Challenging or hindering? Understanding the daily effects of work stressors on hotel employees' work engagement and job satisfaction

Abstract:

In this daily diary study, the effects of hindrance and challenge stressors on the daily job satisfaction and work engagement of frontline hotel employees were examined. Daily coworker support was also investigated as a moderator of these relationships. The study was conducted using a within-person approach. The hypotheses were tested in a sample of 65 full-time frontline hotel employees in the United States. Each participant completed a one-time initial assessment and a minimum of five daily diary surveys on their workdays. Hindrance stressors, challenge stressors, coworker support, job satisfaction, and work engagement all fluctuated daily. Daily challenge stressors could boost employees' levels of engagement in daily work, but these stressors could also decrease employees' daily job satisfaction. The findings revealed the necessity to manage frontline employees' work stressors on a day-to-day basis and offered suggestions for hotel practitioners.

Keywords: daily diary study, hindrance stressors, challenge stressors, job satisfaction, work engagement

1. Introduction

Hotel work environments, especially those related to frontline positions, are characterized by constantly high levels of work stressors, such as long working hours and frequent interactions with demanding customers (Khliefat et al., 2021; Wang et al., 2020). Because the hospitality industry is by definition a guest-focused industry, hospitality workers experience more stress than most employees in other industries (Zohar, 1994). Work stressors are important workplace phenomena because they are related to employees' health issues (Beehr & Newman, 1978). According to Cavanaugh et al. (2000), common work stressors can be categorized into two basic types: challenge stressors and hindrance stressors. Challenge stressors are viewed as "good" stressors because they are motivating and inspiring (Cavanaugh et al., 2000). Examples of challenge stressors include time pressure, job complexity, temporarily increased workloads, expanded job responsibilities, and expanded scope of work objectives (Rodell & Judge, 2009). In contrast, hindrance stressors are viewed as "bad" stressors because they are demotivating and seen as obstacles to personal achievement (Cavanaugh et al., 2000). Examples of hindrance stressors are job insecurity, role ambiguity, and role conflict (Rodell & Judge, 2009). The work stressors faced by employees have received increasing attention from researchers and hospitality managers, because challenge and hindrance stressors are associated with important organizational outcomes, such as turnover intention, job performance, organizational commitment, and interpersonal citizenship behavior (Kang & Jang, 2019; Khliefat et al., 2021; Olugbade & Karatepe, 2019).

Although most studies have confirmed the findings of Cavanaugh et al. (2000) regarding the types and effects of work stressors, some researchers have argued that challenge stressors can produce mixed results. Specifically, challenge stressors can promote personal growth and development, but they can also have negative effects, such as anxiety and

depression (Crawford et al., 2010; Podsakoff et al., 2007). Bakker and Sanz-Vergel (2013) suggested that the traditional way of defining challenge and hindrance stressors may not be appropriate for all employees, as the effects of these stressors may depend on the work environment.

In hospitality research, a number of recent studies have called for a new approach that goes beyond the common assumptions that challenge stressors have positive effects and hindrance stressors have negative effects on organizational outcomes (e.g., Kang & Jang, 2019; Khliefat et al., 2021; Lin & Ling, 2018; Wang et al., 2020). Kang and Jang (2019) found that hotel employee workload (a type of challenge stressor) is positively related to turnover intention. Khliefat et al. (2021) showed that the challenge stressors faced by hotel frontline employees are negatively associated with their levels of interpersonal citizenship behavior. Furthermore, Lin and Ling (2018) found that hospitality employees' role overload (i.e., another type challenge stressor) negatively affects service quality.

According to the job demands–resources (JD-R) model, all types of job demands, including stressors, workload, and role-related problems, require physical and psychological (e.g., emotional, affective) effort from employees. Employees may need to find ways to recover from the negative effects of constant effort (Bakker et al., 2003). Hence, it is possible that on an emotional or affective level, work stressors of any type can cause employees to feel burnt out. Many studies have shown that both challenge and hindrance stressors lead to strain (e.g., fatigue, exhaustion; Lepine et al., 2004, 2005). For instance, Grobelna (2020) found hospitality employee workload to be positively associated with emotional exhaustion.

Unlike the effects of hindrance stressors, the effects of challenge stressors can be complicated and contradictory. Webster et al. (2011) and Searle and Auton (2015) have shown that challenge stressors can be both stressful (like hindrance stressors) and motivating (unlike hindrance stressors). According to the transactional theory of stress and coping

(Folkman & Lazarus, 1984), individuals tend to appraise stress either as a threat or as an opportunity for future growth. Challenge stressors tend to be appraised as potential opportunities, which motivate employees for future gains and development (Cavanaugh et al., 2000). Applying expectancy theory, Vroom (1964) and LePine et al. (2005) have argued that challenge stressors are strongly associated with high motivation, as individuals are likely to believe in a positive relationship between their level of effort and their degree of success in coping with job demands. Hence, challenge stressors are likely to have a positive relationship with work engagement, as engagement is a motivational construct (Schaufeli et al., 2002; Yalabik et al., 2016).

Another issue with extant research on work stressors is that most studies have applied a between-person design, and this is especially true of studies in the field of hospitality management. The findings derived from such a design offer limited insights, as this design only captures employee responses to work stressors at the between-person level while ignoring potential daily fluctuations in work-related stress (Yu et al., 2020). Furthermore, relying on cross-sectional surveys may fail to capture changes in employees' emotions and attitudes over time. This consideration is particularly relevant for studies of hospitality workers, because the work environment in the hospitality industry is quite dynamic (Yu et al., 2020). Thus, we used the experience sampling method (ESM) with a repeated measures design to explore the daily effects of hindrance and challenge stressors on frontline employees. Specifically, we investigated whether and how challenge and hindrance stressors influence frontline employees' daily job satisfaction and work engagement. Similarly, some studies have considered the daily moderating effect of coworker support, as frontline employees may work with different colleagues each day depending on their work schedules. For example, Chen and Fellenz (2020) found that service employees' perceived coworker support is a personal resource that fluctuates daily.

In this study, we had three key research objectives: (1) to investigate the effects of hindrance and challenge stressors on frontline employees' daily work engagement; (2) to examine the effects of hindrance and challenge stressors on frontline employees' daily job satisfaction; and (3) to explore the effects of daily coworker support on employees' immediate reactions to hindrance and challenge stressors.

