EFFORT-REWARD IMBALANCE IMPACT ON PSYCHOSOCIAL STRESS AMONG HOTEL EMPLOYEES AT 3-TO-5-STAR HOTELS, KOTA KINABALU

HADI, A. A.[1] – MAHAT, F.[1*] – SAIDI, M. R.[1] – HAIRI, M. I. W. M.[1] – HASHIM, N. H.[1] – WONG, S. Y. W.[2] – KARIM, N. L. M.[1] – NOR, N. M.[1]

[1] *Faculty of Hotel and Tourism Management, Universiti Teknologi MARA (UiTM) Penang Branch, Penang, Malaysia.*

[2] *Faculty of Applied Sciences, UCSI University, Kuala Lumpur, Malaysia.*

**Corresponding author*
e-mail: fadhlina563[at]uitm.edu.my

(Received 08th September 2026; revised 28th October 2026; accepted 02nd November 2026)

Abstract. The hotel industry is a demanding service sector in which employees are frequently exposed to high workloads, long working hours, emotional labour, and strict service standards, potentially contributing to psychosocial stress. Guided by the Effort-Reward Imbalance (ERI) Theory, this study examined the relationships between effort, reward, effort-reward imbalance, and psychosocial stress among employees of 3-to-5-star hotels in Kota Kinabalu, Sabah. A quantitative cross-sectional design was employed using an online questionnaire administered through purposive sampling. Data from 160 respondents were analysed using SPSS version 28 through descriptive statistics, Pearson correlation, and multiple linear regression. The findings showed that effort was positively associated with psychosocial stress ($\beta = .403$, $p < .001$), while reward was negatively associated with psychosocial stress ($\beta = -.476$, $p < .001$). Effort–reward imbalance was also positively associated with psychosocial stress ($\beta = .117$, $p = .020$). The findings highlight the importance of balancing work demands with appropriate financial and non-financial rewards to support employee well-being in the hotel industry.
Keywords: *effort–reward imbalance, psychosocial stress, hotel employees, hospitality industry, ERI Theory*

Introduction

Malaysia's tourism industry and overall economy both benefit greatly from the hotel sector (Department of Statistics Malaysia, 2025). Employees in 3- to 5-star hotels are under more pressure to meet operational goals in a cutthroat market while providing exceptional service as the industry continues to expand. In addition to their regular responsibilities, staff members are expected to respond promptly to the needs of guests, uphold high standards, and frequently perform emotional labor (Nazir and Latif, 2024). Over time, these demands may accumulate and become psychosocial stress, which has an impact on their well-being and productivity at work (Arnieyantie et al., 2022). This situation also affects employees' job quality. Job quality dimensions such as workload, job control, and social relationships are directly associated with employees' health and psychological well-being (Ahmad et al., 2025). This situation is explained by Siegrist's Effort–Reward Imbalance (ERI) Theory. According to Siegrist (1996) and Siegrist (2010), stress at work arises when employees' efforts are not adequately rewarded with compensation, recognition, opportunities for advancement, or job security. People begin to feel that the exchange is unfair when this balance is off, which can result in psychological stress and worse mental health (Ge et al., 2021; Siegrist et al., 2004).

Effort-reward imbalance is frequently associated with increased stress and emotional exhaustion, according to studies conducted in service-related fields (Al-Aali, 2022).

Employees in the hospitality sector frequently face high work demands while receiving varying levels of monetary and non-monetary rewards (Rosemberg and Li, 2018). Although previous studies have established associations between effort–reward imbalance and occupational stress, much of the existing evidence has been derived from international and non-hospitality settings. Empirical evidence focusing specifically on hotel employees in Malaysia, particularly those working in 3- to 5-star hotels in Kota Kinabalu, Sabah, remains limited. This contextual gap warrants further investigation because hotel employees operate in demanding service environments characterised by intensive guest interaction, high service expectations, and irregular working conditions. Therefore, this study examines the relationships between effort, reward, effort–reward imbalance, and psychosocial stress among employees of 3- to 5-star hotels in Kota Kinabalu, Sabah, guided by the Effort–Reward Imbalance (ERI) Theory (Siegrist, 1996). The findings contribute contextual evidence on employee psychosocial well-being and provide practical insights for hotel management in developing fairer reward practices and healthier working environments.

