


ORIGINAL RESEARCH

Psychosocial Work Factors, Job Stress, and Self-Rated Health Among Hotel Housekeepers

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Abstract: *Background:* Hotel housekeeping is widely recognized as a poor-quality job due to its high demands and limited resources. Hotel housekeepers (HHs) face both hard physical work and mentally demanding conditions, yet psychosocial factors in this feminized and precarious occupation remain under-researched. To address this gap, this study examines HHs' exposure to psychosocial factors at work and their impact on job stress and self-rated health. *Methods:* A cross-sectional survey of a random sample of 926 HHs in the Balearic Islands (Spain) assessed job stress, self-rated health, psychosocial factors (job demands and resources), and sociodemographic variables using the Copenhagen Psychosocial Questionnaire II (COPSOQ-II) and the National Health Survey. Descriptive analysis and hierarchical linear regression models were applied. *Results:* The prevalence of job stress was 61.1% (95% confidence interval [CI] = [57.8%, 64.1%]), while the prevalence of poor self-rated health was 59.9% (95% CI = [56.6%, 62.9%]). Hotel housekeepers were highly exposed to job demands such as intense work pace, job-specific stressors, work–life conflict, and emotional demands; highly available job resources were role clarity, task meaning, and social support. Regression models revealed work pace, work–life conflict, nationality, and weak leader support as key predictors of job stress; and work–life conflict and leadership quality as key predictors of self-rated health. *Conclusion/Application to Practice:* Although considered an eminently physical job, psychosocial work factors play a key role in explaining HHs' job stress and self-rated health. Occupational health professionals should design workplace interventions to reduce work pace, mitigate work–life conflict, and enhance resources such as leader support, sense of community, and leadership quality.

Keywords: job stress, self-rated health, psychosocial work factors, hotel housekeepers, job demands and resources.

Background

Tourism plays a crucial role in economic growth and job creation worldwide, particularly in countries like Spain, where it accounts for around 12% of the national GDP (gross domestic product). However, the sector is often associated with poor-quality jobs. Job quality refers to the overall characteristics of work and employment, including the balance between job demands and job resources, which affect workers' health and well-being (Eurofound, 2024). Hospitality jobs are often considered poor quality due to precarious employment conditions such as job insecurity, low income, and limited career opportunities (Ariza-Montes et al., 2019), as well as high demands (workload and time pressure) and low resources (autonomy, development opportunities). In fact, cleaning work was recently identified as a poor-quality job in the last Eurofound (2024) report. These precarious conditions are even worse for specific groups, such as migrant workers, women, and certain hospitality occupations like HHs (Shapoval et al., 2022), where immigrants and women are disproportionately represented. In Spain, for instance, hotel housekeeping is predominantly a female occupation, deeply associated with traditional gender roles involving unpaid, unrecognized, and invisible housework.

Much of the occupational health research on hotel housekeeping has mostly focused on protecting workers from physical health risks due to the physically demanding nature of the job (Adams et al., 2020). For example, exposure to chemicals, repetitive movements, heavy lifting, and fast-paced work has been linked to poor health outcomes such as skin and respiratory diseases, physical injury, chronic pain, and worse

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Applying Research to Occupational Health Practice

This study examined the key job demands and resources in hotel housekeeping, a predominantly female, precarious, and under-researched occupation in the tourism sector. Although considered an eminently physical job, data from a large random sample of hotel housekeepers in Spain revealed work pace and work-life conflict as significant psychosocial risks affecting stress and self-rated health. The findings also highlighted the importance of job resources like leader support and a sense of community in reducing stress, as well as the role of quality leadership in improving self-rated health. Occupational health professionals should focus on interventions to alleviate intense work pace and workload, while maintaining or improving job resources such as quality leadership and social support. Improving work organization and the quality of working life for HHs could not only enhance workers' well-being but also help retain a healthy and motivated workforce, addressing staff shortages in the hospitality sector.

perceived health status (Sánchez-Rodríguez et al., 2022; Shapoval et al., 2022). In addition to the strenuous physical demands, recent accounts of HHs in the media and qualitative research have highlighted the importance of psychosocial work factors, including the mentally demanding and stressful components of the job (Chela-Alvarez et al., 2021). Thus, the combination of high demands and limited resources affects not only physical health but also workers' mental health and overall well-being.

The Job Demands-Resources (JD-R) model (Demerouti & Bakker, 2023) offers a robust framework for understanding how the work environment, composed of job demands and resources, influences workers' mental health. Job demands refer to work characteristics, which require mental, emotional, or physical effort, whereas job resources refer to work characteristics that help employees deal with job demands. According to this model, the balance or imbalance between demands and resources might lead to a motivational process related to work engagement, or a health impairment process related to stress and burnout (Giusino et al., 2022). High psychosocial demands at work have been linked to job stress and the deterioration of general and mental health not only in general populations (Barros et al., 2022; Navarro et al., 2022) but also in hospitality frontline jobs (Andrade et al., 2021; Ariza-Montes et al., 2019; Wen et al., 2020). For instance, in the European hospitality industry, factors such as lack of career development opportunities, insufficient time for families, doubts about the importance of one's work, and verbal abuse were associated with lower psychological well-being (Ariza-Montes et al., 2019). Moreover, stress has been linked to burnout (Park et al., 2020) and lower service quality (Schwepker & Dimitriou, 2021).

Job resources like meaning, development, and leadership quality may seem distantly related to self-rated health; however, meta-analytical evidence suggests otherwise. Resources positively influence well-being and performance (Nielsen et al., 2017) by directly enhancing overall well-being, indirectly reducing job stress, and even contributing to biological processes that improve health outcomes, such as the release of endorphins and the promotion of healthy sleep patterns (Pressman et al., 2019). Given the high demands and low resources typical of hospitality jobs, employees in this sector are particularly vulnerable to negative health outcomes. Despite the growing body of research on psychosocial factors in hospitality, their effects on job stress and self-rated health remain largely unexplored among back-office and less visible hospitality occupations.

