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## Work stress and well-being in the hotel industry

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## ABSTRACT

Employee stress is a significant issue in the hospitality industry, and it is costly for employers and employees alike. Although addressing and reducing stress is both a noble goal and is capable of resulting in expense reductions for employers, the nature and quantity of hospitality employee stress is not fully understood. The first aim of this study was to identify common work stressors in a sample of 164 managerial and hourly workers employed at 65 different hotels who were each interviewed for eight consecutive days. The two most common stressors were interpersonal tensions at work and overloads (e.g., technology not functioning). The second aim was to determine whether there were differences in the types and frequency of work stressors by job type (i.e., managers versus non-managers), gender, and marital status. Hotel managers reported significantly more stressors than hourly employees. There were no significant differences by gender or marital status. The third aim was to investigate whether the various stressors were linked to hotel employee health and work outcomes. More employee and coworker stressors were linked to more negative physical health symptoms. Also, interpersonal tensions at work were linked to lower job satisfaction and greater turnover intentions.

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## 1. Introduction

Stress at work is a ubiquitous and multifaceted phenomenon (Lazarus, 1993) that is costly for organizations because it contributes to expensive voluntary turnover (Villanueva and Djurkovic, 2009). Work stress can be a particular problem in customer-oriented fields because employees often experience conflicting demands of the company, supervisors, and customers, and these conflicts create dissonance for employees (Ruyter et al., 2001).

Investigation into the nature and dimensions of work stress among employees is the first step in the management of this aspect of work (Cooper and Payne, 1988). Although there exists general agreement that addressing and reducing stress in the hospitality industry is not only a noble goal, but is capable of resulting in expense reductions for employers (Cooper and Dewe, 2008), the nature and quantity of hospitality employee stress is not fully understood. Research regarding stress in the hospitality industry remains an understudied topic with rich potential for positively affecting peoples' lives. Only by understanding the specific triggers of stress can workers be helped to effectively alleviate it. This article presents the results of recent research conducted in the hotel

industry aiming to uncover the types, frequencies, and outcomes of work-related stressors of both hotel managers and hourly employees.

The present study is based on the Job Strain Model proposed by Karasek (1979), who postulated that psychological strain is due to the combined effects of job demands and other factors. Specifically, a high strain job includes high job demands, or workplace stressors. Job strain can manifest itself as poor mental health, physical health problems, and job dissatisfaction and performance problems (Karasek, 1979; Karasek and Theorell, 1990). Testing the resources part of the Karasek model was beyond the scope of the paper. Given how little is known about stress and well-being in the hospitality industry, this study focused on the links between job demands and individual and work outcomes.

## 2. Literature review

Research has shown a negative correlation between job stress and quality customer service delivery, that is, less stressed employees provide better customer service than more stressed ones (Varca, 1999), and customer service employees reporting chronic stress exhibit particularly poor job performance (Beehr et al., 2000). In general, work-related stress has been shown to result in declines in the quality of employee job performance (Gilboa et al., 2008; Lepine et al., 2005), increases in exhaustion, decreases in employee ability to learn (Lepine et al., 2004), more depressive symptoms, hostility (Motowidlo et al., 1986), and withdrawal (Gupta and Beehr,

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1979). However, there is very limited literature of this type in the hospitality industry, and a lack of understanding regarding the nature, quantity and outcomes of stress among hospitality industry employees.

Within the hospitality industry, work stress has been regarded as one of the most important issues facing managers because, among other things, it affects the performance of all levels of employees, including both managers and hourly employees (Ross, 1995). Recent research has found that employee stress in the hospitality industry is important because it can result in workers becoming exhausted and cynical (Kim, 2008) which can have negative effects on service delivery. Stress within the hospitality industry has been qualitatively and moderately correlated with employee physiological symptoms, including headaches, fatigue, indigestion, ulcers, blood pressure, heart attacks, and strokes (Krone et al., 1989), and thus may result in decreased productivity and increased health care costs for the hospitality employer.

