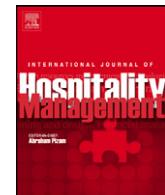




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## Overcoming work-related stress and promoting employee creativity in hotel industry: The role of task feedback from supervisor

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## ABSTRACT

This study adopts the literature on voice and examines the importance of task feedback (positive and negative) from supervisors in facilitating the emergence of creativity, as an expression of voice behavior, from two types of work stress (challenge- and hindrance-oriented). We theorized that both forms of feedback would interact with challenge- and hindrance-related stress to result in employee creativity. Using multi-source data from a total of 265 full-time Chinese employees in Beijing, China, we show that employees under challenge-related stress generated most creativity when levels of positive task feedback from their supervisors were high. Similarly, those suffering from hindrance stressors were more creative at work when supervisors provided less negative and more positive feedback. Future research and directions are also discussed.

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Work stress has become one of the most widely studied topics in research, mainly because of its importance to employees' psychological health, which in turn affects service quality and organizational effectiveness (Bliese and Halverson, 1996; Hon and Kim, 2007; Jex et al., 2001; Kahn and Byosiere, 1992; O'Neil and Davis, 2010; Xie and Johns, 1995). It is reasonable to expect work stress to be negatively associated with job attitudes and performance. Researchers have found that work-related stress is associated with negative outcomes such as disloyalty, low morale, burnout, absenteeism, job seeking, or voluntary turnover (Glazer and Beehr, 2005; Hamilton et al., 1993), which are detrimental to organizations and their members. However, existing literature mostly generate mix results and inconsistent findings on the relationship between work stress and job outcomes. A number of other studies show only a modest or no relationship between work stress and outcomes (Bretz et al., 1994; Jex et al., 2001; Podasakoff et al., 2007). In their study of job seeking, Bretz et al. (1994) find no significant relationship between stress and job hunting or intention to leave. Consistent with this, several other studies suggest that stress may not necessarily be related to negative outcomes, but instead may have a positive impact on organizational effectiveness (Jex and Bliese, 1999; Stamper and Johlke, 2003). For example, Jex et al. (2001) find no significant relationship between work overload and active coping behavior. Active coping behavior denotes actions

initiated by individuals to solve work-related problems. Moreover, Demerouti et al. (2001) argue that demands and resources serve as buffers between job stressors and performance under strain. Other researchers show that work overload and time pressure enhances employees' positive feelings toward the job and organization (see for example Hon and Kim, 2007; LePine et al., 2005). These findings indicate that stress does not necessarily lead to negative outcomes at work.

One explanation for these inconsistent findings may be that the relationships between work stress and outcomes differ according to the stressors that are being evaluated. That is, the stress associated with some stressors may result in negative outcomes, whereas others may produce positive outcomes. Support for this explanation can be found in a recent meta-analysis confirming that not all work-related stress is bad (LePine et al., 2005; Podasakoff et al., 2007). Stress can produce a competitive edge and force employees to change and create novel ideas and procedures to solve problems.

In an era of constant emphasis on change, employee creativity, and innovation in organizations, particularly for employees in the hospitality industry who are repeatedly encouraged to improve service quality and delivery, the idea of a creative workforce has captured managers' attention. Creative ideas generate psychological and business benefits for both employees and the hotel industry as a whole (Hon, 2012; Hon and Leung, 2011). One way of meeting current business challenges is to rely heavily on employees' creativity when serving customers seeking quality accommodation and food and beverage (F&B) services. This can substantially contribute to innovation, productivity, and long-term success in the hospitality business (Amabile et al., 1996; Hon, 2011). Creativity here refers to the development of novel and useful ideas about products,

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services, ideas, procedures, or work processes, generated by individuals working together within a complex social system (Amabile and Khaire, 2008; George and Zhou, 2001; Woodman et al., 1993).

In spite of the growing attention to creativity in the hotel industry, however, there is still very little research on the topic (Hon, 2011). An interesting question of whether work stress and creativity is always negatively related, or may in some circumstances have a positive relationship, has drawn the attention of creativity scholars seeking to probe whether work-related stress is always detrimental to employee creativity, and thus harms the effectiveness of service organizations (Hon, 2011; Hon and Leung, 2011). However, little is yet known about the circumstances under which this stress-creativity relationship may form, particularly in the hospitality industry (Hon and Kim, 2007). This paper seeks to overcome these limitations by integrating the voice theory, creativity, and stress literature to explore whether some contextual factors may serve as a boundary condition to explain the relationship between work stress and employee creativity in the service industry.

Service employees who feel under pressure at work are, in essence, dissatisfied with the status quo. Stress can be a trigger for change when those who are unhappy with their current situation find new ways and creative approaches to improve their working conditions. Consistent with this reasoning, a number of scholars suggest that stress may actually have a positive influence on employee creativity and organizational effectiveness (Hon and Kim, 2007; Jex et al., 2001; Talbot et al., 1992). The essence of creativity is finding new methods and better ways of approaching problems. Thus, it is important to examine the conditions under which employees' experience of stress may actually lead to more creative performance, which ultimately benefits their organization. For instance, employees may experience various levels and types of work stress, such as the pressure to perform a lot of tasks within a short period of time or a failure to understand what is expected of them on the job. This might affect well-being and performance (O'Neil and Davis, 2010). Hence, this study seeks to identify the supervisor's role as the boundary condition under which work stress may actually lead to creativity. Identifying such a contextual factor is important for two reasons. Firstly, stress is very common in the hospitality industry, so employees who experience it may provide a powerful impetus for change in organizations by coming up with creative ideas for improvement. However, this is likely to occur only in certain situations; for example, where the employee decides not to leave his or her job in response to stress. Secondly, in the competitive modern business world, a degree of stress at work is inevitable, so managers should not view it as necessarily detrimental but instead as an opportunity to improve their human resource management (HRM) practices and training and development approaches. More specifically, this study examines the role of both positive and negative task feedback from a supervisor as a crucial condition for the relationship between work stress and employee creativity in the hospitality industry.