This study addresses this gap by exploring the psychosocial work environment of HHs, with a specific focus on job demands and resources, and how these factors influence job stress and self-rated health. In this context, the JD-R model, typically applied to white-collar jobs, is applied to manual labor occupations such as hotel housekeeping. The inclusion of job resources also responds to recent calls to promote psychosocial safety in the workplace by not only identifying, eliminating, or mitigating psychosocial risks (job demands) but also enhancing protective psychosocial factors (job resources) specific to occupational contexts (Weaver et al., 2023).

This research aims to make a significant contribution to the field of occupational health by shedding light on the psychosocial work environment of HHs. In doing so, it responds to calls to investigate precarious employment with a psychological lens (Allan et al., 2021) and to study large in-country samples of HHs (Andrade et al., 2021). By simultaneously assessing a wide range of psychosocial factors—including both job demands and resources—using the JD-R model, this study offers a unique perspective on manual labor occupations, which are typically overlooked in favor of white-collar settings. The large, representative sample from the Balearic Islands, Spain, provides valuable insights, given the region's pivotal role in global tourism and its distinct legal and social protections. In addition, while the data were collected before the COVID-19 pandemic, the findings remain highly relevant, particularly in the context of ongoing staff shortages and increased pressures in the hospitality industry. These insights will help occupational health professionals develop targeted interventions to reduce stress and create a healthier work environment for HHs. This approach not only enhances service quality but also boosts competitiveness by maintaining a motivated, nonstressed, and healthy workforce. Moreover, these findings are vital for shaping postpandemic strategies to sustain the hospitality industry's ongoing challenges.

The specific aims of this study are as follows:

1. To describe the exposure of HHs to a wide range of psychosocial factors at work, including both job demands and job resources.

- To analyze how these psychosocial work factors contribute to HHs' job stress and self-rated health.

Method

Sample and Procedure

Tourism is the main economic activity in the Balearic Islands (Spain), accounting for 25.6% employment (AETIB, 2020). This cross-sectional quantitative study surveyed a large random sample of HHs in this region, with data provided by the Balearic Occupational Service. Using a formula for a finite population of approximately 13,000 registered HHs, we calculated a required sample size of 987, with a 95% confidence level and 3% margin of error. To account for potential sample loss, 1,115 HHs were targeted.

Participants were randomly selected and contacted by phone. Of the 2,250 eligible HHs, 1,381 agreed to participate, and after obtaining informed consent, 1,043 completed the survey. Data were collected through an interviewer-administered survey conducted by registered nurses at Primary Health Care centers between November 2018 and February 2019, resulting in a participation rate of 46.3% of eligible HHs and 75.5% of those scheduled for interviews. Ethical approval was obtained from the Balearic Islands Research Ethics Committee (No. IB 3738/18 PI) and the Primary Care Research Commission (PI18/023).

Instruments

Psychosocial work factors were measured using the Spanish COPSQ-Istas21-II (Moncada et al., 2014). The psychometric properties of this instrument have been comprehensively tested in Spanish and international studies. We used the short version, composed of 30 items, to assess 15 psychosocial work factors, along with three scales from the long version to assess leader support, peer support, and sense of community. In addition, an *ad hoc* scale addressed specific stressors for HHs (Chela-Alvarez et al., 2021). The COPSQ is reliable for measuring the JD-R model (Berthelsen et al., 2018). Job demands included work pace, emotional and quantitative demands, job-specific stressors, role conflict, work-life conflict, work conditions, and job insecurity, while job resources encompassed role clarity, meaning, development, autonomy, predictability, leadership quality, support, sense of community, vertical trust, and justice.

The response options for all items ranged from 1 (always/ to a very large extent) to 5 (never/to a very small extent). To increase interpretability of results, all responses were reversed except for one item measuring quantitative demands (i.e., "I have enough time to perform my work" could then be interpreted as "I *do not* have enough time to perform my work"). For job demands, a low score is desirable, whereas for job resources, a high score is desirable.

Job Stress

A single-item measure drawn from the Spanish National Health Survey (Ministerio de Sanidad, 2017) was used to assess

job stress (i.e., "*Globally and taking into account the conditions in which you carry out your work, indicate how you consider the stress level of your work*"). The response format was a Likert-type scale ranging from 1 (*very stressful*) to 7 (*not stressful at all*). Responses were reversed, so that higher values represented higher levels of stress.

Self-Rated Health

A single-item measure drawn from the Spanish National Health Survey (Ministerio de Sanidad, 2017) was used to assess self-rated health (i.e., "*You would rate your perceived health in the past twelve months as . . .*"). The response format was a Likert-type scale ranging from 1 (*very poor*) to 5 (*very good*).

Control Variables

We controlled for the effects of age, nationality, years worked as a HH, and an objective measure of physical work (i.e., number of beds made per day per HH), which have been related to worse self-rated health (Sánchez-Rodríguez et al., 2022). Nationality was included due to evidence that immigrant cleaners face more precarious work conditions, higher stress, and poorer health outcomes (Benach, 2023; Hsieh et al., 2016; Shapoval et al., 2022). Education level was also controlled, as lower education is associated with lower job qualification and lower influence at work (Moncada et al., 2014).

Data Analysis

We characterized the sample using frequencies and descriptive statistics for sociodemographic variables. Job stress and self-rated health were described with means, standard deviations, and percentages, and their relationship was assessed using Spearman's rank correlation. Differences in outcomes across sociodemographic groups were explored with analysis of variance (ANOVA) and *t*-tests.

Psychosocial work factors were analyzed by calculating means and standard deviations for each COPSQ item. To achieve the first aim of the study, responses were categorized into three levels: "always" and "often" were combined into Category 1, "sometimes" into Category 2, and "seldom" and "never" into Category 3 (Moncada Lluís et al., 2021). Percentages of HHs exposed to each job demand were calculated, with "very high" exposure defined as 75% to 100% of HHs often or always exposed to a risk factor, and "high" exposure as 50% to 75%. For job resources, these percentages indicated the availability of resources.

