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The impact of COVID-19 on turnover intention among hotel employees: A moderated mediation model

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ABSTRACT

This study examines the influence of COVID-19 event strength on the turnover intention of hotel employees by incorporating perceived operating performance and job insecurity as mediators and hotel size as a moderator. A moderated mediation model was employed to test the relationship between COVID-19 event strength and turnover intention. The study reveals that COVID-19 event strength might not significantly affect turnover intention through perceived operating performance, likely affecting job insecurity perception. We infer that such a finding might result from a series of policies implemented by authorities to prevent job insecurity perception of hotel employees during the COVID-19 pandemic. Furthermore, we also reveal that small- and middle-sized hotels mitigate the effect of job insecurity on turnover intention somewhat differently from our expectations. We infer that most of the entrepreneurs and employees in such hotels are from the same town and unlikely to intensify the effect of job insecurity on turnover intention because of close friendships among them. This finding is closely related to cultural factors in China and has rarely been discussed in the existing literature.

Keywords: COVID-19 event strength; operating performance perception; job insecurity; turnover intention; hotel size; serial mediating
1. Introduction

The COVID-19, a highly contagious and person-to-person transmission disease, has rapidly spread worldwide and severely impacted the tourism industry (Chen et al., 2020). Since domestic and international travel have been suspended (Baum and Hai, 2020) because of this pandemic, the tourism and hospitality industry has been seriously impacted (Gursoy and Chi, 2020, Jung et al., 2021). As a result, many hotel employees lost their jobs (Godinic et al., 2020), which threatens the sustainability of the hospitality industry (Vărzaru et al., 2021). Nicola et al. (2020) indicated that more than 50 million global tourism and hospitality industry jobs are at risk. Previous studies have also demonstrated that employee turnover has negative impacts on the performance of companies (Hancock et al., 2011). Furthermore, employee turnover is a common phenomenon (Ryan et al., 2015), more so in the hospitality industry in China (Qiu et al., 2014, Haldorai et al., 2019).

The high turnover rate of hotel employees creates additional expenses associated with recruitment, selection, training, and development (Tracey and Hinkin, 2008) and reduces service quality, thereby decreasing hotel customers’ retention (Han et al., 2009). Because turnover in the hospitality industry is often higher than in other industries, employee turnover has become the most problematic managerial topic (Cho et al., 2006). Additionally, COVID-19 led to major challenges in staff recruitment and retention (Filimonau et al., 2020), highlighting the importance of this issue—the turnover intention of hotel employees—during this pandemic. Furthermore, hotel employees may leave because of a perceived insecure atmosphere resulting from the harsh COVID-19 operational environment (Li et al., 2019, Filimonau et al., 2020, Yin and Ni, 2021). As a result, it is essential to understand the antecedents of employee turnover issues in the hospitality industry during the COVID-19 pandemic.

Turnover issues in the hospitality industry are receiving increasing attention. For instance, Jung et al. (2021) verified that job insecurity significantly affects employees’ job engagement and turnover intention. Bufquin et al. (2021) revealed the positive effect of psychological distress on turnover intentions during the COVID-19 pandemic. Irshad et al. (2020) also demonstrated that psychological anxiety influences the turnover intention of nurses as they may experience anxiety, pessimism, and sadness because of COVID-19 (Park et al., 2020, Sah et al., 2020).

Thus, the antecedent factors influencing the turnover mainly focus on the emotion of employees, such as psychological distress and anxiety. For example, many hotels served as isolation sites for suspected COVID-19-infected individuals due to decreasing room occupancy rates after the outbreak of the pandemic. Additionally, employees may worry about providing face-to-face services for normal customers since some COVID-19-infected individuals may be asymptomatic. Thus, they may avoid physical contact (Betsch, 2020) and keep a social distance from customers (Haleem et al., 2020), leading to further drops in hotel occupancy rates (Gursoy and Chi, 2020). Employees
tend to leave low-performing businesses due to the insecure work climate (Arasli et al., 2019). However, the work climate, such as operating performance and job security, likely regarded as important antecedents influencing employees’ turnover intention, is rarely considered in the relevant COVID-19 studies.

Therefore, this study employed event strength (Morgeson et al., 2015) to measure the impact of COVID-19 by reflecting on how the COVID-19 pandemic drew attention to and has produced organizational system changes (Nigam and Ocasio, 2010). Moreover, because of operating performance perception (the overall performance and development prospect of the hotel) and job insecurity (employee’s perception of the current work climate) employed for reflecting on employees’ work environment, we claim that operating performance perception and job security may be the key issues influencing the turnover intention of hotel employees. Furthermore, hotel size significantly impacted job satisfaction, which might be one of the prerequisites for employee turnover (Zopiatis et al., 2014, Tongchaiprasit and Ariyabuddhiphongs, 2016, Ferreira et al., 2017, Hsiao et al., 2020). Hotel employment associated with operating performance is closely related to hotel size (Fujii and Mak (1981). Thus, by exploring whether the turnover intention would vary with hotel size (i.e., employing hotel size as a moderator), we examine the differences of turnover intention in different-sized hotels and deduce any special factors influencing such differences.

Based on these concerns, we investigate the impacts of COVID-19 event strength on the turnover intention of employees by addressing two issues: (1) Apart from exploring the impact of COVID-19 event strength on operating performance or job insecurity of hotel employees, we further investigate whether it increases the turnover intention of hotel employees through either operating performance or job insecurity. (2) We then investigate whether hotel size moderates the effects of either operating performance or job insecurity on turnover intention.

The rest of this paper proceeds as follows. The literature review and hypotheses proposed are presented in Section 2, and Section 3 introduces the data and methods used in this study. Section 4 illustrates the empirical results and analyses, and Section 5 provides the conclusions and implications.

