 4 = preventable crisis + G-to-T; Group 5 = preventable crisis + B-to-T; Group 6 = preventable crisis + T-to-T.
*$p < .05$. **$p < .01$.***$p < .001$.

Results

Robustness check. The dataset was examined for normality. All skewness (<3) and kurtosis (<8) values met Kline's (2011) criteria. The manipulation check on crisis type indicated significant differences between crisis types in terms of perceived severity ($t = -2.072$, $p = .039$) and susceptibility ($t = 14.091$, $p = .000$). The manipulation check on crisis communication source showed that participants exposed to G-to-T and T-to-T stimuli materials scored significantly higher than those exposed to B-to-T materials ($F(2, 441) = 7.858$, $p = .000$). These results reflected the usefulness of the manipulation. In addition, the CFA results were close to the recommended levels: $\chi^2/df = 2.862$ (1<, <3); RMSEA = 0.065 (<0.08), SRMR = 0.039 (<0.08), CFI = 0.960 (>0.9), NFI = 0.940 (>0.9), RFI = 0.918 (>0.9), TLI = 0.945 (>0.9), GFI = 0.942 (>0.9). Items' standardized factor loadings ranged between 0.601 and 0.905. The average variance extracted for each construct exceeded 0.5 and composite reliability values surpassed 0.7, suggesting good convergent validity.

Before investigating the moderating effect of crisis types, Experiment 3 again tested the reliability of the results of Experiment 1 under the influence of COVID-19. The mediating effects of heuristic/systematic processing and perceived

Table 8. Sample Profile in Experiment 3.

Crisis type	Victimized crisis						Preventable crisis							
Source type	G-to-T		B-to-T		T-to-T		G-to-T		B-to-T		T-to-T			
Group	Group 1 ($n=73$)		Group 2 ($n=73$)		Group 3 ($n=73$)		Group 4 ($n=73$)		Group 5 (n=74)		Group 6 ($n=76$)		Total	
Characteristics	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Gender														
Male	29	39.7	27	37.0	36	49.3	30	41.1	22	29.7	23	30.3	167	37.8
Female	44	60.3	46	63.0	37	50.7	43	58.9	52	70.3	53	69.7	275	62.2
Age														
Below 18 years	0	0	1	1.4	0	0	1	1.4	0	0	0	0	2	0.5
18–25 years	20	27.4	21	28.8	21	28.8	29	39.7	23	31.1	17	22.4	131	29.6
26–35 years	28	38.4	32	43.8	23	31.5	15	20.5	14	18.9	28	36.8	140	31.7
36–45 years	18	24.7	17	23.3	24	32.9	16	21.9	24	32.4	16	21.1	115	26.0
Above 46 years	7	9.6	2	2.8	5	6.8	12	16.5	13	17.6	15	19.7	54	12.2
Education														
High school	3	4.1	6	8.2	1	1.4	6	8.2	4	5.5	6	7.9	26	5.9
Junior college	5	6.8	7	9.6	8	11.0	8	11.0	6	8.1	11	14.5	45	10.2
Undergraduate	55	75.3	52	71.2	51	69.9	42	57.5	54	73.0	42	55.3	296	67.0
Master	10	13.7	8	11.0	13	17.8	17	23.3	10	13.5	17	22.4	75	17.0
Monthly income														
≤2,500 CNY	12	16.4	13	17.8	11	15.1	20	27.4	23	31.1	12	15.8	91	20.6
2,501–5,000 CNY	14	19.2	18	24.7	14	19.2	12	16.4	13	17.6	24	31.6	95	21.5
5,001–10,000 CNY	39	53.4	28	38.4	36	49.3	22	30.1	22	29.7	27	35.5	174	39.4
10,001–20,000 CNY	5	6.8	11	15.1	9	12.3	8	11.0	11	14.9	8	10.5	52	11.8
≥20,001 CNY	3	4.1	3	4.1	3	4.1	11	15.1	5	6.8	5	6.6	30	6.8
Travel frequency														
Low	27	37.0	34	46.5	35	47.9	35	47.9	41	55.4	37	48.7	209	47.3
Middle	31	42.5	29	39.7	25	34.2	27	37.0	25	33.8	30	39.5	167	37.8
High	15	20.6	10	13.7	13	17.8	11	15.0	8	10.9	9	11.8	66	14.9
Crisis experience														
Yes	22	30.1	14	19.2	20	27.4	7	9.6	6	8.1	6	7.9	75	17.0
No	51	69.9	59	80.8	53	72.6	66	90.4	68	91.9	70	92.1	367	83.0

safety between destinations' crisis communication strategies and travel intention were also tested. Findings on the direct effect (Experiment 1) revealed significant differences between crisis communication sources in terms of heuristic processing ($F(2, 218)=9.353$, $p=.001$), perceived safety ($F(2, 218)=5.898$, $p=.003$), and travel intention ($F(2, 218)=5.065$, $p=.007$) in the COVID-19 context. No significant difference was found between communication sources for systematic processing ($F(2, 218)=0.213$, $p=.808$). Post hoc results showed that participants who were exposed to G-to-T and T-to-T materials tended to adopt heuristic processing and scored highest on perceived safety and travel intention when exposed to G-to-T materials. Participants exposed to B-to-T materials scored lowest on perceived safety and travel intention. These outcomes essentially concur with those of Experiment 1.

