

Hotel Housekeepers' Job Stress

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Abstract

Hotel housekeepers are exposed to a multitude of work hazards that may contribute to job stress, thus leading to adverse health consequences. This study investigated the sources of hotel housekeepers' work-related stress from a holistic work system perspective. The results reveal that the ergonomics of cleaning tools and equipment, supervisor support, and work-related body pain are significant predictors of hotel housekeepers' job stress. Strategies for preventing or reducing housekeepers' work-related stress are recommended in order to safeguard hotel housekeepers' psychological health and promote a healthier work environment.

Keywords: hotel housekeepers, stress, stressor, occupational health, work conditions

Introduction

Job stress or occupational stress presents one of the most prevailing work-related health problems in every sector of the economy. According to a report from Mental Health America (2017), approximately 81% of working Americans surveyed felt that job stress regularly affected their relationships with families and friends, and 63% indicated that job stress caused them to engage regularly in unhealthy behaviors. The hospitality industry is no exception and an increase in occupational stress in the hospitality industry has been perceived throughout the past 15–20 years (Murray & Gibbons, 2007). Within the hotel industry, housekeepers comprise the largest occupational group, employing 1.8 million workers in the United States (Wial & Rickert, 2002). However, unlike other positions in hotels, hotel housekeepers are exposed to a plethora of work-induced hazards that can exaggerate their job stress. Additionally, hotel housekeepers have a physically demanding job that entails repetitive movement, which can eventually result in disproportionate risks of illness, injury, and disability (Canadian Center for Occupational Health and Safety

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[CCOHS], 2011). On average, a typical hotel housekeeper cleans 12 to 15 rooms per shift, with less than 30 minutes for each room (Powell & Watson, 2006). In many situations, they are forced to take awkward positions, often leading to back and shoulder pain. Among hotel workers in the US, hotel housekeepers experienced the highest overall injury rate (7.9/10 worker-years), as well as the highest rate of musculoskeletal injuries (3.2/100 worker-years) (Buchanan et al., 2010). In addition to physical risk factors, studies of housekeepers in San Francisco and Las Vegas found that a majority experienced time pressures, which led to high levels of work-related stress (Krause et al., 2002; Lee & Krause, 2002).

Stress promotes adaptation, but prolonged stress leads, over time, to wear and tear on the body (McEwen & Wingfield, 2003). Increased risk of cardiovascular disease has been noted among workers performing mentally taxing (Karasek et al. 1981; LaCroix & Haynes, 1984; Pieper et al., 1989) or monotonous tasks (Putz-Anderson et al., 1992), as well as fast-paced and shift work (Kristensen, 1989). The accumulation of these work stressors can pose a threat to the health of workers. Long-term stress has been shown to depress the immune system. A chronically compromised immune system may lead to increased susceptibility to a host of health problems ranging from infections or allergic reactions to certain types of cancer in the case of chronic and acute stress over a long period of time (Cohen & Williamson, 1991).

Even though housekeepers have been described as “silenced and invisible” (Onsøyen et al., 2009), they play an important role in contributing to the core product—a clean guestroom. Without the hard work of housekeepers, service quality, guest satisfaction, and the business of these establishments would all suffer. Few studies have focused on this underserved occupational segment as well as their health and well-being. Studies related to hotel housekeepers have documented their stress; however, none of the studies has empirically tested the relationship between work-related factors and job stress. Literature has documented work environment factors that can contribute to employees’ job stress in a variety of professions, such as health caregivers (Parikh et al., 2004; Wushe & Shenje, 2019), teachers (Akomolafe & Ogunmakin, 2014), firefighters (Soteriades et al., 2019), salespeople (Bhuiana et al., 2005), construction workers (Leung et al., 2010), and flight attendants (Chen & Kao, 2011), yet few of them have focused on hotel housekeepers. This study attempts to fill in the research gap by investigating the sources of work-related stress endured by hotel housekeepers and to promote a healthy work environment, thus increasing their well-being. Specifically, this study intends to (1) investigate the level of hotel housekeepers’ job stress; (2) identify important work environment factors perceived by hotel housekeepers; (3) investigate the associations between work factors and stress level; and (4) offer recommendations for improving work conditions, mitigating occupational stress, and enhancing occupational health and overall well-being.