Our study makes three main contributions to the literature on employees' hindrance and challenge stressors in the hotel work environment. First, pairing affective events theory (AET; Weiss & Cropanzano, 1996) with the challenge–hindrance stress framework (Cavanaugh et al., 2000) allowed us to consider how the challenge and hindrance stressors faced by frontline employees can vary on a daily basis. Work-related stress in the hospitality work environment and its effects on employees should not be treated as stable phenomena. Second, we responded to calls from Kang and Jang (2019) and Yu et al. (2020) to investigate the relationships between work stressors and job satisfaction and between work stressors and work engagement using a within-person approach. In conducting such an investigation, we captured the dynamic work environment of the hotel industry. Third, we went beyond assuming that different types of stressors have consistent effects. Although we considered these effects in relation to the JD-R model, we investigated how challenge and hindrance stressors can place increased job demands on hotel employees and how these demands may lead to strain and difficulties. Our findings suggest that although both types of stressors may cause hotel employees to become dissatisfied at work because they have to constantly cope with stress, which increases their level of strain, this does not mean that these employees will cease to be engaged or motivated when these stressors are appraised as beneficial to their future development. Therefore, both employees and employers need to think about how to manage the level of strain that hospitality work creates on a daily basis.

2. Literature review

2.1. Daily challenges and hindrance stressors

As mentioned, the challenge–hindrance stress framework conceptualizes two main types of work stressors, challenge stressors and hindrance stressors (Cavanaugh et al., 2000). Challenge stressors in the workplace are believed to be motivating, inspiring, and challenging (Crawford et al., 2010). As such, individuals tend to appraise challenge stressors as beneficial to their career development and personal achievement (Crawford et al., 2010). Individuals often respond positively to these stressors by investing more time and energy in their work, as challenge stressors tend to increase their confidence and motivate them to meet personal goals (Kahn, 1990). Hence, challenge stressors are often associated with positive organizational outcomes, such as increased enthusiasm, engagement, motivation, and performance and reduced turnover intention (Karatepe et al., 2014; LePine et al., 2005; Podsakoff et al., 2007; Tadić et al., 2015). In contrast, hindrance stressors are considered demotivating. These stressors may hinder employees' ability to achieve personal goals and have negative effects on organizational outcomes (Cavanaugh et al., 2000; Podsakoff et al., 2007).

Due to the demanding nature of emotional labor in the hospitality industry, employees are likely to experience stress when faking emotions in front of customers (Lee et al., 2019). In a review paper on hospitality employees' emotional labor, Lee et al. (2019) summarized that emotional labor often causes high levels of work-related stress and job burnout among hospitality employees. Choi et al. (2019) and Geng et al. (2014) have found that faking emotions in front of customers can cause work-related stress in employees. With stress having attracted attention in the hospitality context, hindrance and challenge stressors have been studied as stable phenomena. Specifically, researchers have generally assumed that stressors tend to remain unchanged over time (e.g., Khliefat et al., 2021; Min et al., 2015;

Wang et al., 2020). According to AET, the nature of a work environment may create various events that trigger affective reactions and behavioral intentions in employees (Weiss & Cropanzano, 1996). Individuals' attitudes and reactions to work events are determined by their primary and secondary appraisals (Weiss & Cropanzano, 1996). In AET, primary appraisals assess the relevance of a specific work event to an individual. During secondary appraisals, the individual will evaluate whether the work event brings them positive or negative emotions and therefore leads to specific emotional reactions. Service employees in guest-facing positions can experience varying levels of customer mistreatment, as their work involves daily and recurring contact with guests (Yang et al., 2020). Because they consistently deal with various customer issues, frontline service employees are highly likely to experience daily fluctuations in emotional dissonance (Shi et al., 2020). Hence, using AET as a theoretical foundation, we argue that work stressors caused by work events in the hospitality context are not static. Using a static perspective to study challenge and hindrance stressors involves assuming that work events (e.g., dealing with customer issues) are always the same, which is certainly not the case in the hotel work environment (Yu et al., 2020). A hotel's daily occupancy rate, frontline employees' daily work schedules, and the nature of customer issues all influence the types of work events that employees experience on a daily basis.

2.2. Daily work stressors and daily job satisfaction

The challenge–hindrance stress framework generally posits that challenge stressors have a positive relationship with job satisfaction, whereas hindrance stressors are negatively related to job satisfaction (Cavanaugh et al., 2000). As explained by Podsakoff et al. (2007), employees may experience positive work outcomes, such as high levels of job satisfaction, when faced with challenge stressors due to the motivating and inspiring nature of these stressors. Employees express job satisfaction when faced with challenge stressors because

they see these stressors as valuable opportunities for their personal growth and development. However, in our study, we argue that the positive influence of challenge stressors may not be the same for employees in different industries and suggest considering an industry's contextual factors when examining the effects of such stressors on employees.

Due to the physical and emotional nature of the hotel work environment, service work in the hotel industry is often demanding and associated with work overload, intense time pressure, job insecurity, and safety hazards (Etehadi & Karatepe, 2019; Feaster et al., 2019; Karatepe, 2013; Kensbock et al., 2016; Oxenbridge & Moensted, 2011; Sönmez et al., 2020). For example, front desk employees are required to routinely process check-ins and check-outs and patiently manage numerous customer issues throughout each shift (Faulkner & Patiar, 1997). Hotel housekeeping employees have to push heavy carts, vacuum carpets, and dust rooms every day, while meeting schedule deadlines (Kensbock et al., 2016). As such, these employees often struggle with health and safety issues, such as high systolic blood pressure (Feaster et al., 2019) and bodily injury (Oxenbridge & Moensted, 2011). Among hotel service employees, occupational stress caused by health and safety issues has further increased during the COVID-19 pandemic (He et al., 2021; Sönmez et al., 2020). As they have to deal with guests face to face, service employees may feel heightened fear toward COVID-19 because the disease can be transmitted through physical contact (He et al., 2021). Therefore, hotel employees in service positions may experience a high level of job insecurity due to external threats, such as COVID-19, and by extension work-related stress. As noted above, the daily job demands of hotel employees may be much higher than those of employees performing standard work with fixed working hours.

According to the health impairment process of the JD-R model (Bakker et al., 2003), all types of job demands contribute to feelings of exhaustion and strain, because appraising job demands can activate an employee's energy depletion process. Work stressors, whether

they involve challenges or hindrances, have been found to be related to employees' symptoms of depression, anxiety, frustration, and emotional exhaustion (LePine et al., 2004, 2005). Hence, it can be inferred that when employees constantly face high job demands, both types of stressors can harm them on an affective level. Job satisfaction is defined as a job-related attitude that involves both affective and cognitive components (Dalal, 2013; Judge & Kammeyer-Mueller, 2012); it has also been described as a reflection of the extent to which individuals like their jobs (Spector, 1997). Furthermore, the framework of subjective well-being (SWB; Diener et al., 1999) treats job satisfaction (a type of domain-related satisfaction) as an important component of SWB. Shi et al. (2020) found that because of the affective nature of job satisfaction, hotel employees' levels of job satisfaction tend to fluctuate daily under the influence of emotional dissonance. Thus, it is reasonable to argue that daily job satisfaction involves affective and emotional components, which have effects similar to those of psychological strain. In accordance with the JD-R model, we argue that job demands in the hotel industry (whether they involve challenge or hindrance stressors) tend to be negatively associated with job satisfaction. The increased effort required by the appraisal of job demands causes emotional depletion at the affective level. Thus, we propose the following hypotheses:

Hypothesis 1. Daily challenge stressors are negatively related to frontline hotel employees' daily job satisfaction.