Hierarchical multiple linear regression with bootstrapping was used to assess the impact of sociodemographic and psychosocial factors on job stress and self-rated health. Linear regression was deemed appropriate given the data's Likert-type scale format with five or more ordered response categories and provided that the assumptions for linear regression were met. These assumptions were verified, with normality confirmed by a Q-Q plot, no influential outliers identified (Cook's distances < 1), low multicollinearity (variance-inflation factor, [VIF] < 5), and no significant autocorrelation (Durbin-Watson near 2).

Hierarchical regression, using the standard and sequential method, was applied, with control variables entered in the first step, job demands in the second, and job resources in the third. This approach allowed us to evaluate the contribution of each set of variables based on changes in *R*-squared.

To ensure model robustness, we split the sample into training (70%) and validation (30%) subsamples. Bootstrapping with 1,000 resamples was applied to the training sample to confirm model stability and derive confidence intervals. Model performance was evaluated by correlating predicted and actual values of the outcome variables in both subsamples, with higher correlations in the training sample potentially indicating overfitting.

All analyses were conducted using IBM SPSS version 28 and JAMOVI version 2.5.5.

Results

Sociodemographic Profile of Study Participants

The initial sample consisted of 1,043 HHs from the Balearic Islands, Spain. After excluding cases with missing data, 926 valid cases remained for analysis. All participants were women, accurately reflecting the predominance of women in housekeeping roles in the region. Although the study did not specifically exclude men, their small numbers in this job mean that the sample effectively represents the actual workforce distribution in this area.

Sociodemographic characteristics (Table 1) showed an average participant age of 43 years (standard deviation [*SD*] = 10), with 77% having completed secondary school. The sample included 55% Spanish nationals, 28% immigrants, and 17% with dual nationality, typically Spanish and Latin American. Due to cultural differences and varying levels of social support and networks outside the work environment, nationality was dichotomized into Spanish (55%) versus other (45%). On average, participants had 10.7 years of tenure as HHs (*SD* = 8.9) and made 50 beds per day (*SD* = 19).

Job Stress and Self-Rated Health

Means and standard deviations were calculated for job stress ($M = 4.97$, $SD = 1.83$, range = 1–7) and self-rated health ($M = 3.22$, $SD = 0.94$, range = 1–5). Frequencies and percentages were calculated to assess the prevalence of job stress and self-rated health. Regarding job stress, 25.3% HHs rated their job as not stressful (Response Options 1, 2, and 3), 13.6% as average (Response Option 4), and 61.1% as stressful (Response Options 5, 6, and 7). Regarding self-rated health, 5.6% rated their health as very poor, 12.3% as poor, 42% as fair, 34.1% as good, and 5.9% as very good. The prevalence of job stress was 61.1% (95% confidence interval [CI] = [57.8%, 64.1%]), while the prevalence of poor self-rated health was 59.9% (95% CI = [56.6%, 62.9%]; very poor, poor, and fair). Furthermore, Spearman's rank correlation evaluating the relationship between job stress and self-rated health was significant and negative, $r_s(924) = -.28$, $p < .001$, indicating that high levels of job stress are associated with poor self-rated health.

The ANOVA and *t*-tests revealed statistically significant mean differences across all sociodemographic variables (Table 1). Job stress increased with age, years worked as a HH, and beds made per day, with Spanish nationals reporting higher stress levels than others. Similarly, self-rated health worsened with age, years worked, and beds made, with Spanish nationals reporting poorer health. Education levels showed no consistent pattern with stress or health.

Exposure to Psychosocial Work Factors Among HHs

Table 2 presents the results related to Aim 1, that is, means, standard deviations, and percentages of HHs' exposure to the assessed psychosocial work factors for each item. Regarding job demands, *very high* exposure (75%–100%) was observed for work pace and *high* exposure (50%–75%) for specific stressors, lack of energy for private life, emotionally demanding work, time pressures, and worries about salary decrease or becoming unemployed. Among job resources, role clarity and task meaning were *very highly* present, with *high* levels of sense of community, leader support, peer support, and vertical trust.

Prediction of Job Stress and Self-Rated Health

A hierarchical linear regression analysis assessed the impact of psychosocial factors on job stress and self-rated health, addressing Aim 2. Independent variables significantly correlated with the outcomes (Table 3) were introduced as predictors in three steps or models (Tables 4 and 5).

Model 1 introduced the control variables and explained a small percentage of the variance in job stress (adjusted $R^2 = 6.5\%$) and self-rated health (adjusted $R^2 = 3.1\%$). Significant predictors of job stress included nationality, and the number of beds made per day, while years worked as HH, and beds made per day predicted self-rated health.

Model 2 added job demands, with a significant increase in the variance explained in job stress (adjusted $R^2 = 33.2\%$) due to work pace, quantitative demands, emotional demands, job-specific stressors, and work–life conflict. For self-rated health (adjusted $R^2 = 10.2\%$), role conflict and work–life conflict emerged as new significant predictors.

Finally, Model 3 introduced job resources as additional predictors, further increasing the variance explained for job stress (adjusted $R^2 = 36.6\%$) and self-rated health ($R^2 = 11.9\%$). Nationality, work pace, emotional demands, job-specific stressors, work–life conflict, leader support, and sense of community significantly predicted job stress. For self-rated health, work–life conflict and leadership quality were significant, although leadership quality had a weaker effect.

Bootstrap confidence intervals confirmed the robustness of these predictors, except for leadership quality in relation to self-rated health. While the *p* value for leadership quality was .045, the confidence interval included zero, indicating that the effect may be weak or uncertain.

