Hotel employee perceived crisis shocks: Conceptual and scale development

ABSTRACT

Limited research assesses the impacts of crises on hotels from the individual employee perspective, and hotel employee perceived crisis shocks (HEPCS) lack empirical investigation and scale development. This mixed-method research conceptualized HEPCS and validated a measurement scale for HEPCS through three studies. In Study 1, 99 employees from 24 hotels were interviewed. The results showed that HEPCS was composed of the six dimensions of perceived shock: performance, task, occupation, mental, safety, and family and life. In Study 2, the initial measurement items for HEPCS were generated, and 313 valid responses were collected for exploratory factor analysis. Study 3 had 931 valid respondents whose data were collected for confirmatory factor analysis and validation of the factor structure generated in Study 2. This research provides a new perspective and valid measurement scale for hotel crisis impact research as well as a theoretical basis for the establishment of hotel crisis response strategies.

Keywords: Crisis shocks; crisis assessment; perceived risks; hospitality industry; COVID-19 pandemic.

1. Introduction

The hospitality industry is extremely sensitive to safety issues and is one of the sectors most vulnerable to crises and disasters (Pforr & Hosie, 2007; Sönmez, Apostolopoulos, & Tarlow, 1999). Recently, several major crisis events, such as the terrorist attacks in Europe and Asia, the Ebola virus outbreak in West Africa, cruise ship capsizings in Thailand and China, and the COVID-19 pandemic, have seriously affected the domestic and international tourism markets and threatened the survival and future development of the hotel industry where the incidents occurred (Mizrachi & Fuchs, 2016; Fong, Law, & Ye, 2020). The COVID-19 pandemic spanned more than 200 countries and regions with a total of more than 231 million confirmed cases. Most hotels globally suffered unprecedented shocks and negative effects during the acute stages of the COVID-19 pandemic. Crisis events seriously threaten the survival and development of hotels and their employees, and assessing the impact of crises on hotels is crucial for them to develop effective response and recovery strategies.

The frequent occurrence of crises has prompted greater attention to hotel crisis impact assessment research. These impacts occur at three levels: macro, meso, and micro (Duan, Xie, & Morrison, 2021). Macro-level impacts include economic and social fluctuations, global tourism market shrinkage, and severe basic development environments (Cró & Martins, 2017). Meso-level impacts are structural and image changes for the hospitality industry (Ivanov & Stavrinoudis, 2018; Pizam, 2009). At the micro-level, crisis events severely threaten hotel financial performance, guest patronage patterns, and employee safety (Mizrachi & Fuchs, 2016; Chen, 2011; Chien & Law, 2003). The research to date assesses

crisis impacts from two perspectives: objective and subjective. The former measures the objective impacts (e.g., earthquakes, SARS, COVID-19, and terrorist attacks) on tourism markets, international tourist demand, tourism sector, labor market, and business performance by adopting econometric models (Chen, 2011; Jin, Qu, & Bao, 2019; Huang, Makridis, Baker, Medeiros, & Guo, 2020; Cró & Martins, 2007). Subjective assessments consider impacts on tourism and hospitality company operations, revenues, and reputations through interviews (Ivanov & Stavrinoudis, 2018; Okumus, Altinay, and Arasli, 2005; Okumus & Karamustafa, 2005). Additionally, some scholars have assessed the impacts on hotel employee job insecurity, anxiety, and depression by using questionnaire surveys (Aguiar-Quintana, Nguyen, Araujo-Cabrera, & Sanabria-Diaz, 2021). The aims of these studies have included identifying the impact structure of crises on hospitality, promoting the establishment of crisis management systems, and providing strategic guidance for recovery (Fong et al, 2020; Okumus & Karamustafa, 2005). The research about hotel crisis responses has mainly been from the perspectives of hoteliers, general managers, hotel companies, and the industry as a whole (Ivanov & Stavrinoudis, 2018; Taylor & Enz, 2002; Chen, 2011; Alonso-Almeida & Bremser, 2013; Okumus, Altinayc, & Araslic, 2005). For example, Ivanov and Stavrinoudis (2018) investigated the hotelier responses to the 2015 refugee crisis and found they preferred to mitigate threats by increased marketing efforts to attract more guests, and cutting costs and prices, rather than by working with fewer employees, delaying payments to suppliers or requiring more cash payments. Alonso-Almeida and Bremser (2013) focused on the connection between crisis impacts, crisis mitigation measures, and individual hotel performance in the 2008 financial crisis, and proposed that hotels should focus on high

quality, branding, loyal customers, and increased marketing to resist the crisis. Cost-cutting measures generally have proven to be the most ineffective. While impact, assessment, and response research are being more researched, there is scope to explore hotel crises from other perspectives and contexts.

Three key gaps can be identified within this research field. **First, the previous research is lacking in the investigation of the impacts of crisis events on hospitality and tourism from the perspective of employee perceptions.** A major crisis event will have obvious impacts on hospitality in the short-term, thereby making employees develop shock perceptions on crisis impacts, which affect employee assessments of leadership and safety behavior responses, and impact anxiety, depression, and intentions to quit (Birkeland, Nielsen, & Hansen, 2017; Aguiar-Quintana et al., 2021; James, 2008), as well as influencing hotel crisis response strategies and safety management performance (Okumus & Karamustafa, 2005). In addition, hotel employees are among the direct actors in hotel crisis responses. Thus, it is of potential theoretical value to identify the shock impact structure of major crisis events on hospitality from an employee perception perspective, providing new insights for the establishment of crisis response systems from the perspective of employee reactions. **Second, the shock impact of crisis events on hospitality and tourism is lacking in comprehensive identification and empirical investigation.** Scholars believe that crisis events have comprehensive impacts on hospitality (Zenker & Kock, 2020). These singular impacts that have been studied include the effects on operational performance, industry image, marketing, and security management (Okumus & Karamustafa, 2005; Ivanov & Stavrinoudis, 2018; Chen, 2011; Gill, Moon, Seaman, & Turbin, 2002). However, the more

comprehensive impacts and shock dimensions of crisis events still lack identification and analysis. Moreover, the COVID-19 pandemic is considered to be an impactful incident as well as a major public health crisis event in the context of world history (Fong et al., 2020). However, its shock impacts on hotel employee perceptions and their effects have not been empirically investigated. Such research may provide new evidence and insights for better understanding hotel employees' perceived crisis shock impacts during COVID-19. **Third, there is no appropriate scale to measure hotel employee perceptions of crisis shock impacts.** Currently, most scales on the perceptions of hotel employees were developed and tested under normal operating circumstances, and have dealt with work-family conflict (Karatepe & Karadas, 2014), emotional exhaustion (Chen, Chang, & Wang, 2019), perceived job risk (Xie, Zhang, Chen, Morrison, & Lin, 2020) and career prospect perceptions (Wan & Kong, 2014). However, Baum, Mooney, Robinson, and Solnet (2020) proposed that the consequences and shock impacts of crises for hotel staff, particularly as a result of the COVID-19 pandemic, were an amplification of existing known challenges, as well as introducing novel problems related to working conditions, job tasks, physical and mental health. While researchers have measured hotel employees' perceived risks and self-efficacy during crises (Zhang, Xie, Wang, Morrison, & Coca-Stefaniak, 2020), they have not explored all aspects of employee crisis impact perceptions. Thus, developing an appropriate scale for a crisis to measure hotel employee perceived crisis shock (HEPCS) is still required.

Therefore, this research explored crisis shock impact from the perspective of hotel employee perceptions and produced a scale for HEPCS. The specific objectives were to: (1) explore the dimensions of HEPCS through structured non-numerical interviews, and (2)

develop and confirm a HEPCS scale through several rounds of surveys and validation during the COVID-19 pandemic. The intended contribution of this investigation was to assess crisis impacts from the employee perspective and to develop a HEPCS scale that will guide hotels in establishing crisis management plans and enhancing crisis response effectiveness.

2. Theoretical basis and literature review

2.1. Crisis and crisis assessment

A crisis can be defined as an unpredictable event emerging from the internal and external environments of organizations, regions, or countries, which can disrupt the normal operations of entities, endanger the viability of organizations, and threaten the physical and mental health of individuals, and cannot be effectively resolved through normal managerial procedures and responses (Fink, 1986). Crisis management is a series of corporate management behaviors such as preventing, assessing, coping with, and resolving crises, and recovering to normal and attempting to eliminate or reduce the harm of crises (Bullock, Haddow, & Coppola, 2017). Crisis assessment, a key task of crisis management, refers to the assessment of the losses and possible threats caused by the crisis, thereby providing a basis for corporations to develop response strategies and recovery plans after the crisis (Hassel & Cedergren, 2021; Coombs, 2007; 2014). Since tourism and hospitality are highly sensitive to crises, crisis impact and assessment have received great attention in tourism research (Pforr & Hosie, 2007; Sönmez et al., 1999). Specifically, this crisis assessment research includes the objective and subjective impact assessment of crises on tourism and hospitality. Although crises have a comprehensive impact on hotel employees (Okumus & Karamustafa, 2005),

affecting career development, work tasks, occupational safety, and health, few researchers have assessed impacts comprehensively from the perspective of employee perceptions. Thus, it is worthwhile now to assess the impact of crises on tourism and hospitality from the employee perception perspective. This research aims to contribute to the accumulated knowledge in this field by identifying the dimensional structure of hotel employee perceived crisis shocks and developing a valid scale for measuring such shocks.

2.2. Crises in hospitality and tourism

Crises in hospitality are unpredictable events that affect the confidence and demand of customers for hotel products and disrupt the continuance of normal operations (Jin et al., 2019). Situational crisis communication theory (SCCT) proposes that three crisis clusters can be identified according to the attributions of crisis responsibility, namely victimized, accidental, and preventable crises (intentional crises) (Coombs, 2007). A victimized crisis has mild attribution of crisis responsibility, and organizations are victims, including as a result of natural disasters. An accidental crisis has moderate attribution of crisis responsibility, and the crisis is caused by uncontrollable or unintentional factors, such as technical-error accidents. A preventable crisis has strong attribution of crisis responsibility, and the crisis is caused by internal and controllable factors.

