Ali Dalgic / Mahmut Demir / Fatma Doğanay Ergen

Does Perceived Vulnerability Mediate the Effect of Hotel Employees' Resilience on Mental Health Perceptions?

Abstract

The COVID-19 pandemic has brought many fundamental changes. Especially in the tourism sector, where people are in constant communication and interaction, negative effects have been seen excessively. This situation also affected tourism employees economically, psychologically, and physically. Therefore, this paper aims to reveal the relationship among resilience, perceived vulnerability, and mental health perceptions within the scope of hotel employees. The study examines the effects of psychological and employee resilience on hotel employees' mental health perceptions. In this context, "psychological resilience has a significant positive influence on hotel employees' mental health perceptions" and "employee resilience has a significant positive influence on hotel employees' mental health perceptions" have been developed. The study also examines the mediating role of perceived vulnerability in the effect of individual-level resilience on hotel employees' mental health perceptions. In this context, "perceived vulnerability mediates the effect of individual-level resilience on mental health perceptions" has been developed. In total, 391 questionnaire forms were analyzed using a structural equations model to test the hypotheses. The results show that hotel employees' psychological and employee resilience make their mental health perceptions more positive. Perceived vulnerability partially mediates the effect of individual-level resilience on mental health perceptions.

Keywords: psychological resilience, employee resilience, mental health perceptions, perceived vulnerability, hotel employees

1. Introduction

COVID-19 continues to have changing global effects on all aspects of people's lives, including business life. Tourism businesses and employees have been particularly affected, which has forced them to adopt new practices to continue their activities (Sigala, 2020). Tourism is a labor-intensive sector, so employees are vulnerable to COVID-19 due to constant communication and interaction with guests and coworkers. This can damage employees' work and social life, although not everyone responds in the same way (Demir et al., 2021). Certain successful individuals continue their lives despite stress factors or have personality structures that enable them to experience high-stress levels without becoming sick. This can be explained by the concept of resilience (Tugade & Fredrickson, 2004).

Resilience is a positive psychological rebound capacity to recover from difficulties, uncertainty, conflicts, failure, and even positive change, progress, and increased responsibility (Luthans, 2002). In other words, it refers to effective coping and adaptation despite encountering loss and difficulties. It includes the ability to ignore negative events through positive emotions (Tugade & Fredrickson, 2004; Tugade et al., 2004). More

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specifically, employee resilience is the capacity of employees to use their resources to improve and adapt to overcome difficulties. Employees with high psychological resilience are strongly committed to change and more determined thanks to the positive emotions they experience during organizational change (Shin et al., 2012). Drawing on Broaden-and-Build Theory (Fredrickson, 2001, 2003), Wright (2004) demonstrated how positivity enables the development of psychological resources that improve job performance. Individuals who experience multiple and varied positively-based emotions are more capable of extending themselves and becoming more optimistic and resilient employees. Positive emotions have both an extending effect, which can enhance immediate thought-action experiences, and a building effect, which contributes to developing a personal resource arsenal (Wright, 2004; Youssef & Luthans, 2007). The driving force provided by psychological well-being enables individuals to easily broaden and build themselves, thereby becoming more creative, resilient, socially connected, and physically and mentally healthy (Wright, 2004; Youssef & Luthans, 2007). Thus, one of the significant issues in the contemporary business world is the mental health of employees (Han et al., 2020). Resilience and mental health perceptions are likely to be affected during the pandemic. That is, individuals may feel more vulnerable to COVID-19 if they constantly interact with others and are aware of negative developments through media channels (Boyraz et al., 2020). Even if individual employees have high resilience, their mental health self-perceptions may be affected by perceived vulnerability to COVID-19 (Stergio & Farmaki, 2021; Vo-Thanh et al., 2022).

This study explores the effects of psychological and employee resilience on their mental health perceptions. The pandemic has made resilience even more prominent. Strongly resilient individuals may have more positive mental health perceptions, both during the current pandemic and in similar future epidemics (Anasori et al., 2021; Shi et al., 2021; Yin & Ni, 2021). Employees with strong mental health perceptions can contribute more positively and be more productive than other employees (Han & Hyun, 2018). Conversely, employees who perceive themselves as vulnerable to the pandemic may experience poorer mental health (Stergio & Farmaki, 2021; Vo-Thanh et al., 2022). That is, perceived vulnerability may mediate the effect of individual-level resilience on mental health perceptions. This is the first study to test such as mediation model. The study's findings and model based on the Broaden-and-Build Theory (Fredrickson, 2001; Fredrickson, 2004) can guide theorists and practitioners during current and future pandemics.

This study addresses three main gaps in the literature. The current COVID-19 pandemic has not affected hotel employees only economically (Aguiar-Quintana, 2021; Šuligoj, 2022). It is therefore important to demonstrate that hotel employees, who have to interact with customers during the pandemic, require both psychological and employee resilience. However, other studies have not focused on this issue. Instead, they have discussed government response, technology innovation, local belongingness, and consumer and employee confidence at the level of industry, government, and other stakeholders (Sharma et al., 2021). Other studies on resilience in tourism have focused on destination resilience, tourism demand, market resilience, and climate change resilience (Ghaderi et al., 2015; Hu et al., 2021; Huynh & Piracha, 2019; Otoo & Kim, 2018). Accordingly, the present study is important, first, because it addresses individual-level resilience (psychological and employee resilience). Ngoc Su et al. (2021) and Prayag et al. (2020a) proposed to present models in which different types of resilience are brought together. Secondly, the pandemic and resulting economic hardship have severely impacted the well-being and mental health of hotel employees (Dalgıç et al., 2021; Demir et al., 2021). The present study, therefore, focuses on the relationship between individual-level resilience (psychological and employee resilience) and mental health perceptions. Thirdly, an under-researched variable during crises is perceived vulnerability (Singh et al., 2021). Hence, the present study contributes to the literature by investigating the mediating role of perceived vulnerability in the relationship between hotel employees' resilience and their mental health perceptions. The next section examines psychological resilience, employee resilience, perceived vulnerability, and mental health perception. Then, the hypotheses are formulated based on the related literature and Broaden-and-Build Theory. The methodology and the results of the analysis are

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presented. After discussing the results, the final section offers some conclusions, including theoretical and practical implications, limitations, and future research suggestions.

