



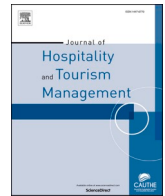
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What influences tourist behaviors during and after the COVID-19 pandemic? Focusing on theories of risk, coping, and resilience

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ABSTRACT

The threat of the COVID-19 pandemic poses risks and stress to travelers over the long term, impeding tourism demand recovery. This study aims to explore the behavioral consequences of potential tourists' personal perceptions of travel risks in pandemic threats. This study integrates risk communication and stress coping theory to address the research objectives and identifies interventions for psychological resilience. A sample of 1,179 potential adult travelers residing in Korea was surveyed online through quota sampling by age, gender, and region of residence, utilizing structural equation modeling to validate the proposed research model. The results showed that the two types of risk perception (personal- and societal-level) had different effects on problem-focused and emotion-focused coping strategies. It was also found that coping strategies, through psychological resilience, can change travel intentions during and after a pandemic. In particular, in terms of short-term stress relief, individuals using emotion-focused coping strategies during the COVID-19 pandemic have been shown to express a willingness to respond to negative emotions more quickly. Insightful implications for the recovery of tourism demand in response to the COVID-19 pandemic and strategies for managing crises in the tourism industry are provided.

1. Introduction

One and a half years ago, the World Health Organization (WHO) declared COVID-19 a Public Health Emergency of International Concern on January 30, 2020 (WHO, 2020). Thus far, the global tourism market is going through a dark period. For example, international tourism fell 85% from January to May 2021, compared to the same period in 2019 and 65% compared to the same period in 2020, as travel restrictions remained high due to the COVID-19 pandemic (UNWTO, 2021b). Unlike the previous severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS) outbreaks, COVID-19 is causing a serious crisis that is difficult to trace, such as the total cessation of tourism activities worldwide (Chebli & Said, 2020). However, although it will take a considerable amount of time for tourism demand to recover to the pre-COVID-19 period, there is no doubt that a gradual recovery of demand has begun as the spread of vaccines and inoculation rates increase (UNWTO, 2021a). Therefore, the research direction of studies on COVID-19, which began with national and industrial perspectives in the early days of the pandemic (Carr, 2020; Foo, Chin, Tan, & Phuah, 2020; Uğur & Akbiyik, 2020), now needs to be focused on the recovery of

tourists' travel mentalities. In particular, a strategic approach is needed to promote the recovery of future tourism demand by an in-depth understanding of the process by which potential tourists perceive, respond to, and make decisions about dealing with the risk of COVID-19 (Zheng, Luo, & Ritchie, 2021a). This is an important task in terms of understanding potential tourism consumer requirements in the current COVID-19 situation as well as thorough preparation for infectious diseases that may occur in the future.

According to previous literature on the risk perception of infectious diseases, studies in the field of sociology have focused on the perspectives of stakeholders such as the government and related ministries and institutional factors (Aaltola, 2012; Ratten, 2020). On the other hand, psychologists have mainly focused on the perceptions of individual subjective attributes such as personal characteristics and psychological state (Charoensukmongkol & Phungsoonthorn, 2020; Commodari & La Rosa, 2020). Tourism scholars have attempted to measure potential tourists' risk perceptions as a multidimensional attribute by accommodating the above two perspectives in a complex manner, but thus far, studies have focused only on the individual dimension of risk assessment (Bae & Chang, 2021; Qiu, Park, Li, & Song, 2020; Zheng et al., 2021a).

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However, the public's perception of risk for a global disaster, such as COVID-19, needs to be discussed from an integrated point of view, considering not only the individual level but also the social point of view, including external factors (e.g., mass media, government, interpersonal communication) (Paek & Hove, 2017; Shim & You, 2015).

Moreover, COVID-19 pandemic risks, similar to previous epidemics, cause significant stress (Liu, Lithopoulos, Zhang, Garcia-Barrera, & Rhodes, 2021). According to the theory of stress and coping (Lazarus & Folkman, 1984), an individual's stress coping strategy is divided into two dimensions: 'problem-focused coping' and 'emotion-focused coping'. As an outcome of these coping strategies, it is judged whether the individual's coping toward stress was successful. This theory has been widely used until recently because it can identify the influencing relationship between coping methods and the resulting behavioral consequences (Sjöberg, 2003; Vassie, Slovic, Fischhoff, & Lichtenstein, 2005). However, few studies have investigated individuals' psychological responses and coping mechanisms to COVID-19 risk stress in the context of post pandemic travel (Zheng et al., 2021a). In addition, although psychological resilience is a psychological mediator of individuals responding to national disaster and crisis situations (Ran et al., 2020), the influence of psychological resilience interventions on COVID-19 stress coping strategies and travel decision-making is still unknown.

Thus, to fill the knowledge gap, this study aims to explore the behavior of individuals' perceptions of travel risk during and after a pandemic. Based on risk communication and stress coping theory, the study establishes a theoretically integrated framework for exploring relationships among perceived risk of COVID-19, coping strategies, and behavioral intentions in the tourism context. Furthermore, this study examines interventions in psychological resilience to develop existing individual coping strategies and outcome models. Accordingly, due to the lack of literature on the role of individuals' psychological resilience in risk situations (Prayag, Spector, Orchiston, & Chowdhury, 2020; Zheng et al., 2021a), this study provides comprehensive insights into understanding the mentality of tourists in health crisis situations. The results of this study also contribute to a better understanding of travel consumers' mentality about travel intentions during and after the pandemic and help establish effective communication and policies to control people's risk perception levels for COVID-19 and encourage travel.

2. Theoretical context

2.1. Risk perception

Risk perceptions can be defined as people's subjective assessments of the likelihood of experiencing negative outcomes or developing diseases (Slovic, 1987). Thus, it has been widely applied as a key determinant influencing tourists' decision-making and behaviors (Kim, Lee, Petrick, & Lim, 2020; Yu, Lee, & Hyun, 2021a). In particular, recent tourism literature related to the COVID-19 pandemic revealed that risk perceptions are key attributes that directly or indirectly influence the decision-making process, such as holiday intentions (Pappas, 2021), decisions to visit countries or cities (Neuburger & Egger, 2021; Rather, 2021), and accommodation purchases (Pappas & Glyptou, 2021).