2. Literature review and hypotheses

2.1 Stimulus-organism-response (SOR) model

The conceptual model employed in this study is based on the stimulus-organism-response (SOR) model proposed by Mehrabian and Russell (1974). The SOR model, widely employed in the tourism and hospitality industry (Rajaguru, 2013, Jani and Han, 2014, Su and Swanson, 2017, Kim et al., 2018, Rodríguez-Torrico et al., 2019), explains that environmental stimulus (S) elicits a cognitive and emotional reaction from organisms (O) and this reaction triggers the corresponding behavior response (R) (Björk et al., 2010, Manthiou et al., 2016, Kani et al., 2017).
According to the SOR consumer involvement paradigm proposed by Houston and Rothschild (1977), the situation corresponds to the stimulus in the SOR paradigm. Additionally, Jacoby (2002) emphasized that the stimulus consists of the environment encountered by the individual at a particular time. Therefore, we set COVID-19, concerning its event strength, as the main situational stimulus factor likely influencing the change and response of organizations and individuals in this study. Employees’ turnover intention might also be impacted by either perceived job insecurity or the operating performance of enterprises. Perceived operating performance is the employees’ cognition regarding their companies’ operating performance, and job insecurity refers to subjective job stress based on their perception (Greenhalgh and Rosenblatt, 1984, Ashford et al., 1989, Sverke and Hellgren, 2002). Accordingly, perceived operating performance and job insecurity representing the cognition of hotel employees could be regarded as organism factors. Moreover, because behavioral intention refers to behaviors such as diverse actions taken (Mobley, 1977, Kaur and Sharma, 2016), we then treat turnover intention as the response factor in the SOR paradigm and explore the impact of COVID-19 on the turnover intention of hotel employees. Thus, we argue that this study contributes to hospitality studies by broadening the application of the SOR paradigm.

In the sections below, we propose a conceptual framework (Figure 1); explain the links between COVID-19 event strength, perceived operating performance, job insecurity, and turnover intention of employees in the hotel industry; and propose the study’s hypotheses.

![Conceptual model](image)

**Fig. 1 Conceptual model**

### 2.2. COVID-19 event strength and its effects

In recent years, many studies have employed either event system theory or event strength to study the impacts of events. Although event strength is an abstract concept, it can measure organizations impacted by an event, especially for crisis events such as
COVID-19 and the 2008 stock market crisis due to their non-ignorable strength, which has been widely explored in relevant studies. Several studies have employed the concept of event strength to measure crisis events, such as the 1997–1998 El Niño–Southern Oscillation event (Chen and McClard, 2000) and the 2015–2016 El Niño event (Varotsos et al., 2016). Additionally, as effectively controlling the negative impacts of COVID-19 has become essential for organizations and individuals globally, Yin and Ni (2021) investigated the impacts of COVID-19 event strength—using the three characteristics of novelty, disruption, and criticality—on the fear of external threats, psychological safety, and avoidance coping behaviors of employees. Thus, according to event system theory, Yin and Ni (2021) employ the concept of event strength to measure the influence degree of COVID-19 and its impact on hotel enterprises (e.g., operating performance) and their employees (e.g., job insecurity).

The COVID-19 pandemic has devastated the world economy and severely impacted global supply chains (Ivanov, 2020), the economy, and trade (Nicola et al., 2020, Shen, 2020). The hospitality industry has been particularly hard hit with a precipitous drop in tourism and hotel occupancy (Gursoy and Chi, 2020). Thus, the operating performance would have deteriorated for most hotels. Based on the above analysis, the event strength of COVID-19, an environmental stimulus, may result in hotel employees’ negative operating performance perceptions on their hotels according to the SOR paradigm. Thus, we propose the following hypothesis:

H1. COVID-19 event strength negatively impacts the operating performance perception of hotel employees.

Apart from feeling insecure about tourists when they face crisis events (Per Law, 2006, Slovic, 1987), frontline employees might perceive insecurity because of COVID-19 (Wilson et al., 2020, Ganson et al., 2021), and this is especially true for employees in the hospitality and tourism industry (Aguiar-Quintana et al., 2021, Jung et al., 2021). Furthermore, previous studies have proved that the fear of COVID-19 positively correlates with employees’ job insecurity (Chen and Eyoun, 2021, Jung et al., 2021). Thus, according to the SOR paradigm, the environmental stimulus (S) elicits an emotional and cognitive reaction from an organism (O). The COVID-19 event strength, as an environmental stimulus, may increase the employees’ job insecurity (i.e., employees’ perceptions) about the probability of losing their jobs (Mohr, 2000). Thus, we propose the following hypothesis:

H2. COVID-19 event strength positively impacts the job insecurity of hotel employees.

Economic uncertainty and organizational change might influence the perceived job insecurity of employees (Sverke and Hellgren, 2002). The COVID-19 pandemic has changed the world with a long and even lasting effect on the global economy (Demirović Bajrami et al., 2021). A precipitous drop in tourism and hotel occupancy due to travel restrictions (Gursoy and Chi, 2020) might result in either a poor economic environment
(e.g., operating performance) or organizational change (e.g., layoffs and furloughs (Lee et al., 2021)). Therefore, hotel employees might not be afraid of losing their jobs if their serving hotels have better operating performance, which is our third hypothesis:

**H3.** Operating performance perception negatively impacts the job insecurity of hotel employees.

Furthermore, COVID-19 has impacted the operating performance of the hotel industry, thereby influencing the turnover intention of employees. While employees experience negative work events, they often take higher prevention measures (Koopmann et al., 2016) and develop avoidance behaviors (Holahan et al., 2005, Hu and Cheng, 2010, Bartone et al., 2015, Amponsah et al., 2020). Previous studies have also proved that the impact of COVID-19 has significantly influenced turnover intention in the hospitality industry (Demirović Bajrami et al., 2021, Jung et al., 2021, Lee et al., 2021). Tews et al. (2014) also suggest that external events influence employees’ turnover intention. Therefore, we propose the following hypothesis:

**H4.** COVID-19 event strength positively impacts the turnover intention of hotel employees.

Compensation is an important concern influencing the turnover intention of hotel employees (Kim, 2014, Qiu et al., 2014), indicating that lower pay might result in employee resignations (Haldorai et al., 2019). Employees’ compensation is often linked to operating performance; therefore, they tend to work for hotels with high operating performance. The operating performance of the hotel industry has been hit hard by COVID-19 (Bufquin et al., 2021); therefore, employees might not intend to work for hotels with low operating performance. In this study, operating performance perception (i.e., the perception of hotel employees on hotel operating performance) is regarded as the organism factor. Shopping intention (Hew et al., 2018) and visit intention (Kim et al., 2018) are regarded as response factors in the SOR paradigm, and in this study, we treat turnover intention as a response factor. Since the organism factor may result in behavioral responses according to the SOR paradigm, we propose the following hypothesis:

**H5.** Operating performance perception negatively impacts the turnover intention of hotel employees.

Previous studies have demonstrated that the attributes of a job, including job security and earnings (Mohsin et al., 2015), job clarity (Kim, 2014), and job stress (Tongchaiprasit and Ariyabuddhiphongs, 2016), influence the turnover intention of employees. Emberland and Rundmo (2010) found that job insecurity perception influences employee turnover. Additionally, Iverson and Deery (1997) suggest that lower job security results in higher employee turnover. Previous studies have also investigated the influence of job insecurity perception on the turnover intention of hotel employees during COVID-19 (Demirović Bajrami et al., 2021, Jung et al., 2021). Based
on the above analysis and the SOR paradigm, job insecurity, as an organism factor, may cause the behavior response (i.e., the turnover intention of hotel employees). Therefore, we propose the following hypothesis:

H6. Job insecurity positively impacts the turnover intention of hotel employees.

2.3. Mediating role of operating performance perception and job insecurity

According to the SOR paradigm, the organism factor mediates between the stimulus and behavior response factor. Operating performance perception (i.e., the cognition of hotel employees regarding hotel operating performance) is employed as an organism factor in this study. However, Job insecurity (Mohr, 2000) is another organism factor. Due to COVID-19 event strength, regarded as the environmental stimulus (S), both operating performance perception and job insecurity are treated as the cognitive reflections of an organism (O), and turnover intention of hotel employees is treated as the behavioral response of the organism (R). Therefore, operating performance perception or job insecurity may play a mediating role between COVID-19 event strength and turnover intention of employees. Furthermore, performance perception (Sjahruddin et al., 2020) and job insecurity (Cheung et al., 2015) are regarded as mediators in previous studies and may play mediating roles in the hotel industry because of the impact of COVID-19. Thus, Hypotheses 7 and 8 are proposed as follows:

H7. Operating performance perception mediates the positive impact of COVID-19 event strength on the turnover intention of hotel employees.

H8. Job insecurity mediates the positive impact of COVID-19 event strength on the turnover intention of hotel employees.

Because of COVID-19, most of the world has been put “on hold” (Ahmed and Memish, 2020), and the operating performance of hospitality enterprises has deteriorated, as demonstrated by the sharp drop in the occupancy of these enterprises (Gursoy and Chi, 2020). Job insecurity and unemployment risks have also been impacted COVID-19 (Godinic et al., 2020). Hotels have dismissed employees or introduced pay cuts to address this dilemma, and employees may have perceived job insecurity due to the fear of losing their jobs. In other words, the perception of poor operating performance resulting from COVID-19 event strength may influence the turnover of employees due to job insecurity.

According to the SOR paradigm, the organism factor acts as the mediator between the stimulus and the response factor. By employing organism factors including operating performance perception and job insecurity as serial mediation factors (see Figure 1), we argue that COVID-19 event strength may influence turnover intention through serial mediation factors (i.e., operating performance perception and job insecurity). Thus, we propose the following hypothesis:

H9. The positive impact of COVID-19 event strength on the turnover intention of hotel employees is serially mediated by operating performance perception and job insecurity.
2.4. Moderating role of hotel size

While larger firms are subject to inertial forces and rigidity that limit change, smaller firms are inherently more flexible and receptive (George Assaf et al., 2015). Similarly, even though COVID-19 has impacted the hotel industry, hotels’ coping measures may vary with hotel size. Large hotels tend to have more resources than small hotels (Gupta, 1969); therefore, they might be able to deal with the negative impacts of COVID-19, resulting in lower turnover intention in the large hotels.

However, large hotels employ higher leverages to build their hotels due to the growing tourism perspective, resulting in large hotels not being able to earn a sufficient operating income to cover the interest and depreciation expenses under COVID-19. As a result, these hotels might dismiss more employees to avoid expanding their losses. Additionally, hotel employment associated with operating performance is closely related to hotel size (Fujii and Mak, 1981). George Assaf et al. (2015) demonstrated that small firms usually have higher customer turnover ratios in smaller markets. Thus, due to mixed inferences, turnover intention resulting from either job insecurity or perceived operating performance might differ between large- and other-sized hotels. Moreover, hotel size significantly impacts job satisfaction (Frye and Mount, 2007) and hotel performance (Kim et al., 2013), which are the prerequisite for turnover (Zopiatis et al., 2014, Tongchaiprasit and Ariyabuddhiphongs, 2016, Ferreira et al., 2017, Hsiao et al., 2020). Kim et al. (2013) have also confirmed the moderating effect of hotel size.

Based on the above analysis, we consider hotel size a rarely explored moderator in this study. We then explore whether hotel size moderates the influence of operating performance perceptions or that of job insecurity on turnover intention of hotel employees by proposing the following hypotheses:

H10. Hotel size moderates the negative impact of operating performance perception on turnover intention of hotel employees.

H11. Hotel size moderates the negative impact of job insecurity on the turnover intention of hotel employees.

3. Materials and methods

3.1. Measurement items

Concerning the measurement of variables including COVID-19 event strength (CES), operating performance perception (OPP), job insecurity (JI), turnover intention (TI), and hotel size (HS) (see Figure 1), we refer to validated and reliable multi-item scales employed for these terms in the relevant studies. Event strength was measured by 11 items proposed by Morgeson et al. (2015), namely novelty (four items), disruption (three items), and criticality (four items). Operating performance perception was measured by five items recommended by Gray et al. (1998) and Jia et al. (2013). Job insecurity was measured using the five items suggested by Mauno et al. (2001), and the
turnover intention of hotel employees was measured using four items suggested by Scott et al. (1999). All items were measured using a seven-point Likert-type scale (from extremely disagree to extremely agree). According to the measurement of hotel size recommended in previous studies (Lyons et al., 2016, Taylor et al., 2016), the number of employees was used for measuring hotel size in three categories. Hotels with 2–19, 20–200, and over 200 employees were categorized as small, medium, and large-sized hotels, respectively.