2. Literature review

2.1. Psychological resilience

Psychological resilience is psychological readiness to face difficulties and losses, and the ability to adapt to them while turning negative emotions into positive ones (Tugade & Fredrickson, 2004). Psychologically resilient individuals generally exhibit pro-social behaviors, such as empathy, communication skills, and a sense of humor. They also s how social competence, autonomy, flexible thinking, and the ability to produce alternative solutions for cognitive and social problems (Bernard, 1991). Psychological resilience is affected by cultural characteristics, economic conditions, individual characteristics, value systems, past experiences, assumptions, and risk perceptions (Ntounis et al., 2021). Psychological resilience has three components: control, commitment, and confrontation (Kobasa et al.,1982; Maddi, 2002).

Studies on the COVID-19 pandemic show increased psychological distress due to higher levels of stress, fear, and anxiety (Martinelli et al., 2021). Risk and protection are key factors affecting psychological resilience. Risk factors are personal and environmental variables that increase the possibility of negative outcomes in adverse situations (Truffino, 2010). Protective factors are individual resources that increase an individual's ability to overcome difficulties, withstand crises, and manage stress. Fraser and Terzian (2005) define protective factors as "individual or environmental resources that minimize risk impact". These factors regulate the individual whenever the risk is present (Truffino, 2010). Protective factors can buffer moderate exposure to risk (Jenson & Fraser, 2011).

Psychological problems can lead some people to depression and they have to struggle with feelings such as sadness, loss of energy, and life dissatisfaction (Martinelli et al., 2021). However, psychologically resilient individuals experience more situations that lead to positive emotions (Ong et al., 2006), positive behaviors, and openness to social change (Shin et al., 2012). Their resilience can also reduce stress from work and social life (Ong et al., 2006). These individuals' mental health perceptions may be positive (Haddadi & Besharat, 2010), which enables them to experience a crisis without trauma (Thompson et al., 2011). In general, these individuals experience positive emotions, quickly overcome difficulties and negative events, and avoid thinking about negative outcomes. Conversely, individuals with low psychological resilience are likely to experience psychological problems and exhibit avoidance coping behaviors during pandemic conditions (Yin & Ni, 2021). Hotel employees' psychological resilience increases work engagement (Anasori et al., 2021) and creativity (Batool et al., 2021). Moreover, psychological resilience reduces hotel employees' psychological distress (Anasori et al., 2021).

2.2. Employee resilience

Employee resilience refers to an employee's capacity to use their resources to improve and adapt at work to overcome difficulties (Kuntz et al., 2016). Employee resilience involves a behavioral structure for coping with stress and pressure (Tonkin et al., 2018). Employee resilience is an employee's ability in changing working conditions to cope, adapt, and develop resources while facilitated and supported by the organization. Employee resilience can be improved. The organizational environment affects employee resilience through facilitating factors. In particular, an open, supportive, collaborative, and learning-oriented work environment can improve employee resilience (Naswall et al., 2013). Hotel businesses that train their employees and help them improve themselves foster hope, optimism and feelings of value can increase employee resilience (Khan et al., 2019). In addition, frequent communication and interaction between managers and employees play key roles in resilience, which in turn provides benefits for hotel businesses (Alves et al., 2020).

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Since employee resilience is an important determinant of organizational success, human resources management practices are critical. Employee resilience can be increased by improving social support in the workplace, improving work-life balance, spreading employee assistance programs, increasing personal development training, introducing flexible working arrangements and reward systems, prioritizing occupational health and safety, and providing information on risk and crisis management (Bardoel et al., 2014). Other factors to enhance employee resilience include "health and safety (safe working environment, work-from-home movement)", "emergency response (exposure-reducing measures, sufficient support)", "positive psychology (resilient-oriented conversations, working together, employee benefits support)", "economic-capital enhancing (retrenchment, workforce streamlining)", "diffused power and accountability enhancing (communication, empowerment)", "social-capital enhancing (training and development, job security, peer-to-peer social support)", "broad resource network enhancing (adjust workforce networks, diversity staff network)", "talent management", "job redeployment" and "performance management" (Ngoc Su et al., 2021).

Employee resilience has various benefits. Such individuals are better at "adopting multiple crisis management practices", "maintaining a good relationship and robust network", "identifying threats and opportunities", and "taking actions promptly and flexibly" (Alves et al., 2020). They have better relationships with colleagues and higher job performance (Britt et al., 2016), and exhibit more organizational citizenship behaviors (Paul et al., 2016). They are more open to organizational change and innovation (Senbeto & Hon, 2020) and have lower perceptions of job insecurity (Shoss et al., 2018). Moreover, they experience greater well-being (Britt et al., 2016; Tonkin et al., 2018) and life satisfaction (Prayag et al., 2020a). When evaluated in terms of hotel employees, employee resilience reduces anxiety, depression (Aguiar-Quintana et al., 2021), and emotional exhaustion (Anasori et al., 2020). Moreover, hotel employees' resilience has a significant positive influence on optimism (Jung & Yoon, 2015) and well-being (Shi et al., 2021).

2.3. Perceived vulnerability

Perceived vulnerability refers to how much an individual believes they will be adversely affected by harmful events. For example, individuals may perceive themselves as vulnerable to infectious diseases that become pandemics (Duncan et al., 2009). Thus, perceived vulnerability to COVID-19 is an individual's estimation of their likelihood of contracting the virus. While there is general concern about mental health during a pandemic, perceived vulnerability to COVID-19 directly affects overall mental health. More specifically, individuals with low perceived vulnerability have coped better with the COVID-19 pandemic and experienced less stress (Lawal, 2021).

Various factors affect perceived vulnerability. For example, levels are slightly higher in the elderly or individuals with chronic diseases (Coninck et al., 2020). Individuals who have to constantly interact with others or who constantly follow negative developments related to the pandemic through media channels are more likely to believe that they are vulnerable to COVID-19 (Boyraz et al., 2020). Individuals who expect to encounter negative situations and who ruminate about this may experience negative outcomes in work and social life, leading to greater stress. In turn, they may lack sufficient interaction in daily life.