## 1. Theory and hypothesis development

### 1.1. Categorizations of work stress: challenge- and hindrance-oriented stress

Psychologists and management researchers alike are interested in studying stress at work and its effects on psychological health and organizational outcomes (Glazer and Beehr, 2005; Jex et al., 2001; Van Dyne et al., 2001). Cavanaugh et al. (2000) were among the first to theorize that work stress consists of two categories. *Challenge-oriented stress* refers to stress that creates challenges and feelings of fulfillment or achievement, such as tasks associated with a heavy workload, time pressure, and high levels of

responsibility. *Hindrance-oriented stress* is that which creates feelings of constrained personal development and work-related accomplishment caused by role ambiguity, job insecurity, organizational politics, and "red tape." The former can be regarded as good and likely to be positively related to job satisfaction, loyalty, and intention to remain; whereas the latter is considered as bad and hence related negatively to job satisfaction and performance, and positively related to turnover and job search (Cavanaugh et al., 2000).

### 1.2. When will work stress result in employee creativity?

Both theoretical and empirical work suggests employees will respond to work-related stress in one of the four ways: exit, voice, loyalty, and neglect (Farrell, 1983; Withey and Cooper, 1989). They may leave an organization in response to work stress (exit); choose to remain while actively trying to improve stressful conditions and create ideas for improvement (voice); remain but respond passively by accepting the status quo without making any improvements (loyalty); or remain in the organization and minimize their efforts while exhibiting passive withdrawal behaviors (neglect). As Farrell (1983) suggests, exit and voice are active responses and therefore constructive to an organization, whereas neglect and loyalty are passive and destructive responses (Van Dyne and LePine, 1998).

Despite the support for the above framework, there has been no attempt to integrate it with a theory that could be used as a basis for explaining employee creativity in response to the two types of stress (Ng and Feldman, 2012; Talbot et al., 1992). For either aspect of stress to result in creativity, employees must make an active and constructive response. Leaving a job is a genuine option for stressed employees, and when employees choose to exit, their potential to be creative and improve the focal organization is removed. However, exit will not be a viable option for employees when there are high costs associated with leaving and they are aware of these. In addition, finding another job cannot guarantee work stress would totally disappear in a new firm. In this situation, stressed employees often feel that staying is the better choice. Voice behaviors such as creativity not only enable organizations to channel their employees' stress into a positive desire for change, but also help them to correct problems and improve performance. A recent meta-analysis conducted by Ng and Feldman (2012) supported our argument that work stress is associated with voice behavior, which in turn positively related to performance outcomes. Thus, consistent with the voice theory, individuals who experience challenge stress and hindrance stress will be associated with creativity as an expression of voice behaviors.

**Hypothesis 1a and b.** Challenge-related stress will be positively related to employee creativity and hindrance-related stress will be negatively related to employee creativity.

The literature on voice suggests that employees are most likely to engage in this type of behavior when they perceive the unfavorable situation (such as work stress) as potentially effective, in the sense that they can perform their tasks, leaders or supervisors in the organization will support them, and they can bring about the desired change (Brockner et al., 1998; Withey and Cooper, 1989). This social support may be especially important when creativity is used as an expression of voice. Therefore, employees may choose to express voice through creativity only when they perceive that this has the potential to be effective and resolve their stressful situation. A review of the voice and creativity literature suggests that supervisory task feedback – both positive and negative – may channel stress into creativity in the form of voice behaviors (Amabile and Khaire, 2008; Talbot et al., 1992). Thus, this study aims to examine two forms of task feedback from the supervisor as a boundary

condition on the relationship between work stress and employee creativity in the hospitality industry.

Task feedback means helpful and valuable information provided by supervisors that enables an employee to make improvements on the job. Supervisory task feedback refers to the information provided by a supervisor or a manager about an employee's performance (Zhou, 1998). Research suggests that two forms of task feedback, both positive and negative, guide purposive action and enhance perception of how one's work is perceived by others (Moss et al., 2003). Recent research in organizational creativity demonstrates that HRM practices such as leader behaviors can play a significant role in facilitating or inhibiting employee creativity (Hon, 2011; Oldham and Cumming, 1996; George and Zhou, 2001). By creating an appropriate context, hotel managers can encourage employees who are experiencing either challenge- or hindrance-oriented stress to engage in creative activities.