The crisis types that hotels encounter during operations and the previous research done on them are summarized in Table 1. Victimized crises (e.g., natural disasters, economic crises, and pandemics) can have devastating impacts on various industrial sectors including hospitality in the specific crisis areas and even on a global scale (Chen, 2011; Chien & Law,

2003). Hotels are public places that attract many people, and most of the security issues that occur in public places are likely to happen in hotel workplaces, such as crimes, violent conflicts, and terrorist attacks (Gill et al., 2002; Salman, Tawfik, Samy, & Artal-Tur, 2017; Kubickova, Kirimhan, & Li, 2019). Hotels have even become a tempting target and hotbed for terrorism attacks due to the convenience of targeting, the accuracy of the attack targets, and the extensive media coverage (Pizam, 2010). Moreover, hospitality companies provide a comprehensive range of products and services (e.g., catering, entertainment, and accommodation) for many types of guests. These comprehensive services, as well as the intangible nature and simultaneity of production and consumption, exacerbate the occurrence of preventable crises in hotels, including service failures, bed bugs, fire, and food safety issues (Su, Stepchenkova, & Kirilenko, 2019; Liu & Pennington-Gray, 2015; Lundin & Jansson, 2007; Baser, Ture, Abubakirova, Sanlier & Cil, 2017). The development of Internet technology and social media has impacted the discourse between the media and consumers and reshaped the public's interpretation of crisis events (Castells, 2007). Thus, online public opinion caused by improper responses to crisis events has a greater impact on hotels' images and reputations (Su et al., 2019). These events and the resulting crises have become unavoidable challenges for hotel operations and development. Thus, it is of considerable importance to identify and assess the impact of crises on hotels for facilitating more rapid recovery.

[Insert Table 1 here]

2.3. Shock impacts of crisis events on hospitality and tourism

Tourism and hospitality are extremely sensitive to and easily influenced by internal and external elements such as industry conditions, the natural environment, society, politics, and economic trends. The duration of crisis event impacts spans variable timeframes, from short- to long-term (Jin et al., 2019; Okumus & Karamustafa, 2005). Short-term impacts are sudden shocks in the acute stage as well as continuous impacts in the chronic stages of crises. Long-term impacts exhibit long-tail effects even after the crisis has ended. During the acute and chronic stages, travel intentions are diminished (Sano & Sano, 2019; Xie et al., 2021), and then the operations and performance of hotels suffer catastrophic impacts and threats (Gurtner, 2016). For example, Goodrich (2002) analyzed the short-term and immediate impacts of the "9.11" incident on the US tourism and hospitality industry. Hotel bookings fell by 20% to 50% and casino attendees declined by 50% during the first three months after the attacks. Shock impact is a significant and sudden change in an organization in the short term resulting from inconsistencies with normal operating conditions. A crisis shock refers to a sudden and severe negative impact of an event on individuals, organizations, corporations, and industries during acute and chronic crisis stages. This research proposed that hotel crisis shock is a collective term for various immediate, sudden, and severe negative impacts of crisis events on hotels during the acute and chronic stages.

The two concepts of perceived crisis shock and risk have similarities as well as differences. Risk is defined as the possibility and uncertainty of danger, injury, or loss (Reisinger & Mavondo, 2005). People's subjective judgments of the probability of occurrence and severity of consequences of risk and crisis events form perceived risk (Rimal & Real, 2003). Perceived crisis shocks represent subjective evaluations and comprehensive

judgments of various immediate, sudden, and severe negative impacts of crisis events. Importantly, crises are typical risk situations (Zhang et al., 2020). Since perceived shock during a crisis refers to the subjective judgment of the risk consequences caused by the crisis, it is similar to the perceived risk in conceptualization and dimensional structure. Bauer (1960) introduced the concept of perceived risk into the consumer behavior literature, and this concept has been investigated in various fields such as tourism, corporate management, entrepreneurship, and networks. Xie et al. (2020) defined perceived job risk as hotel employees' overall judgments of risk factors that cause unfortunate events, such as threats, danger, injuries, and losses related to work. Regarding dimensional structure, Peter and Tarpey (1975) measured perceived risk with six factors including performance, time, financial, psychological, physical, and social risks from a risk consequence perspective. These particular factors were most prominent and widely discussed in the previous perceived risk literature (Peter & Tarpey, 1975; Jacoby & Kaplan, 1972). Although the six-factor model of perceived risk was proposed in the consumer behavior literature, perceptions and judgments based on risk consequences are adaptable to different subjects and situations. Some dimensions, such as physical, psychological, physical, and social risks, have been discussed in the literature on employee job risk (Xie et al., 2020; Rundmo & Sjöberg, 1998; Basha & Maiti, 2013). This research employs the six-factor model of perceived risk to identify and confirm the dimensions of hotel employee perceived crisis shock.

According to the six-factor model of perceived risk, performance risk represents the probability that the functions of an object failed to reach desired levels. Perceived risk is situation-specific, and the types of risk should be formed with consideration of the particular

situation encountered (Park & Tussyadiah, 2017). There are obvious differences in performance risk in dissimilar situations. For example, performance risk is conceptualized as product risk in consumer behavior, referring to the possibility of disappointment emanating from poor product quality (Jacoby & Kaplan, 1972). It is conceptualized as usage risk with networks, representing the possibility that mobile services will not perform as designed and advertised and thus failing to deliver desired benefits (Park & Tussyadiah, 2017). Performance risk in hotel crises can be conceptualized as the possibility of hotels not operating at normal business levels and failing to generate adequate profits. Crisis events have shock impacts on hotel occupancy rates, operating income, profitability, stock performance, and overall performance. Previous research has confirmed that crisis events reduced hotel occupancy rates, room prices, and overall performance (Chin, Wu, & Hsieh, 2013) and also harm hotel reputation and image (Okumus & Karamustafa, 2005; Ivanov & Stavrinoudis, 2018). Moreover, regional or worldwide crises may affect the structure and basic development environment of hospitality on a global scale (Pizam, 2009). For example, the 9.21 Taiwan earthquake was a regional crisis, and the 9.11 terrorist attack and SARS outbreak were global crises. Chen (2011) adopted econometric models for the analyses of the impacts of global and regional crisis events on Taiwan hotel companies' revenues, profitability, and stock performance. Thus, perceived performance risk is a crucial dimension of HEPCS which represents the subjective judgment of employees of the negative and shock impacts of a crisis on hotel business performance.

Time risk is the possibility of an individual's time being wasted, violated, occupied, or losing convenience. Zhang, Torres, and Jahromi (2019) proposed that the lack of time was

one of the top three health challenges and job risks in the hospitality industry. In a major crisis, business operations may be rapidly reduced or even suspended, and employees may have to spend more time dealing with the crisis. Hotel managers often require staff to engage in a series of tasks and measures to cope with and reduce the negative crisis impacts. For example, with the background of SARS, Chien and Law (2003) proposed that hotels should develop contingency arrangements while maintaining certain basic services, and set up task forces with the membership of each functional department from front desk to back office in the hotel to deal with booking cancellations, environmental hygiene, cleaning and disinfecting of guest rooms and public areas, and media handling. Hotels may require staff to improve product and service quality, and launch promotional activities and provide new menus (e.g., anti-SARS menus), as well as expanded service formats (e.g., take-away or delivery services) to promote recovery (Alan, So, & Sin, 2006). Public security crises, such as terrorist attacks, crimes, influence tasks in hotels by spawning new and tightened security measures, as well as the expansion and transformation of hotel security management functions and crisis response strategies (Gill et al., 2002; Goodrich, 2002). Crises may lead to longer working hours, increased workloads and position changes, as well as loss of work convenience. This is a perceived risk at the task level, and it has more connotations than just time. Thus, perceived task shock is a critical dimension of HEPCS referring to subjective judgments by the staff of the negative and shock impacts of the crisis on job tasks, workloads, work convenience, and time arrangements.

Financial risk represents the probability of unexpected financial or revenue loss, damage, or threat. In the short term, staff compensation may decrease during a crisis, or some

may become unemployed or furloughed. Hotel managers may take various measures to minimize their operating expenses, including negotiating with staff for pay cuts and definite or indefinite unpaid leave (Chien & Law, 2003; Alan et al., 2006). Mohr (2000) defined job insecurity as employee perceptions regarding the probability of losing their jobs in crisis times, with staff tending to have strong job insecurity and turnover intentions during crises. Moreover, hotel staffs generally with lower levels of educational achievement (Marchante, Ortega, & Pagan, 2005), are among the lowest wage earners in all industry comparisons (Casado-Díaz and Simon, 2016). During major crisis events such as COVID-19, the alternative employment options for hotel staff, due to their lower education, are limited. Baum et al. (2020) suggested that due to their low earnings many hotel staff were surviving on a "pay cheque to pay cheque" cash flow basis. In the longer term, hotel staff due to crisis events may face professional challenges including limited personal development, difficulties in position promotion, and stagnant career growth. Crises may diminish the career prospects of hotel staff, threatening promotion, personal development, and career growth (Wan, Wong, & Kong, 2014). Major global crises such as COVID-19 have impacted the prospects for the hotel industry, causing staff to become more uncertain about career prospects (Huang & Xie, 2021). Thus, crisis events impact income levels and job stability in the short term, and career prospects and growth in the longer term. Financial risk is a component of occupational shocks in crises. Perceived occupational shock refers to employee subjective judgments of the negative and shock impacts of the crisis on short-term income and job stability and long-term career development and growth.

Psychological risk represents the probability that an individual suffers from negative

emotions including anxiety, sadness, pain, and depression, or peace of mind is interrupted. Hospitality companies provide a comprehensive range of products and services (e.g., catering, entertainment, and accommodation) for many types of guests. Hotel occupations are characterized by high-risk and highly intensive physical, intellectual, and emotional labor (Chen, Chang, & Wang, 2019). There are also internal and external risk factors such as crime, theft, pandemic, equipment failure, and lack of security management (Xie et al., 2020). Hotel staff may encounter emotional exhaustion, job insecurity, and role overload at work. Crisis events have a significant influence on employee psychological states and emotional experiences, which not only intensify the inherent negative psychological experiences (Baum et al., 2020) but also trigger other psychological worries. Negative psychological experiences have been investigated in crises, and significantly predicted job performance, satisfaction, and turnover intentions (Zhang, Xie, & Morrison, 2021; Aguiar-Quintana et al., 2021; Chen & Eyoun, 2021; Bajrami et al., 2021). Psychological risk represents the impacts of crisis events on employee mental and emotional states and resulting negative conditions including emotional exhaustion, job burnout, and stress. Perceived mental shock is an important dimension of HEPCS referring to subjective judgments of the negative and shock impacts of crises on emotions and psychological states.