Tourism-related businesses, and therefore their employees, are particularly vulnerable to crises like the COVID-19 pandemic (Ntounis et al., 2021). Hotel employees, who have been severely affected by the COVID-19 outbreak, work in a high-contact environment with health and safety risks that have serious consequences if they become infected. The risks and dangers perceived by hotel employees regarding COVID-19 can also damage their mental health (Stergio & Farmaki, 2021; Vo-Thanh et al., 2022). Moreover, their perceived economic vulnerability due to job losses experienced by hotel workers reduces life satisfaction. However, this negative impact on life satisfaction is significantly reduced in the presence of emotional well-being. Emotional well-being, which creates positive emotions, helps employees cope with stress and improves life satisfaction (Singh et al., 2021). The more anxious hotel employees are about the COVID-19 pandemic, the more they perceive work-related risks and the more stressed and emotionally exhausted they become (Vo-Thanh et al., 2022).

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2.4. Mental health perception

While mental health has long been defined as the absence of psychopathologies such as depression and anxiety (Westerhof & Keyes, 2009), the World Health Organization (WHO, 2018) describes it more specifically as "an individual who realizes his abilities, copes with the normal stresses of life, can work efficiently and a state of welfare that they can contribute to the society". Mental health perception refers to an individual's cognitive self-evaluation of their current mental health condition (Han & Hyun, 2018). Mental health is a critical issue in the business sector (Han & Hyun, 2018). Given that employees may feel ashamed and hesitate to seek professional help for mental health problems, it is important to study mental health (Kotera et al., 2018; Kotera et al., 2021). Improper practices, lack of communication, and inappropriate health and safety policies can all impair employees' mental health (Calgaro et al., 2014). Mental health problems can cause life dissatisfaction (Ghubach et al., 2009), decrease productivity, and damage relationships (Butterworth, 2003). Mental health problems can reduce employees' job performance and job satisfaction, which in turn affect organizational outcomes, such as productivity, commitment, and satisfaction (Calgaro et al., 2014). This in turn may impact safety and service quality. Therefore, employers and employees need to be aware of stress and stress factors that negatively affect them (Nadinloyi et al., 2013).

The COVID-19 pandemic negatively affected perceptions of mental health due to the threat of infection (Xiang et al., 2020), reduced social life (Brooks et al., 2020; Killgore et al., 2020; Xiang et al., 2020), increased perception of job insecurity, and financial losses (Brooks et al., 2020). Individuals with low mental health perceptions have reduced life satisfaction (Headey et al., 1993; Karatepe et al., 2021), work performance (Karatepe et al., 2021; Van Gordon et al., 2014), job satisfaction (Nadinloyi et al., 2013), efficiency (Bubonya et al., 2017), and organizational commitment (Heidarie et al., 2012). During the COVID-19 pandemic, employee resilience and mental health can be strengthened by providing health insurance for hotel employees, changing working hours, and encouraging remote work (Alves et al., 2020). Anxiety caused by the pandemic has increased the job stress of hotel employees. It is seen that job stress has a significant effect on hotel employees' well-being, mental health perceptions, organizational citizenship behavior, and employee-customer identification. Moreover, job stress negatively affects the overall performance (Yu et al., 2021) and the mental health of hotel employees (Prijanka et al., 2021). Fear of COVID-19 leads to negative mental health problems for hotel employees, and depression, anxiety, and stress have a significant impact on turnover intention (Teng et al., 2021).

3. Hypotheses development

According to Broaden-and-Build Theory, positive emotional experiences expand individuals' thought-action repertoires, which enables them to create permanent personal resources by converting physical and intellectual resources into social and psychological resources (Fredrickson, 2001). Positive emotions, such as interest, satisfaction, pride, and love, increase optimism and resilience. Strongly resilient individuals have better psychological well-being and mental health perceptions (Fredrickson, 2001; Fredrickson, 2004). Building on Broaden-and-Build Theory, we can argue that resilient individuals can better cope with difficulties (Tugade & Fredrickson, 2004). In other words, individual-level resilience (employee resilience, psychological resilience, etc.) that develops from positive emotions strengthens individuals' positive perceptions of their mental health (Reschly et al., 2008).

Psychological resilience is a significant factor for individuals to overcome difficult times (natural disasters, pandemics, death, etc.), be less affected by stressful events, and overcome problems in their lives quickly. It can also improve employee performance and productivity while protecting mental health (Chen & Bonanno, 2020; Hu et al., 2015; Lowe et al., 2015). Studies conducted on hotel employees have found that psychological resilience increases work engagement (Anasori et al., 2021) and creativity (Batool et al., 2021). Moreover, psychological resilience reduces hotel employees' psychological distress (Anasori et al., 2021). Drawing on Broaden-and-Build Theory and relevant research, we propose the following hypothesis:

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H$_1$: *Psychological resilience has a significant positive influence on hotel employees' mental health perceptions.*

Employee resilience is an employee's capacity to use resources to improve and adapt at work in the face of difficulties. Employee resilience, which is one of the most important factors for businesses, is vital for smoothly conducting business activities. Employee resilience also improves their mental health perceptions, thereby benefiting their mental health (Bishop, 2020; Prayag et al., 2020a; Tonkin et al., 2018). When evaluated in terms of hotel employees, employee resilience reduces anxiety, depression (Aguiar-Quintana et al., 2021), and emotional exhaustion (Anasori et al., 2020). Moreover, hotel employees' resilience has a significant positive influence on optimism (Jung & Yoon, 2015) and well-being (Shi et al., 2021). Drawing on Broaden-and-Build Theory, we, therefore, propose the following hypothesis:

H$_2$: *Employee resilience has a significant positive influence on hotel employees' mental health perceptions.*