The predicted job stress scores were correlated with actual job stress scores in both the training (70%) and testing (30%) samples. The model's predictive accuracy was validated by

Table 1. Sociodemographic Characteristics and Mean Differences in Job Stress and Self-Rated Health ($N = 926$)

Variable	Groups	<i>N</i>	<i>M</i>	<i>SD</i>	<i>F</i> or <i>t</i>	<i>p</i>
Age	Range: 18–66		43	10.05		
Job stress	18–35	229	4.67	1.84	3.15	.024
	36–45	317	5.04	1.86		
	46–55	260	5.07	1.82		
	56–65	119	5.22	1.70		
Self-rated health	18–35	229	3.37	0.84	6.45	<.001
	36–45	317	3.32	0.91		
	46–55	260	3.08	0.98		
	56–65	119	3.04	1.00		
Nationality						
Job stress	Spanish	505	5.30	1.71	36.50	<.001
	Other	421	4.58	1.90		
Self-rated health	Spanish	505	3.15	0.96	6.63	.010
	Other	421	3.31	0.89		
Education level						
Job stress	Unfinished studies	26	4.00	2.00	4.48	<.001
	Primary	159	4.92	1.88		
	Secondary (first cycle)	371	5.23	1.77		
	Secondary (second cycle)	319	4.83	1.81		
	University degree	51	4.69	1.89		
Self-rated health	Unfinished studies	26	3.31	0.84	2.56	.037
	Primary	159	3.13	1.03		
	Secondary (first cycle)	371	3.16	0.92		
	Secondary (second cycle)	319	3.35	0.89		
	University degree	51	3.16	0.99		
Tenure (years as HH)	Range: 1–48		10.66	8.95		
Job stress	0–5	347	4.66	1.89	9.47	<.001
	6–10	217	4.99	1.80		
	11–15	159	5.01	1.87		
	16–48	203	5.47	1.62		

(continued)

Table 1. (continued)

Variable	Groups	N	M	SD	F or t	p
Self-rated health	0–5	347	3.41	0.88	9.14	<.001
	6–10	217	3.20	0.94		
	11–15	159	3.12	0.90		
	16–48	203	3.01	1.00		
Number beds per day per HH (in tens)			5.05	1.91		
Job stress	0–9	19	3.63	1.80	6.94	<.001
	10–19	78	4.36	1.82		
	20–29	100	4.33	1.93		
	30–39	167	4.98	1.75		
	40–49	191	4.87	1.80		
	50–59	167	5.31	1.79		
	60–69	101	5.44	1.66		
	70 to 79	57	5.40	1.74		
	80 or more	46	5.63	1.79		
	Self-rated health	0–9	19	3.32		
10–19		78	3.29	0.87		
20–29		100	3.32	0.98		
30–39		167	3.26	0.98		
40–49		191	3.38	0.84		
50–59		167	3.18	0.97		
60–69		101	3.03	0.95		
70–79		57	3.04	0.94		
80 or more		46	2.91	0.96		

Note. HH = hotel housekeeper.

these correlations, which showed slightly better performance in the testing sample for both job stress ($r = .63$) and self-rated health ($r = .42$), compared with the correlations in the training sample ($r = .62$ and $r = .38$, respectively).

Discussion

Precarious work conditions in hospitality jobs have been consistently associated with stress and health deterioration. Although considerable research has focused on the physical

demands and safety hazards faced by HHs, limited attention has been paid to the psychosocial work factors affecting their health. This study aimed (a) to assess HHs' exposure to psychosocial factors at work, specifically in terms of job demands and resources, and (b) to analyze how these psychosocial factors contribute to HHs' job stress and self-rated health.

To achieve these aims, we conducted a cross-sectional survey using a random and representative sample of 926 HHs from the Balearic Islands (Spain), collecting data on job stress,

Table 2. Exposure to Psychosocial Work Factors for HHs: Means, Standard Deviation, and Percentages ($n = 926$)

COPS00 subscales job demands	Items	<i>M</i> (range: 1–5)	<i>SD</i>	Always/ often (%)	Sometimes (%)	Seldom/ never (%)
Work pace	Work very fast	4.69	0.77	90.3	7.0	2.7
	Intense work pace	4.58	0.89	87.5	7.2	5.3
Emotional demands	Work emotionally demanding	3.72	1.42	60.4	17.6	22.0
	Deal with other's personal problems	1.85	1.15	10.9	16.3	72.8
Quantitative Demands	(Not) enough time for work tasks	3.55	1.39	54.2	21.8	24.0
Job-specific stressors ^a	Workload unevenly distributed	3.21	1.36	44.9	26.0	29.0
	Delay toilet use	3.58	1.44	64.8	11.7	23.5
	Skip/shorten lunch time	3.38	1.50	55.4	17.0	27.6
	Unexpected situations	3.53	1.12	52.3	33.2	14.6
	Other departments' pressure	2.53	1.47	32.3	18.9	48.8
Role conflict	Contradictory demands	3.39	1.41	49.1	22.6	28.3
	Must do things differently	3.24	1.41	45.5	23.3	31.2
Work–life conflict	Lacking energy for private life	3.77	1.41	65.7	15.4	18.9
	Work–life schedule problems	2.80	1.42	33.7	26.8	39.5
Work conditions	Salary-decrease worries	3.33	1.77	56.3	6.7	36.9
	Schedule changes worries	3.08	1.78	49.7	6.8	43.5
Job insecurity	Becoming unemployed	3.20	1.77	52.4	7.6	40.1
	Finding a job	3.05	1.72	47.4	9.3	43.3
COPS00 subscales job resources	Items	<i>M</i>	<i>SD</i>	Always/often (%)	Sometimes (%)	Seldom/never (%)
Role clarity	Know exactly what is expected	4.50	0.86	90.5	5.7	3.8
	Clear objectives	4.47	0.88	89.2	6.3	4.5
Meaning	Important work	4.45	0.91	88.6	6.6	4.9
	Meaningful work	4.11	1.12	76.9	13.3	9.8
Development	Use of skills	3.28	1.45	52.5	16.0	31.5
	Learn new things	2.63	1.40	29.7	21.9	48.4
Autonomy/influence	Influence on how to do work	3.36	1.50	51.8	20.0	28.2
	Influence on work decisions	2.33	1.47	24.4	16.8	58.7
Predictability	Receive all relevant information	2.75	1.60	63.4	14.7	21.9