### 1.3. Challenge-related stress, task feedback, and employee creativity

Positive task feedback from a supervisor can influence the relationship between stress and creativity. It is conceivable that positive and useful feedback from supervisors contributes to channelling challenge-oriented stress into creativity by influencing the employee's perceptions of the effectiveness of creative activities (such as the perception that new ideas can be produced and that leaders will support them). Task-focused and positive feedback from supervisors may therefore be conducive to generating new and useful ideas. In essence, positive and useful feedback from supervisors directs employees' attention to the task at hand, fosters their interest in the task itself as opposed to workload and time pressure, and nurtures an orientation toward learning and development and solving difficult problems, all of this may lead to creativity (Hon and Kim, 2007; Utman, 1997; Woodman et al., 1993). Positive task feedback is a source of encouragement and support from supervisors. It indicates that an employee's performance is acceptable, and so reinforces creative behavior by shifting challenge-oriented stress into creativity by encouraging employees to try different approaches to improve an unfavorable situation. Consistent with this logic, Zhou (1998) shows that people exhibit the highest levels of creativity when they have high autonomy and receive positive task feedback from the supervisor. Furthermore, such feedback also results in high creativity for individuals with a high need for achievement (Fodor and Carver, 2000). Positive task feedback from supervisors may therefore direct employees' attention toward making improvements on the job and facilitate the creation of new ideas. It may also increase employees' confidence in the possibility of transforming challenge-related stress into a more satisfactory situation by engaging in creative activities. Thus, we have the following hypothesis.

**Hypothesis 2.** Positive task feedback from a supervisor will moderate the positive relationship between challenge-oriented stress and employee creativity, such that the positive relationship will be stronger when positive task feedback is high.

In contrast, negative task feedback indicates that employees' performance is inadequate and they need to make more effort to improve. For example, if a front-line service employee is under heavy workload and time pressure, negative task feedback from his or her supervisor will not help to solve the problem but actually increase their burden. Although research suggests that negative task feedback is better than none if employees are to improve their subsequent behavior (Arvey and Ivancevich, 1980; Fodor and Carver, 2000), it is not viable for challenge stressors. Time is critical for individuals who work under heavy workload and time pressures as they need to perform a lot of tasks in a short period. However,

creativity involves the development of new and useful ideas, and so needs time to develop; it also requires experiments such as trial and error. Employees with a heavy workload may not have the time available to engage in creative activities when supervisors provide negative task feedback, because that will result in more effort being necessary to complete their work according to schedule. Such employees will be unable to feel achievement or fulfillment at work and so may choose to be passive about the job and only work to a minimum standard because they have too much to do and not enough time. Accordingly, they are unlikely to develop new ideas and generate novel approaches to solving problems. Thus, if such employees receive negative task feedback from a supervisor that serves no purpose to support them in making improvements, their attention is less likely to be directed toward learning and innovating on the job. Thus, we have the following hypothesis.

**Hypothesis 3.** Negative task feedback from supervisor will moderate the positive relationship between challenge-oriented stress and employee creativity, such that it will be stronger when negative task feedback is low.

### 1.4. Hindrance-related stress, task feedback, and employee creativity

Hindrance stressors should be associated with low motivation at work given that stressful demands will be seen as obstacles to be overcome in order to learn and achieve. Such employees may be expected to experience incompatible job demands from one or various supervisors or to have poorly defined role expectations. Positive task feedback is valuable information provided by supervisors that enables a stressful employee to make improvements on the job. It is conceivable that positive task feedback from supervisors contributes to shifting hindrance stress into creativity via clarifying role expectations and conflicting objectives on the job demands. Task-focused feedback, such as positive feedback from supervisors, directs stressors attention to the task and fosters their interest in the task itself, and nurtures an orientation toward learning and development, all of which may lead to creativity (Utman, 1997).

Although research does not directly address the role of task feedback in the context of reactions to hindrance-oriented stress, work on feedback and creativity points to its importance in promoting the latter (Kluger and DeNisi, 1996; Leung et al., 2001; Zhou, 1998). Consistent with its definition, positive and useful task feedback from supervisors may signal that supervisors are interested in improvement and change. Thus, the employee who receives high levels of positive feedback may believe that there is a high likelihood that his or her search for new ways of performance will be supported by supervisors and hence successfully implemented (Farr and Ford, 1990; Hon and Kim, 2007). A number of scholars have argued that individuals under work pressure are more likely to rely on their supervisors' feedback and support to improve the unfavorable situation (Ashford and Tsui, 1991; Moss et al., 2003). Thus, positive and useful task feedback from supervisors may direct the attention of employees experiencing hindrance stress to changing their stressful and unfavorable situations, and increase their perceptions of the effectiveness of creativity, thereby channelling their stress into creative activities. As a result, we have the following hypothesis.

**Hypothesis 4.** Positive task feedback from supervisor will moderate the negative relationship between hindrance-oriented stress and employee creativity, such that it will be weaker when positive task feedback is high.

On the other hand, negative task feedback is always less welcome and less likely to be accepted (Fedor et al., 1989), particularly by individuals experiencing hindrance-oriented stress such as role ambiguous and job insecurity which are difficult to overcome. Negative task feedback from supervisors clearly signals that a supervisor is dissatisfied with an individual's performance; an individual suffering high hindrance stress will project more negative feelings toward his or her job this may be due to the frustration of the unclear performance goals and job insecurity. Thus, employees under hindrance stress will become tired of conflicting demands and negative task feedback from supervisors, accentuating their negative attitudes and behaviors toward their job. As indicated earlier, when an employee experiences work stress in a job yet perceives the cost of quitting as too high, he or she may choose either to be passive about the job and decrease effort so as to meet the minimum level standard (Farrell, 1983). This is particularly salient for hindrance stressors when employees receive negative task feedback from supervisors. Because hindrance stressors are appraised as having the potential to harm personal growth they trigger negative emotions and behaviors on the job (such as withdrawing from the situation, decreasing effort). As a result, if employees suffering from such stressors receive negative feedback they may decide to invest little energy in accomplishing routine tasks rather than coming up with new ways of doing things. In support for this, scholars suggest that role ambiguity not only directs individuals' attention toward completing routine tasks but also away from problem solving approaches that may reduce creative actions (Leung et al., 2001; Talbot et al., 1992). Thus, we propose the following hypothesis.