Studies on risk perception in the tourism field have increased since the early 2000s after a series of major crises, such as terrorism (9/11), infectious diseases (SARS and MERS), and natural disasters (earthquakes and tsunamis in the Indian Ocean) (Bae & Chang, 2021; Cahyanto, & Liu-Lastres, 2020). In this process, scholars recognized that risk perception has a significant effect on tourist behavioral intentions, and as travel risk research progressed, it was confirmed that risk perception could vary depending on the type or intensity of perceived risk (Jonas, Mansfeld, Paz, & Potasman, 2011; Reisinger & Mavondo, 2005). Accordingly, various prior tourism studies have categorized perceived risks into social, economic, psychological, satisfaction, time, physical,

and equipment risks (Roehl & Fesenmaier, 1992; Sönmez, 1998). However, several scholars argue that perceived risk should be conceptualized in terms of how individuals assess the level of risk (Coleman, 1993; Duong, Nguyen, McFarlane, & Nguyen, 2021; Tyler & Cook, 1984), particularly when health risks such as infectious diseases are widespread and relevant to both the self and others (Duong et al., 2021; Oh, Paek, & Hove, 2015). Therefore, this study proposed conceptualizing risk perception at the personal and societal levels.

Risk perceptions can operate at the personal level, the societal level, or both. Risk perception at the personal level refers to an individual's belief that potential risks will have a significant impact on them, while risk perception at the societal level refers to their judgments about how threatening risks are to others or to society in general (Tyler & Cook, 1984). Risk perceptions are important in health and risk communication because they determine how people care about certain risks and how to cope with them, such as adopting healthy behaviors, suppressing unhealthy behaviors, and accepting or rejecting certain levels of risks (Paek & Hove, 2017; Sjöberg, 2003).

Risk perceptions are considered to vary according to risk topics, and individuals perceive risk by collecting and evaluating risk-related signals from various external environments or information sources. Therefore, it is known that individuals' perceptions of risk for global epidemics are generally greatly influenced by external environments such as mass media and interpersonal communication, which is similarly applied to the COVID-19 pandemic (Heydari et al., 2021; Yu, Li, Yu, He, & Zhou, 2021b). Additionally, it has been found that these causes are mainly due to the public uncertainties, concerns, and fears that accompany such outbreaks (Chang, 2012; Coleman, 1993; Liu, Zhang, & Huang, 2020; Oh et al., 2015). For example, mass media coverage primarily elicits risk perception at the societal level because it portrays risk issues as generalized threats posed to others; on the other hand, entertainment media or interpersonal communication raises the personal level of risk perception by increasing the personal relevance of hazards (Coleman, 1993; Snyder & Rouse, 1995; Tyler & Cook, 1984).

The core of risk perception dimension classification suggested in risk communication studies is related to the response measures according to each risk perception level. The theoretical perspective explains that risk perception at the personal level can directly lead to preventive actions, whereas risk perception at the societal level may not have such a direct effect (Paek & Hove, 2017; Paek, Oh, & Hove, 2016; Wu & Li, 2017). However, how this postulated claim holds up in practice is still controversial, and empirical evidence to explain discriminatory coping strategies, particularly individual-specific preventive behaviors, is far from definitive (Duong et al., 2021; Fishbein & Ajzen, 2011). Therefore, this study focuses on identifying the specific roles of personal risk perception and societal risk perception in predicting individuals' response strategies to the COVID-19 pandemic.

2.2. Stress and coping theory

Risky situations with a high potential for danger are likely to produce high levels of psychological stress (Lopez-Vazquez & Marvan, 2003). Psychological stress is a complex phenomenon explained by risk perception derived from dynamic transactional situations between individuals and their environment (Biggs, Brough, & Drummond, 2017; Lazarus & Folkman, 1984). According to Lazarus and Folkman's theory of stress and coping, individuals constantly appraise stimuli in their environment and initiate coping strategies to manage the stimuli when they are perceived as stressors (e.g., threatening, challenging, harmful events). Coping refers to a process in which individuals constantly change their cognitive and behavioral efforts to minimize or overcome stress caused by internal or external demands; thus, coping is a process-oriented, dynamic, conscious and purposeful action (Brough, O'Driscoll, & Kalliath, 2005; Lazarus & Folkman, 1984).

Researchers from the coping area often separated the way individuals cope with stress into problem-focused coping and emotion-

focused coping (Baker & Berenbaum, 2007; Lazarus, 1993). Problem-focused coping involves thoughts, actions, and strategies geared toward eliminating or reducing the stressful event or its effects. This strategy tends to work when people think that something can be done to change their behavior or change environmental conditions (Lazarus & Folkman, 1984). On the other hand, emotion-focused coping refers to the act of selectively focusing on positive aspects of the self and the situation by avoiding or reconstructing a stressful situation as an effort to control the emotional state related to or resulting from stress (Baker & Berenbaum, 2007; Lazarus & Folkman, 1984). Emotion-focused coping is primarily triggered by the management and reduction of distressing emotions that are associated with the threatening event and when the stressor is recognized as something that must be tolerated. Finally, the consequences of these coping strategies lead to a re-evaluation of stress along with new information about the environment. This allows individuals to reevaluate the situation to determine whether coping efforts have been successful or whether the situation has changed from stressful to not stressful (Lazarus & Folkman, 1984).

Previous studies on coping strategies have compared the effectiveness of problem-focused coping and emotion-focused coping strategies. Most of these studies have argued that problem-focused coping produces more effective results than emotion-focused coping, as it is associated with improved psychological well-being, self-care, and health-related quality of life (Biggs et al., 2017; Graven et al., 2014). However, some scholars have described that emotion-focused coping strategies can exert a short-term adaptive effect when individuals evaluate stressors as uncontrollable or when they appraise that the resources for coping with stress are insufficient (Ben-Zur, 2009; Folkman & Moskowitz, 2004). Furthermore, it cannot be concluded that a specific coping strategy simply leads to a specific outcome, as research has also shown that the longer an individual is exposed to a stressful situation, the less effective their coping may be (Sutton & Murphy, 1989).

Individuals' judgments and appraisal of stress events, such as COVID-19, can be replaced by their perceived levels of risk. According to stress and coping theory, these risk perception levels affect an individual's coping strategy. Several previous studies have confirmed a significant relationship between risk perceptions and coping strategies (Gerhold, 2020; Lopez-Vazquez & Marvan, 2003; Rana et al., 2021; Zheng et al., 2021a). Specifically, some studies suggest that risk perception at the personal level leads to direct coping behaviors in individuals, whereas the societal level does not directly influence behavioral responses (Sjöberg, 2003; Snyder & Rouse, 1995). Other studies, in contrast, have argued that individuals' overconfidence that they are immune to social risks or regarding the duration of the risk situation may also lead to different ways of coping (Sutton & Murphy, 1989; Vassie et al., 2005). That is, coping strategies have varying levels of effectiveness depending on the context in which they are used (Jordan & Prayag, 2021). Even in the context of COVID-19, studies have confirmed the significant relationship between risk and people's choice of coping strategies (Gerhold, 2020; Rana et al., 2021), implying that coping strategies may vary depending on the level of risk perception (Krok & Zarzycka, 2020; Zheng et al., 2021a). Therefore, it can be expected that the risk of COVID-19 perceived by potential tourists will also affect the coping strategy of individuals, and it can be assumed that coping strategies are likely to appear differently depending on the level of perceived risk. Consequently, we proposed the following hypotheses:

- H1. Personal-level risk perception of COVID-19 has a significant impact on problem-focused coping.
- H2. Personal-level risk perception of COVID-19 has a significant impact on emotion-focused coping.
- H3. Societal-level risk perception of COVID-19 has a significant impact on problem-focused coping.
- H4. Societal-level risk perception of COVID-19 has a significant impact

on emotion-focused coping.

