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# The fear of being infected and fired: Examining the dual job stressors of hospitality employees during COVID-19

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## ABSTRACT

As the COVID-19 pandemic has posed grave threats to the financial and physical health of hospitality employees, this research unveils details of the dilemma experienced by hospitality employees during the pandemic, namely, their fear of becoming infected and fired. The research data were derived from a sample of 622 hospitality employees in the U.S. and analyzed using PLS-SEM as a new model of COVID-19 stressors are proposed and tested. The findings show that hospitality employees perceive the pandemic as a traumatic event that elevates their perceived job insecurity and infectious risk. It was also found that both job insecurity and infectious risk lead to increased job stress and turnover intentions, while job insecurity alone is a stronger predictor of turnover intentions. This study is among the first to examine the antecedents and consequences of the dual stressors encountered by public-facing occupations, including hospitality, during the pandemic.

## 1. Introduction

The impacts of the novel coronavirus (COVID-19) pandemic on the hospitality workforce have been unprecedented in recent history. In the United States (U.S.) where the most confirmed cases in the world have occurred, this health crisis cost nearly half of all hospitality jobs between April and May 2020 (U.S. Bureau of Statistics, 2021a). While these lost hospitality jobs have been gradually recovered since the easing of lockdown restrictions, reopening across the country has unfortunately led to a resurgence in coronavirus cases. As remote work is not an option for most hospitality positions, hospitality workers have to accept the risk of infection if they choose to work during the pandemic.

The current research is based on the framework of COVID-19 stressors proposed by Sinclair, Probst, Watson, and Bazzoli (2021). This framework focuses on individuals in high exposure or public-facing occupations and identifies both economic stress and occupational risk as two key factors affecting workers' stress symptoms and well-being (Sinclair et al., 2021). During the pandemic, this group of workers has been facing a dilemma that lays between Scylla and Charybdis (Sinclair et al., 2021). In Homer's *Odyssey*, Odysseus sails through the narrow Strait of Messina with a six-headed monster on one side (Scylla) and a sea monster creating a large whirlpool on the other side (Charybdis).

Most hospitality workers have been living in a similar dilemma, namely, between being infected as the widespread infection continues and being laid off due to the sluggish economy that has resulted from this pandemic. It is certainly plausible to argue that this miserable experience of hospitality employees has led to a very high industry turnover rate. According to the U.S. Bureau of Statistics (2021b), hospitality has had the highest quits rates of all industries since the beginning of the pandemic.

This research thus examines job insecurity and infectious risk as dual stressors that are being experienced by U.S. hospitality employees during the pandemic. Job insecurity and infectious risk represent the economic stress factor and the occupational risk factor, respectively in Sinclair's et al. (2021) model. Based on the framework for COVID-19 stressors (Sinclair et al., 2021) and other empirical studies on hospitality (Aguar-Quintana et al., 2021; Bajrami et al., 2021; Jung et al., 2021), it is believed that both job insecurity and infectious risk can lead to an elevated level of job stress for these workers and thus a higher turnover intention. Therefore, the main purpose of the study is to assess the effects of dual stressors on job stress and turnover intention among hospitality employees in the lodging and foodservice sectors. While it is proposed that job insecurity and infectious risk are both key stressors during the pandemic, this research further compares the effects of these

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dual stressors on both job stress and turnover intentions.

This study contributes to the current literature in several ways. First, COVID-induced job stress in the hospitality workplace has received much attention in the recent literature, and job insecurity has been identified as a key stressor (e.g., Aguiar-Quintana et al., 2021; Bajrami et al., 2021; Chen and Eyoum, 2021; Jung et al., 2021; Tu et al., 2021; Wong et al., 2021). This research offers additional insights by identifying job insecurity and infectious risk as dual stressors and examining their antecedents and consequences. It is believed that a more comprehensive picture is also offered in this study. By unveiling the dilemma faced by hospitality employees during the pandemic, the findings deserve further attention from governments worldwide – so that the life and livelihood of the hospitality workforce can be better prioritized during the policy-making process.

Cleanliness and hygiene are also popular topics discussed in recent hospitality studies. These studies have provided valuable information on how to enforce safety behavior for hospitality workers (Zhang et al., 2020) and how to increase the perceived safety of food packaging (Byrd et al., 2021; Yu et al., 2021). The current research complements their efforts by further examining how hospitality employees perceive and respond to the risk of contracting the COVID virus in the workplace. Therefore, the findings of this study offer valuable information on how both hospitality business owners and operators can reduce stress in the workplace and subsequently improve overall turnover rates.

## 2. Literature review

### 2.1. COVID-19 research in hospitality

The COVID-19 pandemic has attracted considerable academic attention in the hospitality field. As listed in Tables 1 and 2 here, at least 33 related papers have been published in the *International Journal of Hospitality Management* (IJHM) and the *International Journal of*

*Contemporary Hospitality Management* (IJCHM). Nearly one-third of these studies have focused on different topics at the industry level, including the impacts of the pandemic (Hao et al., 2020; Knight et al., 2020; Shapoval et al., 2021), the future of hospitality occupation (Bucak and Yigit, 2021), sustainability (Jones and Comfort, 2020), and robotics (Pillai et al., 2021; Jiang and Wen, 2020). The studies are predominantly literature-review or qualitative research; however, a few have used econometric methods to analyze how much restaurant demands have been affected by the COVID-19 crisis (Kim et al., 2021a; Yang et al., 2020). Overall, these research findings suggest that the hospitality industry, including the lodging and food-service sectors worldwide, has indeed been decimated by the pandemic.

Another one-third of the research found focused on organizational issues. These studies mainly examined how hotels responded to the COVID-19 crisis. Some studies explored general crisis management practices (Lai and Wong, 2020; Liu et al., 2021; Smart et al., 2021), while others targeted a specific area of management, such as human resource management (Agarwal, 2021), revenue management (Guillet and Chu, 2021), organizational communication (Im et al., 2021; Guzzo et al., 2021), safety management (Zhang et al., 2020), and corporate social responsibility marketing (Huang and Liu, 2020). It was found that hotel managers and executives worldwide have endeavored to keep their businesses afloat by sending messages to the employees to boost their morale (Guzzo et al., 2021; Im et al., 2021) and further enforcing safety behavior (Zhang et al., 2020). Moreover, as hotel revenues tumbled due to the economic crisis related to the pandemic (Guillet and Chu, 2021), control of labor costs was also commonly recognized as a priority choice by hotel managers (Agarwal, 2021; Guillet and Chu, 2021; Lai and Wong, 2020).

Other related hospitality COVID-19 research was split between consumer- and employee-focused studies. Technology and infectious risk were the two central topics of these consumer studies. In terms of technology, several studies examined consumers' perceptions of robot

**Table 1**

Recent industry- and organizational-focused studies on COVID-19.