**Hypothesis 5.** Negative task feedback from supervisor will moderate the negative relationship between hindrance-oriented stress and employee creativity, such that it will be weaker when negative task feedback is low.

## 2. Methods

### 2.1. Sample and procedure

The research team worked with a research assistant from a major university in Beijing, China to contact organizations in the hotel and service industries operating in this region. The assistant initially contacted the HR managers in each company. Once their agreement had been obtained, the research assistant visited each company. With the assistance of the HR managers, a list of 50 work teams, randomly selected, was compiled and 50 team managers then completed the survey. The team managers distributed surveys to individual members of their teams in each company. The final sample included 265 team members and 50 managers from 50 hotel companies. The research assistant visited the data collection sites and met with the HR managers and some of the top management team in each. Two sets of questionnaires were distributed, one in which respondents (general employees) reported their perceptions of challenge- and hindrance-oriented stress on the job and on two forms of supervisory task feedback, and one in which managers or supervisors reported on the creative performance of their subordinates. Each questionnaire was coded with an identification number assigned by the researcher. We first distributed the questionnaires in packs to 50 team managers or supervisors, who then passed them to their subordinates. Each survey pack included a cover letter explaining the general purpose of the study and stating that participation was voluntary. Respondents were instructed to complete the survey individually and to use the pre-addressed envelope to return it directly to us. A total of 265 usable responses were returned. The sample size for each organization ranged from 4 to 7, with a mean of 5.3.

Fifty-three percent of the employees were male. With regard to age, 57% were aged 20–29, 32% were 30–49, and the rest over 49. In terms of educational background, 64.3% had a bachelor's degree or higher, and the rest had a secondary-level education or below. For the supervisors, 72% percent were male, 10.7% were aged 20–29, 69% were 30–49, and the rest over 49. Of the supervisors, 92.8% had a bachelor's degree or higher, and the rest had a college- or secondary-level education. All supervisors were middle- or senior-level managers within the organization. Organization size ranged from small (23% had fewer than 300 employees), to fairly large (31% had above 2000 employees).

### 2.2. Measures

A seven-point scale was used for all of the study measures, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). All of the measures used in the current analysis were originally developed in English. We invited two bilingual professional experts to translate the measures into Chinese using the back-translation method. The two translators worked independently to complete the English-to-Chinese and Chinese-to-English translations. Discrepancies between the English and Chinese versions were then identified, discussed, and revised by the experts to assure semantic equivalence.

#### 2.2.1. Pilot study

We used a pilot study before a large-scale survey was conducted. We invited 22 full-time Chinese employees who worked in hospitality industry to join our focus group interview. This objective was to examine the level of compensation difference between expatriates and locals and employees' perceptions of the gap. We then distributed our questionnaires to these 22 employees and invited them to provide a detailed comment about each question items. If there is any unclear or ambiguous sentence or word, we will modify and correct it.

#### 2.2.2. Work stress

Employee's work stress was measured using Cavanaugh et al. (2000) six-item scales of challenge-related stress and five-item scales of hindrance-related stress. *Challenge-related stress* items include "Many projects and assignments" "Experience time pressures on the job" "Spend long time at work" "Heavy responsibility at work" "A lot of work much be accomplished in the allotted time" and "Position entails a lot of responsibility." On the other hand, *hindrance-related stress* items were "Don't clearly understand what is expected on the job" "Experience low levels of job security" "Different supervisors have different requirements" "Organizational politic" and "Performance goals keep changing."

#### 2.2.3. Task feedback from supervisor

Two forms of supervisory task feedback were adapted from George and Zhou's (2001) seven-item scale to measure both positive and negative task feedback from the supervisor. *Positive task feedback* consisted of three items, including "Tell me that I do a good job", "Tell me that my performance is excellent", and "Give me positive task feedback." *Negative task feedback* consisted of four items, including "Criticize my work", "Indicate that he/she is not happy with my work", "Give me negative task feedback", and "Tell me that my task performance is not up to standard."

#### 2.2.4. Employee creativity

Team managers or supervisors were asked to assess their subordinates' individual creativity. We used Zhou and George's (2001) 13-item scale to measure this. Example items included "Suggests

**Table 1**

Means, standard deviations, correlations, and reliabilities (in parentheses).

Variable	M	SD	1	2	3	4	5	6	7	8	9
1. Age	29.83	7.68	–								
2. Gender	.58	.47	.3	–							
3. Education	1.13	.55	–.15*	.10	–						
4. Organizational tenure	7.69	3.15	–.19**	.06	–.12	–					
5. Employee creativity	5.01	.76	.06	.08	.07	–.09	(.88)				
6. Challenge-related stress	4.84	.98	.00	.01	.04	.10	.18**	(.86)			
7. Hindrance-related stress	3.34	1.11	.01	.00	.02	.06	–.06*	.27**	(.80)		
8. Positive task feedback	5.04	1.07	.03	.14*	.08	.14*	.28**	.17*	–.26**	(.85)	
9. Negative task feedback	4.78	1.31	.00	.02	.05	.02	–.11	.15*	–.41**	–.22**	(.90)

Note: (N=265). Scale reliabilities are shown in parentheses on the diagonal.

\*  $p < .05$ .\*\*  $p < .01$ .

new ways to achieve goals or objectives" and "Comes up with new and practical ideas to improve performance."