Prior research outside the hospitality industry has shown that work stress is linked to stress-related illnesses (Karasek and Theorell, 1990). Other research has shown that work stress results in not only increased blood pressure at work, but also physiological reactions that continue after employees have left work, and potentially health-impairing responses to jobs carry over to home settings and pose a high long-term risk of health impairment (Fox et al., 1993). Besides the cost to employers' health care expenditures, the cost to society is an issue, as well.

### 3. Present study

The present study aims to identify and explore what are common work stressors among employees at numerous hotels, and the extent to which these stressors occur. Given earlier research suggesting that workplace stress may be most acute in customer service fields, one may expect that guest-related stress may be particularly common in the hotel industry. Further, this study also develops and tests hypotheses examining whether there are significant differences in the types and frequency of work stressors by job type (managers or hourly employees), gender, and marital status. Finally, this study linked frequency of stressors to physical health symptoms, job satisfaction, and turnover.

#### 3.1. Hypotheses development

Prior research has revealed that individuals have a variety of different types of stressors in their daily lives, including interpersonal tensions, overloads at work, and arguments at work and at home, but that the most common type of stressor is interpersonal tension (Almeida and Horn, 2004). However, prior research in this regard has been in a general context outside the hospitality industry, and this study is specifically interested in discovering the most common stressors among employees in the hotel industry. As will be discussed later, the authors believe there is reason to think that the problem of stress is a particular issue in the 24/7 hotel business, and that while the quantity of stress may be relatively high in the hotel industry, the types of stress experienced among hotel employees may be typical of those experienced outside the hotel industry. Although the problem of stress may be acute in hotels, it is reasonable to believe that the most common stressor among hotel employees would likely be the same as among a more general population. Therefore, the following hypothesis is presented:

**Hypothesis 1.** The most common stressor among hotel employees will be interpersonal tensions, compared to arguments at work,

employee and coworker stressors, hotel guest stressors, and overloads at work.

Extant research has found significant positive correlations between people being overcommitted at work and experiencing stress and related problems (Siegrist and Theorell, 2006). Specifically, research has shown there to be a higher negative correlation between stress and job performance among managers than non-managers (Gilboa et al., 2008). Prior research regarding stress in the hospitality industry has not empirically analyzed differences in stress among managers and non-managers, but due to their relatively high levels of responsibility and long working hours, hotel managers could be expected to experience greater degrees of stress than would hourly employees. Therefore, the following hypothesis is proposed.

**Hypothesis 2.** Hotel managers will report a higher frequency of daily work stressors than hourly employees.

Other research has reported gender differences in stressful experiences, with women generally experiencing greater daily stress (Almeida and Kessler, 1998) and greater occupational stress (Michael et al., 2009) than men. Research has also shown that gender can moderate the associations between stressors and outcomes such as physical symptoms, job satisfaction, turnover, and burnout (Cooper and Payne, 1992). Prior research regarding stress in the hospitality industry has not empirically analyzed the level of stress experienced by men versus women. Thus, the following hypothesis is presented.

**Hypothesis 3.** Women, regardless of position, will report greater frequency of daily work stressors than men.

Prior research has suggested that married employees tend to experience different types and levels of stress than unmarried employees (Kessler, 1979; Thoits, 1987). In addressing issues related to their spouse, married employees could experience more stress than single employees. However, prior research regarding stress in the hospitality industry has not empirically analyzed the levels of stress experienced by married versus single employees. Therefore, the following hypothesis is made.

**Hypothesis 4.** Married employees will report greater daily work stressors than non-married employees.

Existing research conducted outside the hospitality industry has shown links between stressors and experiencing outcomes such as negative physical symptoms (Cooper and Payne, 1992). It would be reasonable to expect that hotel employees experiencing relatively greater levels of stress may also experience a greater number of negative physical symptoms, such as headaches, muscle soreness, backache, and dizziness. However, prior research regarding stress in the hospitality industry has not empirically analyzed physical symptoms experienced by employees. Therefore, the following hypothesis is proposed:

**Hypothesis 5.** Employees reporting greater daily stressors will experience more negative physical symptoms.

There is mixed evidence with regard to the relation between work stress and work outcomes. Several studies have nonetheless shown a negative link between stress and job satisfaction (e.g., Richardson and Burke, 1991) and a positive link between stress and turnover (e.g., Hemingway and Smith, 1999; Keller, 1984). With a sample of U.S. managers, Cavanaugh et al. (2000) showed that self-reported work stress was significantly related to both lower job satisfaction and higher turnover. Based on these findings, the following hypothesis is presented.