Perceived vulnerability is the extent to which individuals face a disaster and their ability to defend themselves against disasters. Individuals with higher exposure perceptions and sensitivity levels experience greater perceived vulnerability (Tsao & Ni, 2016). Thus, perceived vulnerability to COVID-19 can weaken individuals' sense of security and control, which will increase anxiety about getting COVID-19. Issues such as the lack of an approved vaccine for COVID-19, constant exposure to COVID-19, and awareness of negative developments through media channels increase perceived vulnerability to COVID-19 (Boyraz et al., 2020). While resilience protects mental health and well-being, as discussed earlier, these may still be impacted if individuals perceive that they are vulnerable to COVID-19. That is, perceived vulnerability may mediate the effect of resilience on mental health perceptions (Haddadi & Besharat, 2010; Karatsoreos & McEwen, 2011; Paton et al., 2000; Preis et al., 2020). The more anxious hotel employees are about the COVID-19 pandemic, the more they perceive work-related risks and the more stressed and emotionally exhausted they become (Vo-Thanh et al., 2022). Thus, we propose the following hypothesis:

H$_3$: *Perceived vulnerability mediates the effect of individual-level resilience on hotel employees' mental health perceptions.*

4. Research method

4.1. Sample and data collection

The target population of this study was employees who have continued working since COVID-19 first appeared in Turkey. Research data was collected from five-star hotels in the Mediterranean and Aegean regions of Turkey by questionnaire between 15 December 2020 and 15 February 2021. Since more than half of the five-star hotels in Turkey are located in these two regions (a total of 465 five-star hotels, the ratio of which is 66% in Turkey) (Republic of Turkey Ministry of Culture and Tourism [KTB], 2020). A total of 600 questionnaires were randomly distributed to full-time employees in all departments in 16 hotels. Half of the 16 hotels mentioned are located in the Mediterranean and half are in the Aegean region. In addition, it can be stated that these 16 hotels are among the largest hotels in the region in terms of the number of rooms and employees. A total of 438 surveys were returned, representing a response rate of 73%. After filtering invalid responses (e.g. incomplete responses or all responses in the same column, problems of normal distribution and deviation analysis) a total of 391 valid responses were obtained from the 16 hotels. The data of the research were collected via online platforms (e.g. e-mail, Google forms). This met the sample size requirements for data analysis (Hair et al., 2010; Sekaran & Bougie, 2016). On the other hand, for linearity, the linear-by-linear association value was checked and it was seen that the value was significant ($p<0.05$). Furthermore, a normal Q-Q plot and observed value control were performed. Moreover, it can be stated that KMO and Bartlett's

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Test of Sphericity values were considered for factorability (See "Result" title for values). As seen in Table 1, the majority of the 263 respondents were male (67.3%) while employees aged 26-35 years (69.1%) dominated the sample. Approximately 44% of the respondents had a college degree, 42.4% were working in the food and beverage department, and 44% had less than 3 years of experience with the same hotel.

Table 1
Respondents' profile

Gender (n=391)	n	%	Period working in the same hotel (n= 391)	n	%
Female	128	32.7	3 years and below	240	61.4
Male	263	67.3	More than 3 years	151	38.6
Education (n=391)			**Total work life (n=391)**		
High school	64	16.4	6 years and below	255	65.2
College	172	44.0	More than 6 years	136	34.8
University	131	33.5	**Department (n=391)**		
Postgraduate	24	6.1	Food and beverage	166	42.4
Age (n=391)			Front office	109	27.9
25 and below	51	13.0	Housekeeping	46	11.8
26-35	270	69.1	Human resources	30	7.7
36-45	35	9.0	Accounting	15	3.8
46 and above	35	9.0	Others	25	6.4

4.2. The instrument

The survey form consisted of two parts. The first part included questions about the participants' demographic characteristics. The second part used scales to assess psychological resilience, employee resilience, perceived vulnerability, and mental health perceptions. The Psychological Resilience Scale (Prayag et al., 2020a) had 4 items (α = 0.813; CR = 0.875, AVE = 0.638). The Employee Resilience Scale (Prayag et al., 2020a) had 7 items (α = 0.859, CR = 0.893, AVE = 0.546). The Perceived Vulnerability Scale (Prasetyo et al., 2020) had 5 items. Finally, the Mental Health Perception Scale (Han & Hyun, 2019) had 4 items (CR = 0.902, AVE = 0.698). Table 2 presents items of all scales respectively. The scales were translated from English to Turkish and checked by field experts before back-translation into English to ensure their linguistic quality (Brislin, 1970). After confirming that the two forms corresponded, the Turkish versions were used to collect data. Participants responded to all items using a 5-point Likert scale (1-Strongly Disagree; 5-Strongly Agree).

4.3. Data analysis

SPSS 25.0 was used for the explanatory factor analysis (EFA) and LISREL 8.80 for the confirmatory factor analysis (CFA) to determine the relationships among the factor groups and the effects of the independent variables on the dependent variables. First, frequency analysis was used to analyze the participants' demographic characteristics. The explanatory factor analysis and correlation analysis were used to reveal the relationships between the variables. Second, LISREL 8.80 was used for CFA, discriminant validity, and hypothesis testing (Anderson & Gerbing, 1988; Jöreskog et al., 2000).

5. Results

Some assumptions were made before conducting EFA. Specifically, each factor should have at least three items, the factor loading should be at least 0.500, and the difference between two items loading on different dimensions should be at least 0.100. The Varimax rotation method was used. Before the EFA for the Psychological Resilience Scale, the KMO value was calculated (KMO value = 0.786) and Bartlett's Test of Sphericity was significant (444.796; p<0.001). The EFA showed that four items were loaded on one subscale

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(factor loadings = 0.796, 0.771, 0.790, and 0.789; total variance = 61.830; eigenvalue = 2.473; mean = 3.952; α = 0.794). The EFA for the Employee Resilience Scale (KMO value = 0.825; Bartlett's Test of Sphericity = 648.457; p<0.001) indicated that the two items should be excluded from the analysis because their factor loadings were less than 0.500 (Items of "I successfully manage a high workload for long periods" and "I seek assistance to work when I need specific resources" excluded from the analysis). The remaining five items loaded onto one subscale (factor loadings = 0.741, 0.795, 0.801, 0.753, and 0.740; total variance = 58.756; eigenvalue = 2.938; mean = 4.202; α = 0.820). The EFA for the Perceived Vulnerability Scale (KMO value = 0.740; Bartlett's Test of Sphericity = 355.156; p<0.001) indicated that one item should be excluded from the analysis because its loading was less than 0.500 (Item of "My past experiences make me believe that I am likely to get sick when my friends are sick" excluded from the analysis). The remaining four items loaded onto one subscale (factor loadings = 0.813, 0.815, 0.661, and 0.713; total variance = 66.752; eigenvalue = 2.270; mean = 3.443; α = 0.810). The EFA for the Mental Health Perception Scale (KMO value = 0.682; Bartlett's Test of Sphericity = 305.532; p<0.001) indicated that one item should be excluded for low loading (Item of "Staying (working) at this hotel is worthy as it helps boost my confidence in everyday life" excluded from the analysis). The remaining three items loaded onto one subscale (factor loadings = 0.781, 0.838, and 0.855; total variance = 68.071; eigenvalue = 2.042; mean = 4.242; α = 0.760).