Physical risk represents the possibility of physical health being threatened, injured, or invaded, and is also conceptualized as a health risk in the job risk literature (Pekkarinen, Anttonen, & Niskanen, 1996; Rundmo & Sjöberg, 1998; Basha & Maiti, 2013). Physical risk occurs in crisis events causing physical injury, illness, and health loss for hotel staff. Occupational diseases and injuries suffered by hotel staff are much higher than the average

level for other service industries (Buchanan et al., 2010). For example, housekeeping is a position with a high incidence of occupational disorders including muscle injuries, bone diseases, and skin-related diseases due to improper work behavior and intensive workloads (Krause, Scherzer, & Rugulies, 2005). Employees in hotel kitchens and engineering departments also have a high incidence of acute trauma and accidental injuries, resulting from falls, strains, and scalds (Buchanan et al., 2010; Pekkarinen et al., 1996). Hotels often become a "hotbed" for violent crime and terrorism due to the convenient access and gathering of many people, posing another threat to the physical safety of employees (Pizam, 2010). Diseases such as SARS and COVID-19 are easily spread in public places such as hotels and even result in clusters of cases, which threaten the lives and health of employees (Chien & Law, 2003; Zhang et al., 2020; Alan et al., 2006). Thus, the possibility of hotel employees suffering physical threats and health risks is high in normal and crises. Health shocks are injuries, illnesses, and health loss suffered by hotel staff in crises, and perceived health shock refers to subjective judgments of the negative and shock impacts of crises on physical health and safety.

Social risk refers to the possibility that individuals suffer discrimination, ridicule, and alienation in interpersonal relationships and social communication due to improper consumer decision-making. Hotel occupations often suffer from social prejudice, social stigma, and low social status (Powell & Watson, 2006; Xie et al., 2020). For example, the common perception of hotel work is that of unskilled, low-waged, low status, physically demanding, dirty, repetitive jobs, reflecting a lack of dignity and status and the degradation of hotel occupations (Ellis, 1981; Hughes, 1971). Crisis events may have deleterious influences on particular hotel

images and the reputation of the hotel industry as a whole (Ivanov & Stavrinoudis, 2018; Su et al., 2019). Consequently, employees may be discriminated against and ridiculed by other groups because of their employment in hotels. During COVID-19, the hotel industry was severely affected and lost its competitiveness in the labor market, resulting in large numbers of employees transferring to other industries (Bajrami et al., 2021; Baum et al., 2020; Zhang et al., 2020). The image of the hospitality industry is affected by many crisis events, which may, in turn, exacerbate the severity of crisis impacts, and harm the social communications and interaction with hotel staff. The social risk for hotel staff may result from the impact of crises on hotel images. Thus, perceived image shock is another critical dimension of HEPCS referring to subjective judgments of the negative and shock impacts of crises on hotels and employee self-images.

Therefore, based on the six-factor model of perceived risk and hotel crisis impact research, Figure 1 presents the dimensions and connotations of HEPCS.

[Insert Figure 1 here]

3. Study 1: Dimensions and connotations

Following the scale development procedures of Churchill (1979), this research developed HEPCS through a mixed-method design. A reliable and valid measurement scale for HEPCS was proposed based on the following three studies (Figure 2): Study 1 generated the dimensions and connotations through a literature review and interviews with the hotel staff; Study 2 generated the initial measurement items for HEPCS, and refines them through exploratory factor analysis using a survey of hotel employees; Study 3 validated the HEPCS

scale by using confirmatory factor analysis, and the convergent, discriminant, cross- and predictive validities of HEPCS were tested.

[Insert Figure 2 here]

3.1. Research design

Since HEPCS has not been investigated, it was necessary to explore the concept and dimensions of it through qualitative research. The in-depth interviewing included structured and semi-structured discussions with respondents. Based on a review of qualitative research methods, Walsh (2003) concluded that researchers should incorporate open-ended questions to collect data, thereby avoiding interviewees hiding their true thoughts due to topic sensitivity in one-on-one face-to-face interviews. To avoid social desirability bias, Ghosh and Shum (2019) adopted this interview design to reveal the sensitive and complex phenomenon of hospitality employee rule-breaking behaviors. They used structured non-numerical questions composed of one close-ended and five open-ended questions. In this research, one-on-one, face-to-face interviews were not possible due to the risk of transmission of infection as well as violating "social distancing" mandates by the government. In addition, due to high levels of uncertainty in hotels during COVID-19, HEPCS might be a sensitive topic for employees and hotel management. Face-to-face interviews may arouse staff suspicion and make them hide their true thoughts. Therefore, in Study 1, a structured, non-numerical questionnaire including three open-ended questions was adopted and distributed online to collect employee thoughts about crisis shock. The interviewees were not required to complete questionnaires with their actual identities and places of work, nor interfere with their daily

work, thus reducing the tendency to withhold information.

The online structured non-numerical questionnaire had three open-ended questions related to HEPCS as well as several demographic variables. The following questions were included: What is the shock impact of the COVID-19 pandemic on (1) your hotel, (2) your job and career, and (3) you personally? These questions were identified and discussed by an expert group (two professors and four Ph.D. students with hospitality experience). This generated a detailed description of employee crisis shock perceptions during COVID-19.

3.2. Data collection

The online interviews used convenience sampling on a leading market research website (www.wjx.cn). Twenty-four five-star-rated hotels, still in operation during COVID-19, were surveyed in China from April 19-30, 2020. The hyperlink to this survey was sent to hotel human resource (HR) managers for checking, and then forwarded to staff at various positions and departments. Since front-line staff are the direct providers of hotel services and the main actors in crisis responses, interviews with them can help in identifying HEPCS components. Due to differences in tasks, responsibilities, and work experience, staff in back-of-house positions, such as in kitchens and human resource departments, were interviewed. In addition, hotel senior managers (e.g., HR director, general manager) were interviewed to better comprehend the shock impacts of the pandemic on hotels as a whole. Finally, 32 senior managers and 67 middle and junior staff were interviewed, and the average length of each interview was more than ten minutes. The interviewees were assured of their rights to privacy and anonymity. It was also emphasized that interviews were for academic purposes only and

did not involve any conflict of interest.

Saunders and Townsend (2016) recommended a norm of using 15-60 valid respondents for qualitative research. Since the critical sampling criterion for qualitative research is theoretical saturation, this research had 99 respondents to ensure sufficient qualitative data for theme analysis and theoretical construction. The respondents consisted of 22 males and 77 females. Almost 77.7% were married and the largest age group was 20-29 years old (44.4%). Almost 83.9% had graduated from a junior college or higher. In addition, 33.3% were junior staff and 32.2% were managers or above. Some 16.1% were from front offices and 34.4% were from housekeeping; 47.7% had more than 10 years of work experience in hospitality.

3.3. Data analysis and coding

The qualitative data were analyzed using thematic analysis. The three-stage analysis process including familiarization, coding, and categorization as proposed by Miles and Huberman (1994) was adopted. The research team read all the qualitative data in the first stage and checked for grammar, typos, and other minor errors to improve the reliability and accuracy of the data. In stage 2, words, phrases, and sentences reflecting HEPCS were coded and labeled, and the related original concepts were identified. During stage 3, the original coding set and concepts generated from stage 2 were simplified, classified, and merged into normative concepts after cross-checking with the literature, thereby extracting the core themes that reflected HEPCS. In stages 2 and 3, two researchers, one with a research background in hospitality and the other familiar with thematic analysis, independently reviewed and checked the process of coding refinement and concept generation. Specifically,

one researcher first coded, categorized, and refined the qualitative data, and the second assessed the results with closed-ended (i.e., agree-disagree) responses. And the disagreements were discussed to improve the coding and categorization validity.

3.4. Results

An original coding set and concepts with 796 labels were generated. After further discussion, the coding set was narrowed down to 27 normative concepts, and six core themes were extracted (Table 2). Employee perceived crisis shock included the following six dimensions: perceived performance shock (PPS), perceived task shock (PTS), perceived occupational shock (POS), perceived mental shock (PMS), perceived health shock (PHS), and perceived family and life shock (PFLS). PPS was the employee judgment of the negative and shock impacts of the crisis on hotel performance. PTS represented perceptions of the negative and shock impacts of the crisis on work-related tasks. POS referred to evaluations of the negative and shock impacts of the crisis on career development. PMS was employee judgments about the negative and shock impacts of the crisis on emotions and psychology. PHS was employee impressions of the negative and shock impacts of the crisis on employees' physical safety. Finally, PFLS referred to employees' judgment of the negative and shock impacts of the pandemic on their family and personal lives.

After the coding, classification, and refinement, the hyperlink to this survey was sent to another three employees for a theoretical saturation test. The results indicated that no new themes or normative concepts emerged that were different from the previous analysis, demonstrating the saturation of the thematic analysis. Compared with the shock impacts of

crisis events on hospitality (Figure 1), perceived crisis shock did not include an image shock dimension, but was supplemented with the new dimension of family and life shocks. The COVID-19 pandemic is a major victimized crisis and hotels are the victim of this crisis; it did not appear to affect hotel images and reputation during its acute and chronic stages but had a spillover effect on employee families and lives.

[Insert Table 2 here]

4. Study 2: Item generation and refinement

4.1. Questionnaire design

The questionnaire for Study 2 was composed of two sections. The first section was the HEPCS scale, including the six dimensions. The original measurement items were generated based on the following four stages. In stage 1, relevant items to HEPCS were summarized through a broad literature review. In stage 2, combined with the thematic analysis of interviews, another eight items were generated and supplemented. Appendix 1 presents the original HEPCS items and their supporting references. In stage 3, an expert panel of six hospitality researchers (two professors and four Ph.D. students) and two hospitality managers examined the content validity of each item. A pilot test was conducted in stage 4 to assess the applicability of the item expressions and the internal reliability of each dimension, thereby forming the final measurement items for surveying. All items were measured with seven-point Likert scales. The second section of the questionnaire had the demographic variables.

A five-day pilot test was conducted at four-star-rated hotels in China in May 2020. In total, 215 valid questionnaires were collected, and the employees surveyed had no obvious

problems with the language and design of the questionnaire. The results showed that the Cronbach's alpha of each dimension was all above 0.7. In addition, the KMOs for these dimensions were all above 0.7, and the factor loadings for each item were all above 0.5. However, the community of several items was less than 0.5 (e.g., PPS01, PPS03, POS05). Accordingly, the expert group modified these items, and some items were revised because the survey was conducted in the acute and chronic stages of the pandemic.