Theoretical Framework and Literature Review

This study was guided by the Balance Theory Model, which proposes that the workplace is a system that consists of intertwined components, including technology and tools, tasks, employees, organization, and environment. A change in one will affect the work system as a whole, shifting the workload for others and resulting in different worker outcomes (Carayon, 2009). Balance within the system can be achieved by eliminating the negative components, thereby leading to better performance, good health, and employee well-being (Carayon, 2009; Smith & Carayon-Sainfort, 1989). Its foundation is the fundamental belief that the psychosocial, cognitive, and physical aspects of work can create psychosocial, cognitive, and physical pressures on individuals, leading to various outcomes, including job dissatisfaction, stress, and illness (e.g., work-related musculoskeletal disorders); as well as safety and well-being (Carayon, 2009; Carayon et al., 1999). This model posits to adopt a holistic approach to investigate the impacts of job/organizational design, work stress, human factors, and ergonomics on a worker's overall stress, health, and quality of work life.

STRESS

Framed on a stimulus-based approach, stress was first defined as resulting from pressure. Stress was later defined by Selye as “the non-specific response of the body to any demand for change” (1956, p. 525) by adopting a response-based approach. The definition of stress evolved to be a dynamic process when Lazarus and Folkman (1984) posited that stress results from an imbalance between perceived external or internal demands. In other words, a stress response is elicited when an individual interprets the demands with which the person has been presented as being beyond the person's capabilities or resources to fulfill.

JOB STRESS

Job stress refers to a negative emotional and physical response that occurs when the job requirements or job conditions do not match the abilities or expectations of the worker (Casey, 2012; Inoue et al., 2014; Mucci et al., 2015). Job stress arises when work demands of various types and combinations exceed the worker's capacity and capability to cope (Nwokeocha, 2015).

JOB STRESSORS

The work environment is a potential source of multiple stressors. Rosen, Chang, Djurdjevic, and Eatough (2010) identified eight categories of job stressors: *role stressor* (role ambiguity, role conflict, role overload), *workload* (the amount

of the work to be completed or the difficulty of the tasks to be completed), *situational constraints* (organizational bureaucracy, faulty equipment, inaccurate information), *lack of control* (little autonomy, exclusion from decision-making processes), *social characteristics* (interpersonal conflict at work, organizational politics, abusive supervision), *career outcomes* (job insecurity, underemployment, lack of learning and advancement opportunities, work interference with non-work domain), *job conditions* (temperature, noise, lighting, work hours, break schedule), and *acute stressors* (homicide in the workplace, natural disasters). Stickle and Scott (2016) classified workplace stressors in two categories: *physical stressors* (noise, temperature extremes, poor posture, monotonous tasks, night shifts, and overtime) and *emotional and mental stressors* (fear, anger, negative thoughts, time pressure).

Long-term job stress can lead to employees' adverse health consequences and disruptions to the daily operations of organizations (Ganster & Schaubroeck, 1991; Giga et al., 2003). At the individual level, employees who are affected by job stress are more likely to experience memory or concentration problems (Wiegel et al., 2016; Shapiro et al., 2005), anger (Smith et al., 2005), burnout (Maslach et al., 2001; Robinson, Clements, & Land, 2003), depression (Dragano et al., 2008), and physiological disorders (e.g., musculoskeletal pain, insomnia, abnormal cardiac markers, hypertension, and diabetes) (Ganster & Rosen, 2013; Van der Ploeg & Kleber, 2003; Rugulies & Krause, 2008). At the organizational level, job stress is found to be associated with reduced employee productivity (Johnson et al., 2005; Vuori et al., 2014), employee dissatisfaction (Parker & DeCotis, 1983) and diminished organizational commitment (Garg & Dhar, 2014; Glazer & Kruse, 2008; Hakanen, Schaufeli, & Ahola, 2008), higher employee absenteeism and turn-over rates (Rowold, Borgmann, & Bormann, 2014), and an annual cost of between 10 and 20 billion dollars (Jick & Payne, 1980).