Literature review

Psychosocial stress in the hotel industry

Psychosocial stress refers to the psychological and emotional strain experienced by employees due to demanding work conditions, organisational challenges, and workplace relationships (Jahan, 2021). In the hospitality industry, hotel employees are particularly exposed to stressors such as heavy workloads, irregular working hours, shift duties, emotional labour, and pressure to maintain high service standards. These demands require employees to regulate their emotions while continuously interacting with guests, increasing the risk of emotional exhaustion and psychological strain. Previous studies have shown that prolonged exposure to stressful working environments contributes to burnout, anxiety, emotional exhaustion, and reduced job satisfaction among hotel employees (Arnieyantie et al., 2022). Employees in 3- to 5-star hotels are more vulnerable due to higher customer expectations and stricter service requirements. Therefore, identifying factors contributing to psychosocial stress is essential to enhance employee well-being and sustain service quality.

Effort, reward, effort–reward imbalance and psychosocial stress

This study is guided by the Effort–Reward Imbalance (ERI) Theory proposed by Siegrist (1996), which explains that psychosocial stress occurs when employees perceive that their work efforts are not fairly compensated by organisational rewards.

Effort and psychosocial stress

Effort refers to the physical, cognitive, and emotional demands imposed on employees in performing their work responsibilities (Arnieyantie et al., 2022). Within the hotel industry, employees are frequently exposed to demanding workloads, long and irregular working hours, emotional labour, and continuous interaction with guests while being expected to maintain high service standards. Such conditions require employees to invest considerable physical and psychological resources in fulfilling their job

responsibilities. Previous studies have generally demonstrated that excessive work demands are associated with psychological strain, fatigue, and emotional exhaustion (Cao et al., 2024; Ge et al., 2021). However, the effect of work effort should not be interpreted independently from the organisational context in which such effort is exerted. According to the Effort–Reward Imbalance (ERI) Theory (Siegrist, 1996), high effort becomes particularly stressful when the resources invested by employees are not adequately reciprocated through appropriate organisational rewards. Therefore, although effort represents a distinct component of the ERI framework, its relationship with psychosocial stress should be understood within the broader principle of reciprocity between employees' contributions and the rewards they receive. In the context of 3- to 5-star hotels, where employees are required to meet demanding operational and service expectations, examining the relationship between perceived work effort and psychosocial stress provides greater understanding of how demanding working conditions may affect employees' psychological well-being. Accordingly, the following hypothesis is proposed:

H1: There is a significant relationship between effort and psychosocial stress among employees in 3- to 5-star hotels in Kota Kinabalu, Sabah.

Reward represents the financial and non-financial benefits employees receive, including salary, bonuses, recognition, career opportunities, supervision, and job security. According to ERI Theory, adequate rewards act as organisational resources that reduce stress and enhance employee well-being (Tumati and Yousfi, 2023). Conversely, insufficient rewards may lead to dissatisfaction, perceived unfairness, and psychological distress. Previous hospitality studies demonstrated that fair compensation and recognition reduce employee stress and improve job performance (Cao et al., 2024; Rosemberg and Li, 2018). Thus, higher perceived rewards are expected to reduce psychosocial stress. Accordingly, the following hypothesis is proposed:

H2: There is a significant relationship between reward and psychosocial stress among employees in 3- to 5-star hotels in Kota Kinabalu, Sabah.

Effort–reward imbalance occurs when the effort invested by employees is not adequately reciprocated by the rewards received (Siegrist, 1996). Within the ERI framework, effort and reward represent two interrelated components, while imbalance reflects the degree of mismatch between them. In the hotel industry, long working hours, emotional demands, and high service expectations may create psychological strain when employees perceive that such efforts are not matched by appropriate compensation, recognition, career opportunities, or job security. Previous studies have associated effort–reward imbalance with psychosocial stress, burnout, and reduced well-being (Al-Aali, 2022; Rosemberg and Li, 2018). Therefore, the present study examines whether perceived effort–reward imbalance is significantly associated with psychosocial stress among employees in 3- to 5-star hotels in Kota Kinabalu, Sabah. Accordingly, the following hypothesis is proposed:

H3: There is a significant relationship between effort–reward imbalance and psychosocial stress among employees in 3- to 5-star hotels in Kota Kinabalu, Sabah.

Based on ERI Theory, this study proposes that effort, reward, and effort–reward imbalance are key factors influencing psychosocial stress among hotel employees. As shown in *Figure 1*, the framework positions these three factors as independent variables, while psychosocial stress represents the dependent variable reflecting employees' psychological and emotional well-being.

