

Occupational Stress and Job Performance among Civil Engineers: The Mediating Role of Organizational Support

Mahmoud Abdelaziz Hussein Mohamed Ibrahim ^{1*} Karim Mohamed Moustafa ²

¹ Senior Planning Engineer, Saudi Arabian Parsons Limited, Makkah, Saudi Arabia.

Email: maziz52011@gmail.com |  <https://orcid.org/0009-0003-3381-4000>

² Senior QA/QC Civil Engineer, Saudi Binladen Group, Makkah, Saudi Arabia.

Email: karimsand68@gmail.com |  <https://orcid.org/0009-0004-6963-6362>

ABSTRACT: Grounded in the Job Demands–Resources (JD-R) Theory, the study assessed the relationship between occupational stress and job performance among civil engineers in the cultural context of Saudi Arabia to address the gap in the indigenous literature. Therefore, using a cross-sectional study design and a purposive sampling technique, civil engineers employed in Makkah, Saudi Arabia, were approached. Three instruments were used in the study: the Perceived Occupational Stress Scale (POSS), Individual Work Performance Questionnaire (IWPQ), and the Perceived Organizational Support (POS) Short Version. The findings demonstrated a significant negative relationship between occupational stress and organizational support. Moreover, occupational stress also had a significant negative relationship with job performance. However, the relationship between organizational support and job performance was significantly positive. Mediation analysis demonstrated the partial mediating role of organizational support in the relationship between occupational stress and job performance. The study provided both theoretical and practical implications in the end.

KEYWORDS: Occupational Stress, Organizational Support, Job Performance, Civil Engineers

Introduction

Worldwide, the construction industry is a demanding occupational sector, requiring civil engineers to handle complex projects with strict deadlines, financial constraints, and effective team management while ensuring quality and taking measures to attain safety standards (Kumari & Anand, 2026; Sanusi, 2024; Tijani et al., 2022). Civil engineers play a vital role in planning, designing, and overseeing construction projects that facilitate economic and societal progress (Akyazi et al., 2020; Ibrahim et al., 2022; Levitt, 2007). However, they often encounter tight deadlines, heavy workloads, technical challenges, and substantial responsibilities (Bowen et al., 2014; Khadgi & Tamang, 2024; Ng et al., 2004; Selcuk & Gundes, 2025). These obstacles increase workplace stress, which may be associated with lower job performance (De Silva et al., 2017; Enshassi et al., 2015; Nery et al., 2025; Offia Ibem et al., 2011). Thus, it is important to understand the association between occupational stress and job performance.

Occupational stress can be defined as the psychological and physical strain experienced when employees perceive the occupational demands exceeding their physical as well as psychological resources (Corpuz, 2024; Kaur, 2023; Shah & Nazir, 2025). Civil engineers are prone to experience stress originating from project delays, budget constraints, changing client requirements and expectations, safety concerns, extensive working hours, and

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Corresponding Author

Mahmoud Abdelaziz Hussein
Mohamed Ibrahim

✉ maziz52011@gmail.com

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coordination with various stakeholders (Mabaso, 2022; Mireku et al., 2025; Yeko, 2024). Persistent workplace stress may impair focus, decision-making, encouragement, motivation and psychological well-being, thereby reducing employees' ability to perform their work effectively (Ebeh & Ezirim, 2025; Hasyim & Bakri, 2025; Michie, 2002; Shahid et al., 2025). Unmanaged stress may lead to lower productivity, a higher number of errors, and compromised organizational objectives (Imtiaz & Ahmad, 2009; Keane & Spillane, 2026; Selvakumar et al., 2026; Ssemuaddu et al., 2025).