HOTEL HOUSEKEEPERS' WORK ENVIRONMENT AND CHALLENGES

The nature of hotel housekeepers' cleaning tasks exposes them to a working environment that includes physical, chemical, biological, and psychosocial hazards (Hsieh et al., 2013). On average, hotel housekeepers change their body postures approximately 8,000 times during an eight-hour shift (CCOHS, 2011). Frequently, they are forced to use awkward postures and overexertion in order to perform the fast-paced work required to meet their daily room quotas. High aerobic strain and heavy static muscular loads put hotel housekeepers at high risk for repetitive-motion injuries. Mest's (2013) study showed that cleaning more than 15 rooms per shift accelerates the risk of injuries. A study of over 200 hotel housekeepers in San Francisco found that more than 75% of interviewed housekeepers experienced work-related pain, 73% had to visit a doctor due to severe pain, and 53% had to take time off work to recover, resulting in an

average of 14 days of absenteeism caused by disabilities (Lee & Krause, 2002). Similar results were found in a larger-scale survey of more than 900 hotel room attendants in Las Vegas, 95% of whom experienced work-related physical pain and 83% reported constant time pressure leading to high levels of work-related stress (Krause et al., 2002).

These physical hazards are intensified by upscale hotels featuring oversized mattresses in their luxury rooms (Seifert & Messing, 2006) and the poor ergonomic design of cleaning equipment or insufficient cleaning tools for housekeepers (Krause et al., 2002). A study on ergonomic problems experienced by 177 hotel housekeepers in Orlando found that heavy or broken vacuum cleaners were the most serious issue experienced by respondents, followed by cleaning supplies that do not clean well, heavy or broken linen carts, heavy wet towels and linen, and a lack of sufficient cleaning tools such as mops, gloves, and brooms (Mammen, 2017). This study also found that these ergonomic factors had a positive impact on the maximum time taken to clean guest rooms (Mammen, 2017).

Psychosocial hazards arising from work-related stress create a challenge for hospitality workers. Compared to other occupations, an increase in job stress in the hospitality industry has been noted over the past 15–20 years (Murray & Gibbons, 2007). Hotel housekeepers are no exception. A study by Onsøyen et al. (2009) on the work experiences of room attendants in Norwegian hotels found that they were constantly pressed to increase their work pace or work longer hours in order to finish the assigned rooms. Studies of housekeepers in San Francisco and Las Vegas found that a majority of housekeepers experienced time pressures, with some having to skip lunch or breaks or work longer hours in order to finish their cleaning assignments (Krause et al., 2002; Lee & Krause, 2002). The monotonous work, low job status, feelings of being isolated at work, little or no job security, and lack of support from coworkers or supervisors often lead to frustration at work (Hsieh et al., 2016; Powell & Watson, 2006; Zock, 2005).

Prolonged exposure to adverse psychosocial work conditions has been found to trigger physiological, behavioral, emotional, or cognitive reactions leading to psychological disorders such as anxiety, depression, burnout, substance abuse (e.g., smoking, alcohol), and other mental health problems (Burgel et al., 2010; Leka & Jain, 2010), thus, reinforcing the importance of addressing hotel housekeepers' job stress.

JOB STRESS IN THE HOSPITALITY INDUSTRY

Substantial evidence has supported the claim that occupations with a high work pace and low skill discretion, insufficient managerial and collegial support, a sense of uncontrollability and unpredictability in the workplace, and low social and legal protections carry an increased risk of mental health problems or even

serious mental illness (Calnan et al., 2004; Gamperiene et al., 2006; O'Campo et al., 2004; Stansfeld & Candy, 2006; Sales & Santana, 2003; Sauter et al., 1990; Zock, 2005).