4.2. Data collection

From June 24 to June 29, 2020, Study 2 was conducted through a survey by convenience sampling of six-four- and five-star-rated hotels in Fujian and Anhui, China. Fujian and Anhui provinces are located in eastern and central China, with developed economies and hotel industries. According to the report on the competitive status and investment prospects of China's star-rated hotel industry, Fujian and Anhui were among the top ten national star-rated hotels for average occupancy rates in 2020, and their operating performance recovered well after COVID-19 gradually eased. Thus, questionnaire surveys conducted in these two provinces were highly representative. To avoid infection, this survey was conducted online through a leading market research website in China (www.wjx.cn). The hyperlink to this survey was sent to the surveyed hotel's HR managers for verification and then forwarded to employees still on duty during COVID-19. This research asked the HR manager to share questionnaires with staff at various levels, positions, and departments to ensure the rationality of the sample structure. To ensure data collection quality, the research team presented the research purpose, ensured the anonymity of responses, and highlighted that there were no absolute right or wrong answers for each item. A total of 330 questionnaires were returned

with 313 valid ones, indicating a valid response rate of 94.8%. The profile of the respondents is presented in Table 3. This demographic is much in line with the actual ratios for hotel employees in China.

[Insert Table 3 here]

4.3. Reliability assessment

The reliability of the original HEPCS scale was tested by applying SPSS 22.0. The Cronbach's alpha and item-to-total correlation (ITTC) were used as indicators to examine the internal reliability of each dimension and item. The results showed that the ITTCs of all items were above the 0.3 thresholds. In addition, the Cronbach alpha for the overall scale was 0.931, and the Cronbach alphas for each dimension were above the recommended level of 0.7. These results indicated that the original measurement items had reasonably good internal consistency.

4.4. Exploratory factor analysis (EFA)

The EFA results showed the KMO index was 0.896 (> 0.7), and 30 items were aggregated into six factors with eigenvalues greater than one, and the cumulative contribution to variance was 72.06%. Following Straub's (1989) suggestion, two items (PTS05, POS01) with community values below 0.5, and one cross-load item (PFLS04) were deleted, and the EFA was re-run with the remaining 27 items. As a result, the KMO was 0.884, and six factors with eigenvalues above one were extracted. Both the communities and factor loadings of the remaining items were greater than 0.5, and the Cronbach alphas for each factor were greater than 0.8, accounting for 74.84% of the total variance (Table 4).

[Insert Table 4 here]

5. Study 3: Scale validation

5.1. Data collection

To validate the factor structure generated from Study 2, another round of surveys was conducted on July 2, 2020. To ensure the representativeness of the sample, 28 four- and five-star-rated hotels, still operating during the pandemic, from various regions of China, were surveyed. And this questionnaire was distributed for 10 days. To make the data sample represent high-star hotels in China, hotels were selected in east China (Fujian, Zhejiang, Guangdong), northeast China (Jilin), central China (Anhui, Hunan), and west China (Sichuan, Chongqing, Guizhou). High-star-rated hotels in these areas suffered severe impacts during the COVID-19 pandemic, and their occupancy rates and operating performance are now gradually recovering. As with Study 2, the survey was conducted online through convenience sampling in Study 3 and asked the HR managers to share the survey hyperlink to the staff at various levels, positions, departments. The research team presented the research purpose, ensured anonymity of responses, and highlighted that there were no absolute right or wrong answers for each item. In total, 980 questionnaires were collected with 931 valid ones, indicating a 95% effective response rate. The profile of the respondents is presented in Table 3.

5.2. Confirmatory factor analysis (CFA)

To avoid a self-validation bias, the sample selection function provided by SPSS 22.0 was used to split the whole sample randomly into a calibration (n = 465) and validation

sample (n = 466). The calibration sample was used to modify the factor model, and the validation sample was used to retest the validity structure of the model. The CFA with calibration sample was performed to assess the convergent, nomological, and discriminant validities of the model. According to the suggestion of Hair, Anderson, Tatham, and Black (2010), the adjusted model presented reasonably good model-fit indices (χ^2=650.969, *df*=303, χ^2/df=2.148, SRMR=0.0566, RMSEA=0.050, NFI=0.941, CFI=0.967, TLI=0.962, IFI=0.967, RFI=0.931, GFI=0.904, PNFI=0.812). In addition, the standard factor loadings for each dimension ranged from 0.536 to 0.970; the average variances extracted (AVEs) were from 0.5827 to 0.7767; and the composite reliabilities (CRs) for each dimension were from 0.8531 to 0.9446, which indicated good convergent validity (Table 5).

[Insert Table 5 here]

5.3. Correlation analysis

As presented in Table 6, the six dimensions of HEPCS were all correlated at the significance level of 0.01, demonstrating nomological validity. Moreover, the maximum value of the Pearson correlation coefficients (0.577) was lower than the minimum value of the square root of the AVE (0.763), which confirmed the discriminant validity of each dimension.

[Insert Table 6 here]

5.4. Model comparison of HEPCS

Four competitive models were constructed to identify the optimal factor structure of HEPCS based on the validation sample (Figure 3). Model 1 was a first-order factor model

composed of 27 items (Figure 3-1); model 2 consisted of six uncorrelated first-order factor models (Figure 3-2); model 3 had six correlated first-order factor models (Figure 3-3), and model 4 was a second-order factor model with six first-order factors (Figure 3-4).

Four competitive models were constructed to identify the optimal factor structure of HEPCS based on the validation sample. The results showed that model 1 and model 2 failed to meet the recommended levels. In addition, model 3 (χ^2/df=2.341, SRMR=0.0546, RMSEA=0.054, CFI=0.967) and model 4 (χ^2/df=2.421, SRMR=0.0655, RMSEA=0.055, CFI=0.958) demonstrated high fit indices, and model 3 had lower χ^2/df, RMSEA, and SRMR and better CFI. In model 4, the standard factor loadings of the six dimensions (PPS, PTS, PMS, POS, PHS, and PFLS) on the second-order HEPCS were 0.401, 0.788, 0.699, 0.720, 0.580, and 0.761, which were all significant at the level of 0.01. These results suggested that the HEPCS scale applies to both the six correlated first-order measurement structures (Figure 3-3) and second-order measurement structures (Figure 3-4).

[Insert Figure 3 here]

5.5. Cross-validity

An invariance test was performed to examine the cross-validity of the HEPCS scale. Two random 233-case sub-samples were generated from the validation sample by using SPSS 21.0. The unconstrained model (χ^2=1140.229, *df*=606, SRMR=0.0542, RMSEA=0.044, CFI=0.951) and measurement models (χ^2=1154.741, *df*=627, SRMR=0.0542, RMSEA=0.043, CFI=0.951) presented good and satisfactory model fit. A Chi-square difference test was conducted between the unconstrained and measurement models, and the

result was invariant ($\triangle\chi^2(\triangle df=21)=14.512$, p=0.847>0.05). These results indicated the cross-validity of the HEPCS scale.

5.6. Predictive validity

Previous research suggested that employees may have higher intentions to quit during a crisis (James, 2008). Accordingly, to test the predictive validity of HEPCS scale, four items measuring employee turnover intentions adapted from Bluedorn (1982) were included in the questionnaire. The results showed HEPCS positively affected employee turnover intentions ($\beta = 0.347$, $p < 0.001$), and PTS ($\beta = 0.215$, $p < 0.001$), POS ($\beta = 0.486$, $p < 0.001$), PMS ($\beta = 0.255$, $p < 0.001$), PHS ($\beta = 0.256$, $p < 0.001$), and PFLS ($\beta = 0.238$, $p < 0.001$) positively influenced employee turnover intentions. Since performance shock is mainly reflected at the hotel organizational level, and it is difficult for employees to assess its duration, its impact on individual turnover intentions was not significant ($\beta = -0.036$, $p > 0.05$). Thus, the HEPCS scale had good predictive validity.

6. Conclusions and discussion

6.1. Conclusions

With the background of the COVID-19 pandemic, this research identified the dimensions of HEPCS through interviews and thematic analysis, and a HEPCS scale was developed based on several rounds of questionnaire surveys. The research findings illustrated two main conclusions.

First, HEPCS was composed of six dimensions, including perceived performance, task, occupational, mental, safety, and family and life shocks. Essentially, HEPCS can be

understood as hotel employee perceptions and judgments of the negative shock impacts of this crisis in its acute and chronic stages. Since the COVID-19 pandemic is a major victimized crisis, and hotels are victims of the crisis, it did not affect hotel images but there was a spillover effect on employees' families and lives.

Second, based on several rounds of questionnaire surveys, the HEPCS scale, composed of PPS, PTS, POS, PMS, PHS, and PFLS, presented reasonably good reliability and validity structure. The HEPCS scale passed the reliability test, EFA, and CFA, and had a six correlated first-order factor model with solid internal consistency, construct, convergent, discriminant, nomological, cross-, and predictive validities. In addition, there were dimensional differences in the perceived levels of crisis shocks. Specifically, employee perceived performance shock (mean=5.73), health shock (mean=4.89), and task shock (mean=4.86) were relatively high, and employee perceived mental shock (mean=4.00) and occupational shock (mean=4.21) were lower.

6.2. Theoretical implications

First, this research proposed the HEPCS concept for the first time, which assesses the impact of crises on hotels from an employee perception perspective, and provides a new theoretical perspective and research direction for hotel crisis research. The impacts of crisis events on hospitality have attracted great attention; however, the studies mainly adopt the perspectives of hoteliers, general managers, corporations, and the industry (Ivanov & Stavrinoudis, 2018; Taylor & Enz, 2002; Chen, 2011; Alonso-Almeida & Bremser, 2013; Okumus et al., 2005). The previous research neither fully assesses the impacts of crisis events

on hotels, nor does it reveal hotel employee perceptions and experiences during crises. There is limited research assessing the impact of crises on hotels from the employee perceptual perspective. HEPCS comprises employee subjective judgments of the negative shock impacts of crisis events in their acute and chronic stages, and it presents an impact structure of "work-individual-family" as a whole. It represents an expressible and perceptible set of negative effects such as corporate survival pressures, career stagnation, work-related task adjustment, employee physical threats, and family and life intrusions. The proposed HEPCS construct is a new concept, which provides a theoretical basis for hospitality companies to establish crisis management plans, as well as new insights for hotel crisis research.

Second, this research identified the dimensions of HEPCS, and the HEPCS scale was developed based on a specific crisis context. Currently, most hotel employee perception scales are developed and tested in normal (no-crisis) situations, and there is a lack of an adequate scale to measure hotel employee shock perceptions during a major crisis. Although some dimensions of crisis shock impacts, such as performance, work-related task, and health shocks (Chen, 2011; Chien & Law, 2003; Gill et al., 2002), have been discussed in previous crisis research, crisis shocks at the occupational, mental, and family and life levels have received less attention. Based on the perceived risk model and hotel crisis impact research, this investigation filled these gaps by proposing that HEPCS was a six-factor model composed of performance, task, occupation, mental, safety, and family and life dimensions. This research provided evidence and an empirical basis for identifying the dimensional structure of HEPCS. Additionally, the new HEPCS scale advances the knowledge of crisis impacts by providing a reliable and valid measurement tool for follow-up empirical research,

as well as promoting the research on the shock impacts of a pandemic crisis on the hospitality industry.