The mediating effect results also showed that destinations' crisis communication strategies based on crisis types and crisis sources significantly predicted participants' heuristic processing, perceived safety, and travel intentions. Further, heuristic processing mediated the impacts of destinations' crisis communication strategies on travel intention. The impact of destinations' crisis communication strategies on participants' systematic processing was not significant, nor was the mediating effect of systematic processing between destinations' crisis communication strategies and travel intention. These patterns accord with those of Experiment 2. The findings from Experiments 1 and 2 are thus highly reliable and robust.

The moderating effect of crisis type. Table 9 and Figure 4 depict the moderating effect of crisis types on the impact of crisis communication sources on participants' heuristic/systematic processing, perceived safety, and travel intention. After including participants' gender, age, monthly income, education, travel frequency, and crisis experience as covariates, communication sources significantly predicted heuristic processing ($F(2, 430)=6.289$, $p=.002$), perceived safety ($F(2, 430)=6.855$, $p=.001$), and travel intention ($F(2, 430)=5.974$, $p=.003$). The impact of communication sources on systematic processing was not significant ($F(2, 430)=.165$, $p=.848$). As such, H1, H3, and H4 were reconfirmed.

Moreover, the interaction terms of crisis type and communication source significantly predicted heuristic processing ($F(2, 430)=3.075$, $p=.047$), perceived safety ($F(2, 430)=4.174$, $p=.016$), and travel intention ($F(2, 430)=3.679$, $p=.026$); that is, crisis type played a significant moderating role between communication source and heuristic processing, perceived safety, and travel intention. The interaction term of crisis type and communication source did not significantly predict systematic processing, suggesting that crisis type exerted no significant moderating effect between communication source and systematic processing.

As displayed in Figure 4a, regardless of crisis type, participants who were exposed to G-to-T materials scored highest on heuristic processing; those exposed to T-to-T materials had moderate scores on heuristic processing; and those exposed to B-to-T materials scored lowest on heuristic processing. Compared with preventable crisis situations, participants tended to adopt heuristic processing in victimized crisis situations when exposed to G-to-T and T-to-T materials. This effect was particularly evident when the messages came from government sources. However, scores on heuristic processing were not much different when participants were exposed to B-to-T materials. As presented in Figure 4b and c, when exposed to stimuli materials from any source, participants scored higher on perceived safety and travel intention in the victimized crisis situation than in the preventable crisis situation. Moreover, in the victimized crisis situation, participants exposed to G-to-T materials scored highest on perceived safety and travel intention while those exposed to B-to-T materials scored lowest on these constructs. In the preventable crisis situation, participants exposed to T-to-T materials scored highest on perceived safety and travel intention whereas those exposed to B-to-T materials scored lowest on these constructs. These results suggest that participants' perceived safety and travel intentions in response to G-to-T crisis communication tended to be more positive in the victimized crisis situation, whereas their responses to T-to-T crisis communication were generally more positive in the preventable crisis situation. H6 was therefore supported.

Conclusion and Discussion

Conclusion

Based on three progressive experiments, this study explored the effect of the match between destinations' crisis communication sources (i.e., the government, businesses, and tourists) and crisis types (i.e., victimized and preventable crises) on participants' travel intentions. The mediating role of participants' heuristic/systematic processing and perceived safety in the above relationships was also examined. The main conclusions are as follows.

First, destinations' crisis communication based on different sources significantly affected participants' heuristic processing, perceived safety, and travel intentions. Experiment 1 showed that participants expressed high source credibility when exposed to G-to-T and T-to-T stimuli materials in a victimized crisis context. These participants scored higher on heuristic processing, perceived safety, and travel intentions. By contrast, participants exposed to B-to-T stimuli materials scored lower on heuristic processing, perceived safety, and travel intentions. These findings suggest that the crisis communication source represents a critical factor in determining the effectiveness of destinations' crisis responses. Similarly, the effectiveness of crisis communication was found to be

Table 9. The Moderation Effect of Crisis Type.

	Heuristic processing		Systematic processing		Perceived safety		Travel intention	
Variables	Mean square	*F*	Mean square	*F*	Mean square	*F*	Mean square	*F*
Covariates								
Gender	1.115	0.681	0.035	0.041	2.440	2.369	5.369	4.854*
Age	4.246	2.591	1.675	1.959	5.112	4.963*	3.370	3.047†
Monthly income	0.265	0.162	0.060	0.070	0.282	0.273	0.004	0.003
Education	0.033	0.020	0.123	0.144	2.789	2.708	1.219	1.102
Travel frequency	2.266	1.383	0.001	0.001	7.738	7.513**	6.439	5.821*
Crisis experience	18.562	11.326***	0.344	0.402	9.130	8.865**	4.155	3.757†
Direct effect								
Independent variable								
Communication source (A)	10.307	6.289**	0.141	0.165	7.060	6.855**	6.608	5.974**
Moderation variable								
Crisis type (B)	5.051	3.082†	3.046	3.564†	61.970	60.169***	94.681	85.597***
Moderation effect								
Interaction term								
A × B	5.039	3.075*	0.084	0.099	4.299	4.174*	4.070	3.679*

***$p < .001$. **$p < .01$. *$p < .05$. †$p < 0.1$.

relatively strong through government and tourist sources in a victimized crisis context.