**Table 1**  
Background characteristics of hotel managers ( $N=98$ ) and hourly employees ( $N=66$ ).

	Hotel managers			Hourly employees		
	<i>M</i>	<i>SD</i>	Range	<i>M</i>	<i>SD</i>	Range
Age (years)	38.01	9.70	23–61	40.32	7.40	24–55
Education (years)	14.99	1.58	12–18	12.98	1.52	11–16
Annual income	\$60,230	\$23,444	\$24,000–140,000	\$26,194	\$9806	\$1525–45,000
Hotel worked per week	57.12	10.50	32–100	35.69	12.09	8–54
Years in hotel industry	13.28	8.85	0.58–35.00	9.88	7.58	1–33
Years in position	3.64	4.27	0–20.00	4.94	4.81	.08–20.58

**Hypothesis 6.** Employees reporting greater frequency of work stressors will report lower job satisfaction and higher turnover intent.

## 4. Method

### 4.1. Participants and procedures

Participants for this study were recruited from 65 full-service hotels located across the United States and identified through initial contact with the president of the American Hotel & Lodging Association (who served on an advisory council related to this research project) and representatives with municipal hotel associations in New York, Washington, DC, Atlanta, Orlando, Chicago, Saint Louis, Kansas City, Denver, Los Angeles, and San Francisco. The researchers explained to the representatives of the municipal hotel associations that the purpose of this study was to explore issues related to work and family, including stress, at numerous levels in the hotel industry through interviews with hotel managers and hourly employees. These initial contacts with association representatives were followed by personal visits with hotel general managers, followed by on-site recruiting of other employees and then telephone interviews for eight consecutive days. The telephone interviews typically occurred at the employees' homes, and the interviews pertained to employee experiences during the prior 24-h period. Full-service hotels were the subject of this study because the investigators desired to focus on hotel properties in which numerous managers and hourly workers were employed. The sample represents all U.S. regions and several different hotel location types, including city (47.7%), suburb (15.2%), airport (15.2%), and resort (21.9%). Participants from most major hotel companies, including Marriott, Hilton, Hyatt, InterContinental, Starwood, Kimpton, Fairmont, and Wyndham were included in this study, including both franchised and corporate-managed units.

The data presented here are from hotel managers ( $N=98$ ) and hourly employees ( $N=66$ ) who completed a baseline survey followed by daily diary telephone interviews for eight consecutive days. Though it was challenging to recruit and retain subjects for eight consecutive days, subjects were interviewed over that time period based on precedent established in prior daily diary research (Almeida et al., 2002) and to maximize likelihood of interviewing subjects on both work and non-work days. Subjects received \$50 gift cards in return for their participation. A slight majority (53%) of managers was men and 58% were parents. Seventy-eight percent of managers were married. Eighty percent of hourly employees were women and slightly more than half (55%) of the hourly employees were married. Table 1 displays background characteristics of the sample.

There were significant differences between the two groups of employees. Hotel managers had significantly more education ( $t(158)=7.97, p<.01$ ), higher incomes ( $t(136)=12.28, p<.01$ ), worked significantly more hours per week ( $t(159)=11.93, p<.01$ ), and had been in the hotel industry longer ( $t(159)=2.56, p<.05$ ), on average, than hourly employees.

### 4.2. Measures

*Daily stressors* were measured using the Daily Inventory of Stressful Events (DISE; Almeida et al., 2002). During daily telephone calls for eight consecutive days, interviewers asked a series of stem questions about whether the hotel worker had experienced stressors during the prior 24 h. The daily diary design is an innovative design that researchers are increasingly using to "capture life as it is lived." Rather than asking respondents to average their experiences across the past month or year, respondents are asked to describe experiences each day. This approach reduces recall bias and provides more detailed information regarding the source, severity, and frequency of stressors by asking the respondent the same day the event occurred.