### 2.2.5. Control variables

We controlled for several demographic variables that were not of direct interest but have been shown in prior studies to be related to employee creativity (Janssen, 2004; Shin and Zhou, 2003), such as age, gender, education, and year(s) with current company. Gender was coded as 1=female and 0=male. Education was coded into two categories (University level or above=1 and Secondary level or below=0). Age and tenure were assessed in terms of years.

### 2.2.6. Analyses

We used hierarchical regression analyses to test our hypotheses about the two-way interaction effects of the two dimensions of work stress, two forms of supervisory task feedback, and employee creativity. The work stress and supervisory task feedback scales were centered at their means before computing the interaction analyses (Aiken and West, 1991). To enable any significant interaction effects to be more closely examined, we plotted the simple slope of the work stress and employee creativity regression at one standard deviation above and below the mean of each item of positive and negative task feedback from the supervisor, and tested whether each slope was significant, according to Aiken and West's (1991) recommendation. In addition, we performed confirmatory factor analyses (CFA) to investigate the discriminant validity of the factor structures of work stress and task feedback from supervisors. Overall model fit was assessed by the comparative fit index (CFI),

the incremental fit index (TLI), and the root mean square error of approximation (RMSEA; Browne and Cudeck, 1992).

## 3. Results

To assess discriminant validity, we first conducted a CFA on the items comprising the two dimensions of work stress and the two forms of supervisory task feedback. Three baseline models were computed. The results showed a good fit for the four-factor model, where all items loaded on their intended constructs ( $\chi^2 = 433.26$ ,  $df = 98$ ,  $p < .01$ ; CFI = .95; TLI = .96, RMSEA = .06). Next, we computed a two-factor model which combined the items for challenge- and hindrance-related stress, and combined the items of positive and negative task feedback from the supervisor. This two-factor model yielded a poorer fit to these data ( $\chi^2 = 635.38$ ,  $df = 123$ ,  $p < .01$ ; CFI = .79; TLI = .80, RMSEA = .09). Finally, a one-factor model, where all items were constrained to load on a single factor, yielded a poor fit ( $\chi^2 = 2655.27$ ,  $df = 135$ ,  $p < .01$ ; CFI = .51; TLI = .52, RMSEA = .11). The hypothesized four-factor model better fit these data than both the two-factor ( $\Delta\chi^2 = 202.12$ ,  $\Delta df = 25$ ,  $p < .01$ ) and single-factor ( $\Delta\chi^2 = 222.01$ ,  $\Delta df = 37$ ,  $p < .01$ ) models, which supported the discriminant validity of each variable (Andre and Werner, 2005).

Table 1 presents the means, standard deviations, correlations, and reliability coefficients (in parentheses) of all the variables in the study. Except for negative task feedback, all the bivariate relationships indicate that the two dimensions of work stress and positive task feedback from supervisor were significantly related to employee creativity.

**Table 2**

Hierarchical regression analysis result for two aspects of work stress and positive task feedback on employee creativity.

Statistics	Variables	Creativity		
		Model 1	Model 2	Model 3
<i>Step 1: Control variables</i>				
Age	.08	.06	.06	.06
Gender	–.17*	–.16*	–.16*	–.14
Education	–.14	–.15*	–.15*	–.15*
Year(s) work in this company	–.04	–.07	–.07	–.06
<i>Step 2: Main effects</i>				
Challenge-related stress (challenge)		.28**	.25**	.25**
Hindrance-related stress (hindrance)		–.22**	–.20*	–.20*
Positive task feedback from supervisor		.31***	.29***	.29***
<i>Step 3: Interaction terms</i>				
Challenge*positive task feedback			.21**	.21**
Hindrance*positive task feedback			–.18*	–.18*
<i>R</i> <sup>2</sup> (adj)		.15	.21	.25
<i>F</i>	6.49**	8.21***	9.47***	9.47***
$\Delta R^2$		.03	.04	.04
$\Delta F$		3.37**	5.43**	5.43**

Note: (N=265). The coefficients are standardized beta weights.

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

**Table 3**

Hierarchical regression analysis result for two aspects of work stress and negative task feedback on employee creativity.

Statistics	Variables	Employee creativity		
		Model 1	Model 2	Model 3
Step 1: Control variables				
Age	.06	.07	.06	
Gender	-.17*	-.16*	-.13	
Education	-.12	-.13	-.15*	
Year(s) work in this company	-.04	-.03	-.03	
Step 2: Main effects				
Challenge-related stress (challenge)		.26**	.23**	
Hindrance-related stress (hindrance)		-.23**	-.20**	
Negative task feedback from supervisor		-.08	-.05	
Step 3: Interaction terms				
Challenge*negative task feedback			-.17*	
Hindrance*negative task feedback			.19**	
<i>R</i> <sup>2</sup> (adj)		.17	.24	.28
<i>F</i>		6.68**	7.97***	8.32***
Δ <i>R</i> <sup>2</sup>			.03	.03
Δ <i>F</i>			5.32**	4.56**

Note: (N=265). The coefficients are standardized beta weights.