3.2. Data collecting and samples

In terms of the negative impact of COVID-19 on either employees or enterprises in the hotel industry, this study focuses on the employees’ cognition of the perceived operating performance, job insecurity, and turnover intention of their respective hotels. In this study, questionnaires were distributed using Wenjuanxing (https://www.wjx.cn/), one of the most professional and largest survey website platforms in China (Wang et al., 2018, Wu et al., 2018, Zhang et al., 2019). Furthermore, with the help of the Department of Culture and Tourism in Quanzhou, Xiamen, and Zhangzhou, we surveyed hotel employees by forwarding the questionnaire link to budget and high star hotels from May 1 to May 31, 2020. Answers were required to all the questions in our network questionnaire, and the samples were not counted if the questions were not fully answered. Using convenience sampling, 396 valid samples were obtained after excluding 15 invalid samples (411 responses in total). The demographic characteristics of these samples are illustrated in Table 1.

| Characteristics of respondents | N   | %   | Characteristics of respondents | N   | %   |
|-------------------------------|-----|-----|-------------------------------|-----|-----|
| Gender                        |     |     |                               |     |     |
| Male                          | 267 | 67.4% | Less than ¥ 3000              | 109 | 27.5% |
| Female                        | 129 | 32.6% | Monthly ¥ 3001–5000           | 167 | 42.2% |
| Age                           |     |     |                               |     |     |
| Under 20                      | 102 | 25.8% | Monthly ¥ 5001–10000          | 91  | 23.0% |
| 20–29                         | 213 | 53.8% | Over ¥ 10000                 | 29  | 7.3%  |
| 30–39                         | 69  | 17.4% | 2–19 employees                | 108 | 27.2% |
| 40–49                         | 12  | 3.0%  | 20–200 employees              | 205 | 51.8% |
| Hotel size                    |     |     |                               |     |     |
| Junior high school and below below | 63 | 15.9% | Frontline employees           | 230 | 58.1% |
| Senior high school            | 146 | 36.9% | First-line managers           | 93  | 23.5% |
| College or university graduates | 177 | 44.7% | Middle managers               | 59  | 14.9% |
| Post-graduates                | 10  | 2.5%  | Top managers                  | 14  | 3.5%  |
| Front office                  | 83  | 21%   | Within six months             | 153 | 38.6% |
| Housekeeping                  | 45  | 11.4% | Work                          | 83  | 21%   |
| Food and Beverage             | 157 | 39.6% | Six months–one year           | 84  | 21.2% |
| Accounting                    | 13  | 3.3%  | Experience                    | 84  | 21.2% |
| Sales                         | 18  | 4.5%  | Three years–five years        | 30  | 7.6%  |

Table 1 The demographic characteristics of samples
Table 1 illustrates that there are more male (67.4%) than female (32.6%) participants, more than half of them (53.8%) are 20–29 years old, 44.7% of them are college or university graduates, and 42.2% of them earn ¥ 3001–5000. Moreover, these employees serve in diverse departments, including front office (21%), housekeeping (11.4%), food and beverage (39.6%), accounting (3.3%), sales (4.5%), recreation and entertainment (0.5%), human resource (7.8%), engineering (0.8%), and others (11.1%). Concerning their respective hotels, 27.2%, 51.8%, and 21% are from small, medium, and large-sized hotels, respectively.

### 4. Results and analysis

#### 4.1. Measurement model validation

We executed an exploratory factor analysis (EFA) to analyze the factor loads of each item and eliminate the items when the factor loads are less than 0.5. Subsequently, items D1 of COVID-19 event strength with criticality concern, OPP4-5 of operating performance perception, JI4-5 of job insecurity, and TI3 of turnover intention were eliminated.

In this study, COVID-19 event strength is regarded as a high-order construct since it contains novelty, disruption, and criticality. We tested its reflectivity using a second-order confirmatory factor analysis (CFA) according to Edwards’ (2010) suggestion. The result indicates that the items employed to measure COVID-19 event strength are well represented ($\chi^2$/df=1.803, TLI=0.973, CFI=0.981, RMSEA=0.045, SRMR=0.035).

To investigate the discriminative validity of the four latent variables, we employed a CFA (Table 2) to compare the fitting degree of the various nested models. According to the results of the alternative model test, the four-factor model ($\chi^2$= 378.471, $\chi^2$/df=2.665, GFI=0.907, AGFI=0.876, TLI=0.904, CFI=0.920, RMSEA=0.065, SRMR=0.070) including COVID-19 event strength, operation performance perception, job insecurity, and turnover intention is better than other models, which indicates that the four latent variables have high discriminative validity.

| Model               | Factor structure | $\chi^2$ | $\chi^2$/df | GFI  | AGFI | TLI   | CFI   | RMSEA |
|---------------------|------------------|----------|-------------|------|------|-------|-------|-------|
| Four-factor model   | CES; OPP; JI; TI | 378.471  | 2.665       | 0.907| 0.876| 0.904 | 0.920 | 0.065 |
| Three-factor model* | CES+OPP; JI; TI  | 1142.221 | 7.877       | 0.768| 0.696| 0.604 | 0.664 | 0.132 |
We then tested the common method bias suggested by Podsakoff et al. (2003) using a single-factor test for all the items using a rotation-free principal component analysis method as an EFA. The results demonstrate that the variance interpretation rate of the first factor extracted is less than 50% (22.35%), indicating that the common method deviation is within an acceptable range and will not seriously affect the study.

In addition, we also examined the convergent validity of the measurement model. There are two criteria for checking convergent validity: the standardized factor loading of each item for the corresponding construct should be higher than 0.5, and each construct’s average variance extracted (AVE) should be higher than 0.5 (Fornell and Larcker, 1981). Tables 3 and 4 present the standardized factor loading of each item and the AVE value.