Work stressors included work arguments, work tensions, employee or coworker related stressors, stressors involving hotel guests, and general work overloads (e.g., elevator malfunctioning). For each stressor experienced by subjects, interviewers probed regarding the content, the focus of who was involved, perceived threat (e.g., disappointment, loss), severity, and appraisal (i.e., areas of life that were at risk because of the stressor). For the present analysis, the focus was on the occurrence of stressors. Stressors were coded as 0 = no stressor and 1 = stressor. The mean across the 8 days was calculated for each stressor; the value represented the percent of days each type of stressor was experienced.

The stressor variables were not normally distributed, and therefore, neither were the residuals. The stressor variables were positively skewed, with more people reporting stressors (coded as 1) on fewer than half of the days. Two data transformations were conducted to adjust for the skewness. A constant of one was added to the stressor variables (due to some values being equal to 0), and then the log was calculated. This transformation did not improve the distribution. The second transformation involved taking the square root of the stressor variables. This change corrected the positive skewness, making the variables normally distributed. The models were run with the transformed variables and the results and inferences were virtually identical; therefore, the variables were maintained in their original form.

#### 4.2.1. Moderators

*Job type* was coded as 0 for managers and 1 for hourly employees. *Gender* was coded as 0 for women and 1 for men. *Marital status* was coded 0 for single and 1 for married.

#### 4.2.2. Outcomes

*Physical symptoms* were assessed using the symptoms checklist from the Midlife in the United States (MIDUS) study (Brim et al., 2004). Participants were asked whether 16 physical symptoms occurred during the prior 2 weeks, such as headaches, muscle soreness, backache, and dizziness. Each symptom a participant experienced was checked so that affirmative responses could be summed to create a variable reflecting the total number of physical health symptoms during the 2-week period. Participants reported 4.17 ( $SD=2.99$ ) symptoms, on average, and the range was 0–13.

**Table 2**  
Type and frequency of daily work stressors experienced by hotel managers ( $N=96$ ) versus hourly employees ( $N=66$ ).

	Hotel managers		Hourly employees	
	M	SD	M	SD
Work arguments	.13*	.18	.07	.14
Interpersonal tensions	.23**	.23	.11	.14
Employee/coworker stressors	.14**	.19	.04	.09
Hotel guest stressors	.09**	.14	.03	.07
Work overloads	.20**	.24	.08	.15
Any stressors	.62**	.26	.40	.26

\*  $p < .05$  indicating whether stressor is significantly more common among managers than hourly employees.

\*\*  $p < .01$  indicating whether stressor is significantly more common among managers than hourly employees.

*Job satisfaction* was assessed using a 3-item measure adapted from Friedman and Greenhaus (2000). The questions were revised from inquiring about satisfaction with family life to satisfaction with work life. Participants used a 5-point Likert scale to respond to questions, such as "You are satisfied with your present job situation." Responses were averaged so that larger numbers reflected greater job satisfaction. The scale reliability for this sample was .71.

*Turnover intentions* were assessed with two items using a 5-point Likert scale based on a review by Mobley et al. (1979). The first statement participants rated was, "You think a lot about leaving this hotel." The second was, "You are actively searching for an alternative to this hotel." Responses to the items, which were correlated at .78, were averaged.

#### 4.2.3. Covariates

*Education* was assessed with one question asking what was the highest level of education the participant completed. Responses ranged from 1 = 1 through 11 years of school to 21 = MD, JD, DO, DDS, or Ph.D.

The *work hours* variable represents the average hours worked at the hotel per week. Prior research has found significant positive correlations between negative physiological and psychological health symptoms and hours spent working (Sparks et al., 1997); therefore, work hours was included as a control variable.

## 5. Results

The first goal of the present study was to describe the type and frequency of daily work stressors experienced by hotel managers and hourly employees. Table 2 provides this information.