(continued)

Table 2. (continued)

COPSOQ subscales job resources	Items	<i>M</i>	<i>SD</i>	Always/often (%)	Sometimes (%)	Seldom/never (%)
	Informed of future decisions	3.67	1.39	38.4	13.3	48.3
Leadership quality	Good at work planning	3.31	1.48	52.4	16.6	31.0
	Good at solving conflicts	3.16	1.54	49.0	15.2	35.7
Leader support	Listens to work problems	3.61	1.47	57.6	19.7	22.8
	Gives feedback about work	3.53	1.45	56.0	19.9	24.1
	Help and support	3.07	1.61	44.4	16.8	38.8
Sense of community ^a	Good atmosphere	3.93	1.25	68.9	18.1	13.0
	Feel part of a community	3.81	1.48	67.2	11.8	21.1
	Good co-operation	3.65	1.34	58.4	21.7	19.9
Peer support ^a	Help and support	3.53	1.33	50.6	28.4	21.0
	Listen to work problems	3.39	1.43	50.0	24.1	25.9
	Give feedback about work	3.53	1.42	57.6	19.8	22.7
Vertical trust	Management trusts employees	3.95	1.24	71.0	15.2	13.8
	Employees trust management	3.44	1.44	53.8	19.2	27.0
Justice	Work was fairly distributed	3.02	1.50	43.6	17.5	38.9
	Conflicts fairly resolved	3.04	1.48	42.8	18.6	38.7

^aSubscales added to the Spanish COPSOQ short version.

self-rated health, psychosocial factors at work, and sociodemographic variables. We first analyzed the prevalence of job stress and self-rated health as well as exposure to a comprehensive range of job demands and availability of job resources. We then performed hierarchical linear regression analyses to explore the contribution of psychosocial work factors (job demands and job resources) beyond the influence of sociodemographic variables.

Overall, our results underscore the relevance of psychosocial factors, which accounted for an additional 30.1% of the variance in job stress and 8.8% in self-rated health beyond the variance explained by sociodemographic variables. Notably, our findings highlight the significant role of job resources, in addition to job demands, in explaining job stress and self-rated health. The following discussion is organized around exposure to, and effects of, job demands and job resources, illustrating how these factors impact the well-being of HHs.

Exposure to Job Demands

According to our results, the main job demands experienced by HHs in their occupation are related to intense work pace,

job-specific stressors, quantitative and emotional demands, and work-life conflict. Similar to findings from a survey of HHs in Florida, USA (Hsieh et al., 2023), HHs in our study reported very high exposure to a heavy work pace and significant time pressure, often resulting in shortened or skipped breaks. In addition, a substantial proportion of HHs (60%) reported their work as emotionally demanding. This emotional toll was further explored qualitatively by Chela-Alvarez et al. (2021), in which housekeepers described experiencing nervousness and anxiety due to work overload, difficulties disconnecting from work, and anticipatory anxiety about the next day's workload. Another significant demand identified in our study was work-life conflict, with many HHs reporting that their job drained their energy to such an extent that their housework and family duties were affected.

Exposure to Job Resources

Regarding job resources, role clarity and task meaning were present to a "very high" extent among HHs. Most HHs reported clear role expectations, perceived their tasks important, and with a purpose. Job resources related to leadership and peer support

Table 3. Spearman Correlations Among Study Variables (N = 928)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
1. Job stress	—																								
2. Self-rated health	-.28	—																							
3. Age	.08	-.11	—																						
4. Years worked HH	.16	-.17	.54	—																					
5. Number beds	.22	-.11	.05	.16	—																				
6. Education level	-.03	.06	-.14	-.22	-.13	—																			
7. Quantitative D	.39	-.25	.01	.08	.22	.04	—																		
8. Work pace	.42	-.23	.09	.13	.26	-.04	.41	—																	
9. Emotional D	.43	-.28	.08	.16	.20	-.07	.42	.41	—																
10. Job-specific stressors	.44	-.23	-.02	.05	.20	.05	.47	.41	.47	—															
11. Role conflict	.39	-.27	.00	.09	.15	.04	.43	.36	.45	.53	—														
12. Work-life conflict	.42	-.25	-.04	.06	.13	.01	.39	.31	.45	.45	.38	—													
13. Work conditions	.20	-.13	-.04	.05	.19	.00	.25	.27	.28	.27	.25	.28	—												
14. Job insecurity	.16	-.04	.08	.08	.12	-.04	.12	.18	.14	.14	.13	.19	.58	—											
15. Role clarity	-.05	.04	.02	.05	.04	.03	-.10	.04	-.06	-.05	-.05	-.07	-.13	-.07	—										
16. Meaning	-.07	.05	.09	.06	-.01	.02	-.12	.01	-.08	-.10	-.11	-.09	-.00	-.00	.54	—									
17. Development	-.26	.13	-.01	-.09	-.11	-.02	-.26	-.17	-.13	-.24	-.22	-.19	.01	.05	.16	.29	—								
18. Influence/Autonomy	-.18	.03	.03	.07	-.08	-.02	-.25	-.19	-.09	-.22	-.20	-.21	-.09	-.12	.13	.10	.22	—							
19. Predictability	-.32	.20	-.00	-.05	-.18	-.00	-.36	-.27	-.25	-.36	-.38	-.28	-.18	-.08	.24	.21	.35	.26	—						
20. Quality leader	-.33	.26	-.01	-.10	-.16	-.01	-.43	-.27	-.29	-.35	-.42	-.27	-.19	-.08	.15	.19	.31	.21	.48	—					
21. Leader support	-.35	.20	-.03	-.13	-.13	.00	-.41	-.26	-.27	-.29	-.32	-.25	-.16	-.09	.23	.22	.34	.22	.45	.65	—				
22. Sense of community	-.27	.16	.01	-.04	-.09	-.00	-.26	-.18	-.19	-.23	-.20	-.22	-.15	-.13	.11	.12	.21	.18	.28	.36	.40	—			
23. Peer support	-.15	.11	-.04	-.04	-.06	.00	-.20	-.14	-.07	-.15	-.10	-.12	-.06	-.11	.12	.09	.17	.16	.25	.24	.35	.68	—		
24. Vertical trust	-.28	.20	.03	-.01	-.18	-.03	-.35	-.25	-.28	-.37	-.34	-.26	-.17	-.07	.19	.23	.32	.23	.45	.46	.45	.32	.20	—	
25. Justice	-.39	.26	.00	-.09	-.21	-.05	-.46	-.35	-.34	-.41	-.47	-.28	-.20	-.08	.12	.13	.30	.25	.51	.72	.55	.38	.28	.56	—