Author (s)	Type	Methods	Topic	Location	Samples
<b>Industry-focused studies</b>					
Bucak and Yigit (2021)	Qualitative	Interview	Occupation	Turkey	30 chefs
Hao et al. (2020)	Conceptual	Literature Review	Pandemic impacts	China	N/A
Jiang and Wen (2020)	Conceptual	Literature Review	Hotel marketing and management	N/A	N/A
Jones and Comfort (2020)	Conceptual	Literature Review	Sustainability	N/A	N/A
Kim et al. (2021a)	Quantitative	Econometric	Crisis Management	China	86,507 restaurant sales data
Knight et al. (2020)	Mixed	Survey and Interview	Pandemic impacts	China	521 industry workers
Pillai et al. (2021)	Conceptual	Literature Review	Hospitality 5.0	N/A	Papers published after 2010
Shapoval et al. (2021)	Qualitative	Interviews	Pandemic impacts	USA, Israel, and Sweden	30 managers and Presidents
Song et al. (2021)	Quantitative	Econometric	Restaurant stock returns	USA	795 restaurant firms
Yang et al. (2020)	Quantitative	Econometric	Restaurant demands	USA	Restaurant demand data for 1882 counties across the USA
Yang et al. (2021)	Qualitative	Interview and Content Analysis	Online to offline market change	China	754 reviews from 19 hotels; 16 professionals
<b>Organization-focused studies</b>					
Agarwal (2021)	Qualitative	Interview	HR management	India	41 hotel employees
Guillet and Chu (2021)	Qualitative	Interview	Revenue management	9 countries	26 hotel revenue executives
Guzzo et al. (2021)	Quantitative	Survey	Organizational communication	USA	240 hospitality employees recruited from Mturk
Huang and Liu (2020)	Quantitative	Experiment	CSR marketing	USA	170 Amazon Mturkers
Im et al. (2021)	Qualitative	Content Analysis	Organizational communication	USA	57 CEO letters
Lai and Wong (2020)	Quantitative	Survey	Crisis management	Macau	244 senior hotel staffs
Liu et al. (2021)	Conceptual	Case Study	Crisis management	Macao	N/A
Smart et al. (2021)	Mixed	Case Study	Crisis management	USA	Two hotels in Oklahoma City
Visentin et al. (2021)	Quantitative	Survey	Crisis management	Italy	46 hotel executives
Zhang et al. (2020)	Quantitative	Survey	Hotel safety management	China	1594 hotel employees
Zhang et al. (2021)	Qualitative	Interviews	Crisis management	China	9 P2PA hosts

Table 2

Recent consumer- and employee-focused studies on COVID-19.

Author (s)	Type	Methods	Topic	Location	Samples
<b>Consumer-focused studies</b>					
Baum and Hai (2020)	Conceptual	Literature Review	Human rights	N/A	N/A
Brewer and Sebby (2021)	Quantitative	Survey	Online food ordering	USA	420 Amazon MTurkers
Byrd et al. (2021)	Quantitative	Survey	Risk perceptions	USA	958 Amazon MTurkers
Kim et al. (2021b)	Quantitative	Survey	Food delivery services	South Korea	663 consumers
Kim et al. (2021c)	Quantitative	Experiment	Robotics	USA	559 Amazon MTurkers
H. Yu et al. (2021); J. Yu et al. (2021)	Quantitative	Survey	Perceived hygiene	South Korea	314 consumers
<b>Employee-focused studies</b>					
Aguiar-Quintana et al. (2021)	Quantitative	Survey	HR management	Spain	351 hotel employees
Bajrami et al. (2021)	Quantitative	Survey	HR management	Serbia	624 hospitality employees
Chen (2020)	Quantitative	Survey	Career self-management	China	340 hospitality employees
Chen and Eyoun (2021)	Quantitative	Survey	HR management	USA	308 frontline employees
Jung et al. (2021)	Quantitative	Survey	HR management	South Korea	359 full-service hotel employees

services in hotels (Kim et al., 2021b), food delivery services using drones (Kim et al., 2021c), and online food ordering (Brewer and Sebby, 2021). A couple of studies on infectious risk also examined the risk perceptions of restaurant food and packaging (Byrd et al., 2021) and the perception of hygiene attributes in the hotel business (H. Yu et al., 2021; J. Yu et al., 2021). Another interesting study by Baum and Hai (2020) discussed the concerns related to lockdown restrictions through a human rights lens. They argued that these restrictions appeared to be an effective way of curtailing the spread of the virus, but the restrictions not only devastated hospitality and tourism businesses but also potentially violated the rights of customers to freely participate in hospitality and tourism.

The current study assesses the impacts of COVID-19 from the employee perspective, a focus that has been examined thus far by only a few studies. Notably, these studies have focused on examining job insecurity as a predictor of different human resources management outcomes, including job performance (Aguiar-Quintana et al., 2021), emotional exhaustion (Chen and Eyoun, 2021), and turnover intentions (Bajrami et al., 2021; Jung et al., 2021). The findings support the view that the negative impacts of job insecurity in the hospitality workplace have indeed been very apparent during the pandemic. Specifically, Aguiar-Quintana et al. (2021) indicated that job insecurity could lead to poor job performance. Similarly, research findings in both Serbia (Bajrami et al., 2021) and South Korea (Jung et al., 2021) indicated that such perceived job insecurity would result in an elevated level of turnover intention overtimes.

## 2.2. The impacts of COVID-19 on hospitality employees

Since the outbreak of the coronavirus, the daily lives of people and their travel activities have been substantially disrupted, and the consumption related to travel and dining has been highly restricted due to travel bans and of course also safety and hygiene concerns (Baum and Hai, 2020). As a result, hospitality businesses have become particularly vulnerable to the pandemic. In response to this economic crisis, most hospitality businesses were forced to cut their operating costs by taking the following specific measures: Requiring employees to take annual leave or non-paid leave immediately; deploying employees to various departments due to closures of other operational functions; terminating probationers and temporary contractors; and laying off employees from positions' ranging from front-line service to even managerial levels (Agarwal, 2021; Guillet and Chu, 2021; Lai and Wong, 2020).

In the United States, the unemployment rate for lodging and food services reached a staggering 37.3% during the initial outbreak of COVID in April 2020 and has remained at double-digit levels throughout the pandemic (U.S. Bureau of Statistics, 2021a). Under these circumstances, hospitality workers are experiencing enormous psychological strain and occupational stress, as the pandemic is threatening not only their lives but also their livelihoods. As such, the pandemic has had a unique impact on hospitality employee stress, which may be beyond our current evaluation. This issue is illuminated by the recent hospitality

studies that have focused on the impacts of COVID-19 on employees. H. Yu et al. (2021), J. Yu et al. (2021) revealed that the impacts of COVID-19 were so profound that it made employees reexamine their actual choice of working in the hospitality industry. Wong et al. (2021) identified two new domains of occupational stressors related to COVID-19 in addition to the traditional hotel-work stressors, namely, unstable and more demanding hotel-work-environment stressors (e.g., concerns about layoffs, frequent reporting/documentation for hygiene issues, and demanding hygiene policies or guidelines) and unethical hotel-labor-practice-borne stressors (e.g., forced advanced annual or unpaid leave, demands to replace job duties with other departments). Traditional work stressors, contrary to the previous studies, have increased job satisfaction, while the two new pandemic-related stressor domains significantly lowered job satisfaction. Bufquin et al. (2021) focused on restaurant employees and found that compared to furloughed employees, employees who were able to keep their job during the pandemic reported a higher level of psychological distress and drug/alcohol use. This finding contradicted those of prior studies, which had demonstrated that unemployment was positively associated with psychological distress and drug/alcohol use. These studies suggest that the pandemic's impacts on hospitality employee stress are profound but may differ from our existing understanding and knowledge about hospitality work stress.