Second, crisis type demonstrated a matching effect relative to the impact of the crisis communication source on participants' information processing, perceived safety, and travel intentions. Six matching strategies, composed of crisis communication sources (i.e., the government, businesses, and tourists) and crisis types (i.e., victimized and preventable), were created. Experiment 2 revealed significant differences in participants' information processing, perceived safety, and travel intentions when exposed to different matching strategies. For example, participants who were exposed to "G-to-T + victimized crisis" scored highest on heuristic processing, perceived safety, and travel intentions, whereas those exposed to "T-to-T + preventable crisis" scored highest on perceived safety and travel intentions. The moderating effect of crisis type on the impact of crisis communication source on heuristic processing, perceived safety, and travel intention was confirmed in Experiment 3. These results indicate that the effectiveness of destinations' crisis communication is thus affected by crisis communication sources and crisis types; as such, destinations should adopt tailored crisis communication sources.

Third, participants' heuristic/systematic processing and perceived safety mediated the impacts of crisis communication matching strategies on their intentions. Specifically, heuristic processing (either independently or with perceived safety) mediated the effects of crisis communication matching strategies on individuals' travel intentions, but this mediation was not significant in a systematic processing context. In addition, perceived safety mediated the effects of crisis communication matching strategies on participants' travel intentions. These patterns indicated that the effect of destinations' crisis communication on participants' travel intentions required the mediation and transformation of participants' heuristic processing and perceived safety.

Theoretical Implications

First, based on situational crisis communication theory, this study established crisis communication matching strategies based on destinations' crisis communication sources and crisis types. Findings offer novel insight and research directions related to crisis communication in tourism. Traditional situational crisis communication theory has constructed matching relationships between crisis situations and crisis response strategies and recommended that organizations should adopt appropriate response strategies per crisis type to achieve optimal effectiveness (Coombs 2007). Situational crisis communication theory has mostly been applied in corporate crisis research, guiding organizations in impactful crisis communication (Sano and Sano 2019; Schultz, Utz, and Göritz 2011; Utz, Schultz, and Glocka 2013). However, this effectiveness requires more empirical research in destination crisis situations—particularly amid a major global health crisis that poses serious threats to both individuals and industries. Furthermore, although the crisis communication source represents a key component in the effectiveness of crisis communication, the match between communication sources and crisis types (and its impact) has received less attention. Accordingly, this study identified three destinations' crisis communication patterns based on message sources: G-to-T, B-to-T, and T-to-T. The matching strategy for crisis communication and its effect were constructed relative to two extremes (i.e., victimized

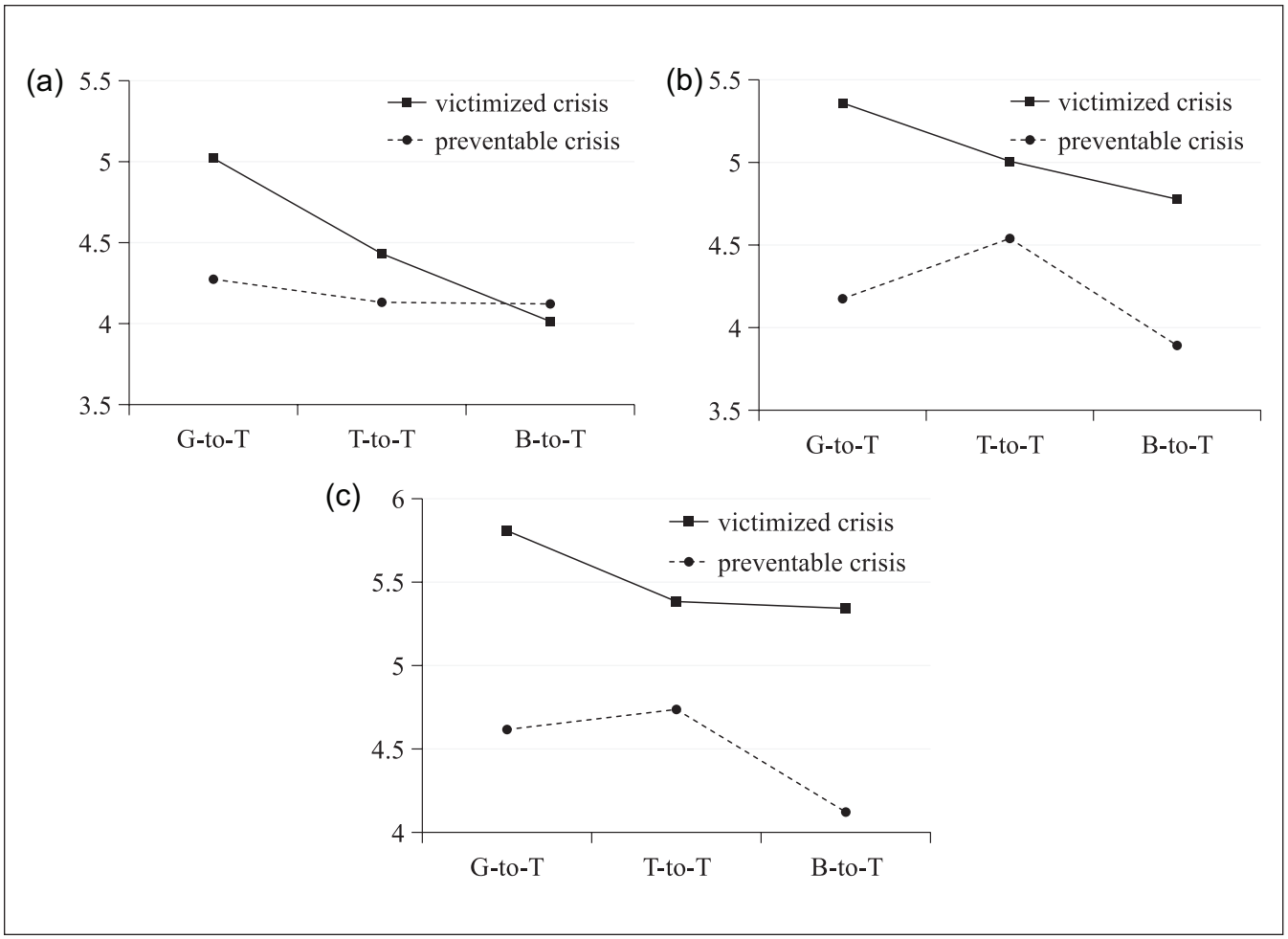

Figure 4. The moderation effect of crisis. (a) Heuristic processing. (b) Perceived safety. (c) Travel intention.