Job performance can be defined as the extent to which employees efficiently fulfill their assigned responsibilities and provide support to organizational development (Corbeanu et al., 2023; Etuk & Alah, 2025; Nabhan & Munajat, 2023). Job performance among civil engineers comprised technical competence, adherence to safety regulations, communication, problem-solving ability, project management and timely meeting deadlines or fulfilling assigned responsibilities (Azmi & Che Ibrahim, 2025; Bhuruk et al., 2018; Pariafsai & Behzadan, 2021). Previous studies have reported that excessive occupational stress is highly associated with lower organizational productivity, decreased work quality and underperformance by the employee (Miruna-Georgiana & Catalina, 2025; Parsakia & Tabar, 2024; Syahada & Firdaus, 2025). However, the impact of occupational stress may not always be direct on poor performance by the employees, suggesting that organizational factors may affect how employees deal with workplace demands.

The present study is grounded in the Job Demands–Resources (JD-R) Theory, which explains employee well-being and performance through the interaction between job demands and job resources. The theory postulates that job demands such as high workload, role uncertainty, and tight deadlines require continuous physical and mental exertion, increasing the probability of occupational stress. Conversely, job resources facilitate goal attainment, reduce the negative effects of job demands, and promote motivation and performance (Andolšek et al., 2026; Bakker & Demerouti, 2014, 2017; Bakker et al., 2023). Organizational support is a crucial job resource because it reflects employees' perception that their contributions are appreciated and their mental well-being is taken care of (Bonaiuto et al., 2022; Firmansyah et al., 2022; Shahid et al., 2026). Supportive organizations provide adequate supervision, necessary resources, recognition, and assistance that enable employees to manage workplace challenges more effectively (Andersen et al., 2025; Gilbreath, 2004; Shanock et al., 2019; Sun, 2019). Based on the JD-R Theory, organizational support is expected to mediate the association between occupational stress and job performance. Higher occupational stress may deplete employees' perceptions of organizational support, which, in turn, lowers their job performance. Therefore, organizational support serves as an important psychological mechanism through which occupational stress influences employee performance.

Saudi Arabia's construction sector has experienced rapid growth driven by Vision 2030 and large-scale infrastructure projects, elevating the demands placed on civil engineers (Gohar, 2025; Hegazy & Imam, 2026; Hidalgo, 2024). These professionals work under tight deadlines, heavier workloads, and complex project environments, making occupational stress a significant concern. Despite the growing importance of employee well-being in the Kingdom, limited studies have investigated whether organizational support explains the relationship between occupational stress and job performance among civil engineers in Saudi Arabia. Therefore, this study aims to assess the mediating role of organizational support in the relationship between occupational stress and job performance among civil engineers in Saudi Arabia. Specifically, the study examines whether occupational stress predicts job performance indirectly through organizational support.

Hypothesis

H1: Organizational support significantly mediates the relationship between occupational stress and job performance among civil engineers employed in Saudi Arabia.

Method

Study Design

A cross-sectional correlational study design was adapted to find the association between occupational stress and job performance along with organizational support as a mediator. This study design was utilized due to its ability to assess variables at a single point in time.

Sampling Technique and Inclusion Criteria

civil engineers employed in Makkah, Saudi Arabia, who were at least 24 years old and possessed a Bachelor's degree or equivalent in Civil engineering with one year of working experience as a civil engineer in Saudi Arabia.

Sample Characteristics

A total of 300 civil engineers working in Makkah, Saudi Arabia, were approached by investigators for data collection purposes. Out of these, 246 participants met the study inclusion criteria, resulting in a response rate of 82.0%. The final sample had a mean age of 36.61 years ($SD = 10.09$). Most participants were men ($n = 177$, 72.0%), while women comprised 28.0% ($n = 69$) of the sample. Regarding education, 143 (58.1%) participants held a Bachelor's degree or equivalent, 90 (36.6%) had a Master's degree, and 13 (5.3%) held a Ph.D. Professional experience varied, with 67 (27.2%) having 1–4 years, 57 (23.2%) having 5–8 years, 40 (16.3%) having 9–12 years, 33 (13.4%) having 13–16 years, 37 (15.0%) having 17–20 years, and 12 (4.9%) having more than 20 years of experience. In term of job designations/titles, iProject Engineers ($n = 57$, 23.2%), Planning Engineers ($n = 54$, 22.0%), Site Engineers ($n = 49$, 19.9%), QA/QC Engineers ($n = 27$, 11.0%), Design/Structural Engineers ($n = 21$, 8.5%), Construction Managers ($n = 19$, 7.7%), Senior Civil Engineers ($n = 11$, 4.5%), and Project Managers ($n = 8$, 3.3%) took part in the study. Furthermore, 130 (52.8%) participants were from public sector organizations, while 116 (47.2%) belonged to private sector organizations.