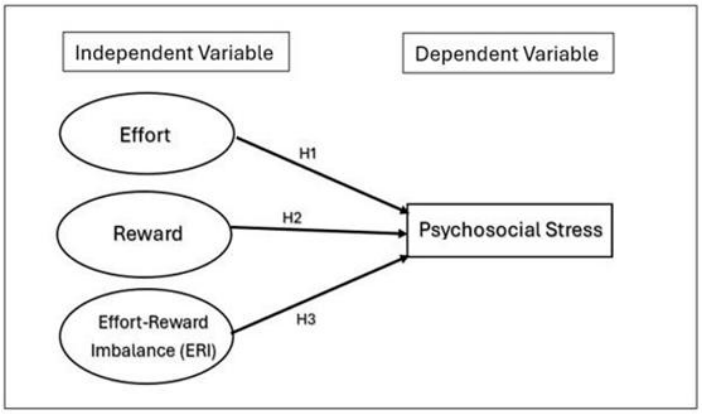


Figure 1. *Propose research framework.*

Materials and Methods

This study employed a quantitative cross-sectional research design. The unit of analysis was individual employees aged 18 years and above working in 3- to 5-star hotels in Kota Kinabalu, Sabah. Kota Kinabalu was selected as a major Malaysian tourism destination with a concentration of upscale hotels operating in demanding service environments. Purposive sampling was employed to recruit respondents who met the inclusion criteria. The sample size was determined using G*Power, which indicated a minimum requirement of 115 respondents; however, 160 respondents were targeted to improve the adequacy and reliability of the data. The questionnaire was adapted from previous validated studies based on the Effort–Reward Imbalance (ERI) Theory and psychosocial stress literature and comprised five sections covering demographics, effort, reward, effort–reward imbalance, and psychosocial stress, with five items for each construct. A pre-test was conducted to assess the clarity, relevance, and suitability of the instrument, followed by expert review among selected academicians for further refinement. Subsequently, a pilot test involving 30 respondents was conducted to assess instrument reliability, producing Cronbach's alpha values ranging from 0.891 to 0.915. The final questionnaire was distributed online using Google Forms, and 160 usable responses were analysed. Data were analysed using SPSS version 28 through descriptive statistics, reliability analysis, Pearson correlation, and multiple linear regression to examine the proposed relationships.

Results and Discussion

Data collected from 160 employees of 3- to 5-star hotels in Kota Kinabalu, Sabah, were analysed using the Statistical Package for the Social Sciences (SPSS) version 28. Descriptive statistics, reliability analysis, Pearson correlation, and regression analysis were conducted to address the research objectives. Respondents' demographic

characteristics included gender, marital status, educational qualification, and working department.

The sample comprised 51.2% (n = 82) male and 48.8% (n = 78) female respondents, indicating a balanced gender distribution. Most respondents were single (73.1%, n = 117), while 26.9% (n = 43) were married. In terms of education, the majority held SPM qualifications (47.5%, n = 76), followed by diplomas (30.0%, n = 48), bachelor's degrees (13.8%, n = 22), master's degrees (6.3%, n = 10), and PhDs (2.5%, n = 4). Regarding departmental distribution, respondents mainly worked in housekeeping (36.3%, n = 58), followed by food and beverage (32.5%, n = 52), front office (15.6%, n = 25), kitchen (15.0%, n = 24), and other departments (0.6%, n = 1). This broad representation enhances the generalisability of the study findings. The tables are presents the Pearson correlation analysis examining the relationships between effort, reward, effort–reward imbalance, and psychosocial stress among employees in 3- to 5-star hotels in Kota Kinabalu, Sabah. Pearson's correlation coefficient (r) was used to determine the strength and direction of the relationships, based on data collected from 160 respondents. All correlations were statistically significant at the 0.01 level (2-tailed).

The results indicated that psychosocial stress was significantly associated with all three independent variables ($p < .001$). Reward exhibited the strongest relationship with psychosocial stress ($r = -0.958$), suggesting that employees who perceived greater rewards experienced lower levels of stress. In contrast, effort showed a strong positive correlation with psychosocial stress ($r = 0.952$), indicating that higher work demands were associated with increased stress. Similarly, effort–reward imbalance was positively correlated with psychosocial stress ($r = 0.922$), implying that employees who perceived a greater imbalance between their efforts and rewards were more likely to experience psychosocial stress. Additionally, strong correlations were observed among the predictor variables. Effort was negatively correlated with reward ($r = -.928$) and positively correlated with effort–reward imbalance ($r = .911$), while reward was negatively correlated with effort–reward imbalance ($r = -.917$). These high correlations indicate substantial overlap among the predictors and suggest potential multicollinearity when effort, reward, and effort–reward imbalance are entered simultaneously into the regression model. This is theoretically plausible because effort and reward are interrelated components of the ERI framework, while effort–reward imbalance reflects the mismatch between these components. Therefore, the individual regression coefficients for H1–H3 should be interpreted cautiously and in conjunction with the theoretical relationships among the constructs.