O'Neill and Davis's (2011) study of hotel stress showed that hotel workers reported stressors on 40–62% of days, which is significantly higher than a US national sample that reported 25–44% of days, indicating workers in this sector are regularly stressed-out. Typical stressors for hospitality workers include long and unsociable working hours, low and unpredictable wages (Pienaar & Willemse, 2008), a lack of job security (Bothma & Thomas, 2001), poor communication between management and employees (Lo & Lamm, 2005), threats of violence, bullying, and discrimination at work (Murray & Gibbison, 2007), repetitive or boring work (Murray & Gibbison, 2007), workload (Murray & Gibbison, 2007; O'Neill & Davis, 2011), interpersonal tensions in the workplace (Lo & Lamm, 2005; O'Neill & Davis, 2011), time pressure (Krause et al., 2002), dissatisfaction with pay (Wial & Ricker, 2002; Willemse, 2006), work and personal life conflict (Hsieh et al., 2008; Wong & Ko, 2009), and lack of promotion prospects (Krause et al., 2002; Lo & Lamm, 2005). Due to the nature of the cleaning tasks and the diverse demographic features of this working population, hotel housekeepers often are confronted with psychosocial stressors such as monotonous work, low job status, the feeling of being isolated at work, little or no job security due to easy replacement, lack of prospects of promotion, and low job prestige (Hsieh et al., 2016; Powell & Watson, 2006; Zock, 2005). Exposures to these stressors could result in the increased prevalence of mental problems such as depression, anxiety, sadness, and tiredness (Sales & Santana, 2003).

Methodology

INSTRUMENT

This study adopted a quantitative approach to delineate the sources of hotel housekeepers' work-related stress. The survey instrument was organized into three sections. Section I contained socio-demographic questions asking the respondent's age, gender, educational background, and length of years working as a hotel housekeeper. Section II encompassed work-related factors identified from literature that may present a challenge to hotel housekeeping and may be associated with hotel housekeepers' work-related stress (Hsieh et al., 2016; Krause et al., 2002; Lee & Krause, 2002; Mammen, 2017). Framed by Balance Theory, this section included multiple questions related to technology (i.e., ergonomics of cleaning tools/equipment), task (workload and job design), organization (coworker and supervisor support), physical environment (i.e., guestroom design, distance to pantry room), and employees

Table 1: Section II survey questions.

Components	Main Factors	Survey Questions
Technology	Work tools/equipment	<ul style="list-style-type: none"> • Housekeeping cart is heavy and difficult to push. (1 = no disturbance, 2 = sometimes, 3 = has caused disturbance, 4 = has caused serious disturbance) • Vacuum cleaner is heavy and difficult to use. (1 = no disturbance, 2 = sometimes, 3 = has caused disturbance, 4 = has caused serious disturbance) • Insufficient cleaning tools (i.e., gloves, mops, cleaning materials, brushes). (1 = no disturbance, 2 = sometimes, 3 = has caused disturbance, 4 = has caused serious disturbance) • Cleaning supplies I work with irritate my skin or eyes. (1 = no disturbance, 2 = sometimes, 3 = has caused disturbance, 4 = has caused serious disturbance)
Task	Workload Job design	<ul style="list-style-type: none"> • During a typical workday, how many rooms are you assigned to clean? • During a typical workday, how many check-out rooms are you assigned to clean? • During a typical workday, how many occupied rooms are you assigned to clean? • I have to rush during lunch time in order to get back to cleaning. (1 = never, 2 = sometimes, 3 = frequently, 4 = almost all the time) • Frequency of work overtime. (1 = never, 2 = sometimes, 3 = frequently, 4 = almost all the time) • Work alone or work in pairs. (1 = alone, 2 = pairs, 3 = other) • Who transports the dirty linen to the laundry department? (1 = hotel housekeeper herself, 2 = appointed person [not the housekeeper herself] 3 = each floor has a chute, 4 = other) • How often were you assigned to clean guestrooms on different floors? (1 = never, 2 = sometimes, 3 = frequently, 4 = almost all the time)