Instruments

Perceived Occupational Stress Scale (POSS) was used to measure Occupational Stress. The scale consists of 4 items rated on a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The scale has good internal consistency of Cronbach's $\alpha = .82$. In the current study, the Cronbach's alpha of this scale was 0.67, which is slightly below the conventional threshold of 0.70 but remains acceptable for exploratory research.

Job performance was measured using the *Individual Work Performance Questionnaire (IWPQ)* developed by Koopmans et al. (2014), which consists of 18 items, a 5-point Likert scale ranging from 0 (Seldom/Never) to 4 (Always/Often). Its Cronbach's alpha values range from .78 to .85 (Koopmans et al., 2014). In the present study, the overall Cronbach's alpha was .84, which depicts higher internal consistency among the participants' responses.

Organizational support was assessed by the *Perceived Organizational Support Scale (Short Version)*, originally developed by Eisenberger et al. (1986) and subsequently validated by Rhoades and Eisenberger (2002). The updated shorter version questionnaire comprises 10 items with a 5-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Its Cronbach's alpha was 0.82, highlighting good internal consistency.

Ethical Consideration and Procedure

The study adhered to the APA 7th edition as well as the Helsinki Declaration of Ethical Principles. The participants were approved in Makkah, Saudi Arabia, by the investigators with the consent form, demographics questionnaire and study instruments. Upon the written signature on the consent form, the participants were given the demographic

and study instruments for the data collection process. It is important to note that the consent form clearly mentions confidentiality, anonymity, voluntary participation, the brief purpose of the study and the right to withdraw at any juncture without encountering negative consequences. No physical or emotional harm was reported in the study. Once data were collected, they were entered into IBM SPSS version 27 for analysis purposes.

Results

Table 1

Correlational Analysis (N = 246)

Variables	1	2	3
1.Occupational Stress	-	-.88**	-.76**
2.Organizational Support		-	.82**
3.Job Performance			-

Note: *** $p < .001$

The above table demonstrates that occupational stress has a negative and significant relationship with organizational support and job performance. Furthermore, the association between organizational support and job performance is positively significant.

Table 2

Mediation of Organizational Support in the Relationship between Occupational Stress and Job Performance (N = 246)

Measures	B	SE	t	p	LLCI	ULCI
Step 1: (Path <i>a</i>) Outcome: OS (OST → OS)	-1.94***	0.06	-29.99	< .001	-2.07	-1.82
Step 2: (Path <i>b</i>) Outcome: JP (OS → JP)	1.06***	0.12	8.67	< .001	0.82	1.30
Step 3: (Path <i>c'</i>) Outcome: JP (OST → JP Controlling for OS)	-0.56*	0.26	-2.11	.03	-1.11	-0.03
Step 4: (Path <i>c</i>) Outcome: JP (Total Effect)	-2.64***	0.14	-18.59	< .001	-2.92	-2.36
Indirect Effect (OST → OS → JP)	-2.07	Boot SE = 0.25	-	-	-2.52	-1.55

Note: *** $p < .001$, * $p < .05$. Path *a* (OST → OS): $R^2 = .7867$, $F(1, 244) = 899.89$, $p < .001$; Path *b* + *c'* (OST + OS → JP): $R^2 = .6842$, $F(2, 243) = 263.26$, $p < .001$; Path *c* (total effect, OST → JP): $R^2 = .5863$, $F(1, 244) = 345.83$, $p < .001$. OST = Occupational Stress; OS = Organizational Support; JP = Job Performance.