Note. Correlation coefficients (ρ) and significance levels: ρ ≥ .07, p < .05; ρ ≥ .09, p < .01; ρ ≥ .11, p < .001.

Table 4. Hierarchical Multiple Regression for Job Stress Conducted on Model Training Subsample ($n = 656$; 70.8%)

Predictor	Model 1			Model 2			Model 3			Bootstrap 1,000 samples							
	B	SE	t	p	B	SE	t	p	B	SE	t	p	B	SE	p	LCI	UCI
Intercept	4.74	0.47	10.17	<.001	0.35	0.51	0.69	.492	2.33	0.71	3.29	.001	2.33	0.70	.002	1.04	3.61
Age	0.00	0.01	0.22	.826	0.01	0.01	0.70	.487	0.01	0.01	0.97	.335	0.01	0.01	.375	-0.01	0.02
Years worked HH	0.01	0.01	1.38	.169	0.00	0.01	0.11	.914	0.00	0.01	-0.30	.768	0.00	0.01	.751	-0.02	0.01
Nationality	-0.56	0.16	-3.63	<.001	-0.64	0.13	-4.79	<.001	-0.58	0.13	-4.38	<.001	-0.58	0.13	<.001	-0.83	-0.34
Number beds	0.15	0.04	3.93	<.001	0.01	0.03	0.22	.827	0.01	0.03	0.29	.769	0.01	0.03	.764	-0.06	0.07
Quantitative demands					0.18	0.06	2.76	.006	0.08	0.07	1.17	.243	0.08	0.07	.257	-0.06	0.20
Work pace					0.47	0.10	4.89	<.001	0.44	0.10	4.67	<.001	0.44	0.09	<.001	0.27	0.64
Emotional demands					0.21	0.08	2.82	.005	0.19	0.08	2.55	.011	0.19	0.08	.009	0.05	0.34
Job-specific stressors					0.20	0.08	2.38	.018	0.18	0.08	2.11	.035	0.18	0.09	.043	-0.02	0.36
Role conflict					0.09	0.06	1.55	.122	0.03	0.06	0.50	.615	0.03	0.07	.662	-0.10	0.17
Work-life conflict					0.27	0.06	4.36	<.001	0.25	0.06	4.17	<.001	0.25	0.07	<.001	0.12	0.37
Work conditions					-0.06	0.05	-1.31	.193	-0.06	0.05	-1.24	.217	-0.06	0.05	.223	-0.15	0.03
Job insecurity					0.08	0.05	1.64	.102	0.07	0.05	1.44	.15	0.07	0.05	.149	-0.03	0.17
Development									-0.06	0.05	-1.03	.303	-0.06	0.05	.284	-0.16	0.04
Autonomy/Influence									0.02	0.05	0.36	.716	0.02	0.05	.700	-0.08	0.12
Predictability									0.02	0.06	0.32	.753	0.02	0.06	.756	-0.11	0.14
Leadership quality									0.01	0.07	0.20	.844	0.01	0.07	.847	-0.14	0.17
Leader support									-0.22	0.07	-3.30	.001	-0.22	0.06	.002	-0.34	-0.11
Sense community									-0.18	0.07	-2.51	.012	-0.18	0.07	.013	-0.31	-0.05
Peer support									0.09	0.07	1.28	.202	0.09	0.07	.174	-0.04	0.22
Vertical trust									0.08	0.07	1.25	.21	0.08	0.07	.216	-0.06	0.22
Justice									-0.13	0.07	-1.90	.058	-0.13	0.07	.079	-0.30	0.03
R^2 (Adjusted R^2)	.070		(.065)		.345		(.332)		.386				.386		(.366)		
F^2 change			.070				.274								.041		
F (significance)		12.311		<.001	33.636		<.001		4.757				4.757		<.001		

Note. B = unstandardized estimates; SE = standard error; β = standardized coefficient; LCI-UCI = lower and upper confidence intervals 95%.

Table 5. Hierarchical Multiple Regression for Self-Rated Health Conducted on Model Training Subsample ($n = 656$; 70.8%)