<p>Organization</p>	<p>Coworker support Supervisor support</p>	<ul style="list-style-type: none"> • People I work with are competent in doing their jobs (competent). • People I work with take a personal interest in me (personal interest). • People I work with are friendly (friendly). • People I work with are helpful in getting the job done (helpful). • My supervisor is concerned about the welfare of those under him (concern). • My supervisor pays attention to what you are saying (attention). • My supervisor is helpful in getting the job done (assistance). • My supervisor is successful in getting people to work together (teamwork). <p>(1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree)</p>
<p>Physical Environment</p>	<p>Guestroom design Distance to pantry room</p>	<ul style="list-style-type: none"> • Poor guestroom design makes cleaning more difficult. (1 = no disturbance, 2 = sometimes, 3 = has caused disturbance, 4 = has caused serious disturbance) • Pantry (Inventory storage room) is far away and consumes time and energy to restock the cart. (1 = no disturbance, 2 = sometimes, 3 = has caused disturbance, 4 = has caused serious disturbance)
<p>Employees</p>	<p>Body pain</p>	<ul style="list-style-type: none"> • During the past one year, which of the below types of body pain did you experience because of your work? (1 = none, 2 = very mild, 3 = moderate, 4 = severe, 5 = very severe) <p>Upper extremity Lower extremity Torso</p>

(body pain). Table 1 shows the details of the section II survey questions, as well as the Likert scales used for measurement. Considering the lower educational background of hotel housekeepers and to avoid their withdrawal in the middle of a long survey, the survey questions were purposely kept short and simple. Studies have shown the validity of using a single item to measure the level of stress (Arapovic-Johansson et al., 2017; Elo, Leppanen, & Jahkola, 2003).

Therefore, the last section had only one question asking the respondents to rank their level of work-related stress based on a 10-point Likert Scale (0 = no stress at all, 5 = neutral, 10 = highest stress level).

DATA COLLECTION AND ANALYSIS

A convenience sampling method was used to collect data. The participants were recruited through researchers' hotel contacts by a snowballing method. Only frontline housekeeping staff whose daily responsibilities include guestroom cleaning were recruited to participate in the study. Following informed-consent procedures, 656 hotel housekeepers from 70 hotels in Taiwan voluntarily enrolled in the study. Ten responses were excluded due to missing data, yielding 646 completed surveys for analysis.

Exploratory factor analysis (EFA) was deployed to refine and validate the underlying factors and associated items of work-related stressors among hotel housekeepers. The Kaiser–Meyer–Olkin test (KMO) and Bartlett's test of sphericity were conducted to determine whether the data were suitable for selected analysis. The results showed the KMO index was .758 and Bartlett's test of sphericity was at a significant .00 level, which indicate this is an appropriate analysis for the data. Principal component factor analysis was used to extract factors with eigenvalues greater than 1, and promax with Kaiser Normalization method was adopted to rotate the data due to the correlations between factors. Factors were retained with eigenvalues greater than 1.0 and loadings equal to or larger than 0.4. A total of five factors were extracted during the EFA process. Lastly, regression analysis was conducted to evaluate the degree to which each work-related factor affects the work-related stress.

Results

The majority of study participants were female ($N = 508$, 79%) compared to male ($N = 138$, 21%), with an average age of 31 ($SD = 10.68$). Most of the respondents worked in a resort (50%), followed by a business hotel (48%), and bed and breakfast (2%). Overall, respondents were well educated, with 55% having a college degree and 32% having a high school diploma. On average, respondents reported working as hotel housekeepers for four years ($SD = 12.67$) and cleaned 15 rooms per shift. In the previous 12 months, 72% experienced either minor or severe work-related body pain. In terms of stress level, respondents also indicated a higher than average level of job stress (Mean = 5.35, $SD = 2.33$) based on a Likert scale (0 = no stress at all, 10 = high stress level).