Thus, this research proposes that job insecurity and infectious risk are the two key stressors being experienced by hospitality workers during the pandemic. Based on the framework of COVID-19 stressors put forth by Sinclair et al. (2021), the current study tests a theoretical framework that includes these dual stressors and their antecedent (pandemic-induced panic) and outcomes (job stress and turnover intention) (see Fig. 1). In this study, pandemic-induced panic refers to the subjective distress experienced by hospitality employees as a result of the pandemic (Horowitz et al., 1979). As argued by Sinclair et al. (2021), many workers are caught between the fear of losing their jobs (economic stress) or contracting the virus during the pandemic (occupational risk). This dilemma becomes more apparent when remote work is not an option, particularly for those who are in high-exposure or public-facing occupations. The framework also suggests that economic stress and occupational risk as related key stressors can lead to personal stress symptoms and even impaired mental health (Sinclair et al., 2021).

Economic stress or fear of losing a job is referred to as job insecurity (Sinclair et al., 2021). Job insecurity can be defined as "the perceived powerlessness to maintain desired continuity in a threatened job situation" (Greenhalgh and Rosenblatt, 1984, p. 438). Previous research has shown that major organizational changes (Greenhalgh and Rosenblatt, 1984; Baillien and De Witte, 2009), role ambiguity (Baillien and De Witte, 2009), role conflicts (Ito and Brotheridge, 2007), and the locus of control (Ito and Brotheridge, 2007) are all causes of employee job insecurity. In hospitality management, much of the research that has examined job insecurity has focused on the consequences of job insecurity. Little attention has been paid to the different antecedents of such



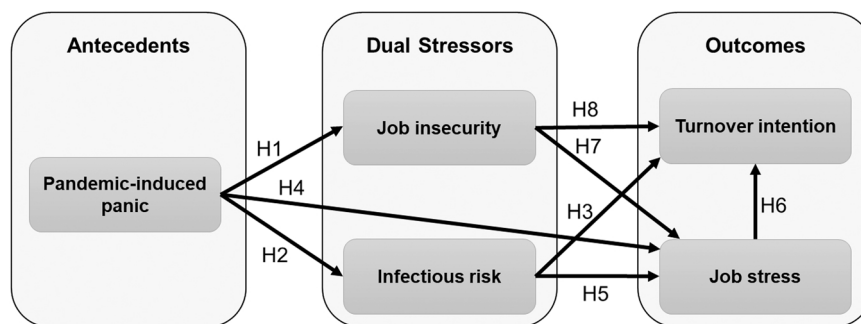


Fig. 1. Research Framework.

job insecurity. For example, recent studies on the pandemic have examined only the effects of job insecurity on emotional exhaustion, job performance, and turnover intentions (Aguar-Quintana et al., 2021; Bajrami et al., 2021; Chen and Eyoum, 2021; Jung et al., 2021). Since a high level of job insecurity tends to negatively influence hospitality employees. Thus, understanding what contributes to job insecurity would be conducive to determining and communicating the practical implications for organizations to effectively prevent or alleviate the general job insecurity perceptions of employees.

Moreover, while past hospitality research has looked at job insecurity for job-related factors (e.g., Zoghbi-Manrique-de-Lara et al., 2017) and individual factors (e.g., Darvishmotevali et al., 2017; Darvishmotevali and Ali, 2020), little related research so far has considered how hospitality employees psychologically respond to acute traumatic events in a macro-environment, such as COVID-19. The pandemic has more clearly manifested the fact that the hospitality industry is extremely vulnerable to macro-level forces, such as global economic recession and public health crisis (Wong et al., 2021). The pandemic has made employees worry about the future of the industry and their future careers (H. Yu et al., 2021; J. Yu et al., 2021). As such, the pandemic has been perceived as highly distressful and thus provoked negative emotions among employees (H. Yu et al., 2021; J. Yu et al., 2021; Bufquin et al., 2021). This view indicates that the traumatic stress of employees related to the pandemic is likely to affect general job insecurity perceptions, as the impacts of the pandemic on livelihood are more salient among hospitality workers. Therefore, we hypothesize the following:

**H1.** : Hospitality workers' pandemic-induced panic will lead to an increased level of perceived job insecurity.

Since COVID-19 primarily spreads through direct or close contact with infected people, hospitality workers have been identified as a high-risk group for infection. Therefore, besides *livelihood*, hospitality employee *life* is also at risk, as hotel and restaurant workers must continue to engage in face-to-face interactions with guests (Sinclair et al., 2021). As such, fears of COVID-19 will likely cause considerable concern among hospitality employees, particularly front-line workers. They may constantly worry whether they are being exposed or have been exposed to an infected customer or colleague at work. Interestingly, cleanliness and hygiene have been popular topics in the recent hospitality studies on COVID-19 (Byrd et al., 2021; H. Yu et al., 2021; J. Yu et al., 2021; Zhang et al., 2020). However, no research thus far has assessed how hospitality employees perceive and respond to their higher level of risk of contracting the virus in their workplace. Wong et al. (2021) found that emotional stress from negative news and frequent reporting/documentation about hygiene issues were new hospitality occupational stressors related to the pandemic, a change that implies that the pandemic will inevitably provoke personal risk perceptions of disease contraction among hospitality workers while they are on the job. Such evidence is well documented in the healthcare worker research (Chu et al., 2021; Cai et al., 2020). Thus, it is hypothesized here that.

**H2.** : Hospitality workers' pandemic-induced panic will lead to an

increased level of perceived infection risk.