6.3. Practical implications

This research provides strategies and suggestions for hotel crisis responses and crisis management from the perspective of employee perceptions. In a crisis, hotel managers should assess the shock impacts from the aspects of performance, task, occupation, mental, physical, and family, and life, and develop tailored strategies and intervention measures to reduce negative impacts. In addition, hotel managers should develop crisis response systems and recovery strategies based on HEPCS dimensions. Regarding performance shock, hotel managers should maintain hotel operations and business during the crisis by improving service quality and expanding new service options, such as take away or delivery services. Moreover, hotel managers should follow the directions of market development and institute recovery plans to reestablish business performance. For task shock, hotel managers should provide safety guidance and resources to support employees in performing their work duties. Also, managers should conduct safety training to enable employees to adapt to task arrangements and changes brought about by crises, and to improve abilities to deal with crises. Concerning occupational shock, hotel managers should enhance employee positive career prospects and industry commitment to hospitality through job training, skill development, and career planning, and avoid reducing operating costs by salary cuts and layoffs during crises. Regarding mental shock, hotel managers should help employees objectively view external risk and crisis factors, and provide psychological counseling and emotional feedback for employees with problems, to strengthen employee self-efficiency and

restoration beliefs. For health shock, hotel managers should safeguard employee health and property, and prevent them from infection by adopting effective measures, such as providing safety protection equipment, regular cleaning, and disinfection, during a pandemic. For family and life shock, hotel managers should develop flexible work plans to assist employees to deal with and avoid the conflicts between family and life. In addition, hotel managers should care for and satisfy employee life status and needs during a crisis.

6.4. Limitations and future research direction

This research has several limitations. First, the HEPCS scale was developed and confirmed based on the COVID-19 pandemic. Future research should confirm the HEPCS scale for different crises, as well as exploring the differences in HEPCS in crisis stages through longitudinal research design. Second, the data were collected through convenience sampling, and only employees in four- and five-star-rated hotels in China were surveyed, thus challenging the representativeness of the sample. Future research should expand the sample structure and collect data by probability or stratified sampling. Future research should also validate the HEPCS scale in other types of lodging formats (e.g., homestay, budget hotels), as well as in different cultural backgrounds. Third, based on the perceived risk model and hotel crisis impact research, this investigation identified the dimensional structure of HEPCS through interviews and several rounds of surveying. However, the theoretical basis maybe not be sufficient, or it may fail to capture all dimensions of HEPCS. Future research should confirm and expand the HEPCS dimensional structure based on other solid and mature theories, especially concerning crisis management (such as crisis lifecycle theory, signal theory). Fourth, hotel employee personalities and characteristics were not taken into

consideration in the analysis of HEPCS. Employees with different risk-related personalities, experiences, positions and departments may have unique crisis shock perceptions. Future research should explore the perceived differences among employees with varying personalities and characteristics in HEPCS and its dimensions.

References

Aguiar-Quintana, T., Nguyen, H., Araujo-Cabrera, Y., & Sanabria-Díaz, J. M. (2021). Do job insecurity, anxiety and depression caused by the COVID-19 pandemic influence hotel employees' self-rated task performance? The moderating role of employee resilience. *International Journal of Hospitality Management*, 94, 1-10.

Alan, C. B., So, S., & Sin, L. (2006). Crisis management and recovery: how restaurants in Hong Kong responded to SARS. *International Journal of Hospitality Management*, 25(1), 3-11.

Alonso-Almeida, M. D., & Bremser, K. (2013). Strategic responses of the Spanish hospitality sector to the financial crisis. *International Journal of Hospitality Management*, 32(1), 141-148.

Bajrami, D. D., Terzic, A., Petrović, M. D., Radovanović, M., Tretiakova, T. N., & Hadoud, A. (2021). Will we have the same employees in hospitality after all? The impact of COVID-19 on employees' work attitudes and turnover intentions. International Journal of Hospitality Management, 94, 1-9.

Basha, S. A., & Maiti, J. (2013). Relationships of demographic factors, job risk perception and work injury in a steel plant in India. *Safety Science*, 51(1), 374-381.

Bauer, R. A. (1960). *Consumer behaviour and risk taking*. In R. S. Hancock (Ed.). Dynamic marketing for a changing World (pp. 389-398). Chicago: American Marketing Association.

Baser, F., Ture, H., Abubakirova, A., Sanlier, N., & Cil, B. (2017). Structural modeling of the

relationship among food safety knowledge, attitude, and behavior of hotel staff in Turkey. *Food Control*, 73, 438-444.

Baum, T., Mooney, S. K. K., Robinson, R. N. S., & Solnet, D. (2020). Covid-19's impact on the hospitality workforce - new crisis or amplification of the norm? *International Journal of Contemporary Hospitality Management*, 32(9), 2813-2829.

Birkeland, M. S., Nielsen, M. B., Hansen, M. B., Knardahl, S., & Heir, T. (2017). The impact of a workplace terrorist attack on employees' perceptions of leadership: A longitudinal study from pre- to post-disaster. *Leadership Quarterly*, 28(5), 659-671.

Bluedorn, A. C. (1982). A unified model of turnover from organizations. *Human Relations*, 35(2), 135-153.

Buchanan, S., Vossenas, P., Krause, N., Moriarty, J., Frumin, E., Shimek, J. A. M., Mirer, F., Orris, P., & Punnett, L. (2010). Occupational injury disparities in the US hotel industry. *American Journal of Industrial Medicine*, 53(2), 116-125.

Bullock, J. A., Haddow, G. D., & Coppola, D. P. (2017). *Introduction to emergency management*. Butterworth-Heinemann.

Casado-Díaz, J.M., & Simon, H. (2016). Wage differences in the hospitality sector. *Tourism Management*, 52, 96-109.

Castells, M. (2007). Communication, power, and counter-power in the network society. *International Journal of Communication*, 1, 238-266.

Chen, M. H. (2011). The response of hotel performance to international tourism development

and crisis events. *International Journal of Hospitality Management*, 30(1), 200-212.

Chen, K., Chang, C., & Wang, C. (2019). Frontline employees' passion and emotional exhaustion: The mediating role of emotional labor strategies. *International Journal of Hospitality Management*, 76, 163-172.

Chen, H., & Eyoun, K. (2021). Do mindfulness and perceived organizational support work? Fear of COVID-19 on restaurant frontline employees' job insecurity and emotional exhaustion. *International Journal of Hospitality Management*, 94, 102850.

Chien, G. C., & Law, R. (2003). The impact of the Severe Acute Respiratory Syndrome on hotels: A case study of Hong Kong. *International Journal of Hospitality Management*, 22(3), 327-332.

Chin, J., Wu, M., & Hsieh, L. (2013). Strategic planning of optimal resource allocation in response to global financial crisis: A study of international tourist hotels. *Applied Economics*, 45(23), 3316-3328.

Churchill, G. A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16(1), 64-73.

Coombs, W. T. (2014). *Ongoing Crisis Communication: Planning, Managing, and Responding*, 3rd ed. New York: Sage.

Coombs, W. T. (2007). Protecting organization reputations during a crisis: The development and application of situational crisis communication theory. *Corporate Reputation Review*, 10(3), 163-176.

Cró, S., & Martins, A. M. (2007). Structural breaks in international tourism demand: Are they caused by crises or disasters? *Tourism Management*, 63(12), 3-9.

Delaney, J. T., & Huselid, M, A. (1996). The impact of human resource management practices on perceptions of organizational performance. *Academy of Management Journal*, 39(4): 949-969.

Duan, J., Xie, C., & Morrison, A. M. (2021). Tourism crises and impacts on destinations: A systematic review of the tourism and hospitality literature. *Journal of Hospitality & Tourism Research*, DOI10.1177/1096348021994194.

Ellis, P. (1981). *The image of hotel and catering work*. London: Hotel and Catering Industry Training Board.

Fink, S. (1986). *Crisis management: Planning for the inevitable*. New York: American Management Association.

Fong, L. H. N., Law, R., & Ye, B. H. (2020). Outlook of tourism recovery amid an epidemic: Importance of outbreak control by the government. *Annals of Tourism Research*, 102951.

Ghosh, A., & Shum, C. Why do employees break rules? Understanding organizational rule-breaking behaviors in hospitality. *International Journal of Hospitality Management*, 81, 1-10.

Gill, M., Moon, C., Seaman, P., & Turbin, V. (2002). Security management and crime in hotels. *International Journal of Contemporary Hospitality Management*, 14(2), 58-64.

Goodrich, J. N. (2002). September 11, 2001 attack on America: A record of the immediate impacts and reactions in the USA travel and tourism industry. *Tourism Management*, 23(6), 573-580.

Gurtner, Y. (2016). Returning to paradise: Investigating issues of tourism crisis and disaster recovery on the island of Bali. *Journal of Hospitality and Tourism Management*, 28, 11-19.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (2010). *Multivariate Data Analysis: A Global Perspective 7 Pearson*. Upper Saddle River: NJ.

Hassel, H., & Cedergren, A. (2021). Integrating risk assessment and business impact assessment in the public crisis management sector. *International Journal of Disaster Risk Reduction*, 56(2), 102136.

Huang, A., Makridis, C., Baker, M., Medeiros, M., & Guo, Z. (2020). Understanding the impact of covid-19 intervention policies on the hospitality labor market. *International Journal of Hospitality Management*, 91(12), 1-9.

Huang, R., & Xie, C. (2021). Pressure, state, and response: Configuration analysis of antecedents of hotel employees' career prospect perceptions following the COVID-19 pandemic crisis. *Tourism Tribune*, 36(9), 103-119.

Hughes, E.C. (1971). *The sociological eye*. Aldine Atherton Inc., Chicago.

Ivanov, S., & Stavrinoudis, T. A. (2018). Impacts of the refugee crisis on the hotel industry: Evidence from four Greek islands. *Tourism Management*, 67(8), 214-223.

Jacoby, J., & Kaplan, L. B. (1972). The components of perceived risk. In V. Venkatesan (Ed.). Proceedings of the 3rd Annual Conference of the Association for Consumer Research (pp. 382-393). College Park, MD: Association for Consumer Research.