and preventable crises). The effect on travel intention was examined based on multiple crisis situations (e.g., natural disaster, COVID-19). In short, this research advances the application of situational crisis communication theory in tourism. Findings have also verified this theory's effectiveness in multiple destination crises and extended the theory from a communication source perspective.

Second, this research revealed how tourists process and respond to crisis communication based on HSM. The results enhance our understanding of the relationships among crisis messages, individuals' perceived safety, and travel intention. The roles of tourists' information reception and processing in destination crisis situations remain underexplored (Aliperti and Cruz 2019; Cahyanto and Pennington-Gray 2015; Ryu and Kim 2015). HSM involves contrasting models of heuristic and systematic information processing and features three hypotheses related to the models' complementarity: the attenuation hypothesis, additivity hypothesis, and bias hypothesis (Chaiken and Maheswaran 1994). Results confirmed that tourists tend to adopt heuristic processing in destinations' crisis communication contexts. Heuristic processing also mediated the effect of destinations' crisis communication on participants' travel intentions. Potentially, tourists' systematic processing motivation is low in crisis situations. Heuristic cues and messages sculpt tourists' decision-making expectations, which causes heuristic processing to bias systematic processing. These findings offer empirical evidence and a theoretical basis for how heuristic and systematic processing relate in tourism crisis communication. This study may also partially explain why destinations can quickly restore their tourism markets post-crisis. Results further contextualize tourists' irrational post-crisis travel decisions, providing a novel perspective on the affiliated "travel intention debate" amid crises. Theoretically, this research uncovers tourists' behavioral responses to crisis contexts from an information processing perspective, thereby extending HSM to tourism crisis communication. Findings provide a theoretical basis and empirical evidence for analyzing tourists' information processing.

Practical Implications

First, destination government organizations (DGOs) should establish heuristic processing–based crisis communication

agendas for tourists; destination corporation organizations (DCOs) should develop systematic processing–based crisis communication strategies. DGOs' core responsibility in crisis communication is to issue authoritative messages to direct the public's attention to crisis events. DGOs should also seek to accurately describe the superficial characteristics of messages when disclosing crisis information. For example, quantifiers, keywords, frequency words, and emotional terms can be used to describe crisis response and recovery efforts to limit the impact of a crisis and restore the public's confidence in destination safety. By contrast, DCOs' key task in crisis communication is to provide detailed information that is convincing to tourists. DCOs should thus strengthen their verification of message quality in terms of timeliness, persuasiveness, and authenticity. They should jointly release crisis information in partnership with other tourism companies to restore tourists' confidence in the safety of destinations' tourism products and business operations. DCOs should share detailed information about a crisis as well, including its cause, response, progress, casualties, and recovery effectiveness. Engaging in emotional communication and crisis interaction with the public can arouse tourists' sympathy. Meanwhile, destination management organizations (DMOs) should encourage tourists, especially those with a high number of social media followers or strong credibility, to share their personal travel experiences via social media or online tourism communities to attract potential tourists and repair destinations' image. DMOs should also carefully monitor tourists' online public opinions and ongoing conversations in order to better understand crisis situations and develop tailored communication strategies.

Second, DMOs should formulate crisis communication plans and response strategies that match the crisis type. Specifically, DMOs should develop appropriate crisis communication agendas in accordance with crisis type in advance and then draft an institutionalized operations handbook and response plan. This way, DMOs can immediately adopt effective communication strategies after a crisis to ensure a swift recovery. For example, during victimized crises such as natural disasters, DMOs should adopt "diminish" strategies and emphasize G-to-T crisis communication or crisis information from authoritative sources. Regarding preventable crises, such as manmade incidents, DMOs should adopt "rebuild" strategies, such as apology and compensation. They should also leverage T-to-T crisis communication and incentivize tourists to share their personal experiences online to restore the destination's image.

Third, DMOs should strengthen the comprehensive regulation of tourists' information reception and processing. DMOs should further highlight the supporting role of perceived safety in tourists' decision making during crisis situations to ensure effective crisis communication. These organizations can adopt analytical and narrative information communication techniques to educate tourists in safety-related knowledge and skills based on crisis events; doing so will activate tourists' systematic processing of crisis information and generate rational perceived safety and risk attitudes. Because tourists typically engage in heuristic processing based on the information sources and surface characteristics of crisis information, DMOs should strengthen their crisis information design by incorporating external and easily accessible cues to reduce tourists' temporary anxiety and travel fear after a crisis. Additionally, DMOs should accurately identify information elements involving risk and danger through keyword identification and public opinion monitoring. These steps will allow DMOs to develop corresponding agendas for reverse intervention and to improve tourists' perceived safety.