Hypothesis 2. Daily hindrance stressors are negatively related to frontline hotel employees' daily job satisfaction.

2.3. Daily work stressors and work engagement

Although the increased effort required to deal with all types of job-related demands can cause hotel employees to experience dissatisfaction on an affective level, these employees are still generally willing to accept stressful challenges in order to invest in themselves. Hindrance stressors and challenge stressors may have the same effects on

employees' emotional or affective outcomes; however, they can influence their motivations differently. According to Vroom's (1964) expectancy theory, employees tend to be motivated when they believe that there is a positive relationship between effort and performance and that their effort is worthwhile. Folkman and Lazarus (1984) posited that stressful situations are appraised either as a challenge or a threat. This categorization is similar to that proposed by Cavanaugh et al. (2000), with their distinction between challenge and hindrance stressors. Challenge stressors are typically linked to high levels of motivation (LePine et al., 2004) and may trigger problem-focused coping styles (e.g., working harder; Crawford et al., 2010). Individuals facing challenge stressors may feel more active, motivated, and engaged at work, especially when they perceive their job-related demands as meaningful and important to their career (Crawford et al., 2010). For example, Prem et al. (2017) found that challenge stressors, such as increased time pressure and learning demands, generally have a positive influence on employees' learning and vitality because of their energizing effects.

Work engagement has been conceptualized and used as a motivational construct (Karatepe et al., 2018; Schaufeli et al., 2002, 2006; Yalabik et al., 2016). In general, work engagement is defined as a psychological state of motivation, which typically involves vigor, dedication, and absorption in a task (Schaufeli et al., 2002). According to Schaufeli et al. (2002), vigor is characterized by high levels of energy and the willingness to exert effort. Dedication is defined as a sense of inspiration and enthusiasm. Absorption refers to an employee's degree of mental concentration and immersion while working on a task. Yabik et al. (2016) defined an engaged employee as a motivated, energetic, and inspired worker. Maslach et al. (2001) defined engagement using motivation-related terms, such energy, involvement, and efficacy in performing work.

As LePine et al. (2004) argued that challenge stressors are associated with motivation, we expect challenging job demands to be positively related to work engagement. Specifically,

challenge stressors activate problem-solving activities. Employees may display positive responses to challenges, even when they simultaneously realize that coping with these challenges may leave them feeling exhausted. In contrast, hindrance stressors may result in emotion-focused coping behavior (e.g., negative thinking), and the problematic or restrictive nature of hindrances indicates that such stressors should be negatively related to work engagement.

In hospitality research, employee work engagement has typically been treated as stable over time (Kang & Jang, 2019; Karatepe et al., 2014; Wang et al., 2020). However, studies have increasingly found that work engagement is not a static phenomenon, as it can fluctuate on a daily basis (Bakker, 2014; Breevaart et al., 2014). Hence, in this study, we adopted a within-person perspective to explore the relationships between the two types of work stressors (i.e., challenge and hindrance stressors) and work engagement. In summary, we propose the following two hypotheses:

Hypothesis 3. Daily challenge stressors are positively related to frontline hotel employees' daily work engagement.

Hypothesis 4. Daily hindrance stressors are negatively related to frontline hotel employees' daily work engagement.

2.4. Moderating role of daily coworker support

According to the JD-R model, job resources influence the motivational process of employees. In other words, job resources can mitigate the effects of job demands and help employees achieve their work goals (Bakker et al., 2003). In this study, we focused on coworker support as a type of job resource, as such support is a critical resource for reducing psychological stress and turnover intention in the hotel industry (Loi et al., 2014; Tews et al., 2019). The term "coworker support" refers to the help that coworkers give each other to get things done (Beehr et al., 2000). The levels of coworker support may fluctuate daily among

hotel frontline employees, because the schedules of shift workers often differ from day to day, so employees may work with different groups of people each day. Chen and Fellenz (2020) found that service employees' job resources, including the type of support they receive from colleagues and managers, tend to fluctuate daily. Studies of employees working standard workdays (e.g., 9 a.m. to 5 p.m., Monday to Friday) have shown that perceived coworker support varies daily (Pow et al., 2017; Simbula, 2010). Simbula (2010) found that 42% of the variance in coworker support is caused by within-person variability. Hence, if within-person variability can be found among employees with standard working hours, it can be assumed that frontline hotel employees (whose working hours are irregular) experience greater within-person fluctuations in perceived coworker support. Considering this factor in relation to working conditions, we propose that daily coworker support tends to enhance the positive effects of challenge stressors and mitigate the negative effects of hindrance stressors on work engagement. Additionally, we hypothesize that daily coworker support can mitigate the negative effects of these work stressors on employees' daily job satisfaction. We therefore propose the following hypotheses:

Hypothesis 5. The negative relationships between (a) challenge stressors and job satisfaction and (b) hindrance stressors and job satisfaction are moderated by daily coworker support, such that these relationships are stronger when coworker support is low (vs. high).

Hypothesis 6. The positive relationship between challenge stressors and work engagement is moderated by daily coworker support, such that this relationship is stronger when coworker support is high (vs. low).

Hypothesis 7. The negative relationship between hindrance stressors and work engagement is moderated by daily coworker support, such that this relationship is stronger when coworker support is low (vs. high).

3. Methodology

3.1. Sample and procedures

We used ESM to capture the daily variations in frontline hotel employees' work stressors (i.e., challenge and hindrance stressors) and their levels of coworker support, job satisfaction, and work engagement. Frontline employees are more likely than other workers to experience customer mistreatment and emotional dissonance because they have to deal with numerous issues raised by customers (Yang et al., 2020). Hence, the work-related stress of frontline hotel employees fluctuates daily. Unlike traditional data collection methods (e.g., one-time cross-sectional survey designs), ESM allows temporal separation (i.e., collecting data at different times) and reduces potential common method bias (Yu et al., 2020). Additionally, as participants are asked to fill out surveys immediately after the relevant events, applying ESM reduces potential memory bias (Yu et al., 2020). By reducing such biases, ESM helps mitigate one of the main sources of common method bias (Podsakoff et al., 2003).