The mediation analysis indicated that occupational stress significantly and negatively predicted organizational support (Path *a*, $B = -1.95$, $SE = 0.06$, $t = -30.00$, $p < .001$). Organizational support, in turn, significantly and positively predicted job performance (Path *b*, $B = 1.06$, $SE = 0.12$, $t = 8.68$, $p < .001$). The direct effect of occupational stress on job performance remained significant after controlling for organizational support (Path *c'*, $B = -0.57$, $SE = 0.27$, $t = -2.11$, $p = .036$), indicating that occupational stress continued to predict job performance negatively. The total effect of occupational stress on job performance was also significant (Path *c*, $B = -2.64$, $SE = 0.14$, $t = -18.60$, $p < .001$). Furthermore, the indirect effect through organizational support was significant ($B = -2.07$, $BootSE = 0.25$, 95% CI [-2.53, -1.55]), as the confidence interval did not include zero, indicating partial mediation.

Discussion

The correlational analysis demonstrated that occupational stress was significantly and negatively associated with organizational support and job performance. Additionally, organizational support was positively and significantly associated with job performance. The result indicates that civil engineers going through a higher level of occupational stress are likely to perceive lower organizational support, which results in underperformance or poorer job performance. In a country like Saudi Arabia, where civil engineers work under short deadlines, large-scale infrastructure projects, and significantly high safety standards aligned with Vision 2030, organizational support plays a crucial and important part in sustaining employee performance. Adequate resources, supportive management, and recognition may help reduce the negative influence of workplace stress. These findings are supported by recent studies by Hasan et al. (2023) and Liu et al. (2023), which revealed that organizational support improves job performance while occupational stress negatively affects employee productivity.

The mediation analysis demonstrated that organizational support partially mediated the relationship between occupational stress and job performance. Occupational stress significantly reduced organizational support, while organizational support significantly improved job performance. Although occupational stress had a significant direct effect on job performance, the significant indirect effect indicated that the relationship between occupational stress and job performance was partially explained through organizational support. These findings aligned with the Job Demands–Resources (JD–R) Theory, which postulates that excessive job demands reduce employees' physical and psychological capacities, whereas job resources like organizational support mitigate the negative effects of stress and facilitate better performance (Bakker & Demerouti, 2023). In the Saudi Arabian construction sector, adequate resources, supportive higher management and employee recognition can help civil engineers deal with demanding workloads and sustain performance. These findings are also aligned with recent studies reporting that lower organizational support elevates workplace stress and impairs employee performance (Chu et al., 2024; Zhang et al., 2024).

Limitations and Recommendations

The first and most important limitation of the study is that only participants were chosen from Makkah, which may not be a true representation of the whole civil engineer population in Saudi Arabia. Future studies are required to include more Saudi cities and collect data via Google Forms if physical accessibility is not easily possible. This will enhance the generalizability of the study. Secondly, the demographics used in the study are very limited. Future studies may also include the nationality of the participants and job type, such as contract, permanent, etc. Future studies may also utilize a longitudinal study design to measure the study variables over a longer period as compared to a cross-sectional design, measuring at a single point in time.

Implications

Theoretically, the study is aligned with Job Demands–Resources (JD–R) Theory in the Saudi Arabian construction sector, indicating that organizational support serves as a vital job resource that partially demonstrates the relationship between occupational stress and job performance among civil engineers. Practically, the findings indicate that construction organizations should initiate stress management programs, provide sufficient resources, facilitate supervisory support, and recognize employees' contributions to elevate organizational support. Mental health professionals can also play a critical role by conducting stress management workshops, counseling services, and intervention programs to foster employees' psychological well-being.

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