**Table 3** Confirmatory factor analysis: Items and factor loadings

| Dimensions          | Items                                                                 | Standardized loading |
|---------------------|-----------------------------------------------------------------------|----------------------|
| COVID-19 Event      | N1: The manner of dealing with COVID-19 is clear                      | 0.677                |
|                     | N2: There are clear procedures for dealing with COVID-19              | 0.645                |
|                     | N3: My hotel has mature procedures and measures to deal with COVID-19| 0.794                |
|                     | N4: My hotel-provided guidelines to follow after the COVID-19 pandemic began | 0.768                |
| Event               | D2: COVID-19 is the priority event in my serving hotel               | 0.859                |
| Strength (CES)      | D3: COVID-19 is an important event in my serving hotel               | 0.857                |
|                     | C1: The impact of the COVID-19 pandemic has hampered my work         | 0.539                |
|                     | C2: COVID-19 caused my hotel to pause to think about how to deal with it | 0.716                |
|                     | C3: COVID-19 changed the way my serving hotel responds to emergencies | 0.737                |
|                     | C4: COVID-19 impacts my serving hotel by changing its previous work  | 0.565                |
| Operating performance (OPP) | OPP1: Under the impact of the COVID-19 pandemic, the hotel is highly profitable | 0.844                |
|                     | OPP2: Under the impact of the COVID-19 pandemic, the total revenue of the hotel is very high | 0.916                |
|                     | OPP3: Under the impact of the COVID-19 pandemic, the hotel’s profits are growing rapidly | 0.859                |
| Job                 | J11: My job is insecure                                              | 0.740                |
| Insecurity (JI)     | J12: My job may change in the future                                | 0.826                |
|                     | J13: My job is not permanent                                         | 0.696                |
Table 1

| Dimension      | M  | SD  | CR  | AVE | CES  | OPP  | JI   | TI   |
|----------------|----|-----|-----|-----|------|------|------|------|
| CES            | 4.29 | 0.523 | 0.915 | 0.523 | 0.723 |      |      |      |
| OPP            | 2.94  | 1.37 | 0.906 | 0.763 | -0.119* | 0.873 |      |      |
| JI             | 4.73  | 1.17 | 0.799 | 0.571 | 0.280** | 0.046 | 0.756 |      |
| TI             | 4.34  | 1.14 | 0.721 | 0.492 | 0.146** | 0.178** | 0.456** | 0.701 |

Notes: ** P<0.01, *P<0.05. CES = COVID-19 Event Strength, OPP = Operating Performance Perception, JI = Job Insecurity, TI = Turnover Intention. M = Mean, SD = Standard Deviation, CR = Composite Reliability, AVE = Average Variance Extracted. Correlations are illustrated below the diagonal. The diagonal represents the discriminant validity.

**4.2. Testing the direct impacts**

According to previous studies (Tsaur and Hsieh, 2020, Wang et al., 2020), we determined the value of CES by calculating the average of all the items. Based on the testing process in previous studies (Ahn and Back, 2018, Lombardi et al., 2019), we tested the moderating and mediating effect after investigating the direct effect. Using the PROCESS macro plugin for the data analysis (Lee, 2016, Bani-Melhem et al., 2018), we present the direct impacts as follows (Table 5). COVID-19 event strength significantly and negatively impacted the operating performance perception of hotel employees (β=0.1531, P<0.001), supporting H1. COVID-19 event strength has a significantly positive effect on job insecurity (β=0.274, P<0.001), supporting H2. However, the operating performance perception of hotel employees does not significantly influence job insecurity (β=0.057, P>0.05), rejecting H3. COVID-19 event strength does not significantly affect the turnover intention of hotel employees (β=0.0034, P>0.05), rejecting H4. Additionally, the influence of operating performance perception on turnover intention is not significant (β=0.0031, P>0.05) without supporting H5. However, job insecurity has a significantly positive impact on the turnover intention of hotel employees (β=0.2635, P<0.001), supporting H6.

**4.3. Testing of indirect impacts**

**4.3.1. Mediating effect test**

The SPSS PROCESS macro plugin (Hayes, 2013) is regarded as highly specialized for
mediation and moderation analyses using the regression-based bootstrapping approach (Lombardi et al., 2019). PROCESS mediation addresses some weaknesses associated with the Sobel test by directly testing the indirect effect between the predictor and the criterion variables (Huertas-Valdivia et al., 2018). We thus employed Model 88 of PROCESS (5,000 bootstrap resamples) to test the mediating effects.

Regarding the mediating effects of operating performance perception and job insecurity between COVID-19 event strength and turnover intention, the indirect effect of operating performance perception is significant (indirect effect=-0.0206, boot SE=0.0104, BCI [-0.0439; -0.0033]), supporting H7. The indirect effect of job insecurity is also significant (indirect effect=0.1173, boot SE=0.0307, BCI [0.0609; 0.1823]), supporting H8, indicating that COVID-19 event strength indirectly influences the turnover intention of hotel employees through the mediating effect of job insecurity and operating performance perception. Additionally, the indirect effect of COVID-19 event strength on turnover intention through the serial mediation of operating performance perception and job insecurity is not significant, rejecting H9, since the confidence interval of the indirect effect contains 0 (indirect effect=-0.0037, boot SE=0.0040, BCI [-0.0126; 0.0037]).