The frequency of stressors was calculated by averaging affirmative responses (i.e., yes the stressor occurred) across the 8 days each subject was interviewed. The most frequent type of stressor experienced by hotel managers was interpersonal tensions, such as trying to avoid an argument; managers reported experiencing such tensions at work on 23% of the days. The second most frequent work stressor for managers was work overloads, such as equipment breaking down, which occurred on 20% of the days. The other work stressors occurred on 9–14% of the days. Managers experienced any type of stressor on 62% of the days.

Like hotel managers, the two most frequent stressors experienced by hourly employees were interpersonal tensions and work overloads, which they had on 11 and 8% of the days, respectively. Work arguments, hotel guest stressors, and employee/coworker stressors occurred on only 3–7% of the days. Some type of stressor occurred on 40% of the days for hourly employees.

For both managers and hourly workers, interpersonal tensions were the most common workplace stressor; therefore, Hypothesis 1 was supported.

The second goal of the study was to determine whether frequency of daily stressors experienced differed by job type, gender, and marital status. Independent group  $t$ -tests were computed to investigate whether there were significant differences between the various groups. As shown in Table 2, hotel managers reported all types of stressors significantly more frequently across an 8-day period than hourly employees, specifically: work arguments ( $t(159)=2.34, p < .05$ ), work tensions ( $t(159)=3.94, p < .01$ ), employee/coworker stressors ( $t(147)=4.30, p < .01$ ), hotel guest stressors ( $t(149)=3.61, p < .01$ ), and work overloads ( $t(159)=3.72, p < .01$ ).

Because managers had significantly higher levels of education and worked significantly more hours per week, Hypothesis 2 was also tested by controlling for education and work hours and ordinary least squares regression models were run using PROC REG in SAS. The covariates were not significantly correlated ( $r=.12, p=.13$ ), therefore multicollinearity was not a concern. The covariates were grand mean-centered. The intercept represented a hotel employee with 2 years of college education working an average of 6.89 h/day who experienced no stressor. Even with these covariates in the models, managers reported significantly more work tensions, ( $B=.12, t(156)=2.96, p < .01$ ); employee/coworker stressors, ( $B=.07, t(156)=2.26, p < .05$ ); guest stressors, ( $B=.07, t(156)=2.76, p < .01$ ); and work overloads, ( $B=.09, t(156)=2.13, p < .05$ ) than hourly employees. The regression models were all significant (i.e.,  $F < .05$ ) and  $R^2$  ranged from .07 to .10. Therefore, Hypothesis 2 was supported.

There were no significant differences by gender. Therefore, Hypothesis 3 was not supported. No significant differences were discovered between married employees and unmarried employees based on work stressors. Thus, Hypothesis 4 was not supported.

To test Hypothesis 5, the number of physical symptoms was regressed on the frequency of each type of stressor, while controlling for education and work hours. More physical health symptoms were predicted by greater frequency of employee and coworker stressors, ( $B=3.22, t(156)=2.20, p < .05$ ). Employee/coworker stressors explained a significant proportion of the variance in physical health symptoms,  $R^2=.06, F(156)=3.14, p < .05$ . Frequency of experiencing any stressor also predicted physical health symptoms, ( $B=2.09, t(156)=2.37, p < .05$ ). This model was also significant,  $F(156)=3.95, p < .01$ , and accounted for 7% of the variance. Therefore, Hypothesis 5 was partially supported.

To test Hypothesis 6, regression analyses were conducted predicting job satisfaction and turnover intentions from the frequency of work stressors, still controlling for education and work hours. There was only one type of work stressor that predicted these work outcomes – interpersonal tensions – the most common stressor. Greater interpersonal tensions at work predicted lower job satisfaction, ( $B=-1.25, t(156)=-2.77, p < .01$ ); and accounted for 7% of the variance,  $F(156)=4.02, p < .01$ . Interpersonal tensions also predicted higher turnover intentions, ( $B=1.07, t(156)=2.12, p < .05$ ), and accounted for 8% of the variance,  $F(156)=4.38, p < .01$ . Therefore, Hypothesis 6 was partially supported.