5.1. Confirmatory factor analysis

CFA was carried out after confirming the EFA results. First, reliability and validity analyses were conducted. Cronbach's Alpha was used to determine reliability, and convergent and discriminated validities were used to ensure data validity. Reliability values ranged from 0.760 to 0.820, and CRs ranged from 0.77 to 0.83, beyond the recommended threshold of 0.70 (Hair et al., 1998; Mackenzie & Podsakoff, 2012). AVEs ranged from 0.50 to 0.53 while standardized factor loadings ranged from 0.61 to 0.79, beyond the recommended threshold of 0.50 (Schumacker & Lomax, 2004; Hair, et al., 2006). Convergent validity should be greater than 0.50 while composite reliability should be above 0.70 and AVEs above 0.50 (Fornell & Larcker, 1981; Hair et al., 2010). The goodness of fit indices also indicated good fit (Chi-Square = 173.74; df = 98; p <0.001; x2/df = 1.77; NFI = 0.96; CFI = 0.98; GFI = 0.95; AGFI = 0.93; RMSEA = 0.045). Because the goodness of fit values met the recommended values (see Table 2), the measurement model was compatible with the theory. Table 2 presents the standardized item values, a margin of error values, t-values, AVE, and CR values of the scales.

Table 2
Confirmatory factor analysis

Scale Items	Loadings	Error margins	T-values	Mean	Std. dev.	AVE	CR
Psychological resilience				3.952	0.550	0.50	0.80
"I tend to bounce back quickly after hard times"	0.73	0.47	15.44				
"I have a hard time making it through stressful events"	0.69	0.53	14.31				
"It is hard for me to snap back when something bad happens"	0.69	0.52	14.33				
"I tend to take a long time to get over set-backs in my life"	0.72	0.50	14.59				
Employee resilience				4.202	0.564	0.50	0.83
"I successfully manage a high workload for long periods"	-	-	-				
"I resolve crises competently at work"	0.68	0.52	14.14				
"I learn from mistakes at work and improve the way I do my job"	0.72	0.48	15.42				
"I re-evaluate my performance and continually improve the way I do my work"	0.75	0.44	16.17				
"I effectively respond to feedback at work, even criticism"	0.69	0.51	14.20				
"I seek assistance to work when I need specific resources"	-	-	-				
"I use change at work as an opportunity for growth"	0.68	0.53	14.07				

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Table 2 *(continued)*

Perceived vulnerability				3.443	0.631	0.53	0.81
"I think I am very vulnerable to COVID -19"	0.78	0.41	15.42				
"I think my neighborhood is very vulnerable to COVID -19"	0.78	0.41	15.45				
"My past experiences make me believe that I am likely to get sick when my friends are sick"	-	-	-				
"I have a history of susceptibility to infectious diseases"	0.66	0.57	14.21				
"I think there is a chance that my family will be infected by COVID -19"	0.68	0.54	14.27				
Mental health perception				4.242	0.678	0.52	0.77
"Staying (working) at this hotel is valuable as it plays an important role in relieving my mental anxiety/stress"	0.61	0.63	11.91				
"Staying (working) at this hotel is worth, as it helps boost my confidence in everyday life"	-	-	-				
"Staying (working) at this hotel makes me feel that I am a valuable and important person"	0.76	0.42	15.21				
"Staying (working) at this hotel helps me turn any worry/ anxiety into confidence"	0.79	0.37	15.86				

Model	Chi-Square /df	RMSEA	CFI	GFI	NFI	AGFI
Measurement model	1.77	0.045	0.98	0.95	0.96	0.93
Recommended value	<5	<0.08	≥0.95	≥0.90	≥0.90	≥0.80
Source	Wheaton (1987)	Hair et al., (2010)	Hair et al., (2010)	Kline (1998)	Hair et al., (2010)	Zikmund (2003)

Correlation analysis was conducted to reveal the relationships between the variables. Psychological resilience had significant positive relationships with employee resilience (r = .559; p<0.01), perceived vulnerability (r = .258; p<0.01), and mental health perception (r = .283; p<0.01). Employee resilience also had a significant positive relationship with perceived vulnerability (r = .283; p<0.01) and mental health perception (r = .313; p<0.01). Finally, the perceived vulnerability variable had a significant positive relationship with mental health perception (r = .328; p<0.01). Table 3 presents the correlations, means, and standard deviations of the variables.

Table 3
Descriptive analyses

Variables	Psychological resilience	Employee resilience	Perceived vulnerability	Mental health perception
Psychological resilience	1			
Employee resilience	.559**	1		
Perceived vulnerability	.258**	.283**	1	
Mental health perception	.283**	.313**	.328**	1
Mean	3.952	4.202	3.443	4.242
Std. dev.	0.550	0.564	0.631	0.678

Note: Skewness and kurtosis values are between +3 and -3 values. Shapiro-Wilk and Kolmogorov-Smirnov normality tests were performed for the normal distribution. It can be stated that the data are in accordance with the normal distribution (p>0.05).
**Correlation is significant at the 0.01 level (2-tailed).