### 4.3.2 Moderated mediation test

According to the conceptual model (Figure 1) proposed in this study, we used Model 88 (Hayes, 2013) of PROCESS 3.4 to empirically examine the moderated mediation effect of hotel size. The results are presented in Table 5.

| Model       | Model 1 (OPP) | Model 2 (JI) | Model 3 (TI) |
|-------------|--------------|--------------|--------------|
|             | $\beta$ | S.E   | $P$ | $\beta$ | S.E   | $P$ | $\beta$ | S.E   | $P$ |
| Constant    | 0.6600     | 0.2109 | 0.0019 | 0.5563 | 0.2092 | 0.0082 | 0.5068 | 0.2019 | 0.0125 |
| CES         | -0.1531    | 0.0507 | 0.0027 | 0.2740 | 0.0502 | 0.0000 | 0.0034 | 0.0483 | 0.9945 |
| OPP         | 0.0570     | 0.0498 | 0.2531 | -0.0031 | 0.0855 | 0.9720 |          |          |        |
| JI          |            |          |        |          |        |        |          |        |        |
| Middle-sized|            |          |        |          |        |        |          |        |        |
| Large-sized |            |          |        |          |        |        |          |        |        |
| OPP*Middle-sized | 0.1680 | 0.1106 | 0.1296 |          |          |        |          |        |        |
| OPP*Large-sized | 0.2231 | 0.1225 | 0.0693 |          |          |        |          |        |        |
| JI*Middle-sized | 0.1349 | 0.1145 | 0.2393 |          |          |        |          |        |        |
| JI*Large-sized | 0.3686 | 0.1337 | 0.0061 |          |          |        |          |        |        |
| Gender      | -0.0725    | 0.1122 | 0.5187 | -0.0989 | 0.1100 | 0.3691 | -0.2167 | 0.1018 | 0.0339 |
| Age         | 0.0711     | 0.0809 | 0.3801 | -0.0146 | 0.0794 | 0.8537 | 0.0771 | 0.0728 | 0.2901 |
| Education   | -0.0765    | 0.0581 | 0.1892 | -0.0668 | 0.0571 | 0.2423 | -0.0093 | 0.0529 | 0.8603 |
| Work experience | -0.1177 | 0.0500 | 0.0191 | 0.0642 | 0.0493 | 0.1943 | -0.0985 | 0.0474 | 0.0384 |
| Department  | -0.0185    | 0.0199 | 0.3531 | -0.0264 | 0.0195 | 0.1769 | -0.0080 | 0.0180 | 0.6569 |
We explored whether hotel size moderates either the relationship between operating performance perception and turnover intention or between job insecurity and turnover intention. Thus, hotel size might be an essential moderator between both relationships since hotel employees’ perceived operating performance and job insecurity might vary with hotel size.

Table 5 illustrates that the interaction terms, operating performance perception with medium- and large-sized hotels, insignificantly correlate with turnover intention ($\beta=0.1680$, $P>0.05$ and $\beta=0.2231$, $P>0.05$), indicating that hotel size would not moderate the relationship between operating performance perception and turnover intention, rejecting H10. However, Table 5 illustrates that the interaction term, job insecurity by large size, significantly influences turnover intention ($\beta=0.3686$, $P<0.01$), indicating that the influence of job insecurity on turnover intention would be intensified for large-sized hotels under COVID-19, supporting H11. These results imply that the influence of job insecurity on the turnover intention of hotel employees may be different among different-sized hotels, likely resulting from the differential impact of hotel size.

To illustrate whether hotel size moderates the positive correlation of job insecurity with turnover intention, we plotted predicted turnover intention against higher or lower job insecurity for diverse-sized hotels (Figure 2). We observe that the influence of job insecurity on turnover intention of employees in large-sized hotels would increase compared with that in either medium- or small-sized hotels, indicating that employees in large hotels are more likely to leave than those in other hotels, as the turnover intention of the employees would be intensified in large-sized hotels.
Further analyses (Table 6) revealed that hotel size plays a moderated mediation role in Path (2), CES→JI→TI, since no zero numbers exist in its confidence interval. However, hotel size might not play a moderated mediation role for either Path (1), CES→OPP→TI or Path (3), CES→OPP→JI→TI because zero numbers exist in their confidence intervals.

Table 6 Moderated mediation role of hotel size

| Paths            | RS | Effect/Index | S.E  | LLCI   | ULCI   |
|------------------|----|--------------|------|--------|--------|
| CES→OPP→TI       | 0  | 0.0005       | 0.0150 | -0.0291 | 0.0318 |
|                  | 1  | -0.0253      | 0.0149 | -0.0596 | -0.0009|
|                  | 2  | -0.0337      | 0.0169 | -0.0719 | -0.0054|
| Index of moderated mediation | Middle-sized | -0.0257 | 0.0212 | -0.0736 | 0.0100 |
|                  | Large-sized | -0.0342 | 0.0225 | -0.0857 | 0.0015 |
| CES→JI→TI        | 0  | 0.0722       | 0.0377 | 0.0038  | 0.1521 |
|                  | 1  | 0.1092       | 0.0345 | 0.0481  | 0.1842 |
|                  | 2  | 0.1732       | 0.0434 | 0.0922  | 0.2626 |
| Index of moderated mediation | Middle-sized | 0.0370 | 0.0405 | -0.0397 | 0.1212 |
|                  | Large-sized | **0.1010** | **0.0437** | **0.0203** | **0.1942** |
| CES→OPP→JI→TI    | 0  | -0.0023      | 0.0029 | -0.0097 | 0.0022 |
|                  | 1  | -0.0035      | 0.0040 | -0.0126 | 0.0033 |
|                  | 2  | -0.0055      | 0.0060 | -0.0187 | 0.0053 |
| Index of moderated mediation | Middle-sized | -0.0012 | 0.0021 | -0.0064 | 0.0022 |
|                  | Large-sized | -0.0032 | 0.0037 | -0.0117 | 0.0033 |

Notes: CES = COVID-19 event strength, OPP = operating performance perception, JI = job insecurity, and TI = turnover intention.
5. Discussion and conclusions

In this study, we explored the impact of COVID-19 on the cognitive and behavioral intention of employees in hotels by hotel size. We then constructed our conceptual research framework to link our proposed hypotheses (Figure 1). By testing these hypotheses, we examined the influence of COVID-19 event strength on turnover intention of hotel employees by incorporating operating performance perception and job insecurity as mediating variables and hotel size as a moderating variable. We make several important conclusions as follows.