James, B. D. (2008). The impact of natural disasters on employee turnover: The shocks and aftershocks of hurricane Katrina on it professionals. *Journal of Sociolinguistics*, 16(4), 570-572.

Jin, X. C., Qu, M., & Bao, J. (2019). Impact of crisis events on Chinese outbound tourist flow: A framework for post-events growth. *Tourism Management*, 74, 334-344.

Jones, P., & Groenenboom, K. (2002). Crime in London Hotels. *Tourism and Hospitality Research*, 4(1), 21-35.

Karatepe, O. M., & Karadas, G. (2014). The effect of psychological capital on conflicts in the work-family interface, turnover and absence intentions. *International Journal of Hospitality Management*, 43, 132-143.

Krause, N., Scherzer, T., & Rugulies, R. (2005). Physical workload, work intensification, and prevalence of pain in low wage workers: results from a participatory research project with hotel room cleaners in Las Vegas. *American Journal of Industrial Medicine*, 48(5), 326-337.

Kubickova, M., Kirimhan, D., & Li, H. (2009). The impact of crises on hotel rooms' demand in developing economies: The case of terrorist attacks of 9/11 and the global financial crisis of 2008. *Journal of Hospitality and Tourism Management*, 38, 27-38.

Lau, J., Griffiths, S. M., Au, D. W., & Choi, K. C. (2011). Changes in knowledge, perceptions, preventive behaviours and psychological responses in the pre-community outbreak phase of the H1N1 epidemic. *Epidemiology and Infection*, 139(1), 80-90.

Law, R., & Lau, M. (2000). The computer millennium bug's impact on the hotel industry: A case study of the Kowloon Hotel. *International Journal of Contemporary Hospitality Management*, 12(3), 170-178.

Lin, M., & Ling, Q. (2019). Is role stress always harmful? Differentiating role overload and role ambiguity in the challenge-hindrance stressors framework. *Tourism Management*, 68, 355-366.

Liu, B., & Pennington-Gray, L. (2015). Bed bugs bite the hospitality industry? A framing analysis of bed bug news coverage. *Tourism Management*, 48, 33-42.

Lundin, T., & Jansson, L. (2007). Traumatic impact of a fire disaster on survivors: A 25-year follow-up of the 1978 hotel fire in Borås, Sweden. *Nordic Journal of Psychiatry*, 2007, 61(6), 479-485.

Mahlamaki, T., Rintamaki, T., & Rajah, E. (2019). The role of personality and motivation on key account manager job performance. *Industrial Marketing Management*, 83, 174-184.

Marchante, A.J., Ortega, B. & Pagan, R. (2005). Educational mismatch and wages in the hospitality sector. *Tourism Economics*, 11(1), 103-117.

Miles, M. B., Huberman, A. M., & Huberman, M. A. (1994). *Qualitative data analysis: An expanded sourcebook*. NY: Sage.

Mizrachi, I., & Fuchs, G. (2016). Should we cancel? An examination of risk handling in travel social media before visiting Ebola-free destinations. *Journal of Hospitality and Tourism Management*, 28, 59-65.

Moller, C., Wang, J., & Nguyen, H. T. (2018). #Strongerthanwinston: Tourism and crisis communication through Facebook following tropical cyclones in Fiji. *Tourism Management*, 69, 272-284.

Okumus, F., Altinay, M., & Arasli, H. (2005). The impact of Turkey's economic crisis of February 2001 on the tourism industry in Northern Cyprus. *Tourism Management*, 26(1), 95-104.

Okumus, F., & Karamustafa, K. (2005). Impact of an economic crisis evidence from turkey. *Annals of Tourism Research*, 32(4), 942-961.

Park, S., & Tussyadiah, I. P. (2017). Multidimensional facets of perceived risk in mobile travel booking. *Journal of Travel Research*, 56(7), 854-867.

Pekkarinen, A., Anttonen, H., & Niskanen, J. (1996). Assessment of health risks in canteen kitchens. *International Journal of Occupational Safety and Ergonomics*, 2(3), 262-267.

Peter, J. P., & Tarpey, L. X. (1975). A comparative analysis of three consumer decision strategies. *Journal of Consumer Research*, 2, 29-37.

Pforr, C., & Hosie, P. (2007). Crisis management in tourism: Preparing for recovery. *Journal of Travel & Tourism Marketing*, 23(2-4), 249-264.

Pizam, A. (2010). Hotels as tempting targets for terrorism attacks. *International Journal of*

Hospitality Management, 2010, 29(1), 1-1.

Pizam, A. (2009). The global financial crisis and its impact on the hospitality industry. *International Journal of Hospitality Management*, 28(3), 1-1.

Powell, P. H., & Watson, D. (2006). Service unseen: The hotel room attendant at work. *International Journal of Hospitality Management*, 25(2), 297-312.

Rimal, R. N., & Kevin, R. (2003). Perceived risk and efficacy beliefs as motivators of change. *Human Communication Research*, 29(3), 370-399.

Reisinger, Y., & Mavondo, F. (2005). Travel anxiety and intentions to travel internationally: Implications of travel risk perception. *Journal of Travel Research*, 43(3), 212-225.

Rundmo, T., & Sjöberg, L. (1998). Risk perception by offshore oil personnel during bad weather conditions. *Risk Analysis*, 18(1), 111-118.

Salman, D., Tawfik, Y., Samy, M., & Artal-Tur, A. (2017). A new marketing mix model to rescue the hospitality industry: Evidence from Egypt after the Arab Spring. *Future Business Journal*, 3(1), 47-69.

Sano, K., & Sano, H. (2019). The effect of different crisis communication channels. *Annals of Tourism Research*, 79, 102804.

Sönmez, S. F., Apostolopoulos, Y., & Tarlow, P. (1999). Tourism in crisis: Managing the effects of terrorism. *Journal of Travel Research*, 38(1), 13-18.

Straub, D. W. (1989). Validating Instruments in MIS Research. *MIS Quarterly*, 13(2), 147-169.

Su, L., Stepchenkova, S., & Kirilenko, A. P. (2019). Online public response to a service failure incident: implications for crisis communications. *Tourism Management*, 73(8), 1-12.

Taylor, M. S., & Enz, C. A. (2002). Voice from the field: GMs' responses to the events of September 11, 2001. *Cornell Hotel and Restaurant Administration Quarterly*, 43(1), 7-20.

Wan, Y. K. P., & Kong, W. H. F. (2011). Career perceptions of undergraduate gaming management students. *Journal of Teaching in Travel & Tourism*, 11(4), 367-391

Wan, Y. K. P., Wong, I. K. A., & Kong, W. H. (2014). Student career prospect and industry commitment: The roles of industry attitude, perceived social status, and salary expectations. *Tourism management*, 40(2), 1-14.

Williams, L. J., & Anderson, S. E. (1991). Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviors. *Journal of Management*, 17(3), 601-617.

Witte, K. (1996). Predicting risk behaviors: Development and validation of a diagnostic scale. *Journal of Health Communication*, 1(4), 317-342.

Xie, C., Zhang, J., Chen, Y., Morrison, A. M., & Lin, Z. (2020). Measuring hotel employee perceived job risk: Dimensions and scale development. *International Journal of Contemporary Hospitality Management*, 32(2), 730-748.

Yzerbyt, V., Dumont, M., Wigboldus, D. H., & Gordijn, E. (2003). I feel for us: The impact

of categorization and identification on emotions and action tendencies. *British Journal of Social Psychology*, 42(4), 533-549.

Zacher, H., Heusner, S., Schmitz, M., Zwierzanska, M. M., & Frese, M. (2010). Focus on opportunities as a mediator of the relationships between age, job complexity, and work performance. *Journal of Vocational Behavior*, 76(3), 374-386.

Zenker, S. & Kock, F. (2020). The coronavirus pandemic: A critical discussion of a tourism research agenda. *Tourism Management*, 81, 104164.

Zhang, T. C., Torres, E., & Jahromi, M. F. (2020). Well on the way: An exploratory study on occupational health in hospitality. *International Journal of Hospitality Management*, 87, 1-10.

Zhang, J., Xie, C., & Morrison, A. M. (2021). The effect of corporate social responsibility on hotel employee safety behavior during COVID-19: The moderation of belief restoration and negative emotions. *Journal of Hospitality and Tourism Management*, 46, 233-243.

Zhang, J., Xie, C., Wang, J., Morrison, A. M., & Coca-Stefaniak, J. A. (2020). Responding to a major global crisis: the effects of hotel safety leadership on employee safety behavior during COVID-19. *International Journal of Contemporary Hospitality Management*, 32(11), 3365-3389.

Table 1. SCCT crisis types faced by hotels

Nature	Type of crisis	Example	Reference
Victimized crises	Natural disaster	The 9/21 Nantou earthquake	Chen (2011)
		Tropical cyclones in Fiji	Moller, Wang, & Nguyen (2018)
	Economic crisis	Global financial crisis of 2008	Alonsoameida & Bremser (2013)
	Pandemic	SARS	Chien & Law (2003)
		COVID-19 pandemic	Zhang et al. (2020)
Accidental crises	Terrorist attack	Terrorist attacks of 9/11	Kubickova et al. (2019)
	Political instability	Arab Spring in Egypt	Salman et al. (2017)
	Refugee crisis	Refugee crisis on Greek islands	Ivanov & Stavrinoudis (2018)
	Technical crisis	The computer millennium bug	Law & Lau (2000)
	Crime	Violence, theft, and robbery	Jones & Groenenboom (2002)
Preventable crises	Bed bug crisis	America bed bug crisis	Liu & Pennington-Gray (2015)
	Food safety	Food-borne disease, expired food	Baser et al. (2017)
	Public opinion crisis	Online public response to a service failure incident	Su et al. (2019)
	Service failure	Beijing 798 Yitel hotel incident	
	Fire safety	Fire	Lundin & Jansson (2007)