Limitations and Future Research Directions

This research has several limitations. First, this study explored the effect of matching destinations' crisis communication sources and crisis types in victimized and preventable crisis contexts. Crises can be divided into victimized, accidental, and preventable types, and such situations involve crisis responsibility, crisis history, and prior relational reputations (Coombs 2007). Future research should incorporate accidental crisis types and investigate the effects of destinations' crisis communication matching strategies combined with destinations' crisis history and prior reputations. Second, several variables (e.g., tourists' travel intentions, source credibility, and heuristic/systematic processing) were measured using one or two items. Relationships between variables were tested based on extant Western literature and surveys performed in mainland China, which may threaten the results' validity. Future research should adopt multi-item scales and recruit participants from diverse backgrounds to verify our conclusions. Third, although this research attempted to control bias from stimulus materials, the materials' information on communication sources may compromise the reliability of our findings. Additionally, because the three experiments used different stimuli, venues, and data collection approaches, their results may be less comparable. Future research should therefore either optimize the experimental design and stimuli materials or use other methods (e.g., big data, structural equation modeling) to confirm the conceptual model developed in this research. Fourth, based on HSM, this study investigated the mediating effect of tourists' information processing between destinations' crisis communication strategies and travel intention. Future research should explore the effects of other information processing models (e.g., the elaboration likelihood model). The synergistic impacts of tourists' risk tolerance, risk-taking propensity, and resilience should be explored as well. Fifth, in the new media era, destinations may communicate crisis information via multiple sources and channels. For example, DMOs may use social media influencers to spread crisis

information or publish related information on official websites. Future research should explore optimal matching strategies for destinations' crisis communication along with factors such as communication sources, channels, and audiences.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Funding supported by the National Natural Science Foundation of China (Grant No. 41971182) Humanities and Social Sciences Foundation of Ministry of Education of China (Grant No. 19YJAZH097).

ORCID iDs

Jiangchi Zhang https://orcid.org/0000-0001-5196-5521
Chaowu Xie https://orcid.org/0000-0002-2144-7392
You-De Dai https://orcid.org/0000-0002-7690-3236

Supplemental Material

Supplemental material for this article is available online.

References

Aliperti, G., and A. M. Cruz. 2019. "Investigating Tourists' Risk Information Processing." *Annals of Tourism Research* 79: 1–18.

Andersen, P. H. 2001. "Relationship Development and Marketing Communication: An Integrative Model." *Journal of Business and Industrial Marketing* 16 (3): 167–83.

Argenti, P. A. 2006. "How Technology Has Influenced the Field of Corporate Communication." *Journal of Business and Technical Communication* 20 (3): 357–70.

Austin, L., B. Fisher Liu, and Y. Jin. 2012. "How Audiences Seek Out Crisis Information: Exploring the Social-Mediated Crisis Communication Model." *Journal of Applied Communication Research* 40 (2): 188–207.

Avraham, E. 2015. "Destination Image Repair During Crisis: Attracting Tourism During the Arab Spring Uprisings." *Tourism Management* 47 (47): 224–32.

Avraham, E. 2016. "Destination Marketing and Image Repair During Tourism Crises: The Case of Egypt." *Journal of Hospitality and Tourism Management* 28: 41–8.

Avraham, E., and E. Ketter. 2008. *Media Strategies for Marketing Places in Crisis. Improving the Image of Cities, Countries and Tourist Destinations*. Great Britain: Elsevier Inc.

Avraham, E., and E. Ketter. 2017. "Destination Image Repair While Combatting Crises: Tourism Marketing in Africa." *Tourism Geographies* 19 (5): 780–800.

Ballrokeach, S. J. 1985. "The Origins of Individual Media-System Dependency a Sociological Framework." *Communication Research* 12 (4): 485–510.

Bhati, A. S., Z. Mohammadi, M. Agarwal, Z. Kamble, and G. Donough-Tan. 2021. "Motivating or Manipulating: The Influence of Health-Protective Behaviour and Media Engagement on Post-Covid-19 Travel." *Current Issues in Tourism* 24 (15): 2088–92.

Biran, A., W. Liu, G. Li, and V. Eichhorn. 2014. "Consuming Post-Disaster Destinations: The Case of Sichuan, China." *Annals of Tourism Research* 47: 1–17.

Breitsohl, J., and B. Garrod. 2016. "Assessing Tourists' Cognitive, Emotional and Behavioural Reactions to an Unethical Destination Incident." *Tourism Management* 54: 209–20.

Cahyanto, I., and L. Pennington-Gray. 2015. "Communicating Hurricane Evacuation to Tourists Gender, Past Experience With Hurricanes, and Place of Residence." *Journal of Travel Research* 54 (3): 329–43.

Cahyanto, I., M. Wiblishauser, L. Pennington-Gray, and A. Schroeder. 2016. "The Dynamics of Travel Avoidance: The Case of Ebola in the US." *Tourism Management Perspectives* 20: 195–203.

Cai, L. B., and X. T. Zhu. 2019. "Research on the Image Restoration Strategy of Tourism Destination Identity Under the Network Public Opinion Crisis Based on SCCT: Taking the Incident of Disfigurement in Lijiang as an Example." *Tourism and Hospitality Prospects* 3 (1): 21–42.

Castells, M. 2007. "Communication, Power and Counter-Power in the Network Society." *Journal of International Communication* 1: 239–66.

Chaiken, S. 1980. "Heuristic Versus Systematic Information Processing and the Use of Source Versus Message Cues in Persuasion." *Journal of Personality and Social Psychology* 39 (5): 752–66.