2.3. Psychological resilience

Although the concepts of coping and resilience both deal with responses to stress, these concepts are separate but related (Stratta et al., 2015). Coping involves a set of skills, such as cognitive and behavioral strategies, whereas resilience refers to the successful outcomes of those skills (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Folkman & Moskowitz, 2004).

In the tourism literature, resilience has been widely measured to investigate how destinations, organizations, and communities respond to crises and disasters (Brown, Orchiston, Rovins, Feldmann-Jensen, & Johnston, 2018; Hall, Prayag, & Amore, 2017; Pathak & Joshi, 2020; Prayag, 2018). However, unfortunately, little research has been done on how tourists generate and use psychological resilience to manage adversity and respond to changing environments in the face of danger or disaster (Prayag et al., 2020; Zheng et al., 2021a). Psychological resilience generally refers to an individual's ability to positively adapt and respond to stress and adversity (Luthar, Cicchetti, & Becker, 2000). It is a personality trait of an individual and a dynamic developmental protective process that is generated through successful participation in responding to adversity (Friborg, Hjemdal, Martinussen, & Rosenvinge, 2009; Jackson, Firtko, & Edenborough, 2007). Therefore, individuals build resilience by acquiring psychological resources when they experience stressful events, and these psychological resources help to increase adaptability and mitigate losses to stressful or traumatic events, such as natural disasters or epidemics (Blackmon et al., 2017; Polizzi, Lynn, & Perry, 2020; Prayag et al., 2020; Zheng et al., 2021a). Indeed, several studies have demonstrated that psychological resilience can be a dynamic protective process affected by various coping strategies (Campbell-Sills, Cohan, & Stein, 2006; Finstad et al., 2021; Stratta et al., 2015). The existing tourism literature on resilience also found that problem-focused and emotion-focused coping mechanisms in disaster situations can activate the resilience of tourism-related stakeholders (e.g., providers and consumers) (Fang, Prayag, Ozanne, & de Vries, 2020; Zheng et al., 2021a). Thus, as an individual's ability to positively adapt and respond to stress and adversity, such as to the COVID-19 pandemic, psychological resilience can be affected by problem-focused coping or emotion-focused coping strategies (Zheng et al., 2021a). Therefore, we proposed the following hypotheses:

- H5. Problem-focused coping has a significant impact on psychological resilience.
- H6. Emotion-focused coping has a significant impact on psychological resilience.

2.4. Post pandemic travel intentions

According to health behavior studies, when people detect risk due to a particular health threat, they are motivated to engage in preventive behaviors to reduce or avoid the potential risk (Paek et al., 2016; Rimal, Flora, & Schooler, 1999). The relationship between risk and preventive behaviors can be contingent upon the context in which risk is experienced (Oh, Lee, & Han, 2021). For instance, preventive behaviors against infectious diseases such as COVID-19 may include not only direct actions that increase personal hygiene, such as wearing masks, washing hands, and using hand sanitizer but also, social distancing and vaccination (Chu & Liu, 2021; Hakim, Zanetta, & da Cunha, 2021; Oh et al., 2021; Williams, Rasmussen, Kleczkowski, Maharaj, & Cairns, 2015).

In the context of potential tourism, the most common preventive behavior in response to a pandemic crisis is to postpone or cancel upcoming travel. Several researchers have found that tourists may protect themselves by avoiding travel or being cautious throughout their itinerary when they perceive the risk of travel due to an epidemic as a

serious threat (Zheng et al., 2021a; Zheng, Luo, & Ritchie, 2021b). However, in some cases, tourists may make risk-taking decisions, such as pursuing planned travel or making new travel plans, despite being aware of the risks of the external circumstance (Kim & Seo, 2019; Lepp & Gibson, 2008). Although many of these studies have considered whether risk-taking tourism behaviors could be associated with certain personality traits or sex (Carr, 2002; Lepp & Gibson, 2008; Pizam et al., 2004), no evidence has yet been found of a direct impact on actual risk-taking tourism behaviors. In a similar vein, although infectious diseases may pose high risks to tourists, theoretical and empirical discussions regarding how people determine their travel intentions based on their cognitive and behavioral skills (coping strategies) and personal abilities (psychological resilience) for infectious diseases are still scarce. Hence, in the absence of studies examining individual psychological responses and coping mechanisms in a post pandemic travel context, we proposed the following hypotheses to further explore a traveler’s decision-making process.

- H7. Problem-focused coping has a significant impact on travel intentions during the COVID-19 pandemic.
- H8. Problem-focused coping has a significant impact on travel intentions after the COVID-19 pandemic.
- H9. Emotion-focused coping has a significant impact on travel intentions during the COVID-19 pandemic.
- H10. Emotion-focused coping has a significant impact on travel intentions after the COVID-19 pandemic.
- H11. Psychological resilience has a significant impact on travel intentions during the COVID-19 pandemic.
- H12. Psychological resilience has a significant impact on travel intentions after the COVID-19 pandemic.

The proposed hypotheses are guided by past research that has been applied in different contexts. The resulting research model is displayed in Fig. 1.

3. Methods

3.1. Data collection

A questionnaire was developed to test our theoretical framework. An online survey with a self-administered questionnaire was conducted twice—a preliminary survey and final survey—from March 15 to 19, 2021, by one of the largest research companies in Korea and targeted individuals aged over 19 years. During the survey period, the Ministry of Health and Welfare (2021) announced that “risk factors have increasingly grown in foreign countries, directing each ministry to thoroughly manage new arrivals from abroad, and review additional measures, if needed, to block risk factors derived from entry to Korea from abroad.” The respondents were notified that the survey would be strictly confidential and used only for academic purposes. This study used quota sampling, a nonprobability sampling method, which segments a

population into several subgroups by considering population proportions. It allows researchers to avoid over- or underrepresentation and generates a sample that matches the population being studied (Yang & Banamah, 2014). In addition, unlike probability sampling, a non-probability sampling technique selects samples depending on researchers’ subjective judgment and expertise, and thus it is not necessary for quota sampling to determine sample size, the level of confidence, and statistical error (Yang & Banamah, 2014). Since the target population of this study refers to potential adult travelers living in Korea, it is not possible for researchers to reach every potential respondent in the population. Thus, we opted to conduct an online survey using a quota sampling method and created quotas based on age, gender, and residential areas. The respondents who completed the survey were paid 1,000 won (approximately 1 US dollar) per minute as compensation. A total of 1,200 questionnaires were delivered, and 1,179 usable samples were valid for analysis.