In our study, the participants were frontline employees in the hotel industry in the United States. We recruited participants by email or direct message to our hotel industry contacts on LinkedIn. Data were collected through a smartphone app designed to conduct daily diary studies. Data collection included a one-time initial assessment and a minimum of 5 days of diary surveys. Some of the participants were willing to complete more daily surveys, so our daily data were not limited to participants with five time points. Of the 75 qualified participants, one participant completed 3 survey days, 35 participants completed 5 survey days, eight participants completed 6 survey days, two participants completed 7 survey days, seven participants completed 8 survey days, seven participants completed 9 survey days, three participants completed 10 survey days, one participant completed 12 survey days, one participant completed 15 survey days, and the remaining 10 participants completed less

than 3 survey days. Although we required a minimum of 5 survey days, we kept the data of the participant with 3 survey days following Pow et al. (2017), who suggested that three daily surveys can still yield meaningful within-person fluctuations. Thus, we used data from 65 employees after excluding the 10 participants without sufficient time points in their daily surveys. These 65 employees generated 416 day-level observations. The participants' demographic information, work orientation, and neuroticism were measured at the one-time initial assessment. For the daily surveys, the participants' daily hindrance stressors, challenge stressors, coworker support, job satisfaction, and work engagement were measured at the end of their work shifts. Regarding demographics, just over half of the participants were women (51%), almost half of them had a Bachelor's degree (49%), and more than half were single.

3.2. Survey instrument

The participants were first asked to complete a one-time survey about their work experience. All of the survey items were rated on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). In this survey, work orientation was measured using the two-item scale of Song et al. (2008), the two items being, "The major satisfaction in my life comes from my job" and "The most important things that happen to me involve my job" (Cronbach's alpha = .76). Work orientation was treated as a person-level control variable, as having a high level of organizational identification generally helps employees handle the negative effects of work-related stress (Haslam et al., 2005). Neuroticism was another person-level control variable, as individuals with higher levels of neuroticism are less likely to cope well with work stressors (Liu et al., 2009; Rodell & Judge, 2009) and are therefore more likely to experience low levels of job satisfaction and work engagement (Judget et al., 2002; Langelaan et al., 2006). Neuroticism was measured using the neuroticism scale of the 50-item International Personality Item Pool (Goldberg, 1992; Cronbach's alpha = .85). Sample items include "I get stressed easily" and "I change my mood a lot." Gender was also controlled for,

as men and women generally have different ways of dealing with work-related stress (González-Morales et al., 2006).

Before recruiting participants for the daily diary study, we had brief conversations with 12 frontline hotel employees at full-service or luxury hotels in the United States to determine whether work stressors and coworker support fluctuate daily. These industry experts were asked to share their opinions on the frequency with which work stressors (i.e., challenge and hindrance stressors) and job resources (i.e., coworker support) can fluctuate. Of the 12 industry experts, nine mentioned that their work stressors fluctuated daily, depending on the hotel's occupancy rate and the working conditions (e.g., short-staffed on a specific day without prior notification). The work stressors that they specifically mentioned included heavy workload, time pressure, increased scope of work (e.g., helping other departments, managing multiple food and beverage outlets when needed), and processing multiple requests from customers and colleagues. Moreover, 8 of the 12 industry experts said that the level of coworker support differed daily because their work schedules as frontline employees were not fixed. This information provided preliminary support for the notion that the hindrance and challenge stressors faced by hotel employees may vary daily.

The participants in the daily diary study were asked to complete their daily surveys immediately after the end of their work shifts. To reduce participant fatigue, we used the previously validated shortened versions of the scales to measure the day-level variables in this study. The survey instructions were designed to remind participants that they should complete the survey based on their thoughts and feelings at that moment. For example, the instruction to rate job satisfaction was "Today, how did you feel about your job? Please rate each item based on your situation today." The participants were paid as long as they completed the one-time initial assessment and at least three daily surveys. The participants' daily challenge and hindrance stressors were assessed using a combination of two 8-item

scales (i.e., 16 items in total) developed by Rodell and Judge (2009). An eight-item daily challenge stressor scale was used to evaluate the participants' daily workload, time pressure, job responsibilities, and task complexity. A sample item is "Today at work, I had to work on a large number of projects and/or assignments." An eight-item daily hindrance stressor scale was used to evaluate the participants' daily job demands in terms of issues such as role ambiguity and role conflict. A sample item is "Today, my duties and work objectives were unclear to me." The scale for measuring daily coworker support was adapted from the job content questionnaire developed by Karasek et al. (1998). A sample item is "Today, the people I worked with/my coworkers were friendly." Daily work engagement was assessed using nine items from Tims et al. (2011). A sample item is "Today during work, I felt fit and strong." Daily job satisfaction was assessed using a five-item scale developed by Ilies et al. (2009). A sample item is "Right now, I find real enjoyment in my work." The within-person reliability (*Rc*) of daily hindrance stressors, challenge stressors, job satisfaction, work engagement, and coworker support was .74, .74, .66, .70, and .62, respectively. A range of .41 to .80 for *Rc* is generally considered fair to moderate (Shrout, 1998). To examine construct validity, we performed a multilevel confirmatory factor analysis with maximum likelihood estimation following Dyer et al. (2005) using the *lavaan* package (Rosseel, 2012) in *R*. The two-level model showed an acceptable fit to the data, $\chi^2[491] = 3{,}018.74, p < .001$, comparative fit index [CFI] $= .94$, Tucker– Lewis index [TLI] $= .95$, root mean square error of approximation [RMSEA] $= .06$, $\left[\text{standardized root mean square residual [SRMR]}_{(within-person)}\right] = .04$, $\left[\text{SRMR}_{(between-person)}\right] = .05$. All items loaded significantly ($p < .05$) on their respective factors.

3.3. Data analytical strategy

As our data came from participants who completed a different number of daily surveys and considering the multilevel structure of the data in this study, we applied multilevel linear modeling (MLM; Raudenbush & Bryk, 2002). Unlike a repeated measures analysis of variance, which requires an equal number of fixed time points, MLM does not assume fixed occasions and can handle data with varying time points (Baumer et al., 2003; Goldstein, 1995; Van Buuren, 2018). Additionally, we measured daily hindrance stressors, challenge stressors, work engagement, and coworker support at the within-person level (level 1). In contrast, work orientation, neuroticism, and gender were measured at the between-person level (level 2). Following Hofmann and Gavin's (1998) suggestion for centering variables, all level 1 variables were mean centered for each participant to eliminate between-person variability. Neuroticism and work orientation (level 2 variables) were grand-mean centered. We used the *lme4* package (Bates et al., 2014) in *R* to perform our multilevel analysis. The moderation analysis in MLM was carried out using the online tools suggested by Bauer and Curran (2005) and Preacher et al. (2006). One of the advantages of using MLM is its ability to handle missing data (Baumer et al., 2013; Van Buuren, 2018). Van Buuren (2018) stated that using maximum likelihood in MLM can accommodate missing data in dependent variables. In our study, nine participants had missing data on work engagement in their daily surveys. By using the above method, we were able to include the data from these nine participants in our data analysis.