Chaiken, S., and A. H. Eagly. 1983. "Communication Modality as a Determinant of Persuasion: The Role of Communicator Salience." *Journal of Personality and Social Psychology* 45 (2): 241–56.

Chaiken, S., and D. Maheswaran. 1994. "Heuristic Processing Can Bias Systematic Processing: Effects of Source Credibility, Argument Ambiguity, and Task Importance on Attitude Judgment." *Journal of Personality and Social Psychology* 66 (3): 460–73.

Chen, N. 2009. "Institutionalizing Public Relations: A Case Study of Chinese Government Crisis Communication on the 2008 Sichuan Earthquake." *Public Relations Review* 35 (3): 187–98.

Cheng, J. W., H. Mitomo, T. Otsuka, and S. Y. Jeon. 2016. "Cultivation Effects of Mass and Social Media on Perceptions and Behavioural Intentions in Post-Disaster Recovery – The Case of the 2011 Great East Japan Earthquake." *Telematics and Informatics* 33 (3): 753–72.

Coombs, W. T. 1995. "Choosing the Right Words: The Development of Guidelines for the Selection of the Appropriate Crisis-Response Strategies." *Management Communication Quarterly* 8 (4): 447–76.

Coombs, W. T. 1999. "Information and Compassion in Crisis Responses: A Test of Their Effects." *Journal of Public Relations Research* 11 (2): 125–42.

Coombs, W. T. 2001. "Teaching the Crisis Management/Communication Course." *Public Relations Review* 27 (1): 89–101.

Coombs, W. T. 2007. "Protecting Organization Reputations During a Crisis: The Development and Application of Situational Crisis Communication Theory." *Corporate Reputation Review* 10 (3): 163–76.

Coombs, W. T. 2014. *Ongoing Crisis Communication: Planning, Managing, and Responding*. Thousand Oaks, CA: SAGE Publications.

Derani, N. E. S., and P. Naidu. 2016. "The Impact of Utilizing Social Media as a Communication Platform During a Crisis Within the Oil Industry." *Procedia Economics and Finance* 35: 650–8.

Epley, N., and T. Gilovich. 2006. "The Anchoring-and-Adjustment Heuristic: Why the Adjustments Are Insufficient." *Psychological Science* 17: 311–8.

Fink, S. 1986. *Crisis Management: Planning for the Inevitable*. New York, NY: American Management Association.

Fiske, S. T., M. Lin, and S. L. Neuberg. 1999. "The Continuum Model: Ten Years Later." In *Dual-Process Theories in Social Psychology*, edited by S. Chaiken and Y. Trope, 231–54. New York, NY: Guilford Press.

Fong, L. H. N., R. Law, and B. H. Ye. 2020. "Outlook of Tourism Recovery Amid an Epidemic: Importance of Outbreak Control by the Government." *Annals of Tourism Research* 5: 102951–4.

Freimuth, V., H. W. Linnan, and P. Potter. 2000. "Communicating the Threat of Emerging Infections to the Public." *Emerging Infectious Diseases* 6 (4): 337–47.

Friedman, S. M. 2011. "Three Mile Island, Chernobyl, and Fukushima: An Analysis of Traditional and New Media Coverage of Nuclear Accidents and Radiation." *Bulletin of the Atomic Scientists* 67 (5): 55–65.

Gao, Q., Y. Tian, and M. Tu. 2015. "Exploring Factors Influencing Chinese User's Perceived Credibility of Health and Safety Information on Weibo." *Computers in Human Behavior* 45: 21–31.

George, R. 2010. "Visitor Perceptions of Crime-Safety and Attitudes Towards Risk: The Case of Table Mountain National Park, Cape Town." *Tourism Management* 31 (6): 806–15.

Greer, C. F., and K. D. Moreland. 2003. "United Airlines' and American Airlines' Online Crisis Communication Following the September 11 Terrorist Attacks." *Public Relations Review* 29 (4): 427–41.

Han, H., A. Al-Ansi, B. L. Chua, B. Tariq, A. Radic, and S. H. Park. 2020. "The Post-Coronavirus World in the International Tourism Industry: Application of the Theory of Planned Behavior to Safer Destination Choices in the Case of US Outbound Tourism." *International Journal of Environmental Research and Public Health* 17 (18): 1–15.

Hayes, A. F., and K. J. Preacher. 2014. "Statistical Mediation Analysis With a Multicategorical Independent Variable." *British Journal of Mathematical and Statistical Psychology* 67 (3): 451–70.

Houston, J. B., J. Hawthorne, M. F. Perreault, E. H. Park, M. Goldstein Hode, M. R. Halliwell, S. E. Turner McGowen, R. Davis, S. Vaid, J. A. McElderry, et al. 2015. "Social Media and Disasters: A Functional Framework for Social Media Use in Disaster Planning, Response, and Research." *Disasters* 39 (1): 1–22.

Jeong, S. H. 2009. "Public's Responses to an Oil Spill Accident: A Test of the Attribution Theory and Situational Crisis Communication Theory." *Public Relations Review* 35 (3): 307–9.

Kapuściński, G., and B. Richards. 2016. "News Framing Effects on Destination Risk Perception." *Tourism Management* 57: 234–44.

Kim, J., M. Giroux, H. Gonzalez-Jimenez, S. Jang, S. Kim, J. Park, J. E. Kim, J. C. Lee, and Y. K. Choi. 2020. "Nudging to Reduce the Perceived Threat of Coronavirus and Stockpiling Intention." *Journal of Advertising* 49 (5): 633–47.