3.2. Measurements

The questions in the questionnaire were based on a review of the literature and respondents’ demographic characteristics. We adopted 27 items to measure seven dimensions: 4 items each for personal-level risk perception and societal-level risk perception (Liu et al., 2021; Morton & Duck, 2001), 4 items each for problem-focused coping and emotion-focused coping (Gerhold, 2020; Zheng et al., 2021a), 5 items to measure psychological resilience (Campbell-Sills & Stein, 2007; Campbell-Sills & Stein, 2007; Hua, Chen, & Luo, 2018; Zheng et al., 2021a), and 3 items each for travel intention during and after the COVID-19 pandemic (Bae & Chang, 2021; Das & Tiwari, 2021). All items were measured on a 7-point Likert scale (from ‘1 = extremely unlikely’ to ‘7 = extremely likely’ for the travel intention items and from ‘1 = strongly disagree’ to ‘7 = strongly agree’ for the remaining measurement items, including personal/social risk perception, problem/emotion coping, and resilience) (Table 1).

3.3. Data analysis

SPSS (version 22.0) was used to conduct descriptive analysis, and principal component analysis, and determine the reliability of all constructs. Furthermore, we used AMOS (version 25.0) to examine the association between the latent variables, including risk perception (personal/social), coping strategy (problem/emotion), psychological resilience, and travel intentions (during/after the COVID-19 pandemic). Before analyzing SEM, we first performed listwise deletion to clarify whether the data were missing. According to Allison (2003), listwise deletion known as one of the conventional methods has been widely used to handle missing data by removing cases from the sample if they have missing values on any variables. In addition, we utilized Mardia’s multivariate kurtosis to test the normality and outliers of the data. Since the critical ratios in the absolute value of the kurtosis were less than |3.0| and |7.0|, respectively, we assumed that the data used in this study were normally distributed (see Table 2) (Curran, West, & Finch, 1996;

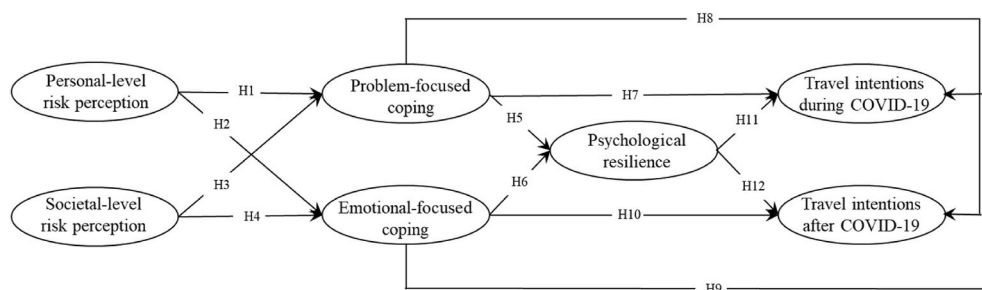


Fig. 1. Proposed research model.

Table 1
Measurement items.

Latent variables	Measurement items	Reference
Personal-level risk perception (PRP)	PRP1. The COVID-19 virus is a serious issue for me.	Morton and Duck (2001), Liu et al. (2021)
	PRP2. The COVID-19 virus directly influences me.	
	PRP3. The COVID-19 virus has a harmful effect on me.	
	PRP4. The COVID-19 virus is a great danger to me.	
Societal-level risk perception (SRP)	SRP1. The COVID-19 virus is a serious issue in our society.	Gerhold (2020), Zheng et al. (2021a)
	SRP2. The COVID-19 virus directly influences our society.	
	SRP3. The COVID-19 virus has a harmful effect on our society.	
	SRP4. The COVID-19 virus is a great danger to our society.	
Problem-focused coping (PC)	PC1. I think hard about what I can do to prevent the COVID-19 virus.	Gerhold (2020), Zheng et al. (2021a)
	PC2. I think carefully about what to do to respond to the COVID-19 virus and try to stick with it.	
	PC3. I make efforts to do something about the COVID-19 situation.	
	PC4. I take actions to try to make the COVID-19 situation better.	
Emotion-focused coping (EC)	EC1. I gave up trying to deal with COVID-19 prevention.	Campbell-Sills and Stein (2007), Campbell-Sills and Stein (2007), Hua et al. (2018), Zheng et al. (2021a)
	EC2. I gave up attempting to cope with COVID-19 prevention.	
	EC3. I tell myself, "This (the COVID-19 situation) is not real."	
	EC4. I refuse to believe that the COVID-19 has happened.	
Psychological resilience (PR)	PR1. I can deal with whatever happens while traveling.	Campbell-Sills and Stein (2007), Campbell-Sills and Stein (2007), Hua et al. (2018), Zheng et al. (2021a)
	PR2. Coping with stress while traveling makes me stronger.	
	PR3. I can achieve my goals no matter what obstacles I face in my journey.	
	PR4. I can stay focused under any pressure while traveling.	
	PR5. I am not easily discouraged, even if my trip is ruined.	
Travel intentions during the COVID-19 pandemic (TI_D)	TI_D1. I plan to travel abroad during the COVID-19 pandemic.	Bae and Chang (2021), Das and Tiwari (2021)
	TI_D2. I will try to travel abroad during the COVID-19 pandemic.	
	TI_D3. I will spend money and time traveling abroad during the COVID-19 pandemic.	
Travel intentions after the COVID-19 pandemic (TI_A)	TI_A1. I only plan to travel abroad after the COVID-19 pandemic is over.	

Table 1 (continued)

Latent variables	Measurement items	Reference
	TI_A2. I will only try to travel abroad after the COVID-19 pandemic is over.	
	TI_A3. I will only spend money and time traveling abroad after the COVID-19 pandemic is over.	

Table 2
Mean and SD and normality results of measurement items.