4. Results

4.1 Descriptive statistics and within-person variability

Table 1 shows the means, standard deviations, intraclass correlation coefficients (ICCs), and correlations between our study variables. The ICC indicates the percentage of

between-person variance. We used 1 − ICC to obtain the percentage of within-person variance for all of the day-level variables. The null model containing only the intercept was established for each day-level variable. The intercept represents the average level of a focal variable among the participants. If the ICC is equal to 1, there is no within-person variability. The results of within-person variability for daily hindrance stressors, challenge stressors, coworker support, and work engagement indicated that approximately half of the variance in the day-level variables was explained by within-person differences, with proportions ranging from 45% to 59% (Table 1). These results showed that the participants experienced daily fluctuations in work stressors and work engagement. The levels of support they received from their coworkers also varied daily. These results supported the use of MLM to study the effects of work-related stressors.

Table 1

Means, Standard Deviations, Correlations, and Within-Person Variability

	M (*SD*)	Within-person variance	Between-person variance	1 − ICC	1	2	3	4	5	6	7
1. Daily hindrance stressors	2.52 (0.81)	.25	.18	58%							
2. Daily challenge stressors	3.27 (0.95)	.52	.40	56%	0.27***						
3. Daily work engagement	3.05 (0.90)	.39	.47	45%	−0.02	0.37***					
4. Daily job satisfaction	3.25 (1.01)	.63	.44	59%	−0.31***	0.01	0.47***				
5. Daily coworker support	3.51 (1.07)	.53	.60	47%	−0.31***	0.26***	0.36***	0.30***			
6. Work orientation	2.97 (1.12)				0.11*	0.28***	0.34***	0.15**	0.17***		
7. Neuroticism	2.47 (0.84)				0.43***	−0.02	−0.11*	−0.30***	−0.40***	−0.08	
8. Gender	1.51 (0.54)				0.08	0.23***	0.10*	0.09	0.12*	0.07	0.02

Note. The ICC is calculated by dividing between-person variance by the sum of the within-person and between-person variances. The value of the ICC indicates the percentage of between-person variance. The within-person variance (percentage) is calculated as 1 − ICC.

*$p < .05$. **$p < .01$. ***$p < .001$.

4.2. Hypothesis testing

Hypotheses 1 and 2 propose that daily challenge and hindrance stressors have negative effects on frontline employees' levels of daily job satisfaction. In Table 2, Model 1 shows that the relationship between daily challenge stressors and job satisfaction was negative ($\gamma = -.11$, $p < .05$), supporting Hypothesis 1. Daily hindrance stressors were also negatively associated with job satisfaction ($\gamma = -.29$, $p < .001$, see Model 2 in Table 2), supporting Hypothesis 2.

Hypotheses 3 and 4 propose that daily challenge and hindrance stressors have opposite effects on daily work engagement. We conducted a series of MLM regressions with the level 1 variables (i.e., challenge and hindrance stressors). These regressions predicted daily work engagement and controlled for the level 2 variables (i.e., work orientation, neuroticism, and gender). We found a positive relationship between daily challenge stressors and work engagement ($\gamma = .10$, $p < .05$), supporting Hypothesis 3 (see Model 3 in Table 2). However, the results did not show a relationship between daily hindrance stressors and work engagement ($\gamma = .02$, p = n.s., see Model 4 in Table 2), rejecting Hypothesis 4.

Table 2
Effects of Daily Work Stressors on Job Satisfaction and Work Engagement

	Dependent variables			
Hypothesized predictors	Daily job satisfaction		Daily work engagement	
	Model 1	Model 2	Model 3	Model 4
Level 1 (day level)				
Intercept	3.02 (0.24)***	3.02 (0.25)***	2.92 (0.25)***	2.92 (0.26)***
cstressors	−0.11 (0.06)*		0.10 (0.05)*	
hstressors		−0.29 (0.07)***		0.02 (0.06)
Level 2 (person level)				
Work orientation	0.11 (0.07)*	0.10 (0.07)	0.22 (0.08)**	0.22 (0.08)**
Neuroticism	−0.37 (0.10)***	−0.37 (0.10)***	−0.15 (0.09)	−0.15 (0.10)
Gender	0.16 (0.15)	0.16 (0.15)	0.10 (0.16)	0.10 (0.16)
Residual variance				
Level 1	0.63	0.60	0.38	0.39
Level 2	0.33	0.33	0.39	0.39

Note. hstressors = hindrance stressors; cstressors = challenge stressors; standard errors are given in brackets.
*$p < .05$. **$p < .01$. ***$p < .001$.

Hypothesis 5a predicts that daily coworker support moderates the relationship between daily challenge stressors and job satisfaction. The results of Model 1 in Table 3 indicate that Hypothesis 5a was not supported (γ = .03, p = n.s., 95% confidence interval [CI] [−.02, .05], including 0). Model 2 in Table 3 shows that daily coworker support moderated the relationship between daily hindrance stressors and job satisfaction (γ = .19, $p < .05$, 95% CI [.01, .06], excluding 0). As shown in Figure 1, this relationship was negative and significant when daily coworker support was low ($\gamma = -.28, p < .001$) but not significant when daily coworker support was high ($\gamma = -.09, p = \text{n.s.}$). Therefore, Hypothesis 5b is supported.

Hypotheses 6 and 7 propose that daily coworker support moderates the within-person relationships between daily challenge and hindrance stressors and work engagement. Specifically, Hypothesis 6 predicts that daily coworker support moderates the relationship between daily challenge stressors and work engagement, and Hypothesis 7 predicts that daily coworker support moderates the relationship between daily hindrance stressors and work engagement. To test these hypotheses, we included coworker support as a level 1 predictor. The interaction terms used to test Hypotheses 6 and 7 can be viewed in Models 3 and 4 in Table 3.

The results showed that daily coworker support moderated the relationship between daily challenge stressors and work engagement ($\gamma = .15, p < .05$, 95% CI [0.12, 0.23], excluding 0; see Model 3 in Table 3). As shown in Figure 2, this relationship was positive and significant when daily coworker support was high ($\gamma = .22, p < .05$) but not significant when daily coworker support was low ($\gamma = .07, p = \text{n.s.}$). Model 4 in Table 3 shows that daily coworker support did not moderate the relationship between daily hindrance stressors and work engagement ($\gamma = .14, p = \text{n.s.}$, 95% CI [−0.02, 0.21]). Therefore, Hypothesis 6 is supported, but Hypothesis 7 is not.