First, we reveal that COVID-19 impacts both employees and hotels, increasing the job insecurity of employees and decreasing the operating performance of hotels. With the impact of COVID-19, the hotel industry has experienced a precipitous drop in hotel occupancy (Gursoy and Chi, 2020), resulting in poor operating performance in the hotel industry. As a result, many hotels suffer dilemmas because of decreasing operating revenue, which might force these hotels to reduce personnel costs by dismissing many employees during the COVID-19 pandemic. Therefore, hotel employees may have perceived job insecurity because of the fear of losing their jobs, which is consistent with previous studies (Chen and Eyoun, 2021, Jung et al., 2021). Wilson et al. (2020) found that employees heightened their financial concerns and job insecurity during COVID-19. Recent studies have explored the impact of COVID-19 on job insecurity and its effects on the hotel and hospitality industry (Aguiar-Quintana et al., 2021, Ganson et al., 2021, Jung et al., 2021). However, this study explored the impacts of COVID-19 event strength on operating performance perception and job insecurity from the job insecurity perspective, which is different from previous studies (Yin and Ni, 2021) that mainly focused on the impacts of COVID-19 event strength on fear of external threat and psychological safety from employees’ psychological perspective.

Second, apart from the negative effect of operating performance perception on turnover intention, COVID-19 event strength does not directly influence the turnover intention of employees even though external causes might increase turnover intention (Kim, 2014, Tews et al., 2014). We infer that although many hotels may suffer considerable losses due to poor operating performance due to COVID-19, many employees might stick to their jobs rather than leave because finding a new job might be difficult for hotel employees unless they have a strongly perceived job insecurity. In addition to the impact of COVID-19 influencing the turnover intention of employees in the hospitality industry (Demirović Bajrami et al., 2021, Jung et al., 2021, Lee et al., 2021), we argue that compensation, associated with operating performance, is still an important factor influencing such turnover intention (Kim, 2014, Santhanam et al., 2017, Haldorai et al., 2019) since poor operating performance resulting from COVID-19 would increase the turnover intention of employees in many enterprises, especially hospitality enterprises (Demirović Bajrami et al., 2021). However, traditional Chinese culture advocates the belief of overcoming difficulties collectively. As a result, employees believe that even if hospitality enterprises generally underperform during
COVID-19, the government will provide support to help them overcome their difficulties.

Third, COVID-19 event strength indirectly influences the turnover intention of hotel employees through the mediating effect of operating performance perception and job insecurity. Due to low operating performance, many hotels might dismiss some employees to maintain their operation under COVID-19. As a result, hotel employees might develop perceived job insecurity and job stress because they are afraid of losing their jobs. The above results might be coincidental, as both job insecurity (Arasli et al., 2019) and job stress (Kaur and Sharma, 2016) may influence turnover intention. The results seem to align with the SOR paradigm, which might extend its application boundary.

However, COVID-19 event strength cannot impact turnover intention through the serial mediation of operating performance perception and job insecurity, which may result from intervention policies (Huang et al., 2020). The operating performance of the hospitality industry has decreased during COVID-19. **However, the Chinese government has proposed a series of policies to stabilize jobs and ensure employment.** As such, perceived low operating performance might not lead to a high level of job insecurity, resulting in insignificant serial mediation.

Fourth, we confirm that hotel size plays a significant moderator role between job insecurity and turnover intention. Specifically, while employees in large-sized hotels have perceived job insecurity, they are inclined to have higher turnover intention, contrary to our cognition because large-sized hotels may have more resources than smaller hotels (Gupta, 1969). In this study, we demonstrated that job insecurity positively impacts turnover intention and hotel size intensifies the effect of job insecurity on turnover intention. We infer that, during COVID-19, large-sized hotels with many employees have more pressure to pay personnel costs, undergo higher operational and financial risks, and face pressure from shareholders. This may force these hotels to dismiss some employees, thereby intensifying the effect of job insecurity on the turnover intention of hotel employees in large-sized hotels.

Additionally, due to the significant decline in the operating performance of large-sized hotels, employees may worry about being laid off since such hotels may make layoff decisions to maintain necessary operations. In other words, hotel employees may worry that large-sized hotels are being forced to make layoff decisions (Lee et al., 2021) because of the above concerns. However, employees of small and medium hotels might be from the same town, and because of close friendships easily established among such employees, they might strive to overcome the problems, thereby reducing the influence of job insecurity on the turnover intention of small-sized hotels in China. We thus argue that the effect of job insecurity on turnover intention is enhanced for employees in large-sized hotels.
However, we found that hotel size did not moderate the effect of operating performance perception on the turnover intention of hotel employees and all hotels, regardless of size, had generally poor operating performance during COVID-19. As a result, hotel employees may not have turnover intention unless they have strong job insecurity. We thus argue that hotel size might not have this moderation effect.

5.1. Research implications

We reveal that COVID-19 event strength negatively correlates with operating performance perception but positively correlates with job insecurity. COVID-19 event strength indirectly influences turnover intention through the mediating effect of operating performance perception and job insecurity instead of directly influencing turnover intention. Additionally, hotel size moderates the influence of job insecurity on turnover intention. Based on these results, we propose the following implications.

5.1.1 Theoretical implications

Based on the event system theory and SOR paradigm, we explored the impact of event strength (i.e., COVID-19 event strength) on the cognition of hotel employees (i.e., operating performance perception and job insecurity) and their responding behaviors (i.e., turnover intention). We then reveal that hotel size plays an important moderating role in the influence of job insecurity on turnover intention, implying that job insecurity would be the main factor increasing the turnover intention of employees in large-sized hotels. This finding may be because large-sized hotels have higher operating costs, financial risks, and shareholder pressure. However, employees of small and medium hotels are often from the same town in China, and they might strive to overcome the dilemma due to close friendships among these employees, thereby reducing the influence of job insecurity on their turnover intention. This finding may be closely related to cultural factors (Probst and Lawler, 2006).

Additionally, during COVID-19, the Chinese government focused on ensuring job stability and employment instead of layoffs adopted by hotel enterprises in many countries (Kaushal and Srivastava, 2021, Kwok and Muñiz, 2021). As a result, our findings might be dominated by cultural and policy factors rarely considered in the existing literature. Therefore, it would be worthwhile comparing other countries by investigating the influence of job insecurity on the turnover intention of employees in diverse-sized hotels in future studies.