Constructs		Mean	SD	Kurtosis	C.R.
Personal-level risk perception (PRP)	PRP1	5.2114	1.28671	0.062	0.428
	PRP2	5.2243	1.25768	0.070	0.488
	PRP3	5.1087	1.25721	0.141	0.977
	PRP4	5.3072	1.27709	0.288	2.002
Societal-level risk perception (SRP)	SRP1	5.8395	1.06448	0.724	5.028
	SRP2	5.7670	1.05509	0.663	4.604
	SRP3	5.7481	1.04989	0.484	3.361
	SRP4	5.5997	1.06776	-0.086	-0.597
Problem-focused Coping (PC)	PC1	4.7636	1.13403	0.235	1.634
	PC2	4.9154	1.15459	0.130	0.905
	PC3	4.8223	1.17229	0.272	1.887
	PC4	4.8292	1.16593	0.203	1.412
Emotion-focused Coping (EC)	EM	2.6471	1.62999	-0.373	-2.591
	EM2	2.5979	1.60543	-0.315	-4.108
	EM3	2.6730	1.67194	-0.591	-1.360
	EM4	2.3857	1.67131	-0.196	1.634
Psychological resilience (Res)	Res1	4.7895	1.11383	0.190	1.318
	Res2	4.6040	1.25958	0.213	1.483
	Res3	4.6471	1.19825	0.077	0.532
	Res4	4.5997	1.22800	0.076	0.528
	Res5	4.7196	1.21727	0.296	2.056
International travel intentions after the COVID-19 outbreak (TI_A)	TI_A1	5.6842	1.42043	0.772	5.363
	TI_A2	5.6730	1.39425	0.962	6.686
	TI_A3	5.6540	1.42282	0.955	6.635
International travel intentions during the COVID-19 outbreak (TI_D)	TI_D1	2.4754	1.70011	-0.293	-2.037
	TI_D2	2.4409	1.70939	-0.303	-2.104
	TI_D3	2.4478	1.71667	-0.337	-2.339

Kline, 2016). Finally, a total of 1,156 samples were used after 23 outliers were removed from the initial dataset.

Furthermore, the data used in this study may be susceptible to common method bias (CMB) because we used a self-administered questionnaire technique in which respondents were required to respond to all items on the questionnaire at the same point in time (Malhotra, Kim, & Patil, 2006). Thus, we performed Harman's single-factor test to address the issue of CMB. This technique assumes that a substantial amount of CMB exists if a single factor emerges or one factor accounts for more than 50% of the variance in the variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Considering that the explanatory variance of the first factor in this study was 28.02%, which is less than half of the total variance of 84.58%, it can be concluded that the data used in this study were not affected by CMB. Since it has been argued that Harman's single factor test alone is not sufficient to prove the presence of CMB (Malhotra et al., 2006), we additionally performed a marker variable technique, which is known as the partial correlation method (Lindell & Whitney, 2001). To assess the effects of CMB, we measured the correlations between the marker variable (uncertainty avoidance) and other substantial constructs used in this study. As a result, the correlations among the variables were small and statistically insignificant: personal-level risk perception (0.015), societal-level risk perception (0.016), problem-focused coping (-0.004), emotion-focused coping (-0.013), psychological resilience (-0.014), travel intentions

after the COVID-19 outbreak (0.016), and travel intentions during the COVID-19 outbreak (0.024). Therefore, the results obtained from both the single factor test and marker variable technique proved that this study is free from CMB.

4. Results

4.1. Profile of the respondents

The respondent profile is summarized in Table 3. Considering that this study used quota sampling, the respondents' sex and age were almost equally distributed. Regarding marital status, 36% of the respondents were single, and 64% were married. In terms of family status, 42.7% of the respondents had no children, and 57.3% had children. In all, 31.4% of respondents had a monthly income greater than 5,000,000 Korean won (approximately 4,442 US dollars). Regarding the annual average number of domestic/overseas travels, 44.1% of the respondents traveled domestically 2–3 times a year on average, and 81.1% traveled abroad less than once a year on average.

4.2. Measurement model

Employing principal components factor analysis, two items for risk perception, two items for coping strategy, one item for psychological resilience, and two items for travel intention were extracted from the questionnaire. First, Cronbach's alpha for all constructs was greater than 0.90, which met the recommended index of 0.70, and thus, the internal consistency of the constructs was satisfactory (Hair, Anderson, Tatham, & Black, 2002) (see Table 4). Next, confirmatory factor analysis (CFA) was performed to test the convergent validity of the constructs. As shown in Table 4, all the standardized factor loadings of the items ranged from 0.761 to 0.984, which met the standards ($\lambda > 0.5$), and the *t* value of the items were found to be significant ($p < 0.001$). Then, the construct reliability estimates that ranged from 0.921 to 0.988 were higher than the cutoff value of 0.70 recommended by Hair et al. (2002). The average variance extracted (AVE) values of all the constructs fell between 0.744 and 0.964, implying that they exceeded the value of 0.5 suggested by Hair et al. (2002). In addition, we measured discriminant validity by comparing the AVE and correlation efficiency of the constructs, and more specifically, if the AVE of each construct was greater than the square of the correlation coefficient of two constructs ($AVE > \varnothing^2$), the measurement model had discriminant validity (Fornell & Larcker, 1981). As shown in Tables 4 and 5, the AVE of each variable (i.

e., AVE of personal risk perception = 0.773, and AVE of social risk perception = 0.744) is higher than the square of the highest correlation coefficient (i.e., \varnothing^2 of personal risk perception and social risk perception = 0.669). Furthermore, the overall CFA measurement model suggested a good fit with all the indices ($\chi^2 = 791.139$, $\chi^2/df = 2.68$, goodness-of-fit index [GFI] = 0.952, adjusted goodness-of-fit index [AGFI] = 0.940, normed fit index [NFI] = 0.976, comparative fit index [CFI] = 0.985, root mean square error of approximation [RMSEA = 0.037) above the cutoff criterion recommended by Bagozzi and Yi (1988) (see Table 5).

4.3. Structural model

The structural model of this study was assessed by structural equation modeling (SEM). Fig. 2 and Table 6 indicate the multiple indices of the model fit: the chi-square ratio on the degrees of freedom (χ^2/df) was 2.374, GFI = 0.953, AGFI = 0.942, NFI = 0.978, CFI = 0.987, and RMSEA = 0.037. The acceptable value of χ^2/df is lower than 3 (Schumacker & Lomax, 2004), and GFI, AGFI, NFI, and CFI are preferably less than 0.90 (Bagozzi & Yi, 1988; Hair et al., 2002). The acceptable value of RMSEA is lower than 0.05 (Steiger, 1990). Therefore, all the indices of the model fit were satisfactory. Table 5 presents the results of the hypothesized paths, including the standardized path coefficient (β) and the C.R. values. First, personal-level risk perception had a significantly positive effect on problem-focused coping ($\beta = 0.410$, $t = 9.080$, $p < 0.001$) and emotion-focused coping ($\beta = 0.338$, $t = 7.069$, $p < 0.001$), thus supporting H1 and H2. Second, H3, indicating a path from societal-level risk perception to problem-focused coping, was positively significant ($\beta = 0.252$, $t = 2.274$, $p < 0.05$), while H4, indicating a path from societal-level risk perception to emotion-focused coping, was negatively significant ($\beta = -0.478$, $t = 9.800$, $p < 0.001$). Third, psychological resilience was significantly affected by problem-focused coping ($\beta = 0.431$, $t = 13.755$, $p < 0.001$) and emotion-focused coping ($\beta = 0.107$, $t = 3.748$, $p < 0.001$), therefore supporting H5 and H6. Fourth, problem-focused coping negatively influenced travel intentions during the COVID-19 outbreak ($\beta = -0.060$, $t = 1.967$, $p < 0.05$) but positively affected travel intentions after the outbreak ($\beta = 0.217$, $t = 6.348$, $p < 0.001$). In contrast, emotion-focused coping positively affected travel intentions during the COVID-19 outbreak ($\beta = 0.494$, $t = 17.925$, $p < 0.001$) but negatively influenced travel intentions after the outbreak ($\beta = -0.182$, $t = 6.041$, $p < 0.001$). Thus, H7, H8, H9, and H10 were supported. Finally, psychological resilience significantly encouraged people's travel intentions during ($\beta = 0.100$, $t = 3.295$, $p < 0.001$) and after ($\beta = 0.090$, $t = 2.655$, $p < 0.01$) the outbreak, which supported H11 and H12.