Exploratory factor analysis was conducted to examine the factorial structure and validate the construct validity of the instrument. Five factors were extracted: *workload* (2 items), *work tools/equipment* (4 items), *coworker support*

Table 2: Results of the exploratory factor analysis.

Factors	Items	Loading	Cronbach's Alpha	% of Variances
Workload	# of guest rooms assigned	.98	.97	9.87%
	# of check-out rooms assigned	.958		
Work Tools/Equipment	Insufficient tools	.66	.73	12.68%
	Room design	.81		
	Distance to pantry room	.80		
	Toxic chemicals	.65		
Supervisor Support	Concern	.59	.83	27.43%
	Attention	.91		
	Assistance	.88		
	Teamwork	.82		
Coworker Support	Competent	.83	.89	16.40%
	Personal interest	.81		
	Friendly	.90		
	Helpful	.90		
Body Pain	Upper extremity	.94	.86	6.67%
	Lower extremity	.86		
	Torso	.92		
Total				73.05%

(4 items), supervisor support (4 items), and body pain (3 items), with a total of 73.05% of variables explained (Table 2). The *workload* factor explains 9.87% of variances and contains two items: number of guest rooms assigned per shift and number of check-out rooms assigned per shift. The *work tools/equipment* factor accounts for 12.68% of variances and includes four items: insufficient tools, room design, distance to pantry room, and toxic chemical contact during work. The factor of *supervisor support* explains 27.43% of variances and contains four items: concern, attention, assistance, and teamwork. The factor of *coworker support* explains 16.40% of variances and consists of five items: competent, personal interest, friendly, and helpful. Lastly, the *body pain* factor includes upper extremity, lower extremity, and torso. The body pain factor accounts for 6.67% of variances.

Table 3 shows the means and standard deviations of the five constructs.

Table 3: Descriptive statistics of work-related factors and stress level.

Work-Related Factors	Mean	SD
Workload		
Number of rooms assigned	15.50	10.68
Number of occupied rooms assigned	13.14	10.85
Overall Coworker Support^a	3.14	0.40
Overall Supervisor Support^b	3.01	0.54
Overall Body Pain^c	2.57	1.11
Stress Level^d	5.35	2.33

^{a&b} 1 = agree to 4 = strongly disagree

^c 1 = no pain to 5 = very severe pain

^d 0 = no stress to 10 = high stress

Multiple linear regression was performed to predict work-related stress based on the five factors. The five factors identified by EFA explained a significant proportion of variables in work-related scores ($R^2 = .21$, $F(5, 503) = 25.85$, $p < .01$). Results of the regression analysis (Table 4) showed that work tools/equipment, supervisor support, and body pain were significant predictors for work-related stress. Both work tools/equipment ($b = .25$, $t(5.44)$, $p < .01$) and body pain ($b = .19$, $t(3.37)$, $p < .01$) indicated a positive relationship with work-related stress, whereas supervisor support ($b = -.15$, $t(4.49)$, $p < .01$) was negatively associated with work-related stress.

Table 4: Results of the regression analysis.

Factors	B	SE	B	t	p
Workload →Work-related stress	.00	.01	.02	.40	.69
Work tools/equipment →Work-related stress	1.01	.19	.25	5.44	.00*
Coworker Support →Work-related stress	-.33	.25	-.06	-1.31	.19
Supervisor Support →Work-related stress	-.63	.19	-.15	-3.37	.00*
Body Pain →Work-related stress	.41	.09	.19	4.49	.00*

* p < .01

Conclusions

This study found that participating hotel housekeepers reported a slightly higher than moderate level of job stress, which reinforces the notion that hospitality workers are regularly stressed-out (O'Neill & Davis, 2011). Both physical factors (e.g., workload, work-related tools/equipment) and psychological factors (e.g., supervisor and coworker support) were perceived as important by hotel housekeepers at their respective workplaces. Of these factors, tools/equipment, supervisor support, and body pain were found to be significant predictors of hotel housekeepers' job stress. Compared with previous studies, tools/equipment and supervisor support are in line with the situational conditional constraints and social characteristics proposed by Rosen et al. (2010).