Predictors	Model 1		Model 2		Model 3		Bootstrap 1,000 samples										
	B	SE	t	P	B	SE	t	β	B	SE	p	LCI	UCI				
Intercept	3.73	0.24	15.56	<.001	4.50	0.30	15.01	<.001	3.36	0.41	8.24	<.001	3.363	0.442	<.001	2.502	4.18
Age	0.00	0.00	-1.00	.318	-0.01	0.00	-1.39	.164	-0.01	0.00	-1.42	.157	-0.01	0.00	.170	-0.02	0.00
Years worked HH	-0.01	0.01	-2.13	.033	-0.01	0.01	-1.56	.119	-0.01	0.01	-1.43	.152	-0.01	0.01	.174	-0.02	0.00
Nationality	0.02	0.08	0.19	.847	0.02	0.08	0.22	.826	0.02	0.08	0.26	.797	0.02	0.08	.791	-0.14	0.17
Number beds	-0.04	0.02	-2.17	.030	-0.01	0.02	-0.68	.499	-0.01	0.02	-0.54	.590	-0.01	0.02	.603	-0.05	0.03
Quantitative demands					-0.06	0.04	-1.57	.117	-0.02	0.04	-0.59	.556	-0.02	0.04	.563	-0.11	0.05
Work pace					0.02	0.06	0.35	.728	0.04	0.06	0.74	.460	0.04	0.06	.489	-0.08	0.16
Emotional demands					-0.08	0.04	-1.78	.076	-0.08	0.04	-1.79	.074	-0.08	0.04	.059	-0.16	0.01
Job-specific stressors					0.04	0.05	0.84	.401	0.08	0.05	1.53	.127	0.08	0.05	.113	-0.02	0.18
Role conflict					-0.10	0.04	-2.82	.005	-0.06	0.04	-1.67	.095	-0.06	0.04	.122	-0.15	0.02
Work-life conflict					-0.12	0.04	-3.20	.001	-0.11	0.04	-3.07	.002	-0.11	0.04	.003	-0.19	-0.03
Work conditions					0.00	0.02	0.07	.947	0.00	0.02	0.01	.996	0.00	0.02	.994	-0.05	0.05
Development									0.01	0.03	0.45	.657	0.01	0.04	.697	-0.06	0.09
Predictability									0.04	0.03	1.11	.267	0.04	0.04	.285	-0.03	0.11
Leadership quality									0.08	0.04	2.06	.040	0.08	0.04	.045	-0.01	0.18
Leader support									-0.02	0.04	-0.57	.569	-0.02	0.04	.579	-0.10	0.05
Sense Comm									0.02	0.04	0.34	.734	0.02	0.04	.771	-0.08	0.11
Peer Support									0.02	0.04	0.55	.580	0.02	0.04	.606	-0.07	0.11
Vertical trust									0.02	0.04	0.41	.686	0.02	0.05	.741	-0.07	0.12
Justice									0.03	0.04	0.68	.497	0.03	0.04	.513	-0.05	0.10
R^2 (Adjusted R^2)			.031	(.031)			.117	(.102)			.144	(.119)					
R^2 change			.031				.086				.027						
F (significance)			5.184	(<.001)			8.944	(<.001)			2.543	(=.01)					

Note. B = unstandardized estimates; SE = standard error; β = standardized coefficient; LCI-UCI = lower and upper confidence intervals 95%.

were present to a “high” extent. However, there was a notable absence of other resources, such as influence over organizational decisions and opportunities for learning and development. This is consistent with previous accounts describing the cleaning occupation as offering limited opportunities for training and skill enhancement (Eurofound, 2024).

Predictors of Job Stress and Self-Rated Health

The hierarchical linear regression analysis revealed that psychosocial work factors significantly impacted both job stress and self-rated health. Control variables including sociodemographic variables and a measure of physical work (i.e., number of beds made per day per HH) were included in the first step, job demands in the second step, and job resources in the third step. Each additional set of variables explained more variance in both outcomes, emphasizing the importance of both demands and resources in these contexts.

The strongest predictors of job stress were work pace, work–life conflict, Spanish nationality, lack of leader support, lack of a sense of community, emotional demands, and job-specific stressors. These findings are consistent with previous studies, which highlight that a fast work pace, workload, time pressure, and the need to delay or skip breaks are significant sources of stress for HHs (Hsieh et al., 2023). For self-rated health, work–life conflict and leadership quality emerged as the strongest predictors. Although leadership quality was a significant predictor, the bootstrap confidence intervals included zero, suggesting some uncertainty in this finding. Nonetheless, these results highlight the relevance of job demands such as an intense work pace and job-specific stressors in generating stress and work–life conflict, as well as the critical role of job resources in balancing stressful job demands and promoting health.

Regarding work–life conflict, several arguments explain the link between the strenuous HHs’ job and work–life conflict in this highly feminized occupation. First, hotel housekeeping involves high levels of occupational physical activity and energy expenditure associated with physical strain, fatigue, chronic musculoskeletal pain, and detrimental cardiovascular effects (Chela-Alvarez et al., 2021; Dinh-Dang et al., 2023; Sánchez-Rodríguez et al., 2022). Second, hospitality workers perceive that time-related job characteristics (long working hours, shifts) intensify the sense of pressure and make it difficult or impossible to fulfill family responsibilities (Zhao & Ghiselli, 2016). Third, the effects of work overload on work–life conflict may be more intense for female HH due to gender inequality in the distribution of household chores (Chela-Alvarez et al., 2021; Dinh-Dang et al., 2023). This illustrates the health impairment process suggested by the JD-R theory, whereby high demands at work exhaust the energy of HH and consequently diminish their health (Giusino et al., 2022).

Regarding job resources, our findings highlight the critical role of social relationships in promoting well-being in the hospitality sector. The presence of two key social resources—leader support and a sense of community—significantly reduced stress among HHs, and leadership quality emerged as a significant predictor of

better self-rated health. This underscores the importance of effective leadership in planning and assigning tasks, managing job demands, and providing (or not) resources to HHs (Berthelsen et al., 2018; Elfering et al., 2017; Navarro et al., 2022), and social support as a key resource to deal with job demands and enhance well-being (Chela-Alvarez et al., 2021; Ortiz-Bonnin et al., 2016).

Noteworthy, job resources such as role clarity and task meaning, which were reported to be present to a very high extent, were not significant predictors of either job stress or self-rated health. This contrasts with findings in previous research, where task significance and autonomy reduced job stress among frontline employees in Chinese hotels (Zhao et al., 2016), and higher meaning reduced stress and improved self-reported health (Van Tongeren et al., 2017). Despite being relevant job resources for HHs, they are likely stronger predictors of positive job attitudes such as job satisfaction (Lorente et al., 2018) instead of negative outcomes like stress.