Furthermore, we tested the significance of the mediating effect of psychological resilience on the relationship between coping strategies and travel intentions using the bootstrapping procedure, which was calculated with 5,000 resamples. Additionally, significance for the indirect effect was determined from 99% bias-corrected bootstrap confidence intervals (Hayes, 2009). As shown in Table 7, psychological resilience partially mediated the relationship between problem-focused coping and travel intentions during (indirect effect: $\beta = 0.043$, $p < 0.01$) and after (indirect effect: $\beta = 0.039$, $p < 0.05$) the COVID-19 pandemic. Similarly, regarding emotion-focused coping, psychological resilience partially mediated the relationship between emotion-focused coping and travel intentions during (indirect effect: $\beta = 0.011$, $p < 0.05$) and after (indirect effect: $\beta = 0.010$, $p < 0.01$) the COVID-19 pandemic. In sum, the findings indicated that both problem- and emotion-focused coping were dominant factors in explaining psychological resilience, and at the same time, psychological resilience significantly mediated the relationship between coping strategies and travel intentions.

Table 3
Characteristics of the respondents.

Sample (n = 1,156)					
Characteristics	Frequency	%	Characteristics	Frequency	%
Sex			1,000–1,999	81	7.0
Male	574	49.7	2,000–2,999	226	19.6
Female	582	50.3	3,000–3,999	220	19.0
Age			4,000–4,999	184	15.9
20–29	205	17.7	≥5,000	376	32.5
30–39	206	17.8	Annual average number of domestic travels		
40–49	253	21.9	Less than 1	211	18.3
50–59	277	24.0	2–3	521	45.1
60–69	215	18.6	4–5	262	22.7
Marital status			More than 6	162	14.0
Single	410	35.5	Annual average number of overseas travels		
Married	746	64.5	Less than 1	939	81.2
Family status			2–3	188	16.3
Have no children	491	42.5	4–5	21	1.8
Have Children	665	57.5	More than 6	8	0.7
Monthly income (Unit: 1,000 Korean won*)			Total	1,156	100
<1,000	69	6.0			

* US \$1.00 = KRW 1,153 as of August 2, 2021

Table 4
Intercorrelations between the constructs.

Constructs	1	2	3	4	5	6	7	Mean	S.D.
1. Personal-level risk perception	1							5.21	1.15
2. Societal-level risk perception	0.669	1						5.73	0.95
3. Problem-focused coping	0.447	0.364	1					4.83	1.05
4. Emotion-focused coping	0.001	-0.213	0.040	1				2.57	1.52
5. Psychological Resilience	0.091	0.134	0.426	0.110	1			4.67	1.03
6. TI_A	0.233	0.279	0.222	-0.142	0.162	1		5.67	1.35
7. TI_D	-0.407	-0.178	0.018	0.482	0.132	-0.274	1	2.43	1.69

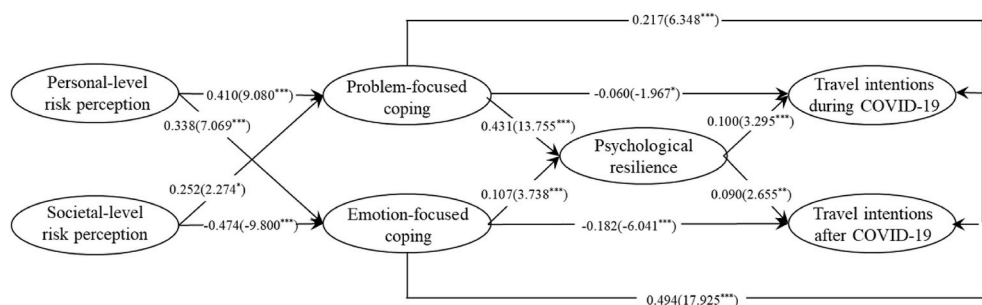
Note: TI_A: Travel intentions after the COVID-19 outbreak, TI_D: Travel intentions during the COVID-19 outbreak.

Table 5
The CFA results of the measurement model.

Constructs		λ	t value	C.R.	AVE	Cronbach's alphas
Personal-level risk perception (PRP)	PRP1	0.832	-	0.932	0.773	0.931
	PRP2	0.876	35.607***			
	PRP3	0.916	40.475***			
	PRP4	0.892	38.777***			
Societal-level risk perception (SRP)	SRP1	0.799	-	0.921	0.744	0.920
	SRP2	0.861	33.758***			
	SRP3	0.893	35.479***			
	SRP4	0.894	35.572***			
Problem-focused Coping (PC)	PC1	0.881	-	0.930	0.770	0.934
	PC2	0.928	46.291***			
	PC3	0.874	41.269***			
	PC4	0.823	36.596***			
Emotion-focused Coping (EC)	EM	0.932	-	0.940	0.796	0.947
	EM2	0.900	49.416***			
	EM3	0.873	45.737***			
	EM4	0.861	45.104***			
Psychological resilience (Res)	Res1	0.807	-	0.939	0.795	0.914
	Res2	0.902	36.515***			
	Res3	0.891	35.903***			
	Res4	0.770	29.355***			
	Res5	0.761	28.877***			
International travel intentions after the COVID-19 outbreak (TI_A)	TI_A1	0.913	-	0.954	0.875	0.954
	TI_A2	0.967	60.774***			
	TI_A3	0.925	58.280***			
	TI_D1	0.982	-	0.988		
TI_D2	0.984	126.001***				
TI_D3	0.979	118.073***				

$\chi^2 = 791.139$, $\chi^2/df = 2.68$, GFI = 0.952, AGFI = 0.940, NFI = 0.976, CFI = 0.985, RMSEA = 0.037.