When dealing with such serious threats to both life and livelihood, some hospitality workers may be forced to choose between paychecks and their health. Outside the field of hospitality, the research on the consequences of perceived risks of infectious diseases is still in its infancy stage. Most recently, Irshad et al. (2020) surveyed nurses who were treating COVID-19 patients and found a positive link between the perceived threat of COVID-19 and turnover intention. A similar pattern was even found among hospitality management students who are the future workforce in that industry but are reconsidering career options during the pandemic. A related study by Birtch et al. (2021) revealed that negative emotions induced by the pandemic, including fear and anxiety, adversely affected occupational identity and job choice intentions among hospitality students. Thus, given the in-person interaction nature of hospitality services, it is indeed probable that hospitality workers may perceive a higher risk of contracting COVID-19. Such risk perceptions may then lead them to rethink their career choices (H. Yu et al., 2021; J. Yu et al., 2021) and, subsequently, result in higher turnover intentions. This study attempts to advance the current knowledge of the pandemic's impact on hospitality employee turnover intention by directly examining the effects of the perceived risks of catching an infectious disease in the workplace. Therefore, it is hypothesized that,

**H3.** : During the pandemic, hospitality workers' perceived infection risk will lead to an increased level of turnover intention.

### 2.3. Job stress and turnover intention

Job stress is defined as an individual's reactions to work-related threats (Wong et al., 2021). A high level of work stress among employees can be very costly, not only for the organization but also for workers. Ample evidence is offered in previous research that job stress is associated with employee job dissatisfaction (Wong et al., 2021), low job performance (Schwepker and Dimitriou, 2021), poor well-being (Wong et al., 2021), and high voluntary turnover (Park and Min, 2020). Moreover, as hospitality jobs are considered highly stressful, previous studies have examined the various determinants of such job stress among hospitality workers, including work-family conflict (Pan and Yeh, 2019), unpredictable or long working hours (Ariza-Montes et al., 2018), high job demands (Ariza-Montes et al., 2018), and emotional labor (Lee and Madera, 2019).

Although job stress has been widely examined by hospitality scholars, not enough attention has been paid to how hospitality employees experience job stress during large-scale disruptive events, such as COVID-19. Some recent hospitality studies have shed light on the connection between the pandemic and job stress. Chen and Eyoum (2021) found that the fear of COVID-19 among restaurant front-line employees can lead to an elevated level of emotional exhaustion. Another study conducted by Aguair-Quintana et al. (2021) showed that hotel employees have felt depressed and anxious due to the fear of losing

their jobs. [Bufquin et al. \(2021\)](#) found that working employees (vs. furloughed employees) experienced a higher level of psychological distress. [Wong et al. \(2021\)](#) revealed that two pandemic-related work stressors significantly increased after the onset of the pandemic while traditional work stressors decreased. These studies strongly imply that hospitality job stress during the pandemic has occurred on an unprecedented scale. Moreover, the model for COVID-19 stressors ([Sinclair et al., 2021](#)) suggests that economic stress and occupational risk are the main factors that result in depressive symptoms among essential workers. Given that the hospitality workforce has been hit the hardest by the pandemic and that COVID-19 cases still are soaring, hospitality workers are suffering dual job stressors – fear of being infected and fear of being fired. Hospitality employees are also in most cases experiencing work stress that is higher than usual. Therefore, the following hypotheses are formulated:

**H4.** : *Hospitality workers' pandemic-induced panic will lead to an increased level of job stress.*

**H5.** : *Hospitality workers' perceived infectious risk will lead to an increased level of job stress.*

Because high turnover rate has been a chronic challenge in the hospitality industry, there has been a wealth of research undertaken that has focused on the relationship between job stress and turnover intention. Previous hospitality research has consistently shown that a high level of work stress is associated with high turnover intentions for hospitality employees ([Anasori et al., 2021](#); [Park and Min, 2020](#); [Schwepker and Dimitriou, 2021](#)). A similar finding has been observed in the current context of COVID-19: [Wong et al. \(2021\)](#) revealed that both work stress and turnover intentions among hospitality workers significantly increased following the pandemic outbreak. [H. Yu et al. \(2021\)](#); [J. Yu et al. \(2021\)](#) demonstrated that hospitality workers' job stress was also positively linked to turnover intentions during the pandemic. Thus, the following hypothesis is offered:

**H6.** : *During the pandemic, hospitality workers' job stress will lead to an increased level of turnover intention.*

Job insecurity has long been considered an occupational stressor ([Akgunduz and Eryilmaz, 2018](#)). Job insecurity is essentially an adverse perceptual phenomenon ([Ruiz-Palomino et al., 2020](#)), and that subjective experience is also likely to produce negative psychological impacts on employees ([Darvishmotevali and Ali, 2020](#)). Previous studies have suggested that employees with high job insecurity are more likely to suffer psychological distress ([Tian et al., 2014](#)), have poorer job performance ([Darvishmotevali and Ali, 2020](#)), and demonstrate more counterproductive behaviors at work ([Akgunduz and Eryilmaz, 2018](#); [Ruiz-Palomino et al., 2020](#)). In the context of COVID-19, [Tu 's et al. \(2021\)](#) study showed that pandemic-induced layoffs significantly elevated surviving employees' pandemic-related stress, suggesting that job insecurity may indeed lead to a higher level of stress. Therefore, given the evidence from previous studies, the following hypothesis is proposed:

**H7.** : *During the pandemic, hospitality workers' job insecurity will lead to an increased level of job stress.*

Another consequence of job insecurity perception is higher turnover intentions, which is exemplified in the prior research ([Karatepe et al., 2020](#)). More recently, the negative effects of job insecurity on turnover intentions have also been identified in the context of the pandemic ([Bajrami et al., 2021](#); [Jung et al., 2021](#)). As the pandemic has caused an unprecedented crisis in the hospitality industry and is likely to have a profound impact on the industry as a whole, hospitality workers may lose confidence in the future of their industry ([H. Yu et al., 2021](#); [J. Yu et al., 2021](#)) and reconsider their decision to stay in the industry. Therefore, this study proposes that job insecurity positively affects turnover intentions by hypothesizing the following:

**H8.** : *During the pandemic, hospitality workers' job insecurity will lead to an increased level of turnover intention.*

### 3. Methodology

#### 3.1. Data collection

Hospitality employees in the U.S. were defined as the population in this study. Potential participants in the lodging and food services sectors were recruited separately by an online panel company and invited to complete an online survey. Each respondent was selected purposively, based on their gender and age, and those who completed the survey received a monetary incentive of approximately \$3–5 U.S. from the panel company. A few screening questions were placed and asked at the beginning of the survey to ensure that each participant was qualified for completing the study. These included age (older than 18), residence (in the U.S.), employment status (currently employed), and industry of employment (either lodging or food services).

Nearly 20% of the respondents who entered the survey were asked to exit because they were unemployed or employed by a travel-related company. Data collection was undertaken in mid-November 2020 when most U.S. states were struggling between the decision to re-open the economy and continuing their virus control. The resulting final sample size was 622 with 311 respondents in each sector (lodging and foodservice).