## 6. Conclusion

### 6.1. Discussion and implications for practice

This research project identified the most common stressors and tensions among hotel employees, something that has not been previously done. Prior research conducted outside the hospitality industry has found stress to have deleterious effects on employee productivity, job performance, and customer service, and also to result in increases in hostility, withdrawal, and costly turnover and health care costs. The two most common stressors revealed in this

study were interpersonal tensions and overloads (e.g., technology malfunctioning).

The second aim of this study was to determine whether there were differences in the types and frequency of work stressors by job type (i.e., managers versus non-managers), gender, and marital status. Hotel managers reported significantly more stressors than hourly employees. There were no significant differences by gender or marital status.

The third aim of the project was to investigate whether the various stressors were linked to employee health and work outcomes. More employee and coworker stressors were linked to more negative physical health symptoms. Also, interpersonal tensions at work were linked to lower job satisfaction and greater turnover intentions. These outcomes raise important concerns for hospitality industry practitioners. First, the results suggest that employee health care costs could be high in concert with stress being high. Also, employee stress may result in costly turnover for hotels.

This research study found that as a group, hotel employees are relatively stressed-out, with hotel workers reporting stressors on 40–62% of days. These figures compare to a national (U.S.) diverse sample of subjects reporting stressors on only 25–44% of days (Almeida and Horn, 2004). Interestingly, employees reported much more employee-related than guest-related tensions and stressors. The message for the industry appears to be that although working with guests may at times be challenging and difficult, arguments and tensions among fellow employees turned out to be more prevalent than tensions and stressors related to guests in this study. On the other hand, typical hotel employees may often garner significant positive psychological nourishment from guests.

The stress situation appears to be particularly acute for hotel managers. Managers may experience more work stress because of their generally higher levels of responsibility. Hotel managers in this study worked an average of 57 h per week versus an average of 36 h per week for non-managers, a statistically significant difference. The greater number of hours worked by managers versus hourly employees may contribute, along with their level of responsibility, to managers' level of work stress. Thus, employee stress, and particularly managerial stress, should be a concern for hospitality industry practitioners. If hotel managers are going to work such hours in the long term, then hotel executives should consider ways to reduce those employees' stress, if not work hours. The result of not doing so could be additional organizational costs, as previously discussed.

A surprising result was that no significant differences were found based on gender or marital status. Although this result does not necessarily indicate that no such differences exist in the hotel industry, this study was not able to detect such differences in this sample of hotel workers, and therefore, these results are different from some prior research which found women to have greater stress than men (Almeida and Kessler, 1998) and married employees to have greater stress than unmarried ones (Kessler, 1979; Thoits, 1987).

Unlike most prior research regarding stress in the workplace, this study included an analysis of the relationship between stress and negative physical health symptoms. Higher stress, in general, predicted more negative physical health symptoms. Interestingly, this study found negative physical health symptoms to be related to stress from interpersonal problems, i.e., employee and coworker stressors, rather than technological problems, i.e., work overloads, even though both people problems and technological ones were frequently reported by the hotel employee subjects in this study. It is possible, therefore, that problems with other people have a more visceral effect on hotel employees' emotions, and as a result, have a more acute effect on their health, as well. Similarly, problems with people, i.e., interpersonal tensions, predicted hotel employees' job satisfaction and turnover intent rather than technological prob-

lems, i.e., work overloads, in this study. Hotel employees reporting relatively more interpersonal tensions at work were significantly less satisfied with their jobs and significantly more likely to be considering leaving their jobs to pursue alternative employment. In summary, these results appear to be congruent in that hotel employees who deal with more people problems at work are not only relatively less satisfied with their jobs and more likely to consider quitting their jobs, but they are more likely to experience deleterious health effects, as well. As previously discussed, both of these issues are concerns for hospitality industry practitioners due to the potential increase in operating costs.