However, other factors such as workload (number of rooms cleaned and number of assigned check-out rooms per shift) and coworker support were not significantly associated with hotel housekeepers' job stress. It is common in the hotel industry that housekeepers' workload fluctuates due to seasonality. Realizing that they hold a low position in the hotel with limited job control and decision latitude, hotel housekeepers may have become used to tolerating whatever workload is assigned to them. This may explain why the workload (number of guestrooms assigned for cleaning) has no impact on their stress. On the other hand, contributing to their job stress are those barriers that prevent them from finishing cleaning tasks as promptly as they can. These factors include not being provided with cleaning tools (i.e., mops, brooms, gloves), using toxic cleaning chemicals that irritate their eyes or skin, poor room design that makes cleaning difficult, or a pantry room that is so far away that they have to take a long trip to restock the cart.

With regard to coworker support, since all respondents indicated that they worked alone, the time pressure arising from finishing cleaning guestrooms may not allow them much time to interact with their coworkers. This may explain why the factor coworker support was not a significant predictor of housekeepers' stress. Instead, they may have more interactions with their supervisors, presenting a source of their stress. Previous studies reported that housekeepers experienced unfairness or were mistreated by their supervisors (Krause et al., 2002; Hsieh et al., 2016). This study reinforces the importance of supervisor support in lessening hotel housekeepers' work-related stress.

Moreover, it is worth noting that body pain is a significant predictor of hotel housekeepers' job stress. Literature on hotel housekeepers has documented the body pain endured from cleaning tasks (Buchanan et al., 2010; Krause et al., 2002; Hsieh et al., 2016; Powell & Watson, 2006). This study further confirmed the negative impact of these physical pains on housekeepers' stress, which deserves attention from hotel employers.

IMPLICATIONS

To alleviate hotel housekeepers' job stress, hotels should provide them with appropriate ergonomic cleaning tools (i.e., lighter vacuum cleaners, ergonomic design mops, and brooms), ensure sufficient amenities and linens in their inventory, and purchase non-toxic cleaning products that will not irritate their eyes or skin. When building a new hotel, it is important to design a guestroom with a smooth flow that is easy for housekeepers to clean and to position the pantry room in a convenient location on each floor to reduce the time housekeepers have to travel to restock their carts. With regard to supervisor support, hotels should provide training to equip housekeeping supervisors with supervisory skills so that they can provide necessary support. Hotel employers should teach proper cleaning techniques, positioning, postures, and body mechanics to reduce housekeepers' body pain; enforce break times for physical recovery; and prepare a break room with massage chairs for housekeepers to relax and recover from their body pain. Additionally, hotels can offer stress-coping training to help housekeepers learn skills to cope with stress and maintain psychosocial health.

LIMITATIONS AND FUTURE RESEARCH

Even though this study contributes to the understanding of hotel housekeepers' work conditions and the association with work stress, it has several limitations. First, the data were collected from a convenience sample, which limits its generalizability. Second, the study only investigated work-related stress and did not consider stress from other sources. It is possible that non-work-related factors (e.g., interpersonal, financial) can exacerbate work stress. Future research should investigate both work- and non-work-related factors and their

interactions with job stress. Third, this study measured a subjective stress level and may include self-report bias. Future studies can consider other techniques, such as behavioral or medical/biological tests to measure stress levels. Future studies can also employ complex systems approaches to deconstruct the socio-structural determinants of elevated stress and psychosocial strain.

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