The sample was split in half between those respondents who were working in lodging or working in foodservice. Nearly 60% of the respondents identified themselves as female, and that percentage was higher in lodging services (62.4%). It was also found that 36.7% of the respondents were between 18 and 29 in age, 43.2% were between 30% and 49%, and 20.1% were 50 or older. The food services pool was younger, and 45.3% of this group were 29 or younger. A vast majority of the respondents across the two sectors identified themselves as Caucasian (70.1%), followed by African-American (11.1%) and Latinos or Hispanics (9.5%). In terms of education level, the lodging pool was more well educated, as 64.7% had completed post-secondary education; the percentage in the food services pool was 53.5%. Most respondents were employed with full pay (65.0%). Overall, the respondents had extensive experience in the hospitality industry, as 48.8% had more than seven years of experience. However, only 22.5% had worked with their current employer for more than seven years.

Among the 311 respondents in the lodging sector, nearly one-third had worked in each type of hotel, namely limited-service hotels (30.9%), full-service hotels (34.4%), and resort/convention/casino hotels (34.7%). The results for the analysis of variance (ANOVA) indicated that respondents' working in three different types of hotels did not vary significantly in their mean scores of job insecurity ( $F= 2.67$ ;  $p > .05$ ), infectious risk ( $F= 1.54$ ;  $p > .05$ ), job stress ( $F= 2.00$ ;  $p > .05$ ), and turnover intentions ( $F= 1.83$ ;  $p > .05$ ). For respondents in the foodservice sector, most worked in either a quick-service/fast-casual restaurant (43.7%) or a table-service restaurant (36.0%). A few others worked in various drinking places (20.3%). Similarly, the ANOVA results suggested no significant differences among the three groups for their mean scores of job insecurity ( $F= 0.34$ ;  $p > .05$ ), infectious risk ( $F= 1.25$ ;  $p > .05$ ), job stress ( $F= 0.51$ ;  $p > .05$ ), and turnover intention ( $F= 0.93$ ;  $p > .05$ ).

#### 3.2. Measurements

The survey questionnaire consisted of six multi-item scales. First, the construct of *pandemic-induced panic* was assessed using the Impacts of Events Scale (IES) from [Horowitz et al. \(1979\)](#). It has been widely used to measure how much distress each individual has experienced and associated with a stressful event, including the COVID-19 pandemic ([Vanaken et al., 2020](#)). IES included 15 statements, and the respondents were asked to indicate how frequently each statement was true for them

in the past seven days from not at all (score= 0), rarely (score= 1), sometimes (score= 3), to often (score= 5). The summed-item score was then suggested using the original scale with a range between 0 and 75. The scale (see Appendix) was slightly revised, as respondents were informed that the following items were related to the impacts of COVID-19, similar to the Impact of Event Scale with modifications for COVID-19 (IES-COVID19) as developed by Vanaken et al. (2020).

*Job insecurity* was measured using the Job Insecurity Scale (JIS) from De Witte (2000). JIS uses four 5-point items (1 = strongly disagree to 5 = strongly agree) and excellent internal consistency and validity (Elst et al., 2014).

The perceived *infectious risk* was assessed using the scale from Chong et al. (2004), which was originally designed to measure the risk of contracting the SARS virus for healthcare workers. This 5-point Likert-type scale has three questions that relate to cognitive risk, emotional risk, and personal control (1 = strongly disagree to 5 = strongly agree). *Job stress* was measured using a 4-item, 5-point scale (1 = strongly disagree to 5 = strongly agree) from Motowidlo et al. (1986). The concept of turnover intention was also measured using a 5-point scale (1 = strongly disagree to 5 = strongly agree) using three items related to the intention of the participants to leave their current company (Mowday et al., 1982).

### 3.3. Data analysis

The proposed model was tested using partial least square structural equation modeling (PLS-SEM). While covariance-based SEM (CB-SEM) is a prominent method used for model testing in the hospitality field, recent research has advocated the use of PLS-SEM, especially when a complex model is involved or the research objective is prediction rather than confirmation (Ali et al., 2018). PLS-SEM was adopted for this study because the study objective was to examine the predictability of various variables for job stress and turnover intention.

The data analyses in this study utilized four steps. First, common method bias (CMB; Kock, 2015) was assessed using a full collinearity assessment approach as suggested by Kock (2015). As all variance inflation factor (VIF) values were below the threshold of 3.3, this model was considered free of common method bias (Kock, 2015). The next step involved using confirmatory factor analysis (CFA) to assess the validity and reliability of the measures. Pandemic-induced panic was excluded from CFA because the original scale suggests the use of summed-item scores (Horowitz et al., 1979). The proposed model was then tested using consistent PLS algorithms and bootstrapping with a sub-sample of 10,000 as recommended by Streukens and Leroi-Werelds (2016). Finally, a multi-group analysis was performed to compare the results for the lodging and food-service samples for cross-sector validation.

## 4. Results

### 4.1. Measurement model

Following the standard procedure of PLS-SEM (Ali et al., 2018), this research examined the validity and reliability of the measures by building a measurement model with two 4-item factors (job insecurity and job stress) and two 3-item factors (infectious risk and turnover intention). The result for the consistent PLS algorithms revealed that one indicator of job stress had a fairly low factor loading (0.30) and the model was then refined by deleting the item (very few stressful things happen to me at work).

The final results are illustrated in Table 3. All factor loadings were significant ( $p < .001$ ), as suggested by the results of consistent PLS bootstrapping (sub-sample =10,000). Construct validity and reliability were then assessed using the average variance estimate (AVE) and composite reliability (CR). It was found that the AVEs of all four constructs were greater than the threshold of .50 and the CR values of all four factors were higher than the threshold of .80 (Netemeyer et al.,

**Table 3**  
Results of confirmatory factor analysis.

Factors/Items	Loadings	AVE	CR	MSV
<b>Job insecurity</b>		.73	.91	.48
Chances are, I will soon lose my job.	.90			
I am sure I can keep my job.	.77			
I feel insecure about the future of my job.	.81			
I think I might lose my job in the near future.	.92			
<b>Risk perception</b>		.65	.85	.37
My job puts me at great risk for exposure to COVID-19.	.78			
I am afraid of falling ill with COVID-19 at my workplace.	.84			
I have little control over whether I will get infected at my workplace.	.80			
<b>Job stress</b>		.71	.88	.45
I feel a great deal of stress because of my job.	.92			
*My job is extremely stressful.	.92			
I almost never feel stressed at work.	.66			
<b>Turnover intention</b>		.82	.93	.48
*I think a lot about leaving this company.	.90			
*I am actively searching for an alternative to this company.	.89			
*As soon as it is possible, I will leave this company.	.92			

2003). For discriminant validity, the maximum shared variances (MSV) of all four factors were smaller than the AVE of each factor, which suggests that the Fornell-Lacker Criterion was met. The heterotrait-monotrait ratios of the correlations (HTMT) were also examined (Henseler et al., 2015). It was found that the HTMT values were all below the suggested threshold of .90 (Henseler et al., 2015). These findings suggest that the reliability and validity of the constructs were well established.