Kline, R. B. 2011. *Principles and practice of structural equation modeling* (3rd ed.). New York, NY: Guilford.

Lamanna, Z., K. H. Williams, and C. Childers. 2012. "An Assessment of Resilience: Disaster Management and Recovery for Greater New Orleans' Hotels." *Journal of Human Resources in Hospitality & Tourism* 11 (3): 210–24.

Li, J., T. H. H. Nguyen, and J. A. Coca-Stefaniak. 2020. "Coronavirus impacts on Post-Pandemic Planned Travel Behaviours." *Annals of Tourism Research* 86: 1–4.

Li, J., L. Xu, L. Tang, S. Wang, and L. Li. 2018. "Big Data in Tourism Research: A Literature Review." *Tourism Management* 68: 301–23.

Liao, Z. 2008. "What is the New Media." *Modern Communication* 5: 121–5.

Lin, X., P. R. Spence, T. L. Sellnow, and K. A. Lachlan. 2016. "Crisis Communication, Learning and Responding: Best Practices in Social Media." *Computers in Human Behavior* 65: 601–5.

Litvin, S. W., R. E. Goldsmith, and B. Pan. 2008. "Electronic Word-of-Mouth in Hospitality and Tourism Management." *Tourism Management* 29 (3): 458–68.

Liu, B. F., and J. D. Fraustino. 2014. "Beyond Image Repair: Suggestions for Crisis Communication Theory Development." *Public Relations Review* 40 (3): 543–6.

Liu-Lastres, B., A. Schroeder, and L. Pennington-Gray. 2019. "Cruise Line Customers' Responses to Risk and Crisis Communication Messages: An Application of the Risk Perception Attitude Framework." *Journal of Travel Research* 58 (5): 849–65.

Luo, Q., and X. Zhai. 2017. "'I Will Never Go to Hong Kong Again!' How the Secondary Crisis Communication of 'Occupy Central' on Weibo Shifted to a Tourism Boycott." *Tourism Management* 62: 159–72.

McGinnies, E., and C. D. Ward. 1980. "Better Liked Than Right: Trustworthiness and Expertise as Factors in Credibility." *Personality and Social Psychology Bulletin* 6 (3): 467–72.

Mehrabian, A., and J. A. Russell. 1974. *An Approach to Environmental Psychology*. Cambridge, MA: The MIT Press.

Möller, C., J. Wang, and H. T. Nguyen. 2018. "#Strongerthanwinston: Tourism and Crisis Communication Through Facebook Following Tropical Cyclones in Fiji." *Tourism Management* 69: 272–84.

Oliveira, A., and A. Huertas. 2019. "How Do Destinations Use Twitter to Recover Their Images After a Terrorist Attack?" *Journal of Destination Marketing & Management* 12: 46–54.

Oliveira, G. H. M., and E. W. Welch. 2013. "Social Media Use in Local Government: Linkage of Technology, Task, and Organizational Context." *Government Information Quarterly* 30 (4): 397–405.

Pennycook, G., J. McPhetres, Y. Zhang, J. G. Lu, and D. G. Rand. 2020. "Fighting COVID-19 Misinformation on Social Media: Experimental Evidence for a Scalable Accuracy-Nudge Intervention." *Psychological Science* 31 (7): 770–80.

Petty, R. E., and D. T. Wegener. 1999. "The Elaboration Likelihood Model: Current Status and Controversies." In *Dual-Process Theories in Social Psychology*, edited by S. Chaiken, and Y. Trope, 73–96. New York, NY: Guilford Press.

Pforr, C., and P. J. Hosie. 2008. "Crisis Management in Tourism: Preparing for Recovery." *Journal of Travel & Tourism Marketing* 23 (2–4): 249–64.

Pizam, A., and G. Smith. 2000. "Tourism and Terrorism: A Quantitative Analysis of Major Terrorist Acts and Their Impact on Tourism Destinations." *Tourism Economics* 6 (2): 123–38.

Pizam, A. M. Y. 1996. *Tourism, Crime and International Security Issues*. London: John Wiley and Sons Ltd.

Procter, R., J. Crump, S. Karstedt, A. Voss, and M. Cantijoch. 2013. "Reading the Riots: What Were the Police Doing on Twitter?" *Policing & Society* 23 (4): 413–36.

Rimal, R. N., and K. Real. 2003. "Perceived Risk and Efficacy Beliefs as Motivators of Change: Use of the Risk Perception Attitude (RPA) Framework to Understand Health Behaviors." *Human Communication Research* 29 (3): 370–99.

Rittichainuwat, B. 2011. "Ghosts: A Travel Barrier to Tourism Recovery." *Annals of Tourism Research* 38 (2): 437–59.

Ryu, Y., and S. Kim. 2015. "Testing the Heuristic/Systematic Information-Processing Model (HSM) on the Perception of Risk After the Fukushima Nuclear Accidents." *Journal of Risk Research* 18 (7): 840–59.

Sano, K., and H. Sano. 2019. "The Effect of Different Crisis Communication Channels." *Annals of Tourism Research* 79: 1–12.

Schroeder, A., and L. Pennington-Gray. 2015. "The Role of Social Media in International Tourist's Decision Making." *Journal of Travel Research* 54 (5): 584–95.

Schuckert, M., X. Liu, and R. Law. 2015. "Hospitality and Tourism Online Reviews: Recent Trends and Future Directions." *Journal of Travel & Tourism Marketing* 32 (5): 608–21.