Table 2. Results of interviews in Study 1

Themes	Normative concepts	Original concepts (samples)
Perceived performance shock (PPS, 38.5%)	Service quality	Service conflict; decline in service quality; customer safety concerns;
	Operating performance	Lower operating income; economic losses; difficult to achieve performance goals; high performance impact; order cancellation;
	Market status	Fewer guests; market frustration; low occupancy rate; “price war”;
	Survival conditions	Hotel closure; postpone business; postpone opening; not operating normally;
	Operating costs	Shortage of funds; food expiration cost; wage cost; rent; food inventory;
Perceived task shock (PTS, 18.9%)	Workloads	Increased workload; cumbersome service process; more work requirements; cumbersome guest registration; increased management work;
	Task delays	Project shutdown; work suspended; task progress delay; project delay; employee delay;
	Work patterns	Homeworking; telecommuting; poor communication; difficult to visit guests;
	Position changes	Position merge; job consolidation; personnel transfer; position change;
	Job scheduling	Irregular working hours; holiday adjustment; troublesome schedule; holiday arrangements; understaffed; make up working time;
	Pandemic prevention measures	Safety check; disinfection; safety training; safety regulation; safety prevention;
Perceived occupational shock (POS, 28.1%)	Work resumption	Hard to resume work; unable to work; waiting for arrangement;
	Salary	Wage reduction; reduced benefits; unstable income; wages are not paid on time; no bonus;
	Personal development	Decrease in job skills; decreased training; unable to improve skills;
	Occupational development	Poor career prospects; job instability; decreased employee loyalty; difficulty in recruiting;
	Unemployment	Unemployment; employee turnover; difficulties in employment; stay at home;
Perceived mental shock (PMS, 4.7%)	Work stress	High working stress; high management stress; high task stress;
	Mental stress	High mental stress; psychological shadow; psychological stress; emotional pressure; increased safety responsibility;
	Negative emotions	Depressed; down; worried; afraid; fear;
	Low work passion	Low morale; low work enthusiasm; no motivation to work; loss of fighting spirit;
Perceived health shock (PHS, 2.5%)	Safety risks	Potential safety hazard; safety concerns;
	Safety awareness	Safety awareness; health awareness;
	Health risks	Physical health risk; employee safety risk; infection risk
Perceived family and life shock (PFLS, 7.0%)	Travel restrictions	Unable to go out; travel restriction; reduced outing activities; unable to travel;
	Family responsibilities	Family pressure; family burden; childcare; child learning; family communication;
	Living expenses	Live beyond his income; credit payment; living expenses; family expenses;
	Pace of life	Life was disrupted; life plan changes; life pace changes;

Table 3. Respondent profiles

Variable		Study 2(n = 313)		Study 3(n = 931)		Variable		Study 2(n=313)		Study 3(n=931)	
		n	%	n	%			n	%	n	%
Gender	Male	120	38.3	374	40.2	Monthly income (CNY)	≤ 2,500	81	25.9	225	24.2
	Female	193	61.7	557	59.8		2,501-5,000	152	48.6	485	52.1
Marital status	Married	253	80.8	711	76.4		5,001-10,000	60	19.2	174	18.7
	Unmarried	60	19.2	220	23.6		10,001-20,000	16	5.1	27	2.9
Age	20 or below	4	1.3	13	1.4		≥ 20,001	4	1.3	20	2.1
	20-29	69	22.0	225	24.2	Work experience	≤ 1 years	16	5.1	64	6.9
	30-39	103	32.9	341	36.6		1-3 years	57	18.2	177	19.0
	40-49	104	33.2	280	30.1		3-5 years	54	17.3	163	17.5
	50-59	30	9.6	71	7.6		5-10 years	76	24.3	253	27.2
	60 or above	3	1.0	1	0.1		≥10 years	110	35.1	274	29.4
Education	Junior high college or below	77	24.6	252	27.1	Department	Front office	37	11.8	97	10.4
	Senior high school	95	30.4	269	28.9		Food and beverage	74	23.6	219	23.5
	Junior college	84	26.8	276	29.6		Housekeeping	56	17.9	172	18.5
	Bachelor’s degree	55	17.6	126	13.5		Entertainment	7	2.2	21	2.3
	Master’s degree or above	2	0.6	8	0.9		Security	18	5.8	43	4.6
Position	Trainee	4	1.3	16	1.7		Kitchen	13	4.2	66	7.1
	Junior staff	146	46.6	428	46		Finance	14	4.5	50	5.4
	Foreman	41	13.1	131	14.1		Sales	17	5.4	75	8.1
	Supervisor	55	17.6	159	17.1		Engineering	12	3.8	46	4.9
	Manager	43	13.7	133	14.3		Human resources	25	8.0	45	4.8
	Director	24	7.7	64	6.9		Others	40	12.8	97	10.4

Table 4. Results of EFA (n = 313)

Dimensions	Items	Mean	Factor loading	Cronbach's α	Variance (%)
Perceived performance shock	PPS01	6.02	0.813	0.892	13.465
	PPS02	5.90	0.808		
	PPS03	6.07	0.858		
	PPS04	5.46	0.769		
	PPS05	5.61	0.812		
Perceived task shock	PTS01	5.16	0.792	0.836	10.075
	PTS02	4.89	0.778		
	PTS03	4.64	0.720		
	PTS04	4.88	0.708		
Perceived occupational shock	POS02	4.60	0.772	0.878	12.666
	POS03	4.42	0.851		
	POS04	4.49	0.830		
	POS05	3.23	0.735		
	POS06	3.77	0.596		
Perceived mental shock	PMS01	4.34	0.754	0.946	15.602
	PMS02	4.22	0.829		
	PMS03	3.88	0.889		
	PMS04	3.60	0.866		
	PMS05	3.73	0.876		
Perceived health shock	PHS01	4.96	0.855	0.935	12.574
	PHS02	5.11	0.877		
	PHS03	4.92	0.886		
	PHS04	4.76	0.890		
Perceived family and life shock	PFLS01	3.94	0.717	0.855	10.457
	PFLS02	4.77	0.813		
	PFLS03	4.11	0.810		
	PFLS05	4.76	0.668		

Table 5. Results of CFA (n = 465)

Dimension	Items	Mean	Standard Factor loading	AVE	CR
Perceived performance shock					
PPS01	During the pandemic *[crisis]*, hotel turnover fell	5.91	0.917	0.7403	0.9341
PPS02	During the pandemic *[crisis]*, hotel business dropped	5.75	0.880		
PPS03	During the pandemic *[crisis]*, the hotel had fewer customers	5.86	0.934		
PPS04	The pandemic *[crisis]* will continue to affect the hotel business	5.51	0.772		
PPS05	The pandemic *[crisis]* will continue to affect hotel profits	5.64	0.786		
Perceived task shock					
PTS01	During the pandemic *[crisis]*, my tasks changed	5.09	0.680	0.5955	0.8531
PTS02	During the pandemic *[crisis]*, my working hours changed	4.84	0.688		
PTS03	The pandemic *[crisis]* has caused problems in my work	4.63	0.904		
PTS04	The pandemic *[crisis]* has increased the complexity of my job	4.87	0.793		
Perceived occupational shock					
POS02	During the pandemic *[crisis]*, it was hard for me to make enough money by working in hospitality	4.80	0.857	0.5827	0.8692
POS03	During the pandemic *[crisis]*, one makes less money in hospitality than in other sectors	4.54	0.878		
POS04	During the pandemic *[crisis]*, it was hard to meet my salary expectations by working in hospitality	4.56	0.907		
POS05	As far as this pandemic *[crisis]* is concerned, working in hospitality is not a good career for future development	3.33	0.536		
POS06	In general, the disadvantages of working in the hospitality industry outweigh the advantages	3.83	0.546		
Perceived mental shock					
PMS01	During the pandemic *[crisis]*, I felt anxious	4.34	0.825	0.7733	0.9446
PMS02	During the pandemic *[crisis]*, I felt upset	4.28	0.889		
PMS03	During the pandemic *[crisis]*, I felt scared	3.92	0.926		
PMS04	During the pandemic *[crisis]*, I felt emotionally disturbed	3.67	0.874		
PMS05	During the pandemic *[crisis]*, I felt depressed	3.82	0.880		
Perceived health shock					
PHS01	I am at risk of contracting the COVID-19 infection *[suffering crisis]* when working in hotels	4.94	0.818	0.7767	0.9326
PHS02	It is likely that I will be in contact with infected guests *[suffering crisis]* when working in hotels	5.12	0.821		
PHS03	My chance of getting the COVID-19 infection *[suffering crisis]* when working in hotels is high	4.85	0.970		

PHS04	It is dangerous to work in hotels during the COVID-19 pandemic *[crisis]*	4.64	0.907		
Perceived family and life shock					
PFLS01	During the pandemic *[crisis]*, my work interfered with my home and family life	3.90	0.741	0.6267	0.8702
PFLS02	During the pandemic *[crisis]*, I changed my life plans due to work-related duties	4.70	0.806		
PFLS03	The job stress caused by the pandemic *[crisis]* made it difficult for me to fulfill family duties	4.08	0.792		
PFLS05	During the pandemic *[crisis]*, my pace of life was disrupted	4.76	0.825		

Table 6. Correlations and square roots of AVE (n = 465)

Dimensions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6
1. Perceived performance shock	(0.860)					
2. Perceived task shock	0.426**	(0.772)				
3. Perceived occupational shock	0.164**	0.543**	(0.763)			
4. Perceived mental shock	0.226**	0.525**	0.503**	(0.879)		
5. Perceived health shock	0.219**	0.284**	0.393**	0.279**	(0.881)	
6. Perceived family and life shock	0.221**	0.493**	0.577**	0.512**	0.385**	(0.792)
Notes: **p < 0.01.						