### 4.2. Structural modeling

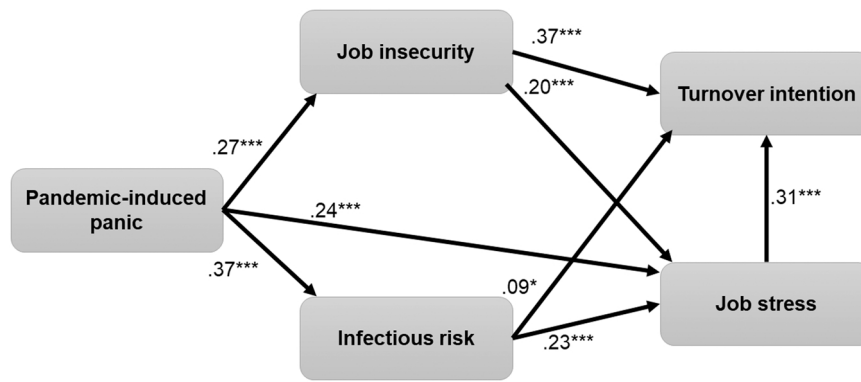
The subsequent analyses involved establishing a structural model to test the research hypotheses (see Fig. 2). Results from the PLS-SEM revealed that the proposed direct effects were all significant ( $p < .05$ ). Specifically, pandemic-induced panic had significant effects on job insecurity ( $\beta = 0.27$ ;  $p < .001$ ) and infectious risk ( $\beta = 0.37$ ;  $p < .001$ ). Moreover, the proposed effects of pandemic-induced panic ( $\beta = 0.24$ ;  $p < .001$ ), job insecurity ( $\beta = 0.20$ ;  $p < .001$ ), and infectious risk ( $\beta = 0.23$ ;  $p < .001$ ) on job stress were all supported. The effects of job insecurity ( $\beta = 0.37$ ;  $p < .001$ ), infectious risk ( $\beta = 0.09$ ;  $p < .05$ ), and job stress ( $\beta = 0.31$ ;  $p < .001$ ) on turnover intention were both found to be significant as well. The  $\chi^2$  values of job stress and turnover intention were .23 and .34, respectively. These results suggest that all the hypotheses were supported.

The interrelationships of the theoretical concepts in the proposed model are further illustrated in Table 4. The significance levels of the indirect and total effects were calculated using bootstrapping. It was found that pandemic-induced panic had substantial total effects on job stress ( $\beta = 0.38$ ;  $p < .001$ ) and turnover intention ( $\beta = 0.25$ ;  $p < .001$ ). Moreover, the total effects of job insecurity and infectious risk on job stress were both significant, and the two values were not significantly different (job insecurity:  $\beta = 0.20$ ;  $p < .001$ ; 95% confidence interval = [.12, .28]; infectious risk:  $\beta = 0.23$ ;  $p < .001$ ; 95% confidence interval = [.14, .31]). Regarding the total effects on turnover intention, the effect of job insecurity ( $\beta = 0.43$ ;  $p < .001$ ; 95% confidence interval = [.36, .50]) was found to be significantly greater than the effect of infectious risk ( $\beta = 0.16$ ;  $p < .001$ ; 95% confidence interval = [.09, .24]).

### 4.3. Cross-sector validation

The structural relationships of the five constructs in the proposed model were further examined across the lodging and food-services





Note: \*\*\* denotes  $p < .001$ ; \* denotes  $p < .05$

Fig. 2. Results of structural modeling.

Table 4  
Direct, indirect, and total effects of the proposed model.

Paths	Direct effects	Indirect effects	Total effects
Pandemic-induced panic → Job insecurity	.27***	–	.27***
Pandemic-induced panic → Infectious risk	.37***	–	.37***
Pandemic-induced panic → Job stress	.24***	.14***	.38***
Pandemic-induced panic → Turnover intention	.37***	.25***	.25***
Job insecurity → Job stress	.20***	–	.20***
Job insecurity → Turnover intention	.37***	.06***	.43***
Infectious risk → Job stress	.23***	–	.23***
Infectious risk → Turnover intention	.09*	.07***	.16***
Job stress → Turnover intention	.31***	–	.31***

\* denotes  $p < .05$  and

\*\*\* denotes  $p < .001$ .

sectors by using multi-group analysis. Following the procedures suggested by Netemeyer et al. (2003), the assumption of the measurement invariance was first examined by comparing the chi-square values of the unconstrained model ( $\chi^2 = 268.07$ ;  $df = 138$ ) to the measurement-weight model ( $\chi^2 = 276.94$ ;  $df = 147$ ).

As the result indicated no difference between the models ( $\Delta\chi^2 = 8.87$ ;  $\Delta df = 9$ ;  $p > .05$ ), the measurement weights across the lodging and food services sectors were declared homogenous. The structural variance was then tested by comparing the chi-square values of the unconstrained model ( $\chi^2 = 268.07$ ;  $df = 138$ ) to the structural-weight model ( $\chi^2 = 288.35$ ;  $df = 155$ ). This result showed that the measurement and structural weights were homogenous across the lodging and food services sectors ( $\Delta\chi^2 = 20.28$ ;  $\Delta df = 17$ ). These findings further revealed that the results of SEM were validated across the two industry sectors.

### 5. Discussion, implications, and conclusions

The COVID-19 pandemic has led to an ongoing economic crisis in the hospitality industry (Baum and Hai, 2020), which threatens the lives and livelihoods of hospitality employees. As remote work is not an option for most hospitality workers, these workers have had to face the dual threats of being infected and laid off. Based on the framework of COVID-19 stressors (Sinclair et al., 2021), this research identified job insecurity and infectious risk as dual stressors and further examined the antecedent and the consequences of these dual stressors.

Derived from a sample of 622 hospitality employees in the U.S., this study offers several key findings. First, survey respondents viewed the pandemic as a traumatic event that elevated their perceived job

insecurity, their infectious risk, and job stress. Second, both job insecurity and infectious risk resulted in increased job stress and turnover intentions. These dual stressors contributed equally to job stress, while the effect of job insecurity on turnover intention was found to be greater than the effect of infectious risk. Finally, these results were validated across employees in the lodging and food-service hospitality sectors. These findings provide ample insights both theoretically and practically.

#### 5.1. Theoretical implications

The first contribution of the current study is the assessment for how hospitality employees perceive and respond to the risk of contracting the COVID virus in their workplace. As COVID-19 primarily spreads through either direct or close contact with infected people, recent studies in hospitality have paid considerable attention to the topics of cleanliness and hygiene (Byrd et al., 2021; H. Yu et al., 2021; J. Yu et al., 2021; Zhang et al., 2020). These studies have offered valuable information on how to enforce safety behavior among hospitality workers (Zhang et al., 2020) and how to increase the perceived safety of food packaging (Byrd et al., 2021; Yu et al., 2021). However, even though hotel and restaurant workers obviously must engage in face-to-face interactions with guests (Sinclair et al., 2021), little attention has been paid to the occupational risk of virus infection among hospitality employees. One exception is the study by Wong et al. (2021), who identified the negative news and frequent reporting/documentation on hygiene issues as pandemic-induced stressors in the hospitality workplace. The current study provides additional insights by demonstrating that perceived infectious risk is a key factor that is contributing to job stress and worker turnover intentions. In other words, when hospitality employees are told to protect the safety of guests, they feel they are risking their safety in the workplace. This finding is of great importance because some of the current medical evidence has suggested that COVID-19 will persist and become a seasonal disease (Murray and Piot, 2021). It thus can be predicted that infectious risk will continue to be a key occupational stressor in the hospitality industry as long as the threat of COVID-19 lingers.