Note: *p < 0.05, **p < 0.01, ***p < 0.001.



*p < 0.05, **p < 0.01, ***p < 0.001

Note: $\chi^2/df = 2.3741$, GFI = 0.953, AGFI = 0.942, NFI = 0.978, CFI = 0.987, RMSEA = 0.0374

Fig. 2. Results of path analysis.

5. Discussion and implications

5.1. Discussion

Unlike previous epidemics such as SARS, Ebola, and H1N1, COVID-19 remains the world's deadliest and longest-lasting pandemic. COVID-

19 has created an unprecedented level of risk, which could negatively influence the tourism industry and hamper tourism recovery after the pandemic is over. Although some studies have been done to understand the individual psychology of travelers in a pandemic situation (Ritchie & Jiang, 2019; Zheng et al., 2021a, 2021b), there is still a gap in knowledge from a behavioral science perspective. Therefore, the present study

Table 6
Path estimates for the conceptual model.

Path estimates	β	C.R.	Results
H1: Personal-level risk perception → Problem-focused coping	0.410	9.080***	Supported
H2: Personal-level risk perception → Emotion-focused coping	0.338	7.069***	Supported
H3: Societal-level risk perception → Problem-focused coping	0.252	2.274*	Supported
H4: Societal-level risk perception → Emotion-focused coping	-0.478	9.800***	Supported
H5: Problem-focused coping → Psychological resilience	0.431	13.755***	Supported
H6: Emotion-focused coping → Psychological resilience	0.107	3.738***	Supported
H7: Problem-focused coping → Travel intention during the COVID-19 pandemic	-0.060	1.967*	Supported
H8: Problem-focused coping → Travel intentions after the COVID-19 pandemic	0.217	6.348***	Supported
H9: Emotion-focused coping → Travel intentions during the COVID-19 pandemic	0.494	17.925***	Supported
H10: Emotion-focused coping → Travel intentions after the COVID-19 pandemic	-0.182	6.041***	Supported
H11: Psychological resilience → Travel intentions during the COVID-19 pandemic	0.100	3.295***	Supported
H12: Psychological resilience → Travel intentions after the COVID-19 pandemic	0.090	2.655**	Supported

Note: *p < 0.05, **p < 0.01, ***p < 0.001.

Table 7
Mediating effect of resilience on the relationship between coping strategies and travel intentions.

Paths	Standardized β		
	Direct effect	Indirect effect	Total effect
Problem-focused coping → Travel intentions during the COVID-19 pandemic	-0.060	0.043**	-0.017
Problem-focused coping → Travel intentions after the COVID-19 pandemic	0.217***	0.039*	0.255***
Emotion-focused coping → Travel intentions during the COVID-19 pandemic	0.494***	0.011**	0.504***
Emotion-focused coping → Travel intentions after the COVID-19 pandemic	-0.182***	0.010*	-0.172***

Note: *p < 0.05, **p < 0.01, ***p < 0.001.

investigated the relationship between risk perceptions, coping strategies, resilience, and travel intentions by integrating risk perception and health psychology theories (i.e., coping and resilience theory) to explore potential travelers' cognitive-psychological mechanisms toward the COVID-19 pandemic. Accordingly, the findings of this study provide insights into how risk levels of a pandemic are perceived and how people develop coping strategies and resilience toward the threat of a pandemic.

First, the results confirmed that individuals' risk perceptions for COVID-19 could be observed at the personal and societal levels. This is in line with previous studies arguing that individuals may have both types of risk perceptions (themselves and others) when health risks are widespread, such as with infectious diseases (Duong et al., 2021; Oh et al., 2015; Paek et al., 2016). Moreover, these two types of risk perception had different effects on problem-focused and emotion-focused coping strategies. People who perceived COVID-19 as a personal risk activated both problem-focused coping and emotion-focused coping strategies, whereas those who perceived COVID-19 as a social risk were more likely to focus on problem-focused coping rather than emotion-focused coping. This further refines the

notion of existing risk perception studies (Paek & Hove, 2017) that personal-level risk perception activates direct prevention strategies, whereas societal-level risk perception does not. Previous research on COVID-19 found that travel fear was significantly associated with emotional coping (Zheng et al., 2021a), and the results of this study support the prior findings. However, the result that when a specific risk perception is classified as a type of personal level risk according to the relationship with internal emotions, or a societal-level risk type according to the influence of external stimuli rather than a simple fear perception, shows that both levels affect individuals' problem-focused coping, and this result contradicts previous research results and suggests a theoretical extension. It can be inferred that this finding is a result of the fact that people not only rely on their emotions when dealing with negative events but also react sensitively to risk indicators obtained from outside of themselves (e.g., mass media, government, and interpersonal communication). Some previous literature supports this proposed inference through the assertion that individuals identify risk at the personal or societal level by various media formats or factors (McCarthy, Brennan, De Boer, & Ritson, 2008; Tyler & Cook, 1984). In addition, individuals learn about risk through media that not only provides risk messages but also interprets risk issues (Oh et al., 2021). Indeed, the differential impact hypothesis and social amplification of risk framework (SARF) suggest that the role of the media is important because individuals may reinterpret and perceive risks differently depending on which network the risk issues are transmitted on and how they are portrayed (e.g., vividness, exaggeration, self-relevance, etc.) (Kasperson et al., 1988; Snyder & Rouse, 1995).

Second, we extend the findings of individual psychological and behavioral research for tourism crisis management by exploring the effects of individual coping strategies and psychological resilience on travel intentions in epidemic situations. The results support previous studies (e.g., Stratta et al., 2015; Zheng et al., 2021a) that both problem-focused coping and emotion-focused coping strategies significantly influenced individuals' psychological resilience. However, unlike previous studies that only emphasized the benefits of task-oriented coping with stressful events (Carver, 1997; Stratta et al., 2015), we support that both problem- and emotion-focused coping strategies can be important for psychological resilience. Additionally, this study demonstrated that individuals' coping strategies can change their travel intentions during and after the COVID-19 pandemic. Problem-focused coping, which is a rational problem-solving method that includes efforts to rectify the immediate problem (Lazarus & Folkman, 1984), lowers the intention to travel during the COVID-19 pandemic, whereas emotional coping centered on disengagement or avoidance shows that it can increase risk-taking behavior (travel during the COVID-19 pandemic). These results empirically support previous studies of responses by coping strategies (Ben-Zur, 2009; Roth & Cohen, 1986) because emotion-focused coping is generally considered to be effective when stress is appraised as causing extreme emotional distress or is uncontrollable. Therefore, from the perspective of short-term stress relief, it can be assumed that individuals who use emotion-focused coping strategies during the COVID-19 pandemic express their willingness to act faster to counteract negative emotions than those who do not.