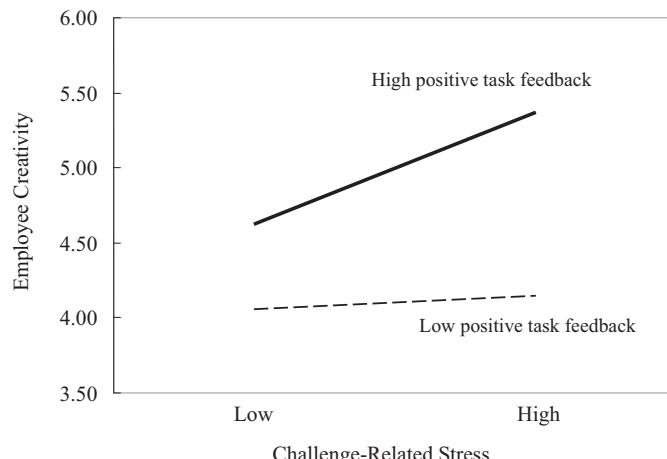
\*  $p < .05$ .\*\*  $p < .01$ .\*\*\*  $p < .001$ .

To examine the interactional relationship between work stress and supervisory task feedback on employee creativity, we tested two hierarchical regression models (see **Tables 2 and 3**) with positive or negative task feedback as moderator. Model 1 reports the results for the control variables, Model 2 adds the main effects of the two dimensions of work stress and each form of supervisory task feedback, and Model 3 adds the interaction terms for the above constructs. Model 3 also presents the results of the analysis to test whether the hypothesized moderation effects were significant.

### 3.1. Hypotheses testing

**Hypothesis 1a and b** predicted that challenge-related stress will be positively related to employee creativity while hindrance-related stress will be negatively related to employee creativity. As predicted, results show that challenge-related stress was positively related to creativity (**Table 2**,  $\beta = .28, p < .01$ ; **Table 3**,  $\beta = .26, p < .01$ ) and hindrance-related stress was negatively related to employee creativity (**Table 2**,  $\beta = -.22, p < .01$ ; **Table 3**,  $\beta = -.23, p < .01$ ). Therefore, **Hypothesis 1a and b** were supported.

**Hypothesis 2** predicted that positive task feedback from supervisor will moderate the positive relationship between

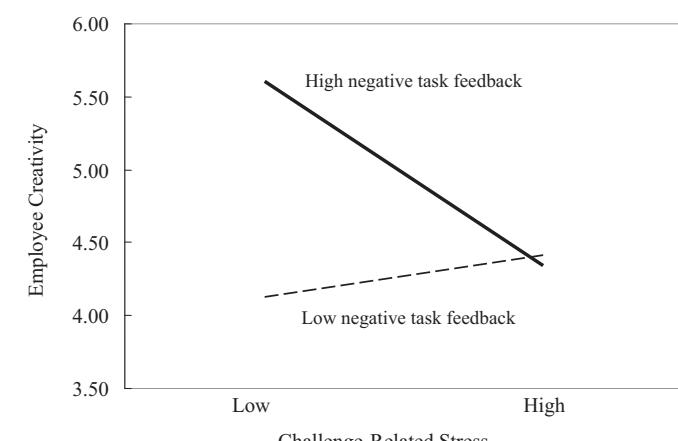


**Fig. 1.** Moderation effect of positive task feedback from supervisor on the relationship between challenge-related stress and employee creativity.

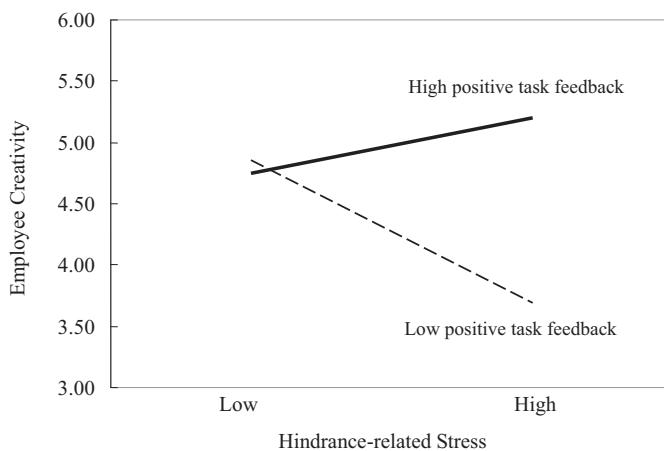
challenge-oriented stress and employee creativity such that it will be stronger when positive task feedback is high. **Table 2** shows that the two-way interaction terms for challenge-related stress and positive task feedback were significant on employee creativity ( $\beta = .21, p < .01$ ). Tests of simple slopes, as displayed in **Fig. 1**, indicates that the relationship was positively significant when positive task feedback from supervisor was high (simple slope = .61,  $p < .01$ ). When positive task feedback was low, the relationship did not change and was not significant (simple slope = .08, n.s.). Thus, **Hypothesis 1** is supported.

**Hypothesis 3** predicted that negative task feedback from supervisor will moderate the positive relationship between challenge-oriented stress and employee creativity such that it will be stronger when negative task feedback is low. **Table 3** shows that the two-way interaction term for challenge-related stress and negative task feedback was negatively significant on creativity ( $\beta = -.17, p < .05$ ). Tests of simple slopes, displayed in **Fig. 2** indicates that the relationship was positive and significant when negative task feedback was low (simple slope = .33,  $p < .05$ ). When it was high, the relationship was negative and significant (simple slope = -.71,  $p < .01$ ). Thus, **Hypothesis 2** is supported.

**Hypothesis 4** predicted that positive task feedback from supervisor will moderate the negative relationship of hindrance-oriented



**Fig. 2.** Moderation effect of negative task feedback from supervisor on the relationship between challenge-related stress and employee creativity.