Schultz, F., S. Utz, and A. Göritz. 2011. "Is the Medium the Message? Perceptions of and Reactions to Crisis Communication via Twitter, Blogs and Traditional Media." *Public Relations Review* 37 (1): 20–7.

Seabra, C., S. Dolnicar, J. L. Abrantes, and E. Kastenholz. 2013. "Heterogeneity in Risk and Safety Perceptions of International Tourists." *Tourism Management* 36 (1): 502–10.

Shah, D. V., J. Cho, W. P. Eveland, and N. Kwak. 2005. "Information and Expression in a Digital Age Modeling Internet Effects on Civic Participation." *Communication Research* 32 (5): 531–65.

Simmons, J. P., and L. D. Nelson. 2006. "Intuitive Confidence: Choosing Between Intuitive and Nonintuitive Alternatives." *Journal of Experimental Psychology General* 135: 409–28.

Sisco, H. F. 2012. "Nonprofit in Crisis: An Examination of the Applicability of Situational Crisis Communication Theory." *Journal of Public Relations Research* 24 (1): 1–17.

Sönmez, S. F., Y. Apostolopoulos, and P. Tarlow. 1999. "Tourism in Crisis: Managing the Effects of Terrorism." *Journal of Travel Research* 38 (1): 13–8.

Sparks, C. 2008. "Media Systems in Transition: Poland, Russia, China." *Chinese Journal of Communication* 1 (1): 7–24.

Stephens, K. K., and P. C. Malone. 2009. "If the Organizations Won't Give Us Information. . .: The Use of Multiple New Media for Crisis Technical Translation and Dialogue." *Journal of Public Relations Research* 21 (2): 229–39.

Trumbo, C. W., and K. A. McComas. 2003. "The Function of Credibility in Information Processing for Risk Perception." *Risk Analysis* 23 (2): 343–53.

Utz, S., F. Schultz, and S. Glocka. 2013. "Crisis Communication Online: How Medium, Crisis Type and Emotions Affected Public Reactions in the Fukushima Daiichi Nuclear Disaster." *Public Relations Review* 39 (1): 40–6.

Veil, S. R., T. Buehner, and M. J. Palenchar. 2011. "A Work-in-Process Literature Review: Incorporating Social Media in Risk and Crisis Communication." *Journal of Contingencies and Crisis Management* 19 (2): 110–22.

Wang, F., and C. Lopez. 2020. "Does Communicating Safety Matter?" *Annals of Tourism Research* 80: 1–12.

Wang, J., B. Liu-Lastres, B. W. Ritchie, and D. Z. Pan. 2019. "Risk Reduction and Adventure Tourism Safety: An Extension of the Risk Perception Attitude Framework (RPAF)." *Tourism Management* 74: 247–57.

Wang, S. W., G. H. Y. Kao, and W. Ngamsiriudom. 2017. "Consumers' Attitude of Endorser Credibility, Brand and Intention With Respect to Celebrity Endorsement of the Airline Sector." *Journal of Air Transport Management* 60: 10–7.

Weiner, B. 1985. "An Attributional Theory of Achievement Motivation and Emotion." *Psychological Review* 92 (4): 548–73.

Wolff, K., and S. Larsen. 2014. "Can Terrorism Make Us Feel Safer? Risk Perceptions and Worries Before and After the July 22nd Attacks." *Annals of Tourism Research* 44: 200–9.

Xie, C., J. Zhang, and A. M. Morrison. 2021. "Developing a Scale to Measure Tourist Perceived Safety." *Journal of Travel Research* 60: 1232–51.

Xie, C., J. Zhang, A. M. Morrison, and J. A. CocaStefaniak. 2021. "The Effects of Risk Message Frames on Post-Pandemic Travel Intentions: The Moderation of Empathy and Perceived Waiting Time." *Current Issues in Tourism* 24: 3387–406.

Xie, Y., R. Qiao, G. Shao, and H. Chen. 2017. "Research on Chinese Social Media Users' Communication Behaviors During Public Emergency Events." *Telematics and Informatics* 34 (3): 740–54.

Zenker, S., and F. Kock. 2020. "The Coronavirus Pandemic: A Critical Discussion of a Tourism Research Agenda." *Tourism Management* 81: 1–4.

Zheng, D., Q. Luo, and B. W. Ritchie. 2021. "Afraid to Travel After COVID-19? Self-Protection, Coping and Resilience Against Pandemic 'Travel Fear'." *Tourism Management* 83: 1–13.

Zhu, X. H. 2015. "The Consensus of the 'Two Public Opinion Fields' is Enhanced." *Network communication* 1: 15–9.

Author Biographies

Jiangchi Zhang is a Ph.D. student at Huaqiao University (China). His research interests include safety and security in tourism and hospitality management.

Chaowu Xie, Corresponding Author, is Professor of Tourism at Huaqiao University (China). His research interests include safety and security in tourism, smart tourism and hospitality management.

Yanying Chen is a Professor of Tourism at Jimei University (China). Her research interests include safety and security in tourism and city tourism.

You-De Dai is a Professor and Director of the Department of Tourism, leisure and Hospitality Management at National Chi Nan University. His research focuses on human resource management and consumer behavior in recreation, tourism and hospitality management.

Wang Yi-Jun is currently studying for the master's degree in tourism, leisure and Hospitality Management at National Chi Nan University. Her research interests include tourism and hospitality management.