Regarding the control variables, the number of beds made per day increased job stress, and both this variable and tenure as a housekeeper were linked to worse self-rated health in the initial model of our regression analysis. These effects became nonsignificant once job demands were considered, suggesting that while these factors are relevant, psychosocial work factors are more powerful predictors of the outcomes.

Interestingly, nationality emerged as a strong predictor of job stress, with Spanish nationals reporting significantly more stress than non-Spanish nationals. This finding is contrary to expectations, as previous research suggests that immigrants generally face more stress and worse health outcomes due to insecure economic conditions, limited access to social and health services, and other hardships (Benach, 2023; Hsieh et al., 2023). However, factors such as informal workplace responsibilities, higher family obligations, social comparison pressures, and concerns about income and career prospects might explain the increased stress among Spanish housekeepers. These findings highlight the complexity of job stress among this group, suggesting the need for further research to develop targeted interventions.

The findings of our study shed light on the job quality of hotel housekeeping and its long-term implications. Given the psychosocial factors describing the HHs’ occupation, hotel housekeeping can be classified as a “*low-quality job*” or “*high-strain job*,” characterized by high demands and low resources. As proposed by the JD-R model, this combination can trigger a health impairment process, leading to reduced well-being and increased illness. Moreover, high exposure to both physical and psychosocial risks is likely to further deteriorate workers’ physical and mental health (Aldasoro & Cantonnet, 2021).

Our results align with a recent report on “Precarious work and mental health in Spain” (Benach, 2023), which identifies high demands such as intense work, overtime, low income, and work–life conflict as main predictors of mental health issues in the working population. This report also revealed that the

impact on mental health is more than double among the most precarious workers and that the worst situation is observed in women, immigrants, and young people, characteristics that are often representative of HHs in Spain.

Particularly for the HH occupation, maintaining the intense work conditions and sustained job stress is likely to create adverse health consequences in the long run (fatigue, chronic pain, insomnia, and major cardiovascular risk; Siegrist & Li, 2016). Keeping HHs “overworked” has detrimental long-term effects for HHs’ health and lives, but also for organizations since high levels of job stress and health problems lead to increased turnover and reduced service quality (Chiang & Liu, 2017; Schwepker & Dimitriou, 2021). However, a positive implication of our results is that promoting job resources in the workplace can help hotel management ensure that this critical workforce remains healthy and motivated.

Strengths and Limitations

A key strength of this study is its focus on psychosocial risk factors in an under-researched, feminized, and precarious occupation, providing valuable insights into the working conditions of HHs. To the best of our knowledge, this is the largest random sample of HHs ever collected. In addition, collecting the data in public health centers instead of their workplaces may have reduced social desirability bias, enhancing the reliability of self-reported information. Another strength is the comprehensive assessment of a wide range of job demands alongside the consideration of job resources. The study’s findings also identify specific job resources that are particularly beneficial for the well-being of HHs. Promoting the availability of job resources is an essential strategy to counteract job stress and enhance well-being.

Several limitations should also be acknowledged. Given the cross-sectional design of this research, predictive relationships between psychosocial work factors and outcomes should be interpreted with caution. Second, subjective assessments of job stress and self-rated health should be ideally complemented with objective variables (e.g., medical health reports). Third, the generalizability of results to HHs in other geographical locations or under different socio-economic and legal conditions may be limited. Moreover, this study did not include external factors that influence stress and self-rated health, such as financial stress, family or health issues, psychological factors, and coping strategies, which should be addressed in future research. Finally, future studies should explore the role of specific organizational policies related to job quality and work organization to understand how different strategies for managing psychosocial factors can impact job stress and self-rated health.

Implications for Occupational Health Practice

Hotel housekeeping is a physically and mentally demanding job, characterized by high levels of stress and low self-rated health. The primary challenge for this occupation is to reduce harmful levels of stressful work to safeguard the health and well-being of housekeepers. Redesigning jobs to promote

decent work and healthy workplaces would align hospitality organizations with the United Nations Sustainable Development Goal number 8.

Critical interventions to reduce job stress and enhance health at work should be implemented to promote a reduction in job demands and an increase in job resources. First, it is of utmost importance to reduce workload and work pace by setting limits on the amount of work assigned per day and increasing the number of HHs per shift. These measures would allow for recovery breaks during work time and reduce both physical and psychological exhaustion, indirectly improving work–life balance.

Second, job resources need to be enhanced (e.g., training supervisors in leadership and fairness, facilitating peer support and a sense of community, allowing HH to work in pairs) or newly implemented (e.g., providing information about future changes and development opportunities). Strengthening these resources can create a more supportive work environment that reduces stress and promotes well-being.

Third, occupational health professionals should encourage HHs’ participation in health promotion and stress management programs. Health promotion programs could enhance HHs’ physical and mental health by educating HHs on healthy habits such as diet, exercise, and sleep. Stress management programs should teach strategies to improve time management, stress reduction, assertive communication, and establishing healthy relationships and work–life balance.

Overall, these measures would benefit HHs by improving their well-being and health; benefit organizations by reducing recruitment efforts associated with sick leaves and turnover; and benefit health systems by reducing the reliance on self-medication to treat pain and anxiety as well as decreasing the overuse of health services.

Author Contributions/CRedit Statement

Conceptualization: MEG-B, MM-J, JB, SO-B, and OB; data collection coordination: OB, XC-A, and JL; methodology and data analysis: MEG-B, MM-J, JB, and SO-B; writing—original draft preparation: MEG-B and MM-J; writing—review and editing: MEG-B, MM-J, JB, SO-B, XC-A, OB, and JL; supervision: JL; project administration: OB, XC-A, and JL; funding acquisition: JL. All authors have read and agreed to the submitted version of the article.

Conflict of Interest

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Institutional Review Board Statement

This study has been approved by the Balearic Islands Research Ethics Committee (No. IB 3738/18 PI) and the Primary Care Research Commission (PI18/023).

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

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Data Availability Statement

The data presented in this study are available upon reasonable request from the corresponding author.

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