**Fig. 3.** Moderation effect of positive task feedback from supervisor on the relationship between hindrance-related stress and employee creativity.

stress and employee creativity such that it will be weaker when positive task feedback is high. As shown in *Table 2*, the two-way interaction term was negatively significant on employee creativity ( $\beta = -.18, p < .05$ ). Tests of simple slopes, displayed in *Fig. 3*, indicate that the relationship was significant when positive task feedback was high (simple slope = .36,  $p < .05$ ). When it was low, the relationship between hindrance-related stress and creativity was negative and significant (simple slope =  $-.59, p < .01$ ). Thus, *Hypothesis 3* is supported.

*Hypothesis 5* predicted that negative task feedback from supervisor will moderate the negative relationship of hindrance-oriented stress and employee creativity such that it will be weaker when negative task feedback is low. As shown in *Table 3*, the two-way interaction term was positive and significant on employee creativity ( $\beta = .19, p < .05$ ). Tests of simple slopes, displayed in *Fig. 4*, indicates that the relationship was negatively significant when negative task feedback was high from supervisor (simple slope =  $-.62, p < .01$ ). However, when it was low, the relationship was not significant (simple slope = .02, n.s.). Thus, *Hypothesis 4* is also supported. All four moderation hypotheses are supported and these results are consistent with our predictions and theoretical arguments.

#### 4. Discussion

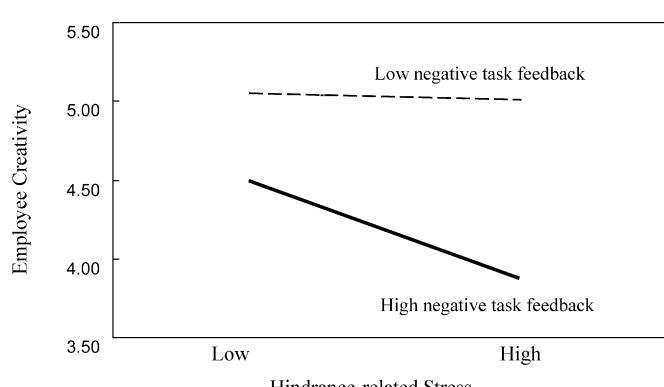
This study confirms previous findings from the work stress literature (Cavanaugh et al., 2000; LePine et al., 2005; Podasakoff et al., 2007) that service employees in the hotel industry frequently face pressures such as heavy workload, insufficient time,

high responsibility, role ambiguity, role conflict, and job insecurity. Accordingly, it is common to experience various kinds of work stress in the service industry. The results of this study demonstrate that work stress is not necessarily a bad or undesirable outcome for organizations. Organizations interested in improving employee creativity need to be discriminating in their interpretation of levels of work stress. We found that challenge-related stress is related to high employee creativity, which ultimately increases organizational effectiveness. Organizations should focus on eliminating hindrance-related stress. For example, reducing the stress associated with job insecurity, role ambiguity, or role conflict in the workplace may require more systemic changes in the organization's culture, and approach to employee relations, or both.

In addition, our study found that supervisory task feedback is an important boundary condition that makes challenge-related stress come to be regarded as "good," and so positively related to employee creativity, which is damaged by hindrance-related work stress. However, hindrance stress in some situations (such as task feedback from a supervisor) can also promote employee creativity even though it is regarded as "bad." As indicated above, the purpose of this study was, (1) to examine both positive and negative task feedback from supervisors that may facilitate or inhibit individual creativity; and (2) to challenge the assumption that work stress will always be associated with negative outcomes. The results of this study provide several theoretical and practical implications for hotel managers operating in the fast-changing business environment.

From a theoretical point of view, the voice literature suggests that task feedback from supervisor is an important aspect of the social context that may channel employee work stress into creativity (Withey and Cooper, 1989; Zhou and George, 2001). Employees may choose to use creativity as an expression of voice when they are under stress and pressure at work. Supervisory task feedback as an organizational signal gives rise to the perception that creative performance has the potential to be effective and so new and useful ideas can be produced that supervisors in the organization will support (LePine and Van Dyne, 1998). More specifically, positive task feedback from supervisors reinforces employees' confidence regarding prior performance (Amabile and Khaire, 2008; Fodor and Carver, 2000), and this psychological motivation can minimize the negative effect of conflicting role requirements or unclear job demands in the workplace. Task-focused feedback from supervisors can also help to shift the efforts of those employees who are tired of organizational politics and concerned about their job security toward creative action. This line of argument is consistent with Zhou and George's (2001) work suggesting that unhappy employees who stay in their organization tend to actively engage in creative behavior to improve unfavorable situations. These results can be reconciled with the conceptual framework developed by the current study on the basis of the existing literature on voice behaviors, work stress, and creativity (Amabile et al., 1996; Cavanaugh et al., 2000; Oldham and Cummings, 1996), by showing that dimensions of work stress can promote and inhibit employee creativity, and this association is dependent upon various forms of task feedback from supervisors.

Additionally, prior research suggests that in order for challenge and hindrance stressors to lead to creativity as an expression of voice, employees must perceive that their creative efforts will be effective. This is because that these behaviors, although having the potential to improve work stress, are not without cost (Withey and Cooper, 1989). Creativity carries certain risks because the new ideas may or may not deliver the intended positive outcomes (Zhou and George, 2001). Our results showed that employees who experienced pressure at work were more likely to be creative when their supervisors had provided them with positive and useful feedback enabling them to make improvements on the job. We reasoned that



**Fig. 4.** Moderation effect of negative task feedback from supervisor on the relationship between hindrance-related stress and employee creativity.

supervisory task feedback might have contributed to the employees' belief that their creative actions would be effective because (1) it directed the employees' attention toward learning and making improvements on the job, in the process of which they might be stimulated to generate new and useful ideas, and (2) it increased their confidence that their creative ideas had a good chance of being supported by supervisors and subsequently implemented. Thus, creativity, as an expression of voice, is an active and constructive response to work stressors.