Discriminant validity tests the independence of the variables. If AVE values in parentheses are greater than the square of the correlation values between variables, then variables are considered separate (Sekeran & Bougie, 2013). Table 4 shows the results for discriminant validity.
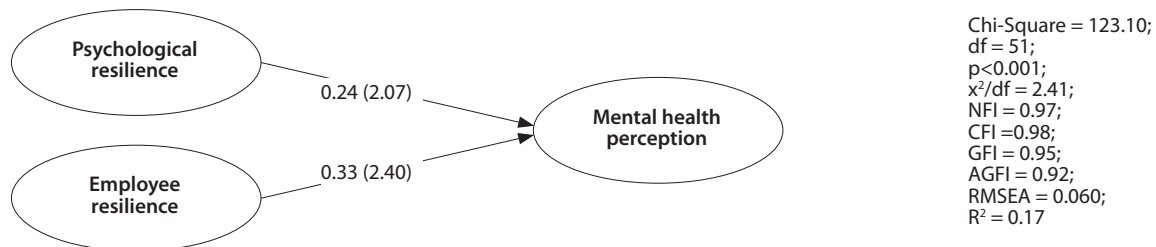
Table 4
Discriminant validity

Variables	Psychological resilience	Employee resilience	Perceived vulnerability	Mental health perception
Psychological resilience	(0.50)			
Employee resilience	0.37**	(0.50)		
Perceived vulnerability	0.06**	0.10**	(0.53)	
Mental health perception	0.13**	0.17**	0.18**	(0.52)

** Correlation is significant at the 0.01 level (2-tailed).

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5.2. Direct effect model

Path analysis was conducted to determine the relationships between variables in the direct impact model. Both psychological and employee resilience had significant positive effects on mental health perception (β = 0.24; p<0.05 and β = 0.33; p<0.05, respectively). Figure 1 symbolically represents the path analysis results of the direct impact model.
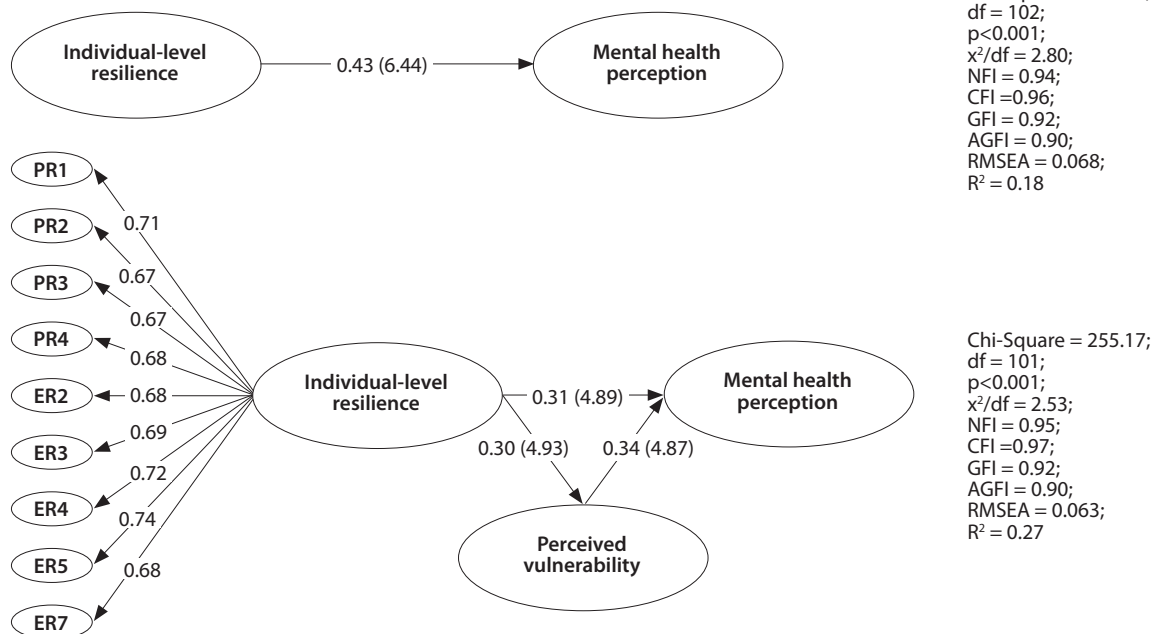
Figure 1
Path results of direct effect model

Psychological resilience → 0.24 (2.07) → Mental health perception
Employee resilience → 0.33 (2.40) → Mental health perception

Chi-Square = 123.10;
df = 51;
p<0.001;
x^2/df = 2.41;
NFI = 0.97;
CFI =0.98;
GFI = 0.95;
AGFI = 0.92;
RMSEA = 0.060;
R^2 = 0.17

5.3. Mediation model

Figure 2 symbolically represents the mediation model. According to Baron and Kenny (1986), the mediation effect test should show three significant relationships: a) between the independent variable (Individual-level resilience) and the dependent variable (Mental health perception); b) between the independent variable (Individual-level resilience) and the mediator variable (Perceived vulnerability); c) between the mediation variable (Perceived vulnerability) and the dependent variable (Mental health perception). Regarding the mediating effect of perceived vulnerability, the effect value (β = 0.31; p<0.001) between individual-level resilience and mental health perception was greater than the indirect effect value (0.30 * 0.34 = 0.10).

Figure 2
Mediation model

Individual-level resilience → 0.43 (6.44) → Mental health perception

Chi-Square = 286.08;
df = 102;
p<0.001;
x^2/df = 2.80;
NFI = 0.94;
CFI =0.96;
GFI = 0.92;
AGFI = 0.90;
RMSEA = 0.068;
R^2 = 0.18

PR1
PR2 — 0.71
PR3 — 0.67
PR4 — 0.67
ER2 — 0.68
ER3 — 0.68
ER4 — 0.69
ER5 — 0.72
ER7 — 0.74
— 0.68

Individual-level resilience → 0.31 (4.89) → Mental health perception
Individual-level resilience → 0.30 (4.93) → Perceived vulnerability
Perceived vulnerability → 0.34 (4.87) → Mental health perception

Chi-Square = 255.17;
df = 101;
p<0.001;
x^2/df = 2.53;
NFI = 0.95;
CFI =0.97;
GFI = 0.92;
AGFI = 0.90;
RMSEA = 0.063;
R^2 = 0.27

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This analysis supported the first two hypotheses (Psychological resilience has a significant positive influence on mental health perception and Employee resilience has a significant positive influence on mental health perception (see Figure 1). However, it only partially supported the third hypothesis (Perceived vulnerability mediates the effect of individual-level resilience on mental health perception (see Figure 2).