Table 3

Moderating Effects of Daily Coworker Support

Hypothesized predictors	Dependent variables: Daily job satisfaction		Daily work engagement	
	Model 1	Model 2	Model 3	Model 4
Level 1 (day level)				
Intercept	3.02 (0.25)***	3.01 (0.25)***	2.92 (0.26)***	2.93 (0.26)***
cstressors	−0.12 (0.06)*		0.07 (0.05)	
hstressors		−0.28 (0.07)***		0.01 (0.06)
coworker	0.15 (0.06)**	0.13 (0.06)*	0.23 (0.05)***	0.24 (0.05)***
cstressors*coworker	0.03 (0.09)		0.15 (0.07)*	
hstressors*coworker		0.19 (0.09)*		0.14 (0.08)
Level 2 (person level)				
Work orientation	0.16 (0.08)*	0.16 (0.08)*	0.22 (0.08)**	0.22 (0.08)**
Neuroticism	−0.37 (0.10)***	−0.37 (0.09)***	−0.16 (0.10)	−0.15 (0.10)
Gender	0.16 (0.15)	0.17 (0.15)	0.10 (0.16)	0.09 (0.16)
Residual variance				
Level 1	0.62	0.59	0.35	0.36
Level 2	0.33	0.33	0.40	0.40

Note. hstressors = hindrance stressors; cstressors = challenge stressors; coworker = coworker support; standard errors are given in brackets.

*p < .05. **p < .01. ***p < .001.

Figure 1

Interaction Effects of Daily Hindrance Stressors and Coworker Support on Job Satisfaction

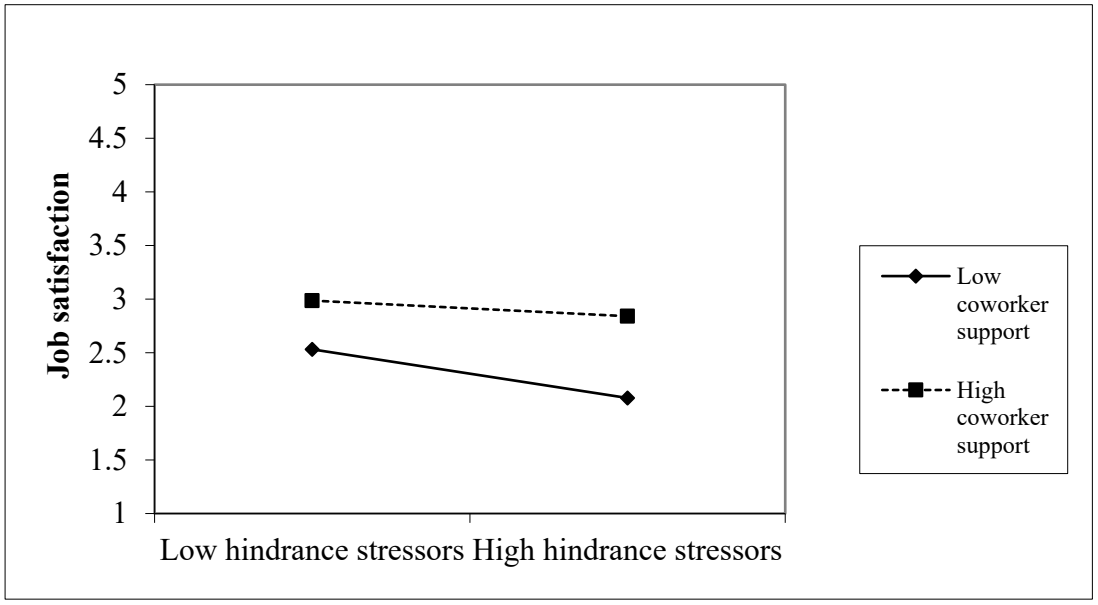
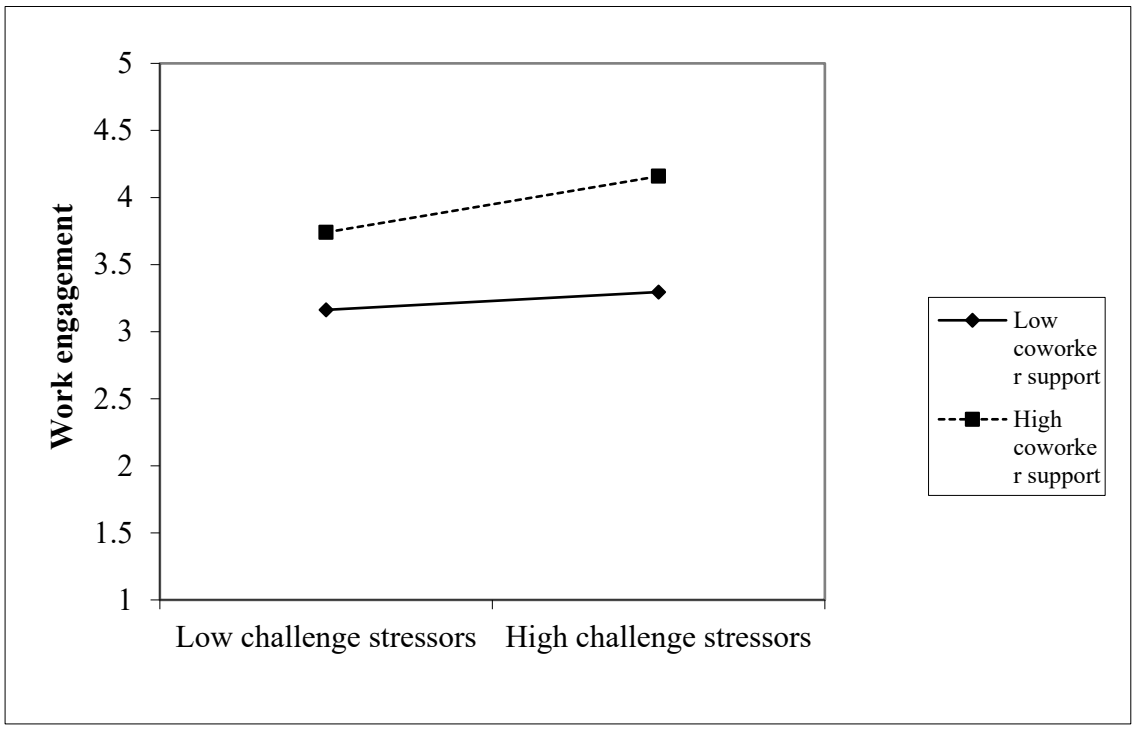