Table 1 to *Table 3* present the results of the multiple linear regression analysis examining the effects of effort, reward, and effort–reward imbalance on psychosocial stress among employees in 3- to 5-star hotels in Kota Kinabalu, Sabah. The model demonstrated high explanatory power, with a multiple correlation coefficient of $R = .974$ and a coefficient of determination of $R^2 = .948$, indicating that 94.8% of the variance in psychosocial stress was explained by the three predictors. The Adjusted R^2 value of .947 confirms the model's reliability, while the remaining 5.2% of the variance may be attributed to factors not included in this study. The ANOVA results showed that the overall regression model was statistically significant ($F(3,156) = 954.765$, $p < .001$), confirming that effort, reward, and effort–reward imbalance collectively predict psychosocial stress. All three independent variables were significantly associated with psychosocial stress in the regression model. Reward emerged as the strongest predictor

(β = −.476, B = −.483, t = −8.635, p < .001), indicating that higher perceived rewards were associated with lower psychosocial stress. Effort was the second strongest predictor (β = .403, B = .552, t = 7.568, p < .001), suggesting that greater work demands increased psychosocial stress. Effort–reward imbalance also had a significant positive effect (β = .117, B = .187, t = 2.353, p = .020), although its contribution was smaller. Overall, the findings indicate that reward, effort, and effort–reward imbalance are significant predictors of psychosocial stress, with reward exerting the greatest influence. All hypotheses (H1, H2, and H3) were supported. Effort and effort–reward imbalance significantly increased psychosocial stress, while reward reduced stress levels. These findings support the ERI Theory (Siegrist, 1996), confirming that work demands, insufficient rewards, and perceived imbalance influence hotel employees' psychological well-being.

Table 1. *Pearson correlation analysis.*

VM	TE	TR	TERI	TPS
TE	1	-.928	.911	.952
TR	-.928	1	-.917	-.958
TERI	.911	-.917	1	.922
TPS	.952	-.958	.922	1

Note: VM=Variable Matrix; TE=Total Effort (Total IV_E_R); TR=Total Reward (Total IV_R); TERI= Total Effort-Reward Imbalance (Total IV_ERI); TPS= Total Psychosocial Stress (Total DV_PS).

Table 2. *ANOVA table.*

Model	Sum of Square	df	Mean Square	F	Sig.
Regression	201.894	3	67.298	954.765	<.001
Residual	10.996	156	.070		
Total	212.890	159			

Note: a. Dependent Variable: Psychosocial Stress (DV_PS); b. Predictors: (constant), Effort-reward Imbalance (IV_ERI), Effort (IV_E_R), Reward (IV_R).

Table 3. *Multiple linear regression analysis.*

Predictor Model (IV)	Unstandardized B	Std. Error	Standardize d β	T-value	Significance (p)
(Constant)	2.613	.370	-	7.066	<.001
TE	.552	.073	.403	7.568	<.001
TR	-.483	.056	-.476	-8.635	<.001
TERI	.187	.080	.117	2.353	.020

Note: a. Dependent Variable: Psychosocial Stress (DV_PS); Model Fit: R = .974; Adjusted R^2 = .947; F = 954.765; p < .001; Standard Error of the Estimate = .26549; TE=Total Effort (Total IV_E_R); TR=Total Reward (Total IV_R); TERI= Total Effort-Reward Imbalance (Total IV_ERI).

The findings revealed that effort, reward, effort–reward imbalance were significantly associated with psychosocial stress among employees in 3- to 5-star hotels in Kota Kinabalu, Sabah. Effort showed a significant positive relationship with psychosocial stress (β = .403, p < .001), indicating that employees with higher work demands were more likely to experience psychological strain. This finding supports the Effort–Reward Imbalance (ERI) Theory (Siegrist, 1996), which suggests that excessive work demands contribute to occupational stress. It is also consistent with previous studies by Cao et al. (2024), Arnieyantie et al. (2022), Ge et al. (2021) highlighting the importance of managing workload to reduce employee stress. Reward was found to have a significant negative relationship with psychosocial stress (β = −.476, p < .001), indicating that employees who perceived greater financial and non-financial rewards experienced

lower stress levels. This finding aligns with ERI Theory and supports earlier studies by Cao et al. (2024) and Rosemberg and Li (2018), which emphasised the protective role of fair rewards in promoting employee well-being.