#### 4.1. Managerial implications

From a practical point of view, service employees in the hotel industry frequently face problems of role ambiguity and conflict, job insecurity, heavy workload, and lack of time. Work stress has long been considered to be a detrimental construct in the world of work which affects service quality and organizational effectiveness; negative outcomes are expected (Glazer and Beehr, 2005; Hamilton et al., 1993; Jex et al., 2001). The results of this study demonstrate that work stress is not necessarily regarded as a "bad" or undesirable outcome for organizations, especially when creativity is used as an expression of voice. This is an interesting yet underdeveloped area in the specific area of the hospitality sector. Under favorable contextual conditions, such as the opportunity to receive task feedback from supervisors, challenge and hindrance stressors can be redirected into a positive outcome – employee creativity. Future research is needed to identify and investigate whether there are other social–contextual variables, including organizational cultures, trust in supervisors, and coworker behaviors (Hon, 2011; Hon and Leung, 2011; Stamper and Johlke, 2003), that might also have a useful impact on this process.

Secondly, our results suggest that various forms of supervisory task-focused feedback can play a positive role in shifting work stress into creativity. That is, when employees who experience a high level of pressure at work, but for whom the cost of quitting is too high, perceive their supervisors as giving them high levels of advice and support, they will exhibit a high level of creativity. Hotel managers should be aware that coming up with new and useful ideas is a real challenge in organizations, and if employees feel their efforts will be unsuccessful, they may react to stress passively rather than actively. Specifically, if hotel managers provide useful and positive task feedback, staff under stress will know that they have someone available to consult when problems arise and that their supervisors will be willing to share their knowledge and feedback to solve problems and ensure that new ideas are viable.

Lastly, hotel managers should understand that reducing work stress is not always associated with favorable outcomes when managing employees in a changing and competitive environment. Service employees experiencing stress can realize the potential benefits of creativity to move away from the unfavorable situation when they receive positive feedback, by making their working environment more flexible or coming up with new ways to perform their tasks. This can help to minimize the level of incompatibility in their job requirements and role conflict (Zhou and George, 2001). Additionally, when the external market is turbulent (such as in a economic downturn or financial crisis), if organizational restructuring or downsizing is necessary to maintain a competitive advantage, hotel managers might view employees' heavy workloads or concerns about job security as an opportunity for encouraging new and useful ideas, rather than as a problem requiring tight controls or the introduction of rigid policies. In practice, hospitality managers should acknowledge that work stress is not always associated with unfavorable outcomes when managing employees.

#### 4.2. Limitation and direction for future research

This research has several limitations that should be addressed in future research. First, we employed a cross-sectional design, which does not allow an evaluation of the causal directions proposed and the temporal dynamics implied. Alternative explanations based on a different causal ordering could be proposed. A longitudinal design would be preferable to a cross-sectional design because it allows researchers to trace patterns of change over time and explore causal directions and reciprocal relationships (Williams and Podsakoff, 1989). However, our findings focus on moderation effects which are complex and coherent (Aiken and West, 1991); it is less possible to generate reasonable alternative explanations for them based on sampling biases (Evans, 1985).

Second, the sample was drawn from only one Chinese city (Beijing), which may deviate from other areas; accordingly, we cannot address the issue of generalizability. However, we surveyed a sizeable number of full-time service workers in hotel organizations. Moreover, our theorizing is not tied to any specific organizational or cultural context, so it will be important to replicate our findings in different contexts. Lastly, although employees' creative performance was rated by supervisors, the work stress and supervisory task feedback measures were self-reported at the individual level. Future studies may wish to include additional objective measures of these variables.

Nonetheless, future research is needed to identify whether other categories of stress exist in addition to challenge- and hindrance-oriented stress, and whether other contextual variables such as leadership style, management policies and practices, organizational reward systems, and intrinsic motivation (Hon, 2011; Shalley and Gilson, 2004) might also be useful in shifting work stress into positive or negative work outcomes. In addition, it would also be interesting to examine the effect of stress on other job outcomes such as performance and on psychological outcomes such as employees' trust and helping behaviors toward their boss (Hon and Leung, 2011). Lastly, managers should understand that employees have different personal characteristics and different needs for achievement, power, or affiliation; it would be interesting to see how these characteristics interact with work-related stress in terms of employee creativity and other work outcomes.

To sum up, this study contributes to the literature on work stress, voice behavior, and creativity and provides interesting implications for managing work stress and creativity in the hotel industry in two important ways. Firstly, few other studies have addressed the issue of how and to what extent employees experiencing high levels of stress in various forms will have their creativity promoted or inhibited. Furthermore, organization decision makers often complain about the difficulty of helping employees to overcome work stress and the strength of resistance to change (Woodman, 1989). This study has also showed that work stress is not always bad, and that by ensuring that supervisors provide positive and useful task feedback, employees may be able to channel it into creativity. Employee creativity may result in the development of novel and useful ideas that will not only help eliminate the sources of stress, but also improve organizational effectiveness. Hospitality employees who are discontented with the status quo may be a valuable resource in initiating change and overcoming this kind of inertia. Our results suggest that in order to take advantage of this potential problem, hotel managers need to ensure that supervisors provide task-focused feedback and support for creativity.

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