Table 5
Results of hypotheses

Hypotheses	Relationship	β	T-values	Results
H₁	PR ⟶ MHP	0.24	2.07	Supported
H₂	ER ⟶ MHP	0.33	2.40	Supported
H₃	ILR ⟶ PV ⟶ MHP	0.30*0.34 < 0.31	4.89	Partially supported

Note: Direct effect: PR: Psychological resilience. ER: Employee resilience. MHP: Mental health perception. Mediation effect: ILR: Individual-level resilience. PV: Perceived vulnerability. MHP: Mental health perception.

6. Discussion and conclusions

Psychological resilience, which is an important factor for overcoming or adapting to difficulties (Hall et al., 2017), varies according to individual differences in people's responses to stress and adversity (Han et al., 2020; Yorulmaz & Sevinc, 2021). Individuals with high levels of psychological resilience can continue their daily lives. Research has also shown that employees' psychological resilience improves mental health perceptions (Kim et al., 2016; Yu, 2020). Resilience increases employees' ability to cope effectively with challenges, such as mental health disorders, traumatic job experiences, or adverse workplace conditions. The results of the present exploratory study support Tuan (2021), who argues that employees' positive emotions and experiences can promote the psychological capabilities required for resilience while their beliefs may enable employees to make more positive meanings out of their experiences.

Hotel employees have maintained their mental health by believing that the COVID-19 pandemic is a temporary issue (Demir et al., 2021; Le & Phi, 2021). This reduces their stress in the workplace and social life (Ong et al., 2006), and overcomes the problem before the trauma (Thompson et al., 2011). The positive effect of hotel employees' psychological resilience on their mental health perceptions confirms previous research findings (Chen & Bonanno, 2020; Hall et al., 2017; Tuan, 2021; Yu, 2020). In addition, in terms of the Broaden-and-Build Theory, hotel employees with greater psychological resilience can expand their thought-action repertoire based on previous difficulties and experiences. Thus, improving the resilience of the hotel employees will strongly improve their ability to cope with unexpected challenges. The positive perceptions of highly resilient hotel employees will strengthen their mental health (Fredrickson, 2001; Fredrickson, 2004; Reschly et al., 2008; Tugade & Fredrickson, 2004).

The present study indicated that hotel employees' resilience positive effect on their mental health perceptions. This confirms previous research findings (Bishop, 2020; Djourova et al., 2020; Kelly et al., 2021; Paul et al., 2019; Prayag et al., 2020a; Tonkin et al., 2018). During the pandemic, hotel employees can easily cope with stress and pressure, and improve their mental health (Tonkin et al., 2018) if they are willing to adapt to the crisis, are proactive in such situations, and actively improve their work processes (Kuntz et al., 2016). Hotel employees who protect their mental health may be open to supporting, collaborating with, learning from, and teaching their colleagues (Naswall et al., 2013). Since employee resilience is a rare characteristic, strongly resilient individuals can be role models for other employees and improve others' mental health. Drawing on the Broaden-and-Build Theory, we argue that difficulties and experiences affect emotionally positive thinking over time while hotel employees' mental health will also have a positive effect (Fredrickson, 2001; Fredrickson, 2004). Hotel employees with positive mental health perceptions exhibit greater life satisfaction (Headey et al., 1993), work performance (Van Gordon et al., 2014), job satisfaction (Nadinloyi et al., 2013), efficiency (Bubonya et al., 2017), and organizational commitment (Heidarie et al., 2012).

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Our findings show that psychological and employee resilience can evaluate within the scope of individual resilience while resilience improves hotel employees' mental health. This is similar to previous research findings (Haddadi & Besharat, 2010; Okumus et al., 2016). During the COVID-19 pandemic, hotel employees' perceived vulnerability was high because they had to constantly interact with customers, pay attention to pandemic-related news (Boyraz et al., 2020), and risk catching a chronic disease (Coninck et al., 2020). Their heightened perceived vulnerability of hotel employees reduced their mental health perceptions. In other words, although high resilience can improve mental health perceptions, the latter can be reduced by the high perceived vulnerability. This situation confirms previous research by Haddadi and Besharat (2010), Karatsoreos and McEwen (2011), and Preis et al. (2020). The present study also showed that perceived vulnerability partially mediated the effects of individual-level resilience on mental health perceptions. Many factors other than perceived vulnerability can impact mental health perceptions. These negative factors can reduce social life quality (Brooks et al., 2020; Killgore et al., 2020; Xiang et al., 2020), and cause job insecurity, and financial losses (Brooks et al., 2020).

6.1. Theoretical implications

This exploratory study investigated the impacts of psychological resilience and employee resilience on the mental health perceptions of hotel employees in Turkey, and also the mediating role of perceived vulnerability during COVID-19. The findings support both theories and scales regarding the impacts of resilience on the mental health perceptions of hotel employees. As Demir et al. (2020), Mao et al. (2020), Prayag et al. (2020a), and Tuan (2021) have noted, little research has been done on resilience issues related to hotel employees during COVID-19 although it has created a global crisis in the tourism industry.

First, regarding the influence of psychological resilience on mental health perception from a multi-scale hotel employee perspective, the present study deepens our understanding of the relationship among these factors during the COVID-19 pandemic. Since COVID-19 first appeared, tourism researchers have mostly ignored the relationship between psychological resilience and employees' mental health perceptions. Apart from a few studies on the psychological resilience of tourism industry employees during the pandemic (e.g. Aguiar-Quintana et al., 2021; Teng et al., 2020a; 2020b), most have focused on work output, employee performance, productivity, turnover intention, etc. (Bufquin et al., 2021; Chaichi et al., 2020; Pathak & Joshi, 2020; Su et al., 2021; Yu, 2020). There is also a lack of comparative studies on the effect of psychological resilience on employees' mental health. Hence, the present study contributes to tourism studies by filling in a gap in the literature regarding the relationship between psychological resilience and mental health.