## 6.2. Limitations and directions for future research

This study found a link between hotel employees' stress and their health. Although the results of this study have not established a concrete link between stress and organizational cost in the form of health care expenditures, it is important to note that such links have been made in prior research conducted outside the hospitality industry. Further, the results of this study suggest that stress problems appear to be most significant among hotel managers–employees who are particularly expensive to recruit, orient, and train. On the other hand, it is entirely plausible that not all stress results in negative outcomes. Some level of stressful experience may provide positive effects such as motivation or education, an area worthy of future investigation.

As with any research, the results of this study should be interpreted with qualifications. First, this study only includes employee self-reports regarding stress. Direct observation was not feasible, and furthermore, direct observation is prone to researcher bias. In addition, to recruit a sufficient number of employees from each hotel, employees of limited-service hotels were not included in this study. As limited-service hotels may have different requirements, challenges and culture for employees than full-service hotels, the results of this study may not be generalizable to the limited-service segment. Lastly, the subject study is limited to the United States, though it includes all regions of the U.S. Although it is beyond the scope of this study, future research should examine stress in non-U.S. cultures and then make cross-cultural comparisons.

Future research can build on the present study by assessing the appraisal of the various types of stressors as well as determining whether single types of stressors or combinations of stressors have the most detrimental work and health implications. To improve the productivity, performance, and health of hotel employees at all levels, it is imperative that researchers continue to investigate the types and severity of stressors to have specific targets for prevention and intervention. While it would be unrealistic to expect to remove all stress from the hospitality workplace, it is plausible that employee coping strategies could be implemented and tested which could minimize the deleterious effects of stress that were found in this study, including job dissatisfaction, intent to turnover, and negative physical health symptoms.