As the pandemic has decimated the hospitality job market, job insecurity is widely recognized as a key stressor among hospitality workers (e.g., Aguiar-Quintana et al., 2021; Bajrami et al., 2021; Chen and Eyoun, 2021; Jung et al., 2021; Tu et al., 2021; Wong et al., 2021). The current research complements these efforts by further unveiling the dilemma faced by hospitality employees during the pandemic. Sinclair and his et al. (2021) first proposed a model of COVID-19 stressors that depicted how essential or public-facing workers were struggling between possibly getting infected (occupational risk) and losing their jobs (economic stressors) amid the COVID-19 crisis. The current study is thus among the first to test this model empirically. It was found that both job insecurity and infectious risk contribute significantly to job stress and



turnover intentions among hospitality employees across the lodging and food-service sectors. This finding suggests, in Sinclair 's et al. (2021) words, that hospitality workers are "caught between Scylla and Charybdis (p. 1)." The findings of this study thus offer new key insights, as recent hospitality studies have only examined the impacts of job insecurity (e. g., Aguiar-Quintana et al., 2021; Bajrami et al., 2021; Chen and Eyoun, 2021; Jung et al., 2021). A more comprehensive picture is provided in this study by its testing a model that includes both job insecurity and infectious risk.

Further still, this research compared the relative influences of dual stressors on job stress and turnover intentions. It was found that job insecurity is a stronger predictor of turnover intentions than perceived risk. This finding echoes the recent evidence on the negative impacts of job insecurity on turnover intentions during the pandemic (Aguiar-Quintana et al., 2021; Bajrami et al., 2021; Chen and Eyoun, 2021; Jung et al., 2021; Tu et al., 2021). Moreover, the findings of the current study reveal that job insecurity and infectious risk contribute equally to job stress. This finding is important because previous studies have shown that job stress is a key source of employees' job dissatisfaction, low job performance, and general poor well-being (Schwepker and Dimitriou, 2021; Wong et al., 2021). In addition to the traditional work stressors found in hospitality, such as work-life conflict, long working hours, or schedule issues, the current research further demonstrates that there are pandemic-induced dual stressors. Therefore, the current investigation contributes to the literature on job stress in the hospitality workplace by uncovering how hospitality employees actually experience job stress during large-scale disruptive events like COVID-19.

This study also complements the literature by identifying a pandemic-induced panic as an antecedent of dual stressors. Recent studies on hospitality have frequently examined the impacts of COVID-19, but their focus has mostly centered on industry or organization topics. These studies have identified how much the industry has been devastated by the pandemic (Bucak and Yiğit, 2021; Knight et al., 2020; Yang et al., 2020) and how hospitality businesses have responded to these health and related economic crises (Agarwal, 2021; Lai and Wong, 2020; Smart et al., 2021). However, little attention has been paid up to now on how hospitality employees actually perceive and respond to the pandemic. The findings of this study demonstrate that hospitality employees perceive the pandemic as a traumatic event, which leads them to an increased level of job insecurity and infectious risk and subsequently elevates both their job stress and turnover intentions. As the hospitality workplace has always been considered highly stressful (Ariza-Montes et al., 2018), this research further demonstrates that hospitality employees are being stressed to an even greater extent during the current COVID-19 pandemic.

### 5.2. Practical implications

The current research demonstrates that hospitality employees are being extremely stressed due to their fear of losing their jobs and also contracting the virus. These findings offer important practical implications. From the government's perspective, it is recommended that more targeted programs for hospitality employees be provided to mitigate the negative impacts of job insecurity. It is widely recognized that the hospitality industry has been hit disproportionately hard by the pandemic due to its greater lockdown restrictions and public safety concerns (Baum and Hai, 2020). As such, governments worldwide have offered different programs to help hospitality businesses stay afloat. For example, the payroll protection program (PPP) became available in the U.S. to incentivize businesses not to lay off their employees. Another tax relief program that allows businesses to claim 100% of their food or beverage expenses that are paid to restaurants is provided in the U.S. to help restaurant businesses survive.

However, these programs are geared toward hospitality business owners and operators, not hospitality employees. Given that females and minorities make up a majority of the hospitality workforce, their

livelihoods deserve more attention from government officials. Notably, it took four years for hospitality employment in the U.S. to recover from the 2008–2009 recession. The pandemic has devastated the hospitality industry and as such, its full recovery can take a very long time. It is recommended, therefore, that more government resources be allocated to support the hospitality workforce during the pandemic recovery process.

Moreover, even though many hospitality workers must engage in face-to-face interactions with guests, they have not gained the same status of essential workers as medical service providers have. Specifically, during the early stage of the pandemic, both Federal and State governments in the U.S. chose to shut down restaurants rather than supplying them with personal protective equipment (PPE). Later during the vaccination rollout, restaurant workers were given no early access to vaccination because they were not deemed to be essential workers. It is certainly plausible to argue that this lack of attention by governments has led to the miserable experience of many hospitality employees as clearly demonstrated in the current study. If governments in the U.S. and other governments worldwide want to support a robust hospitality industry, they need to prioritize the life and livelihood of the hospitality workforce further in their decision-making processes. Again, as the threat of COVID-19 is likely to persist beyond 2021 (Murray and Piot, 2021), it is of major importance that we do recognize hospitality employees as essential workers.

From the employer's perspective, this study found that the perceived risk of infection is a key factor that contributes to job stress and turnover intentions. Therefore, it is imperative to protect these employees by offering necessary resources and implementing a precise safety management plan. For example, PPEs should be provided for those who need them. Tempered glass screens can be installed to reduce the possibility of infection without sacrificing face-to-face interactions. Cleaning and disinfecting surfaces regularly throughout every property are also recommended. More importantly, this safety management plan should be enforced both in the front and back of the house. Further, infection risk is a perception that the management team can help ease. Their efforts can communicate the science and all the pertinent and most recent facts and knowledge about how the virus is transmitted. Also, management should convey a strong attitude regarding protecting both guests and employees while still creating a work environment where all employees can feel safe.

Further still, this research demonstrates that the fear of losing one's job stems partially from hospitality employees' overall perceptions of the crisis (pandemic-induced panic). Therefore, it is recommended that hospitality managers and operators communicate full transparency about the financial situation of the company. If the financial outlook of the company is improving, managers should advise their employees not to worry about the macro-environment.