Second, the present study revealed the effects of hotel employee resilience on mental health perceptions. Following the spread of the COVID-19 pandemic, both psychological resilience and employee resilience have become important factors in mental health perceptions. Unfortunately, research is limited to the relationships between these three factors (e.g., Khaksar et al., 2019; Prayag et al., 2020a; Prayag et al., 2020b). The present study clearly showed that employee resilience and psychological resilience have the same effects on employee mental health perceptions. Based on the psychological challenges during the COVID-19 pandemic, this study comprehensively demonstrated the positive effect of employee resilience on mental health during the current global crisis. The study provides new theoretical contributions regarding methods, findings, and implications for future research into the relationship between employee resilience and mental health.

Third, by identifying the variables involved in the impacts of individual-level resilience on mental health, this study provides a theoretical reference for the mediating effect of perceived vulnerability on mental health. The results confirm that hotel employees' individual-level resilience during the COVID-19 pandemic directly affected their mental health. Moreover, the study reveals the results of employee resilience through global crises by testing to individual-level resilience as a mediation mechanism underlying hotel employees' mental

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health through COVID-19. This study extends previous research on the impacts of employee resilience on mental health and has novel theoretical implications for understanding how global crises like COVID-19 affect the tourism industry.

6.2. Practical implications

There have been many crises in the past when the tourism industry suffered from an unexpected and sudden downturn in international tourism demand. These crises include natural disasters, social or political instability, wars, economic crises, terrorism, and epidemics of infectious diseases such as SARS, bird flu, or foot and mouth (Kim et al., 2005). This implies that, unlike 10 years ago, hotel managers and human resources have gained knowledge from previous crises and selected proactive crisis management practices (Lai & Wong, 2020). Therefore, hotel businesses have been less affected by the epidemic than other tourism businesses in terms of demand with the measures they have taken (eg., tour operators, travel agencies, and airlines). Although other tourism businesses temporarily suspended their activities, hotel businesses could still provide services under COVID-19 measures and rules (Chan et al., 2021; Le & Phi, 2021; Pavlatos et al., 2021). Nevertheless, many hotel employees faced losing their jobs during this period, and some started looking for jobs in different sectors. Hotel employees who have encountered similar difficulties previously may have stronger psychologically resilient. The experience of COVID-19 may have increased their psychological resilience and protected their mental health. Thus, employees and human resources managers have important duties. Employee resilience can be increased by improving social support in the workplace, improving work-life balance, spreading employee assistance programs, increasing personal development training, and introducing flexible working arrangements and reward systems (Bardoel et al., 2014). Other factors to enhance employee resilience include "health and safety", "economic-capital enhancing", "diffused power and accountability enhancing", "talent management", "job redeployment" and "performance management" (Ngoc Su et al., 2021).

This study has several practical implications. Psychological resilience is a crucial factor in protecting the mental health of hotel employees (Anasori et al., 2021). First, during the COVID-19 pandemic, hotel managers should take precautions to establish a sustainable work environment that avoids the fear of being fired, anxiety, depression, etc. (Martinelli et al., 2021). This would help employees improve their psychological resilience. Moreover, the relationship between employee resilience and mental health can significantly affect the resilience of the hospitality industry during crises (Aguiar-Quintana et al., 2021; Shi et al., 2021). The challenges arising from being resilient create job anxiety and impairs the performance of hotel employees (Britt et al., 2016). To minimize negative consequences and improve performance, hotels can constantly train employees in necessary resilience skills as a component of their mental health (Ngoc Su et al., 2021). Moreover, developing manager behaviors that enhance employee resilience can augment their mental health perceptions and help build a more resilient hotel organization (Alves et al., 2020).

Second, managers, especially those directly affected by crises like the COVID-19 pandemic, may use the results of this study to provide working conditions that can help increase employee resilience in their hotels (Ngoc Su et al., 2021). Moreover, the study may help hotel management in charge of pandemic risk reduction to take precautions and increase both employee and organizational resilience because employee resilience is not only related to improving their psychological well-being but also to developing organizational resilience (Aguiar-Quintana et al., 2021; Shi et al., 2021). Employee resilience can be strengthened in various ways: by finding the necessary resources to carry out the work, providing employees with opportunities to improve their business during crises, supporting employees by managers and colleagues, and creating a cooperative environment (Ngoc Su et al., 2021). Hotel employees, managers, and human resources managers have various responsibilities to increase employee resilience, such as increasing social support in the workplace, increasing work-life balance practices, spreading employee assistance programs, increasing personal development training,

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implementing flexible working arrangements and reward systems, prioritizing occupational health and safety, providing information on risk and crisis management (De Cieri & McMillan, 2014). Hotel employees with higher employee resilience are more successful in their workplace relationships and their job performance is higher (Britt et al., 2016), they more easily adapt to organizational changes and are open to innovations (Senbeto & Hon, 2020), and exhibit more organizational citizenship behaviors (Paul et al., 2016). In short, hotel businesses need individuals with a high level of employee resilience.

Finally, although resilient individuals are mentally healthier employees, managers should be aware that perceived vulnerability may decrease mental health. Perceived vulnerability is higher in individuals who interact with customers and constantly follow negative news (Boyraz et al., 2020), or already have chronic diseases (Coninck et al., 2020). To reduce perceived vulnerability, hotel managers should take the necessary precautions in every unit of the hotel, constantly supply necessary elements, and ensure there is a doctor in the workplace. Human resources departments can provide informative training about the pandemic and issue warnings about customer relations and contact. Such practices could reduce employees' perceived vulnerability levels.

6.3. Limitations and future research

The COVID-19 pandemic prevented face-to-face data collection. Instead, data was collected by contacting the hotel managers and asking them to share the questionnaire with the employees. While this may be a limitation, we did not face any issues in collecting enough data. Similarly, we had to use convenience sampling during the pandemic to reach participants. The findings can be generalized for 5-star hotels in the coastal regions of Turkey. Further research can explore the factors affecting individual-level resilience as our study showed that high individual resilience may not always protect mental well-being. More research can explore which factors reduce the mental health perceptions of individuals.

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