By employing event system theory and the SOR model to explore the impact of COVID-19 event strength on turnover intention of hotel employees, this study revealed how the COVID-19 crisis event influences hotel employees’ behaviors and provided arguments for mitigating negative behaviors affected by such a negative event from a theoretical perspective. To some extent, this study extended the SOR paradigm from the field of environmental psychology to that of hospitality. That is, this study explores
the impact of COVID-19 event strength (stimulus factor) on either operating
performance perception or job insecurity (organism factors), thus likely affecting the
turnover intention (response factor), which would be a further extension of the
application of the SOR paradigm. In addition, this study not only integrated the event
system theory and SOR model but also sheds new light on crisis management in the
hospitality industry. This study can help hotel enterprises learn how to manage hotel
employees’ negative emotions and behaviors (e.g., job insecurity and turnover intention)
created by crisis events (e.g., the COVID-19 pandemic).

Although several studies have examined the impacts of COVID-19 on the economy
and trade (Nicola et al., 2020, Shen, 2020), the impacts of COVID-19 enterprises and
employees have not been investigated before this study. The study’s findings
demonstrate that the impact of COVID-19 event strength on both hotels (operating
performance of hotels) and hotel employees (job insecurity of hotel employees)
increases the job insecurity of hotel employees and decreases the operating performance
of hotels. These results imply that enterprises and employees might not be able to deal
with the serious impact of external events appropriately because of the undesired
outcomes experienced. As a result, the various impacts of COVID-19 on employees in
the hospitality industry and more response behaviors apart from turnover intention for
employees and enterprises in this industry should be investigated further.

The results indicate that job insecurity is the main concern influencing the turnover
intention of hotel employees, and enterprises in the hospitality industry must deal with
the negative impact of COVID-19 event strength on hotel employees. As a result, along
with classifying and revealing the mediating role of job insecurity in this study, further
studies should investigate whether there are more paths or mechanisms of COVID-19
event strength, which may influence the turnover intention of hotel employees. In
addition, different from the factors influencing the turnover intention of employees
examined in the previous studies, including organizational (Jung and Yoon, 2013, Hsiao
et al., 2020), management (Jang and Kandampully, 2017, Gordon et al., 2018), and
employee personal factors (Karatepe and Karadas, 2014, Tongchaiprasit and
Ariyabuddhiphongs, 2016), we explored the impact of COVID-19 event strength, an
external and environmental stimulating factor, on the turnover intention of hotel
employees.

5.1.2. Managerial implications

We reveal that COVID-19 event strength has a significantly negative impact on the
operating performance of hotels and a significant influence on the job insecurity of hotel
employees, which may lead to major challenges in employee retention for managers in
hospitality enterprises (Filimonau et al., 2020). Subsequently, we provide some
suggestions for such enterprises.
First, hospitality enterprises should pay attention to employees’ work status, which may be affected by the working environment. It should be noted that the prerequisite of decreasing turnover intention might depend on whether hospitality employees have a comfortable and safe working environment. If hospitality enterprises provide a comfortable and safe atmosphere in the working environment, their employees are likely to facilitate the creation of important skills and resources (Sheldon and King, 2001). For example, hotels can create a working atmosphere of unity and overcome difficulties through team training, team building, and other activities, which can boost staff morale. In addition, managers should be aware of employees’ working and living conditions so that employees can feel important, which may mitigate the impacts of COVID-19.

Second, concerning the positive effect of job insecurity on turnover intention, we argued that the negative emotions and feeling unsafe may result in turnover intention. Therefore, we suggest that managers transfer and decrease employees’ negative emotions through support, learning, skill training, and other activities. Furthermore, managers should make employees more aware of COVID-19 to reduce their fear and negative emotions and propose more measures to stabilize employment to make them feel safe. For instance, hotels can transform their functions, expand their business field, and create other job opportunities for employees, thereby reducing their negative emotions and job insecurity. In addition, hotels can commit employees and actively invite them to stay with the hotel through difficult times, which may make employees feel job safe.

Third, concerning the mediating effect of operating performance perception, we argue that it is an important inducement of turnover intention (i.e., improving business performance would help reduce employee turnover) during COVID-19. We suggest that if managers in hospitality enterprises can transform business functions and widen operating channels, such enterprises can improve operating performance during COVID-19 (Abel et al., 2020). For example, hospitality enterprises could provide takeaway, food supply, and accommodation services; strengthen COVID-19 pandemic prevention measures; and improve service quality. These may attract more consumers, thereby improving the operating performance of such enterprises. Furthermore, the government should introduce policies such as tax reduction, rent reduction, and low-interest loans to help these enterprises alleviate operational difficulties during the pandemic.

Fourth, compared with other hotels, we demonstrated that the influence of job insecurity on turnover intention increases for employees in large-sized hotels. As turnover intention is likely influenced by multiple factors, including organizational and management factors, we suggest that managers should employ several measures to deal with employees’ uneasiness during COVID-19, especially those in large-sized hotels. Furthermore, because effectively controlling the high operating costs of large-sized
hotels is important, we suggest that such hotels temporarily close their business premises and facilities that are not being utilized. As most employees in small- and medium-sized hotels are from the same town in China, these employees might endeavor to overcome the work-related challenges of COVID-19 collectively from close friendships if managers strengthen staff team management and focus on their working status, thereby likely eliminating job insecurity in such employees. Mass layoffs of employees in large-sized hotels can lead to social instability; subsequently, governments should subsidize the hospitality industry, improve loan convenience and lower loan interest rates, propose hotel tax preferential treatment during the pandemic, and strive to control the COVID-19 pandemic.

5.2 Limitations and further research

Identifying the factors influencing employees’ turnover intention is the most challenging managerial topic (Ryan et al., 2015) because they are always the most important resource for enterprises. Our study focuses on event strength without paying much attention to event time and space, which is a limitation of this study. Employees’ perception of the event strength may vary with hotel size, which may be another interesting topic. We should further consider the impacts of COVID-19 event time and space on employees in the hotel industry. Moreover, some employees may think they are doing their jobs well during the COVID-19 pandemic without the negative perception of operating performance. However, their managers and other staff may have a different perception because task performance might be measured differently during the pandemic. For example, hotel tasks could be less demanding during low-occupancy periods. This might be another limitation of this study as we have not focused on such issues.

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