As many hospitality businesses are still struggling, all information regarding COVID-19 relief resources should be circulated regularly within the organization, such as unemployment benefits or relief funds from governments, hospitality organizations, and local communities. It would also be helpful if employees can be regularly reassured that their managers will offer assistance regarding future job opportunities if work-reduction strategies do need to be implemented. These efforts would help employees believe that being laid off or furloughed is not the end of their world. Again, job insecurity is a perception, and employers can play a very important role in easing that fear for their employees.

### 5.3. Limitations and directions for future research

This research demonstrated the dilemmatic situation faced by hospitality employees during the COVID-19 pandemic. While the findings offer new theoretical and practical insights, it is worthwhile to mention the limitations of the study and offer recommendations for future research. First, the research data were collected in the U.S. However, the individual State context was not examined in this study. As U.S. states

have adopted different approaches to curtail the spread of the virus, these study results may vary based on those different policies. It is thus recommended that future research should include the State-level factor.

Further, this research aimed at investigating the dual stressors experienced by hospitality employees in general terms; thus, the context of each employee’s position and organization was not included in this study. This factor should be considered a limitation of the current study. Also, this study adopted a cross-sectional design, which is vulnerable to the issue of common method variance. While the results of a full collinearity assessment approach (Kock, 2015) suggest no major CMB issue, the interrelationships of the proposed theoretical constructs could either be inflated or deflated if CMB exists (Kock, 2015). It is recommended that future research can consider collecting data for multiple time frames to minimize that problem. Finally, given the ups and downs

of the infected numbers, the pandemic situation is constantly changing. These study results could then differ based on the current infection rate or new disease control policies. It is thus recommended that future research undertake a longitudinal study to keep close track of the COVID-19’s impact during various stages of that particular pandemic.

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none.

**Declarations of interest**

none.

**Appendix 1. Survey questions**

The following three statements are related to the financial hardships you and your family are facing during the novel coronavirus pandemic (COVID-19). Please indicate the level of hardships in each statement from 1 (not at all) to 5 (extreme hardships).

	Not difficult at all	Slightly difficult	Somewhat difficult	Fairly difficult	Extremely difficult
*How difficult is it for you to live on your total household income right now?	1	2	3	4	5
*How much would not have another job in the next two months create actual hardships for you and your family?	1	2	3	4	5
*How much would not having another job in the next two months reduce your standard of living to the bare necessities of life?	1	2	3	4	5

Below is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each has been for you during the past 7 days with respect to the novel coronavirus pandemic (COVID-19). How much were you distressed or bothered by these difficulties?

	Not at all	Rarely	Sometimes	Often
*I thought about it when I didn’t mean to.	0	1	3	5
*I avoided letting myself get upset when I thought about it or was reminded about it.	0	1	3	5
*I tried to remove it from memory.	0	1	3	5
* I had trouble falling asleep or staying asleep because of pictures or thoughts about it that came to my mind.	0	1	3	5
*I had waves of strong feelings about it.	0	1	3	5
* I had dreams about it.	0	1	3	5
*I stayed away from reminders about it.	0	1	3	5
*I felt as if it hadn’t happened or was unreal.	0	1	3	5
* I tried not to talk about it.	0	1	3	5
* Pictures about it popped into my mind.	0	1	3	5
* Other things kept making me think about it.	0	1	3	5
* I was aware that I still had a lot of feelings about it, but I didn’t deal with them.	0	1	3	5
* I tried not to think about it.	0	1	3	5
* Any reminder brought back feelings about it.	0	1	3	5
* My feelings about it were kind of numb.	0	1	3	5

Please indicate the degree to which you agree with each of the following statements about your intention to have a career change.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
* I think a lot about leaving the hospitality/tourism industry.	1	2	3	4	5
* I am actively searching for an alternative to the hospitality/tourism industry.	1	2	3	4	5
* As soon as it is possible, I will leave the hospitality/tourism industry.	1	2	3	4	5

The next questions are about how you felt about different aspects of your life in the last month amid the novel coronavirus pandemic (COVID-19). For each one, please indicate how often you felt that way.

	Hardly ever	Some of the time	Often
*How often do you feel that you lack companionship?	1	2	3
*How often do you feel left out	1	2	3
*How often do you feel isolated from others?	1	2	3

Over the last two weeks, how often have you been bothered by any of the following problems?

	Not at all	Several days	More than half the days	Nearly everyday
* Little interest or pleasure in doing things?	0	1	2	3
* Feeling down, depressed, or hopeless?	0	1	2	3
* Trouble falling or staying asleep, or sleeping too much?	0	1	2	3
* Feeling tired or having little energy?	0	1	2	3
* Poor appetite or overeating?	0	1	2	3
* Feeling bad about yourself - or that you are a failure or have let yourself or your family down?	0	1	2	3
* Trouble concentrating on things, such as reading the newspaper or watching television?	0	1	2	3
* Moving or speaking so slowly that other people could have noticed? Or the opposite - being so fidgety or restless that you have been moving around a lot more than usual?	0	1	2	3
* Thoughts that you would be better off dead, or of hurting yourself in some way?	0	1	2	3

Please indicate the extent to which you agree with the following statements about yourself.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
*It is easy for me to stick to my aims and accomplish my goals.	1	2	3	4	5
*I am confident that I could deal efficiently with unexpected events	1	2	3	4	5
*Thanks to my resourcefulness, I know how to handle unforeseen situations.	1	2	3	4	5
*I can remain calm when facing difficulties because I can rely on my coping abilities	1	2	3	4	5
*No matter what comes my way, I am usually able to handle it.	1	2	3	4	5

Please respond to each item regarding how you felt in the last two weeks.

	At no time	Some of the time	Less than half the time	More than half the time	Most of the time	All the time
*I have felt cheerful in good spirits.	0	1	2	3	4	5
*I have felt calm and relaxed.	0	1	2	3	4	5
*I have felt active and vigorous.	0	1	2	3	4	5
*I woke up feeling fresh and rested.	0	1	2	3	4	5
*My daily life has been filled with things that interest me.	0	1	2	3	4	5

**Appendix 2. Means, Standard Deviations and Correlation Matrix for Research Concepts**

Variables	Mean	SD	Correlation matrix						
			1	2	3	4	5	6	
1. Financial strain	3.33	1.15	–						
2. Pandemic-induced panic	35.99	15.95	.45**	–					
3. Social isolation	2.00	0.66	.30**	.34**	–				
4. Control	3.54	0.69	-0.10*	-0.10*	-0.25**	–			
5. Depression	10.79	7.06	.40**	.45**	.58**	-0.33**	–		
6. Well-being	11.75	5.56	-0.27**	-0.31**	-0.44**	.39**	-0.52**	–	
7. Career change intention	3.08	1.13	.19**	.25**	.14**	-0.09*	.30**	-0.16**	–

Note: \*\* denotes p < .01; \* denotes p < .05.

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