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## References

- Almeida, D.M., Horn, M.C., 2004. Is daily life more stressful during middle adulthood? In: Brim, O.G., Ryff, C.D., Kessler, R.C. (Eds.), *How Healthy Are We? A National Study of Well-being at Midlife*. The University of Chicago Press, Chicago, IL, pp. 425–451.
- Almeida, D.M., Kessler, R.C., 1998. Everyday stressors and gender differences in daily distress. *Journal of Personality and Social Psychology* 75 (3), 670–680.
- Almeida, D.M., Wethington, E., Kessler, R.C., 2002. The Daily Inventory of Stressful Experiences (DISE): an interview-based approach for measuring daily stressors. *Assessment* 9, 41–55.
- Beehr, T.A., Jex, S.M., Stacy, B.A., Murray, M.A., 2000. Work stressors and coworker support as predictors of individual strain and job performance. *Journal of Organizational Behavior* 21 (4), 391–403.
- Brim, O.G., Ryff, C.D., Kessler, R.C. (Eds.), 2004. *How Healthy Are We? A National Study of Well-being at Midlife*. The University of Chicago Press, Chicago.
- Cavanaugh, M.A., Boswell, W.R., Roehling, M.V., Boudreau, J.W., 2000. An empirical examination of self-reported work stress among U.S. managers. *Journal of Applied Psychology* 85, 65–74.
- Cooper, C., Dewe, P., 2008. Well-being: absenteeism, presenteeism, costs and challenges. *Occupational Medicine* 58, 522–524.
- Cooper, C.L., Payne, R.L., 1992. International perspectives on research into work, well-being, and stress management. In: Quick, J.C., Murphy, L.R., Hurrell Jr., J.J. (Eds.), *Stress and Well-being at Work: Assessments and Interventions for Occupational Mental Health*. APA, Washington, DC, pp. 348–368.
- Cooper, C.L., Payne, R., 1988. *Causes, Coping and Consequences of Stress at Work*. John Wiley & Sons, Chichester.
- Fox, M.L., Dwyer, D.J., Ganster, D.C., 1993. Effects of stressful job demands and control on physiological and attitudinal outcomes in a hospital setting. *Academy of Management Journal* 36 (2), 289–318.
- Friedman, S.D., Greenhaus, J.H., 2000. *Work and Family—Allies or Enemies? What Happens When Business Professionals Confront Life Choices*. Oxford University Press, New York.
- Gilboa, S., Shirom, A., Fried, Y., Cooper, C., 2008. A meta-analysis of work demand stressors and job performance: examining main and moderating effects. *Personnel Psychology* 61 (2), 227–272.
- Gupta, N., Beeher, T.A., 1979. Job stress and employee behaviors. *Organizational Behavior and Human Performance* 23 (3), 373–385.
- Hemingway, M., Smith, C., 1999. Organizational climate and occupational stressors as predictors of withdrawal behaviors and injuries. *Journal of Occupational and Organizational Psychology* 3, 285–299.
- Karasek, R., 1979. Job demands, job decision latitude, and mental strain: implications for job redesign. *Administrative Science Quarterly* 24, 285–308.
- Karasek, R., Theorell, T., 1990. *Healthy Work: Stress, Productivity, and the Reconstruction of Working Life*. Basic Books, New York.
- Keller, R.T., 1984. The role of performance and absenteeism in the prediction of turnover. *Academy of Management Journal* 27, 176–183.
- Kessler, R.C., 1979. Stress, social status, and psychological distress. *Journal of Health and Social Behavior* 20, 259–272.
- Kim, H.J., 2008. Hotel service providers' emotional labor: the antecedents and effects on burnout. *International Journal of Hospitality Management* 27, 151–161.
- Krone, C., Tabacchi, M., Farber, B., 1989. *Manager Burnout*. Cornell Hotel and Restaurant Administration Quarterly 30 (3), 58–63.
- Lazarus, R.S., 1993. From psychological stress to the emotions: a history of changing outlook. *Annual Review of Psychology* 44, 1–21.
- Lepine, J.A., Lepine, M.A., Jackson, C.L., 2004. Challenge and hindrance stress: living with exhaustion, motivation to learn, and learning performance. *Journal of Applied Psychology* 89 (5), 883–895.
- Lepine, J.A., Podsakoff, N.P., Lepine, M.A., 2005. A meta-analytic test of the challenge stressor-hindrance stressor framework: an explanation for inconsistent relationships among stressors and performance. *Academy of Management Journal* 48 (5), 764–775.
- Michael, G., Anastasios, S., Helen, K., Catherine, K., Christine, K., 2009. Gender differences in experiencing occupational stress: the role of age, education, and marital status. *Stress and Health* 25, 397–404.
- Mobley, W.H., Griffeth, R., Hand, H., Meglino, B., 1979. A review and conceptual analysis of the employee turnover process. *Psychological Bulletin* 86, 493–522.
- Motowidlo, S.J., Packard, J.S., Manning, M.R., 1986. Occupational stress: its causes and consequences for job performance. *Journal of Applied Psychology* 71 (4), 618–630.
- Richardson, A.M., Burke, R.J., 1991. Occupational stress and job satisfaction among physicians: sex differences. *Social Science & Medicine* 33, 1179–1187.
- Ross, G.F., 1995. Work stress and personality measures among hospitality industry employees. *International Journal of Contemporary Hospitality Management* 7 (6), 9–14.
- Ruyter, K., Wetzels, M., Feinberg, R., 2001. Role stress in call centers: its effects on employee performance and satisfaction. *Journal of Interactive Marketing* 15 (2), 23–35.
- Siegrist, J., Theorell, T., 2006. Socioeconomic position and health: the role of work and employment. In: Siegrist, J., Marmot, M. (Eds.), *Social Inequalities in Health. New Evidence and Policy Implications*. Oxford University Press, Oxford.
- Sparks, K., Cooper, C., Fried, Y., Shirom, A., 1997. The effects of hours of work on health: a meta-analytic review. *Journal of Occupational and Organizational Psychology* 70, 391–408.
- Toits, P.A., 1987. Gender and marital status differences in control and distress: common stress versus unique stress explanations. *Journal of Health and Social Behavior* 28, 7–22.
- Varca, P.E., 1999. Work stress and customer service delivery. *The Journal of Services Marketing* 13 (3), 229–239.
- Villanueva, D., Djurkovic, N., 2009. Occupational stress and intention to leave among employees in small and medium enterprises. *International Journal of Stress Management* 16, 124–137.