Third, the results of this study confirmed the positive impact of psychological resilience on individuals' intentions to adapt to travel during and after a pandemic. Going beyond the analysis of the resilience of socioecological systems that had previously been dominantly applied in the tourism literature (Hall et al., 2017; Prayag et al., 2020; Strickland-Munro, Allison, & Moore, 2010), we extended our findings on resilience by identifying causal relationships between coping strategies, resilience, and travel behavioral intentions at the individual level. Zheng et al. (2021a) confirmed that psychological resilience affects cautious travel, but the results of this study confirm that psychological resilience can also be an important influencer on travel intentions after risk termination.

5.2. Theoretical implications

The findings of this study contribute to understanding the role and influence of coping strategies and psychological resilience on travel decisions in the risk perception process in the following aspects. First, this study deepens the understanding of individuals' risk perception process mechanisms for external threats by classifying risk perception by a multidimensional concept. Specifically, this study adopted and supported the basic concepts of the impersonal impact hypothesis and the differential impact hypothesis (Snyder & Rouse, 1995; Tyler & Cook, 1984) that the degree of risk perception should be measured at the personal and societal levels; therefore, the theoretical concept, which remained only in the field of communication research, was extended to the tourism field. In particular, the result showed that both personal and societal risk perceptions affect direct prevention strategies. That is, problem-focused coping suggests that tourists consider not only their own internal emotions such as fear but also external risk indicators when responding to the COVID-19 pandemic, and this expands previous research on risk perception in tourism (Oh et al., 2021; Zheng et al., 2021a, 2021b).

Moreover, this study is one of a few studies in which coping strategies were specified in the decision-making process according to the perception of risk in the tourism sector and the effect of each strategic characteristic was empirically considered. Most of the existing research on tourist behaviors toward risk has focused on the variables of traditional behavioral theories (e.g., planned behavioral theory) or protective motivation theories (Bae & Chang, 2021; Wang, Liu-Lastres, Ritchie, & Mills, 2019; Zheng et al., 2021a). However, this study applied stress and coping theory as a way of evaluating COVID-19 as an external factor that causes stress for individuals and their responses to this infectious disease stressor. As a result, given the lack of research on new internal drivers affecting the risk perception process in the tourism field, this study is theoretically meaningful and provides empirical results to confirm the influence of coping strategies as an internal driving force that guides individuals' behaviors. Above all, by confirming that different types of coping strategies have an important effect on tourists' psychological and behavioral responses, our research has made an extended theoretical contribution from previous studies that have been focused on a one-sided or a fragmentary point of view (Baker & Berenbaum, 2007; Carver, 1997; Stratta et al., 2015).

In addition, this study provides insights that psychological resilience, which has not been examined in previous studies, can play a role as an influencing factor in tourists' travel decision-making, thereby laying the foundation for an in-depth understanding of individual travel intentions in risky situations.

5.3. Practical implications

Based on a comprehensive understanding of potential travelers' risk perceptions and behavioral psychological mechanisms, this study is expected to provide basic implications for the recovery of tourism demand and strategies for managing crises in the tourism industry.

First, understanding the level of risk that tourists perceive from COVID-19 can provide insight for tourism policy-makers and providers to accelerate tourism recovery during and after the pandemic. The fact that threat appraisals are based on individual differences and that risks can be perceived differently at the personal and societal levels, should be reflected in the development of risk management strategies. In particular, communication tools such as government announcements, mass media, and interpersonal communication have a significant impact on destination image and public safety, along with the way people judge risk levels (Cabra-Fierro, Fuentes-Blasco, Gao, Melero-Polo, & Trifu, 2021; Kim & Kreps, 2020; Park, Kim, & Choi, 2019). Therefore, it is important to organize and provide more discrete forms of information at the national or international level and to build public trust in travel information to manage individuals' judgments about risk. Additionally,

DMOs and tourism organizations can promote effective destination marketing by implementing appropriate risk communication strategies according to the crisis stage of the region. Previous literature has provided insights into the effects of media and interpersonal messaging, confirming that tourists and DMO-generated information or engagement of social media influencers in risk communications can help tourists perceive levels of crisis, destination image and tourism recovery (Cabra-Fierro et al., 2021; Femenia-Serra, Gretzel, & Alzua-Sorzabal, 2021).

Second, given that COVID-19 may persist for some time, the findings that risk perception influences the relationship between individuals' coping strategies and resilience suggest that practitioners should build strategies drawing upon those two factors. For authorities, when planning short-term strategies, intensive interventions, such as banning international travel, must be taken to make individuals more accommodating of increased problem-focused coping strategies, such as providing additional information on action plans and methods to prevent COVID-19 infection. However, if an immediate recovery in tourism demand is the authorities' goal, new emotional appeal strategies could be developed to positively reframe the COVID-19 pandemic or improve public acceptance of the realities of COVID-19. In addition, if government or tourism industry practitioners use appropriate strategies to promote individuals' psychological capital formation, it can be an effective way to control the recovery of potential tourists' tourism demand.

6. Limitations and future directions

Despite the theoretical and practical contributions of the study, several limitations need to be considered. The data for this study were collected by an online survey at the peak of the COVID-19 crisis, targeting only potential tourists from Korea due to time and location constraints; thus, the generalization of the results may require caution. In future research, the survey may be conducted at different time periods, depending on the extent of the spread of COVID-19 or the stage of travel measures by the country. If so, researchers can compare the contrasting differences in the relationship between risk perceptions and travel intentions according to the spread of COVID-19 and the level of measures taken.

Additionally, apart from the results revealed in the study, there is some evidence about the influence relationship between the given factors thus far, but there is no clear direction; rather, their multifaceted aspects are controversial. Therefore, in this study, only the influence between factors was explored from a comprehensive perspective, and clear directions were not considered. However, as theoretical and practical studies on risk, coping and resilience in disaster situations such as the COVID-19 pandemic are increasing, a confirmatory research design based on a sufficient literature review is required in the future.

Furthermore, this study applied risk perception, coping and resilience theories to explain individuals' travel intentions during and after the pandemic outbreak, which excludes other potential factors that may be associated with individuals' travel threats during a pandemic. Potential travelers may have different perceptions of risks based on sociodemographic characteristics (Reisinger & Crofts, 2009; Zhan, Zeng, Morrison, Liang, & Coca-Stefaniak, 2020), personality traits (Morakabati & Kapuściński, 2016), and previous travel experiences (Sharifpour, Walters, & Ritchie, 2014). Therefore, future studies need to consider examining the role of these threats and sociodemographic factors to improve the knowledge of travel consumers' behaviors relevant to pandemics.

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