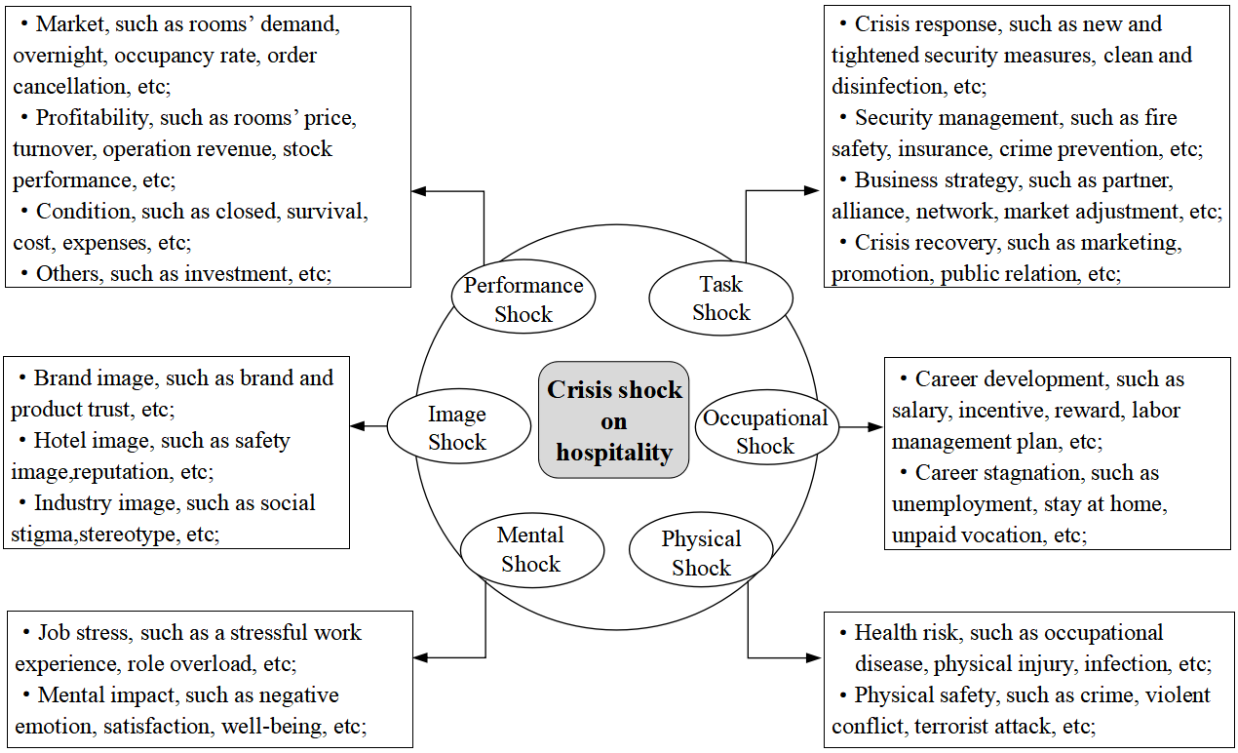

Figure 1. The shock impacts of crisis events on hospitality

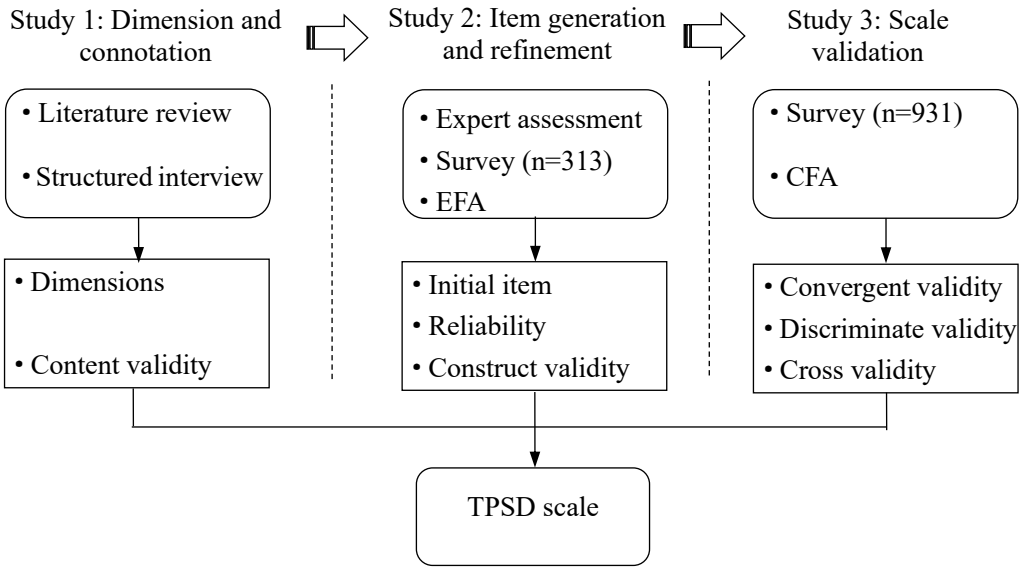

Figure 2. Methodological procedure of scale development

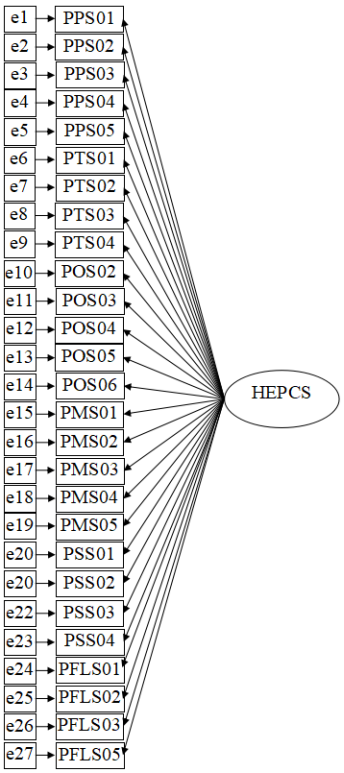

Figure. 3-1 model 1

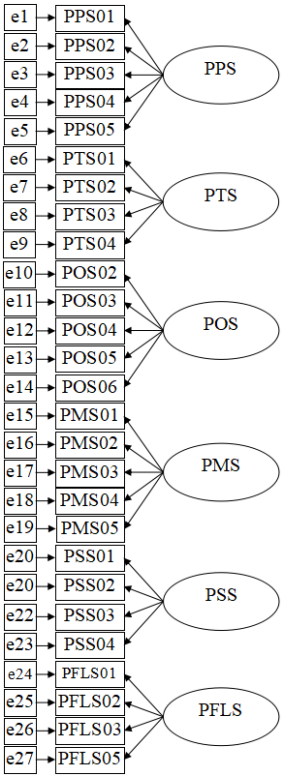

Figure. 3-2 model 2

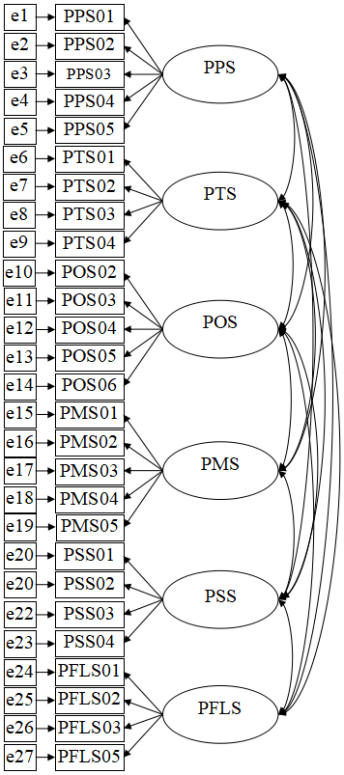

Figure. 3-3 model 3

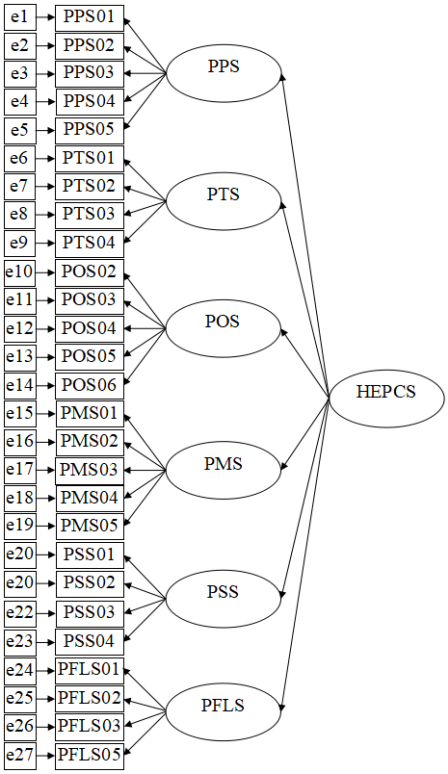

Figure. 3-4 model 4

Figure 3. Model comparison of HEPCS

Appendix 1. The original measurement items and references for HEPCS

Dimensions	Items	References
PPS	Growth in sales	Delaney & Huselid (1996)
	Profitability	
	Market share	
	Performs tasks that are expected of him/her	Williams & Anderson (1991)
	Fails to perform essential duties	
	I have exceeded my sales targets	Mahlamaki, Rintamaki, & Rajah (2019)
	The pandemic will continue to affect hotel internal management	Interview
	During the outbreak of pandemic, hotel closed	
	During the outbreak of pandemic, hotel had fewer customers	
PTS	I have a lot of free time on my job	Lin & Ling (2018)
	I don't have time to finish my job	
	My workload is too heavy	
	The amount of work I have to do interferes with the quality I want to maintain	
	I'm rushed in doing my job	
	Working hours are unsuitable	Wan et al. (2014)
	Jobs in the industry are stressful	
	Receive tasks that are extraordinary and particularly difficult	Zacher, Heusner, & Schmitz (2010)
	The pandemic has reduced my work efficiency	Interview
POS	Promotion opportunities are satisfactory in the tourism and hospitality industry	Wan et al. (2014); Wan & Kong (2011)
	To study tourism and hospitality management at the university level is a good investment in career development	
	One can make good money by working in tourism and hospitality	
	One can make more money in tourism and hospitality than in other sectors	
	Working in tourism and hospitality does not provide a secure future	
	It is not necessary to have a university degree to work in the industry	
	It is hard to find jobs directly within the tourism and hospitality field	
	It is hard to find my desirable job in the tourism and hospitality field	
	Finding a good tourism and hospitality job requires many social networks and relationships	
	In general, the advantages of working in the tourism and hospitality industry outweigh the disadvantages	
PMS	Sad/Depressed/Down/Scared/Anxious/Terrified	Yzerbyt, Dumont, Wigboldus, & Gordijn (2003)
	Certainly/mostly worry very much about oneself contracting H1N1	Lau, Griffiths, & Au (2011)

	Certainly/mostly worry very much about family members contracting H1N1	
	Certainly/mostly felt much panic	
	Certainly/mostly felt much depressed	
	Certainly/mostly felt much emotionally disturbed	
PHS	Jobs in the industry are dangerous	Wan et al. (2014)
	If I were to get norovirus infections on a cruise ship, I would experience serious negative consequences	Liu-Lastres, Schroeder, & Pennington-Gray (2018); Witte (1996)
	If I were to get norovirus infections on a cruise ship, it would have a severe negative impact on me	
	If I were to get norovirus infections on a cruise ship, it would be harmful to my well-being	
	Skin cancer is a serious disease that can kill	Rimal & Kevin (2003)
	Skin cancer is more deadly than most people realize	
	I believe that [the health threat] is significant	Witte (1996)
	COVID-19 is a highly contagious virus	Interview
	If I were to get the COVID-19 infection, it would have a severe negative impact on my health	
PFLS	The demands of my work interfere with my home and family life	Karatepe & Karadas (2014)
	The amount of time my job takes up makes it difficult to fulfill family responsibilities	
	My job produces strain that makes it difficult to fulfill family duties	
	Due to work-related duties, I have to make changes to my plans for family activities	
	During the pandemic, my work income makes it difficult to maintain living expenses	Interview
	During the pandemic, my pace of life was disrupted	