Figure 2

Interaction Effects of Daily Challenge Stressors and Coworker Support on Work Engagement



5. Discussion

Using ESM in a daily diary study with a sample of full-time hotel employees working in guest-facing positions, we investigated the dynamic relationships between daily challenge stressors, hindrance stressors, job satisfaction, work engagement, and coworker support, after controlling for three factors at the between-person level (i.e., work orientation, neuroticism, and gender). The results indicated that the participants' experiences of challenge and hindrance stressors, perceived coworker support, job satisfaction, and work engagement varied considerably on a daily basis. Furthermore, daily challenge and hindrance stressors were negatively associated with job satisfaction. Daily challenge stressors also had a positive influence on work engagement. However, no relationship was found between daily hindrance stressors and work engagement. The finding of a relationship between challenge stressors and work engagement at the between-person level in the hospitality context is not consistent in previous studies. For instance, Karatepe et al. (2014) found a positive relationship between

challenge stressors and work engagement. In contrast, Min et al. (2015) found a negative relationship between challenge stressors and work engagement, despite their hypothesis of a positive relationship. Finally, other studies have found no significant relationship between challenge stressors and work engagement (e.g., Babakus et al., 2017; Olugbade & Karatepe, 2019). At the within-person level, our finding of a relationship between daily challenge stressors and work engagement confirms the finding of Karatepe et al. (2014) at the between-person level, but differs from that of the other studies discussed above. Given the limited number of studies conducted in the hospitality context, it is difficult to fully understand the consequences of challenge stressors for employees. Nevertheless, we offer plausible explanations for these inconsistent findings at the between- and within-person levels. According to Webster et al. (2011), the consequences of challenge stressors are determined by employees' appraisal process. Mazzola and Disselhorst (2019) also suggested that the generalizability of the challenge–hindrance stress framework is problematic because stressors may not be appraised in the same way by different employees. It is therefore particularly important to consider frontline employees' appraisal process when studying stressors in the hospitality context, as their work environment and workplace events are diverse (Yu et al., 2020). As such, when exploring the relationship between challenge stressors and work engagement at the between-person level, individuals' appraisal of challenge stressors may be based on their general perceptions at a given time, or they may focus on a specific type of challenge stressor when taking a survey. However, in our study, we explored this relationship at the within-person level to explain individuals' momentary perceptions based on the effects of cumulative stressors on specific days. Although this result may not hold the same when testing the relationship in the long term (e.g., weeks or years), our study revealed that in the short term (i.e., days), employees' challenge stressors positively influence their work engagement. As such, our results highlight the importance of considering different time

frames when studying employees' appraisal of two work stressors (i.e., challenge and hindrance stressors) in the hospitality context.

Additionally, our results partially support the moderating role of coworker support at the daily level. We found that on days when the participants perceived a high level of coworker support, they reported a positive relationship between challenge stressors and work engagement. This result indicates that coworker support boosts the positive influence of daily challenge stressors on work engagement. In addition, on days when the participants perceived a low level of coworker support, they reported a negative relationship between hindrance stressors and job satisfaction. However, we found no moderating effects of daily coworker support on the relationships between daily challenge stressors and job satisfaction or between daily hindrance stressors and work engagement. There are two possible explanations for these findings. First, as our sample included frontline employees with flexible work schedules, some of the participants may have worked with the same group of coworkers during most of their shifts, while others may have worked with different coworkers in each shift. Therefore, their perceived coworker support may have varied greatly, influencing the results. Second, we did not specify the moderating role of coworker support on each challenge and hindrance stressor. It is possible that daily coworker support only influences employees' reactions to certain types of hindrance and challenge stressors.

In addition to testing the proposed hypotheses, our study revealed some interesting findings. For example, employee neuroticism, which was used as a control variable in this study, was negatively related to daily job satisfaction and work engagement. This confirms the findings of previous studies that individuals' emotional instability is negatively related to their job satisfaction and work engagement (e.g., Judge et al., 2002; Langelaan et al., 2006). However, the uniqueness of our study lies in the fact that we considered the level of the variables. Instead of testing all variables at the same level, we found that employee

neuroticism, as a stable personality trait, was negatively correlated with job satisfaction and work engagement at the daily level.

Last, given that the data were collected before the COVID-19 pandemic, the findings suggest that the observed daily fluctuations in coworker support and work-related stress are not unique to highly unusual circumstances. Instead, our study indicates that such daily fluctuations are typical of the hotel work environment. As such, these patterns should be addressed, both in future research and by industry practitioners.

5.1. Theoretical implications

We make three important theoretical contributions to the literature on hindrance and challenge stressors. First, this study reveals how challenge and hindrance stressors affect job satisfaction and work engagement. Specifically, we integrated the JD-R model with the transactional theory of stress and coping to analyze the different effects of challenge and hindrance stressors on frontline employees' daily job satisfaction and work engagement. Our results showed that both challenge and hindrance stressors tend to have negative effects on hotel employees in terms of their daily level of job satisfaction. Our findings indicate that both types of stressors can trigger negative, emotion-focused coping styles. These findings are consistent with those of Webster et al. (2011), who suggested that employees' appraisal process should be considered when examining the effects of work stressors on outcome variables. Following this suggestion, we identified the different processes involved in the appraisal of these two types of stressors. Unlike the appraisal of hindrance stressors, which primarily involves a negative, emotion-focused coping style, the appraisal of challenge stressors can induce a problem-solving coping style. Hence, our study reveals that although daily challenge stressors may be detrimental to momentary job satisfaction, they tend to increase employees' levels of work engagement. Thus, when challenge stressors motivate employees, their appraisal can have positive effects on their work engagement.

Second, this study demonstrates the benefits of conducting research using a daily diary study design. Using this method, we investigated daily fluctuations in work stressors and their effects on employees' job satisfaction and work engagement, thereby responding to recent calls to use ESM to explore the dynamic nature of workplace phenomena in the hospitality industry (Kang & Jang, 2019; Yu et al., 2020). Using AET (Weiss & Cropanzano, 1996) as a theoretical foundation, we argued that work life variables in the hospitality industry change on a daily basis. Our results showed that a large percentage of this variance was caused by within-person variability in employees' experiences of hindrance stressors, challenge stressors, work engagement, job satisfaction, and coworker support. These findings demonstrate that these variables are not static in the hotel context. For example, our results showed that approximately 50% of the variance in daily hindrance stressors, challenge stressors, and coworker support were caused by within-person differences. These findings indicate that job-related demands and resources in the hotel work environment are quite dynamic. As our data were collected before the COVID-19 pandemic, our findings reflect the dynamic nature of working conditions in the hotel work environment, rather than unusual conditions (e.g., a pandemic).