Furthermore, effort–reward imbalance had a significant positive relationship with psychosocial stress ($\beta = .117$, $p = .020$), suggesting that employees who perceived an imbalance between their work effort and organisational rewards experienced higher stress levels. This finding is consistent with ERI Theory and previous research (Al-Aali, 2022; Siegrist, 2010; Rosemberg and Li, 2018), emphasising that maintaining a fair balance between employee effort and organisational rewards is essential for improving psychological well-being in the hotel industry. Nevertheless, the very high correlations among effort, reward, and effort–reward imbalance indicate substantial conceptual overlap among the predictors. This pattern is consistent with the ERI framework, in which effort and reward represent interrelated components and imbalance reflects the mismatch between them. Consequently, although H1–H3 were statistically supported, the individual regression coefficients should be interpreted cautiously rather than as completely independent effects. The findings therefore reinforce the broader ERI proposition that psychosocial stress is associated with the reciprocity between employees' work contributions and organisational rewards.

Conclusion

This study examined the relationships between effort, reward, effort–reward imbalance, and psychosocial stress among employees of 3- to 5-star hotels in Kota Kinabalu, Sabah. All three hypotheses were supported: effort ($\beta = .403$, $p < .001$) and effort–reward imbalance ($\beta = .117$, $p = .020$) were positively associated with psychosocial stress, while reward was negatively associated with it ($\beta = -.476$, $p < .001$). Given the high correlations among the predictors, the individual regression coefficients should be interpreted cautiously. Overall, the findings support the ERI framework and highlight the importance of balancing work demands with appropriate rewards. As this cross-sectional study employed purposive sampling within one geographical area, the findings represent associations rather than causality. Future studies may use broader samples, longitudinal designs, and additional factors such as work-life balance and organizational support.

Acknowledgement

This research is self-funded.

Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

REFERENCES

[1] Ahmad, A.R., Sapny, H.R.M., Seman, N.A.A., Jameel, A.S. (2025): Remaining job happiness: The role of algorithmic design in human centres organizational well-being. – Quantum Journal of Social Sciences and Humanities 6(4): 180-192.
[2] Al-Aali, L. (2022): Examining the consequences of effort–reward imbalance: An empirical study. – International Journal of Operations and Quantitative Management 28(1): 29-43.
[3] Arnieyantie, A.H., Norrina, D., Nur Alia Hanani, H., Mohamad Azli, R., Noorliza, Z., Hussin Khan, R.K. (2022): The impact of working hours and workload on hotel food and beverage staff's health status during the COVID-19 pandemic. – International Journal of Accounting, Finance and Business 7(41): 317-326.
[4] Cao, J., Liu, J., Wong, J.W.C. (2024): JD-R model on job insecurity and the moderating effect of COVID-19 perceived susceptibility. – Current Psychology 43: 16890-16904.
[5] Department of Statistics Malaysia (2025): Tourism satellite account 2024. – Department of Statistics Malaysia, Putrajaya, Malaysia 60p.
[6] Ge, J., He, J., Liu, Y., Zhang, J., Pan, J., Zhang, X., Liu, D. (2021): Effects of effort–reward imbalance, job satisfaction, and work engagement on self-rated health among healthcare workers. – BMC Public Health 21: 10p.
[7] Jahan, M.A.N. (2021): Impacts of psychosocial stress on physiology and psychology based on the effort–reward imbalance model. – BRAC University, Bangladesh 50p.
[8] Nazir, F., Latif, H.A. (2024): Impact of effort–reward imbalance on job stress and job performance. – International Journal of Academic Research in Business and Social Sciences 14(12): 2544-2565.
[9] Rosemberg, M.A.S., Li, Y. (2018): Effort–reward imbalance and work productivity among hotel housekeeping employees. – Workplace Health and Safety 66(11): 516-524.
[10] Siegrist, J. (1996): Adverse health effects of high-effort/low-reward conditions. – Journal of Occupational Health Psychology 1(1): 27-41.
[11] Siegrist, J. (2010): Effort–reward imbalance at work and cardiovascular diseases. – International Journal of Occupational Medicine and Environmental Health 23(3): 279-285.
[12] Siegrist, J., Starke, D., Chandola, T., Godin, I., Marmot, M., Niedhammer, I., Peter, R. (2004): The measurement of effort–reward imbalance at work. – Social Science and Medicine 58: 1483-1499.
[13] Tumati, R., Yousfi, M.D.A. (2023): Reward system and job satisfaction among employees in the hotel industry in the Sultanate of Oman. – Research Journal of Business and Management 10(1): 19-28.