Third, this study highlights that coworker support is not a static factor in the hotel work environment. It extends the findings of Chen and Fellenz (2020) by demonstrating that daily coworker support can buffer the daily negative influences of certain work stressors. These results indicate that treating perceived coworker support as a static condition can be problematic, as the levels of support that workers receive from their colleagues change daily. Our results suggest that when using the JD-R model to examine the relationships between job demands, job resources, and outcome variables, researchers should consider the length of the sample period used to measure each construct of job demands and job resources.

5.2. Practical implications

This study has practical implications for practitioners in the hotel industry who wish to manage employees' daily hindrance and challenge stressors. First, our results show that increased challenge demands on employees may not always be motivating emotionally or affectively, especially for employees whose primary responsibilities involve interacting with customers on a daily basis. Challenge stressors may create an emotional burden on frontline employees. However, daily challenge demands may boost employees' immediate motivation and job engagement. In the job crafting literature, increasing employees' work challenges has been found to stimulate positive organizational outcomes (Tims et al., 2012). Our findings suggest that when implementing strategies to motivate employees, managers should be mindful of the intensity and frequency of daily challenge demands and should aim to balance the burden of such demands. According to our pre-data collection conversations with industry experts, food and beverage employees reported frequently helping staff at other food and beverage outlets. Especially when hotel occupancy is high, these employees are generally expected to work in multiple outlets. Senior employees further explained that they are often asked to help manage multiple departments, whenever their hotels are busy or short-staffed. Employees can be motivated by being assigned more job tasks, as they may perceive these assignments as opportunities for recognition or promotion. However, when employees frequently experience challenge stressors, they may feel burnt out and dissatisfied. Therefore, we suggest that managers of service employees establish a health tracking system to monitor their employees' daily work stressors and avoid exposing them to intensive daily stressors for an extended period. By tracking their employees' stress level, managers will be able to identify if or when it is necessary to implement stress management strategies, such as offering telemedicine interventions involving counseling, exercise, or meditation sessions. Such interventions can be especially important in dealing with unusual situations that can induce

extreme stress, such as the current situation with the COVID-19 pandemic (Yu et al., 2021). The stressful situation of the COVID-19 pandemic is creating new challenges, such as ensuring that guests adhere to new protocols, working in an understaffed department, or performing tasks outside of normal duties due to downsizing or the closure of certain hotel services. While the challenges posed by the COVID-19 crisis may be temporary, in normal times the challenges posed by unusual demands are a constant feature of hotel operations.

Second, similar to previous ESM studies in hospitality management (Chen & Fellenz, 2020; Yang et al., 2020), we suggest that managers more frequently measure their frontline employees' levels of well-being, work engagement, job satisfaction, work stressors, and job resources, as these phenomena vary daily. The traditional way to measure these work variables is to conduct an annual employee survey. However, this approach is not proactive in addressing employees' immediate concerns. Thus, using resources such as daily emotion tracking apps to collect data may help companies monitor changes in their employees' mental health and their subsequent perceptions of their jobs, both during their shifts and on a daily basis. Furthermore, understanding the nature of these changes and addressing them during regular hotel operations may help managers proactively manage unusual fluctuations in employee stress during highly unusual working conditions, such as pandemics, natural disasters, and terrorist threats.

Third, this study highlights the importance of coworker support. Our results showed that coworker support varies daily, as coworkers may be more supportive one day and less supportive the next. As coworker support is an important job resource, hotel managers should consider new ways to establish supportive climates in their departments. Providing all employees with consistent work schedules in their respective departments (i.e., food and beverage, front office) is not feasible, as schedules depend on factors such as hotel occupancy and the number of special events. Therefore, to help develop a more supportive daily work

climate, we suggest that managers reward employees who consistently engage in helping behavior.

5.3. Limitations and future research directions

This study had several limitations that should be acknowledged and provide directions for future research. First, we applied MLM to test our hypotheses at the within-person level and the between-person level. However, our results showed that within-person level coworker support did not moderate all of the direct relationships examined. As we only measured coworker support at the daily level, the potential influence of between-person level coworker support may not have been captured. Coworker support could also be measured at the between-person level that represents employees' general perceptions toward the support offered by their colleagues. Hence, future studies should identify the differences between within-person and between-person effects in coworker support. As recommended by Curran and Bauer (2011), the time-varying covariate could be added to the between-person level equation to examine the between-person effect of coworker support strictly. Alternatively, time-varying covariates can be added to the within-person level equation to simultaneously examine the within-person and between-person variability in coworker support.

Second, all of our day-level variables were measured immediately after the participants completed their shifts. This approach prevented us from testing the causal relationships between work stressors and outcomes by showing only their correlations. Researchers should consider taking measurements at two or more time points during a day. Using ESM helped us mitigate common method bias, but we only conducted one survey per day in this study. Hence, we recommend that future studies measure the predictors and criterion variables at different times, to further mitigate common method bias.

Third, the results of this study showed the within-person relationships between work stressors and work outcomes in the short term, but did not provide additional insight into the

cumulative effects of daily work stressors. For example, our study revealed the positive effect of daily challenge stressors on work engagement. However, little is known about the long-term effects of challenge stressors on work engagement when employees work in chronically stressful situations. Hence, future research should test whether cumulative daily challenge stressors have the same positive effects on employees' work engagement and other work outcomes (e.g., organizational citizenship behavior) in the long term. Future studies could use latent growth curve modeling to track the curvilinear trajectories of the relationship between challenge stressors and work engagement (e.g., whether the positive relationship will become negative when employees face more daily challenge stressors).

Fourth, we did not examine the distinct role of each challenge or hindrance stressor. Employees' appraisal process is influenced by their objective work environment (Liu & Li, 2018). For example, Kang and Jang (2019) found that workload (a type of challenge stressor) has a positive relationship with turnover intention, which was the opposite of their hypothesis. However, they also found that the level of job responsibility (another type of challenge stressor) is negatively associated with turnover intention. Khliefat et al. (2021) called for studies on work stressors to examine the appraisal process for each work stressor separately, instead of grouping stressors together. Thus, it would be meaningful to explore the conditions that influence employees' appraisal process for each stressor. As this type of study remains rare and may lack sufficient theoretical support, we recommend that future studies conduct qualitative research on the appraisal process for each work stressor.

Finally, the data for this study were collected before the COVID-19 pandemic. Clearly, hotel employees have experienced more stress during the pandemic, which has led to increased stress levels due to new challenges, such as the threat of being infected via customer contact and unstable employment (Yu et al., 2021). It would therefore be meaningful to explore the role of work stressors in the context of the COVID-19 pandemic.

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